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 (μF).
Resistors = Ohms (Ω).

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 ilustrate 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.

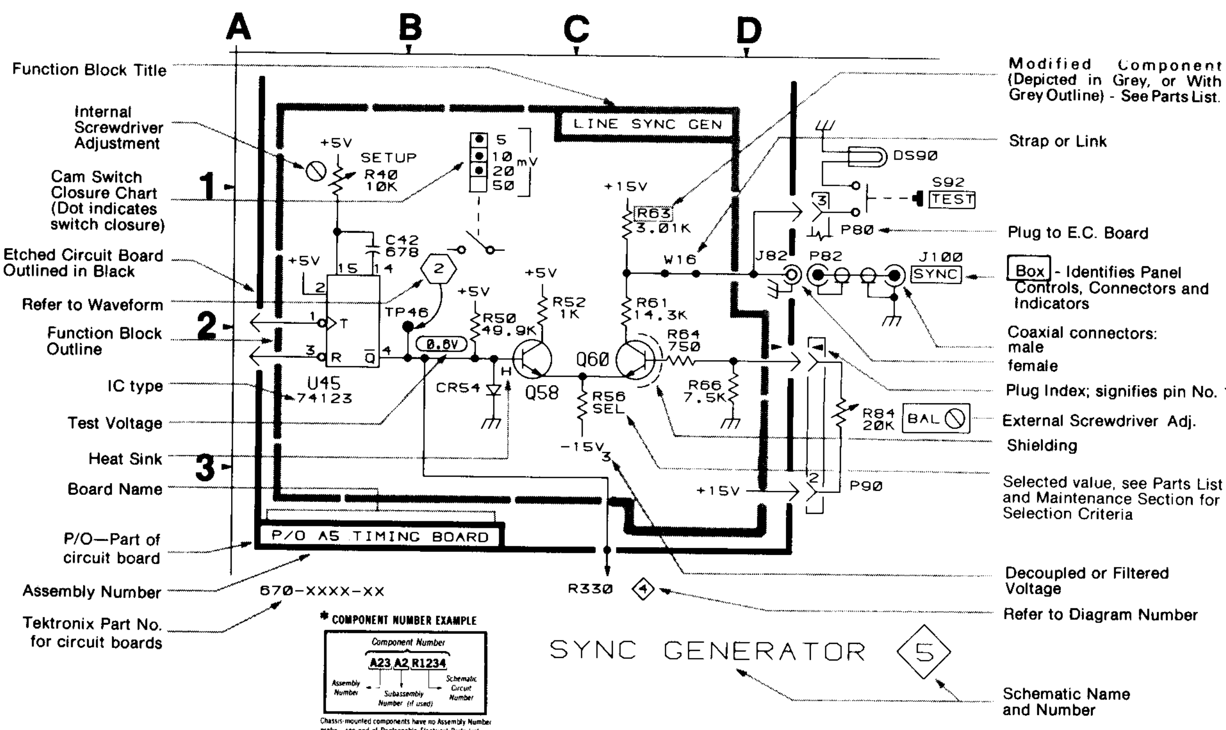


Table 10-1
IC PIN INFORMATION

Device Type	Vcc or VDD	GND
10016	1, 16	8
100131	9, 10	21
10H101	1, 16	8
10102(H)	1, 16	8
10103(H)	1, 16	8
10H104	1, 16	8
10H105	1, 16	8
10107(H)	1, 16	8
10H109	1, 16	8
10113	1, 16	8
10H116	1, 16	8
10H117	1, 16	8
10H121	1, 16	8
10H131	1, 16	8
10135	1,1 6	8
10H164	1, 16	8
10172	16	8
10H174	1, 16	8
10176(H)	1, 16	8
10186	16	8
10188	1, 16	8
10195	1, 16	8
10402	16	8
10422	1, 24	12
1488	1, 14	7
1489L	14	7
25LS2521	20	10
27128-3	1,28	14
3341	1, 8	16
4051	16	7, 8
4053B	16	7, 8
6116	24	12
74S00(LS)	14	7
74S04(LS)	14	7
74S08(LS)	14	7
74LS10	14	7
74C14(LS)	14	7
7417	14	7
74LS21	14	7
74LS30	14	7
74S32(LS)	14	7
74S51	14	7
74LS54	14	7
74F74(S)(LS)	14	7
74LS75	16	8
74LS86	14	7
74S112	16	8
74S138(LS)	16	8
74S139(LS)	16	8
74LS151	16	8
74LS153	16	8
74LS155	16	8
74LS157	16	8
74LS161	16	8
74LS163(A)	16	8
74LS164	14	7
74LS166	16	8
74LS169	16	8
74S174	16	8
74S175(LS)	16	8
74LS186	24	13, 23
74LS191	16	8
74LS194	16	8
74LS244	20	10
74LS245	20	10
74273(LS)	20	10
74LS279	16	8
74LS283	16	8
74LS295	14	7
74LS299	20	10
74LS365	16	8
74LS373	20	10
74C374(LS)	20	10
74LS375	16	8
74LS390	16	8
74LS393	14	7
74LS670	16	8
75160A	20	10
75161A	20	10
7812		2
78L15		2
7905		1
79M12		
8088	40	1, 20
81LS95	20	10
8203-3	40	20
8250-B	40	20
8284	18	9
CD4028	16	8
HM2112-1	16	8
HM4864-3	8	16
HM6116LP-4	24	12
LF412	4	
LM319	11	3, 8
LM324	4	11
LM393N	8	4
M600ECL	10, 13, 16	1,21,25, 28, 31
MC1413		8
MC14520	16	8
MC3431	12, 16	8
MM5321N	1	8
NE5018	19	1, 22
NE521	14	7
NE5534	7	
NE555	8	1
SG3526		15
SMP-11-FY	9	
TDA-1170	2	TABS
TL072	4, 8	
TMS9914-A	40	20
Z80	11	29

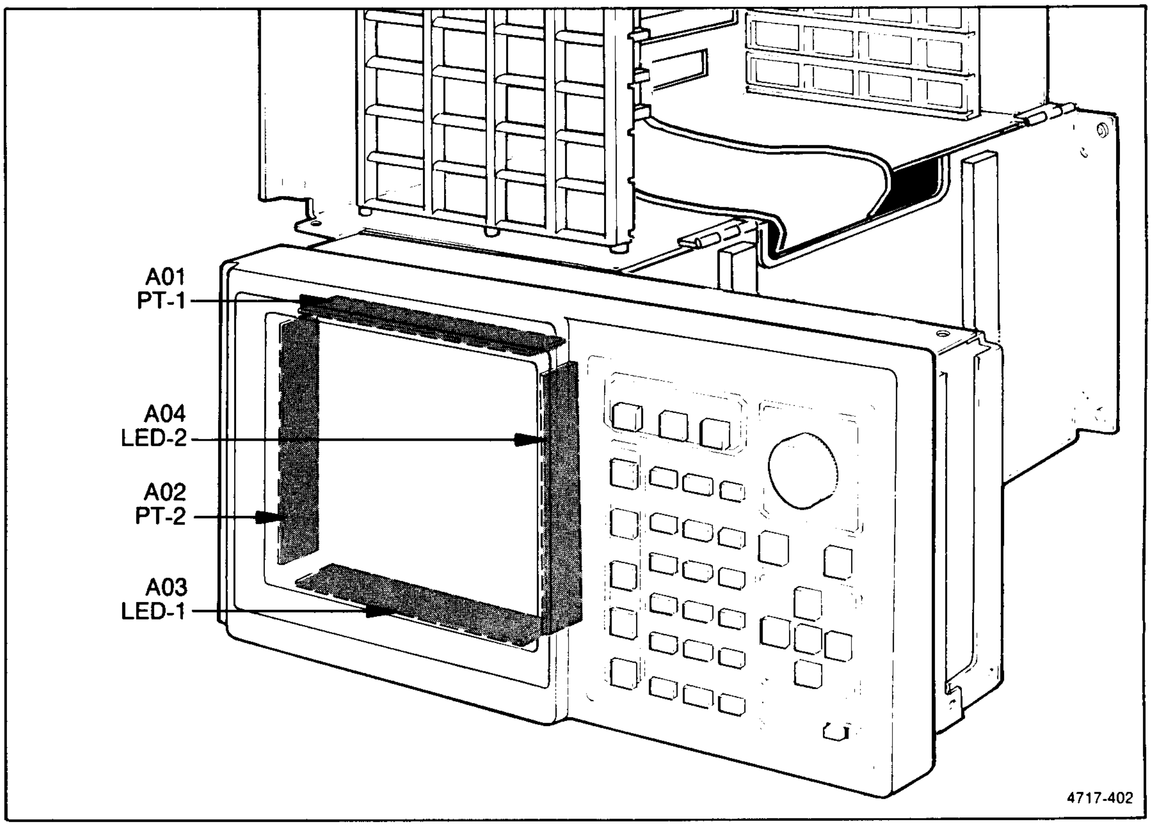


Figure 10-2. A01-A04 PT1, PT2, LED1, LED2 Boards Mainframe Locations.

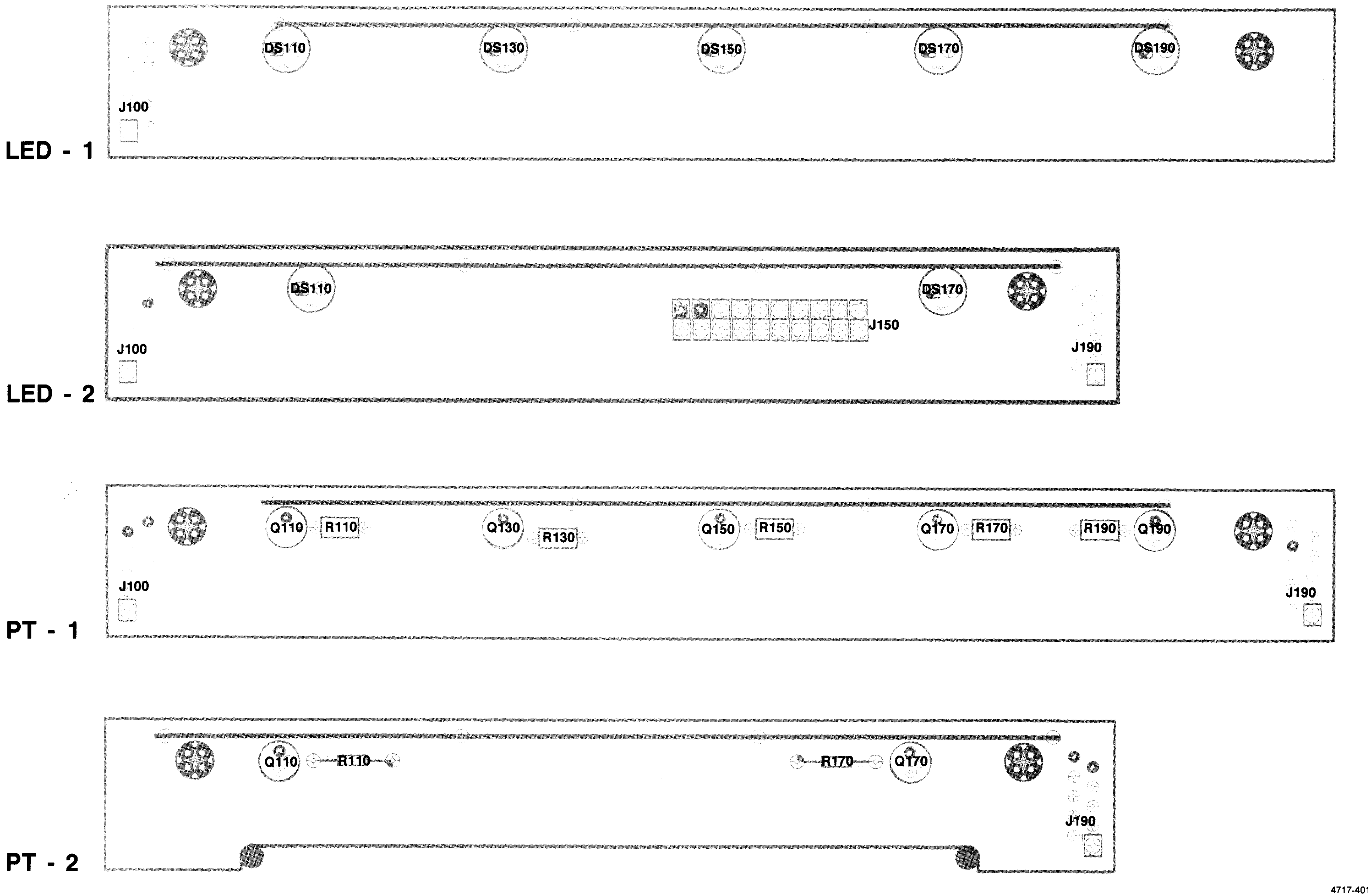
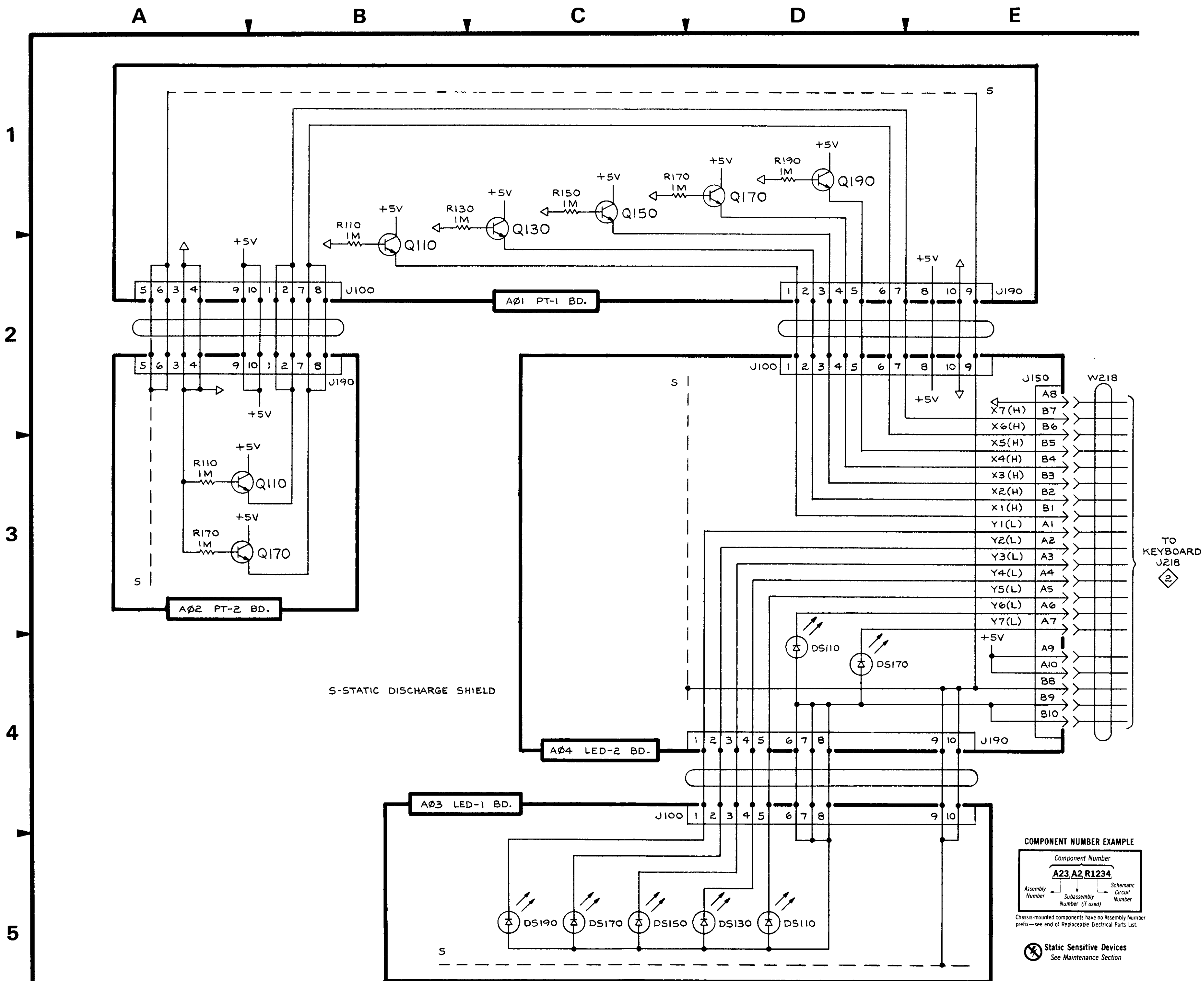


Figure 10-1. A01 - A04 PT1, PT2, LED1, LED2 Boards Component Locations.

Static Sensitive Devices
See Maintenance Section



A01 - A04 PT1, PT2, LED1, LED2 1

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SOFT KEY LED/PHOTOTRANSISTOR MATRIX 1

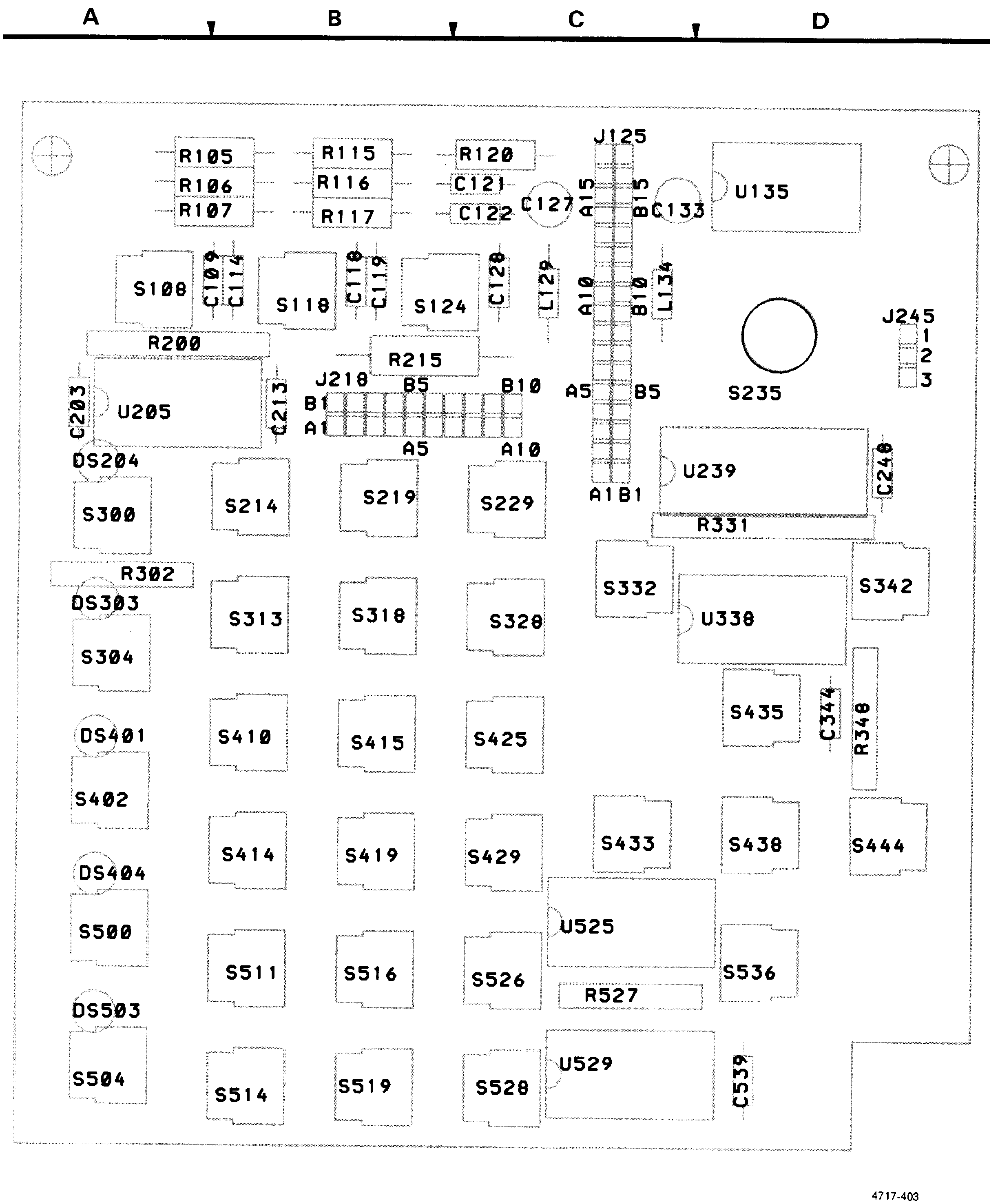


Figure 10-3. A05 Keyboard Component Locations.

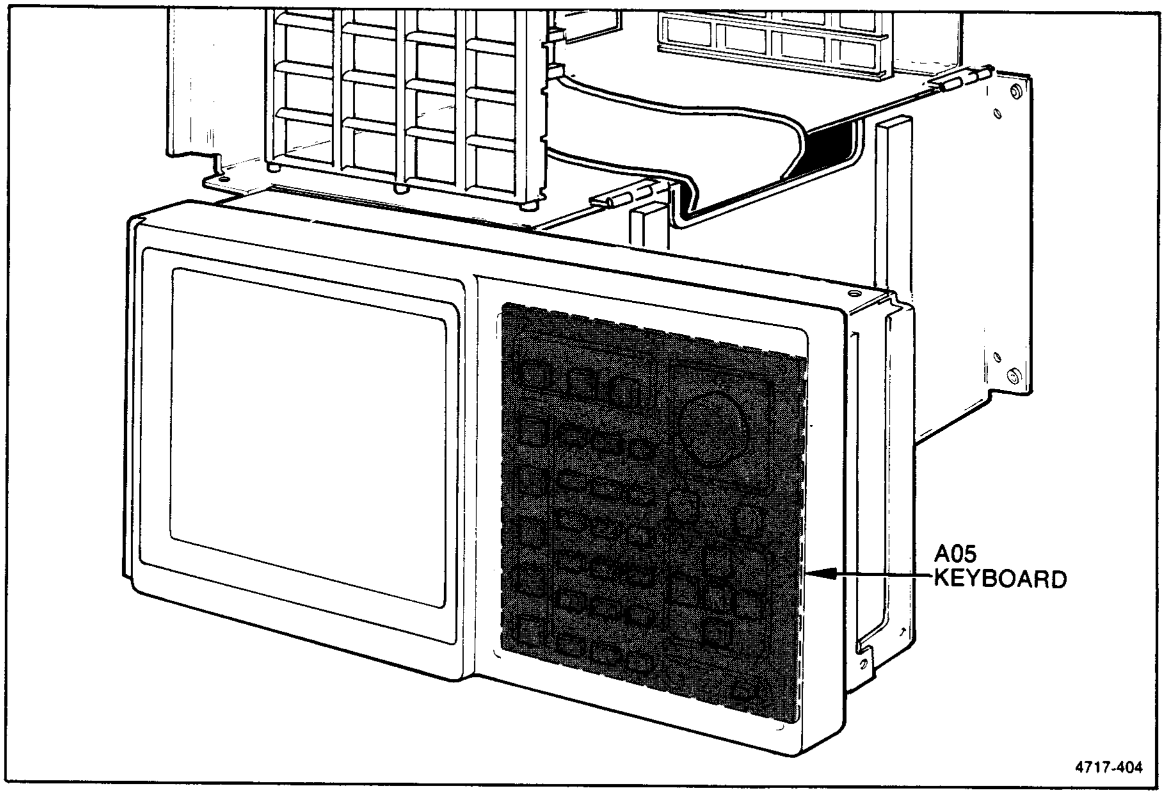
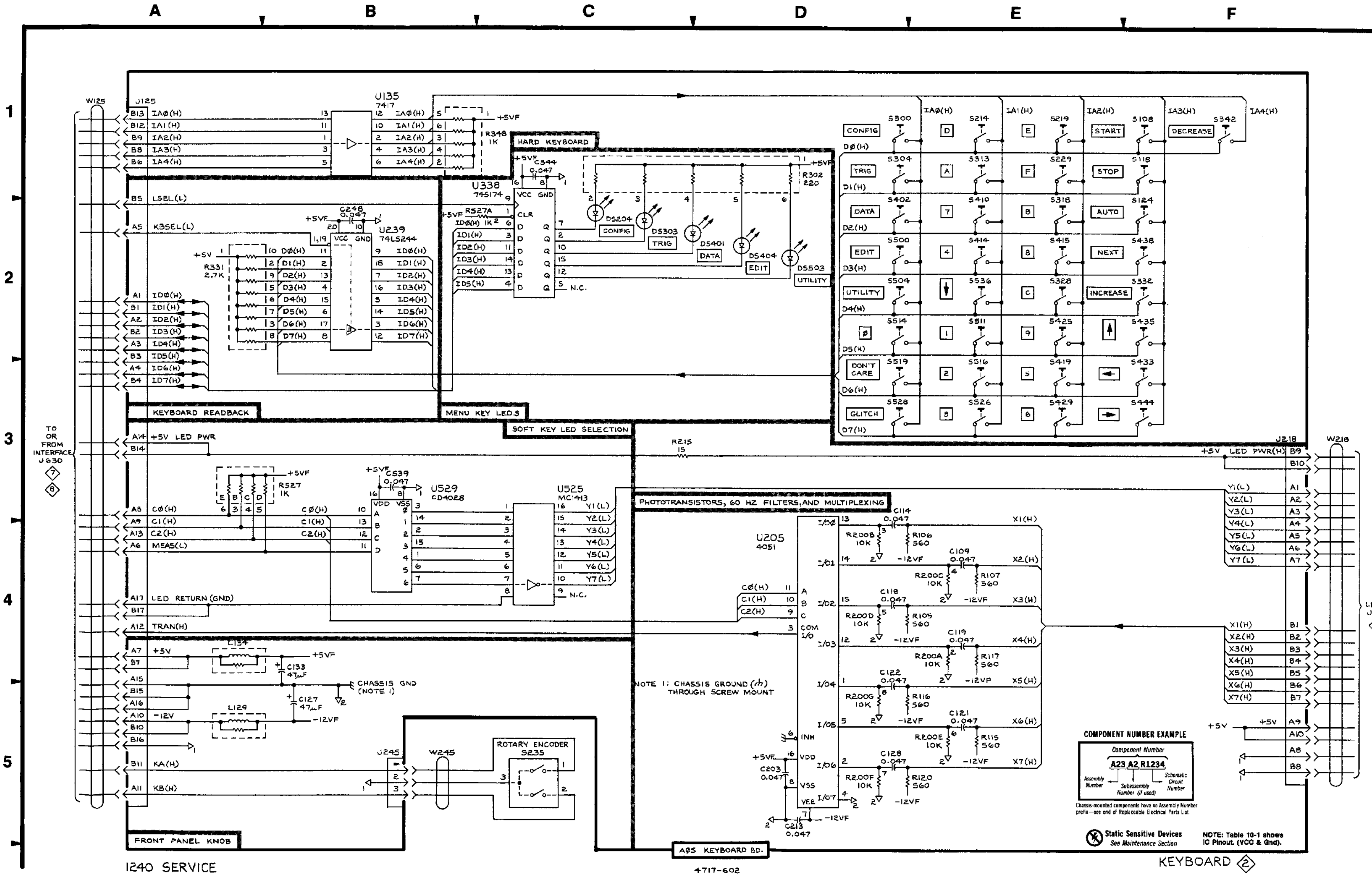


Figure 10-4. A05 Keyboard Mainframe Location.



4717-602

A05 KEYBOARD

2

Table 10-2

KEYBOARD ◇2 — ASSEMBLY A05

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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

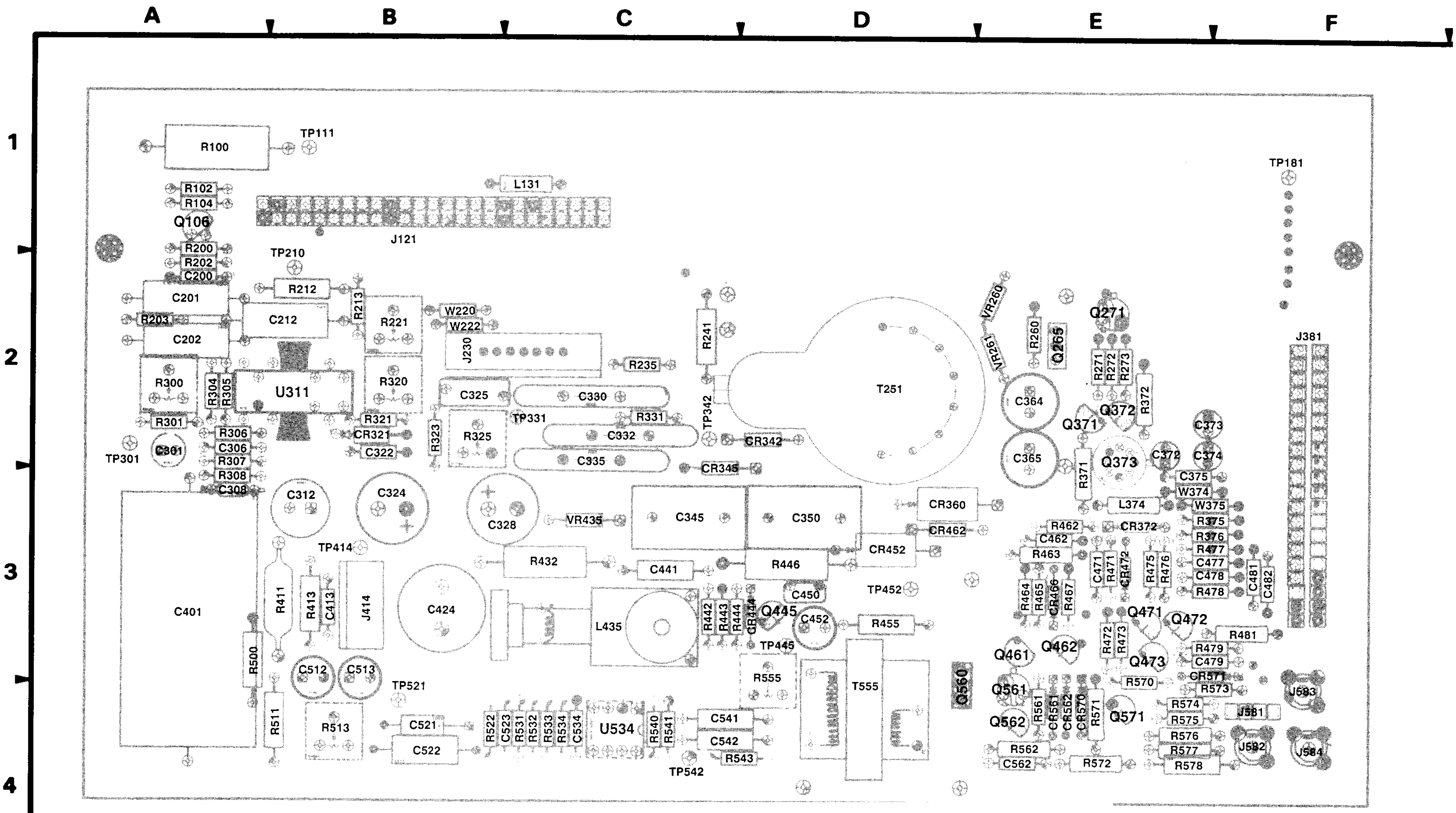


Figure 10-5A. A06 CRT Drive Board Component Locations (B090099 & below)

SEE PARTS LIST FOR SERIAL NUMBER RANGES

4717-405A

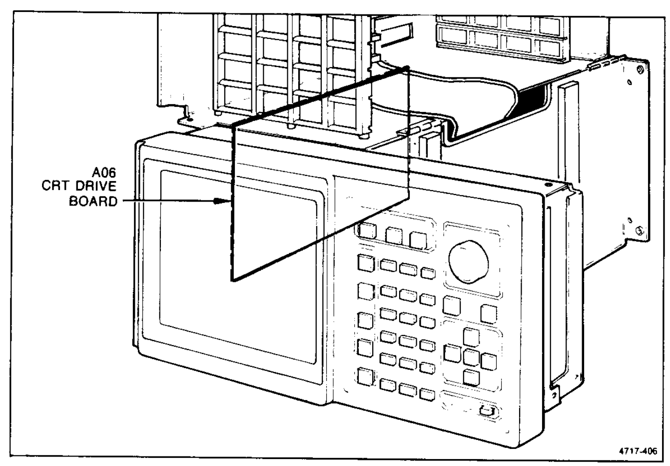


Figure 10-6. A06 CRT Drive Board Mainframe Location.

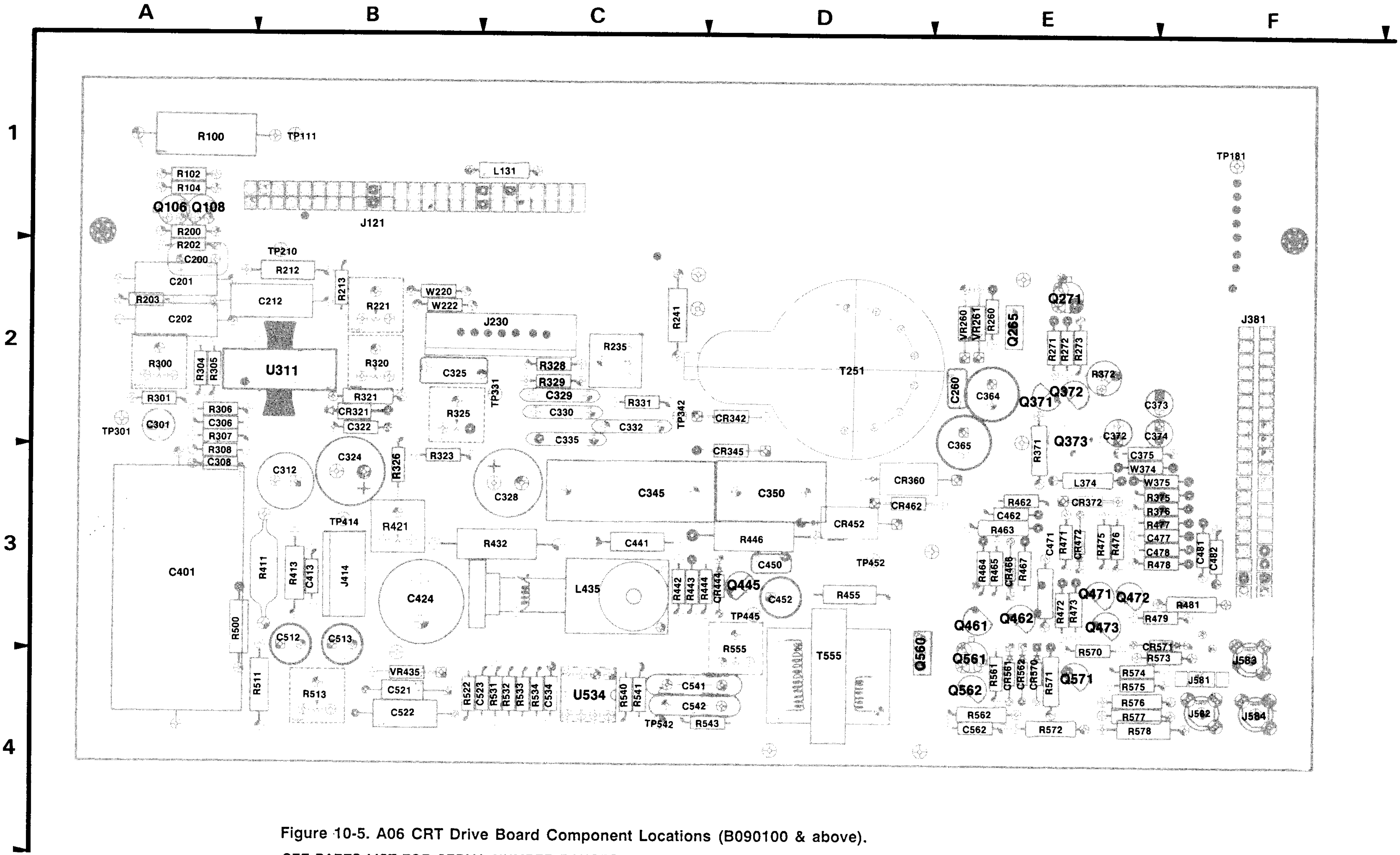


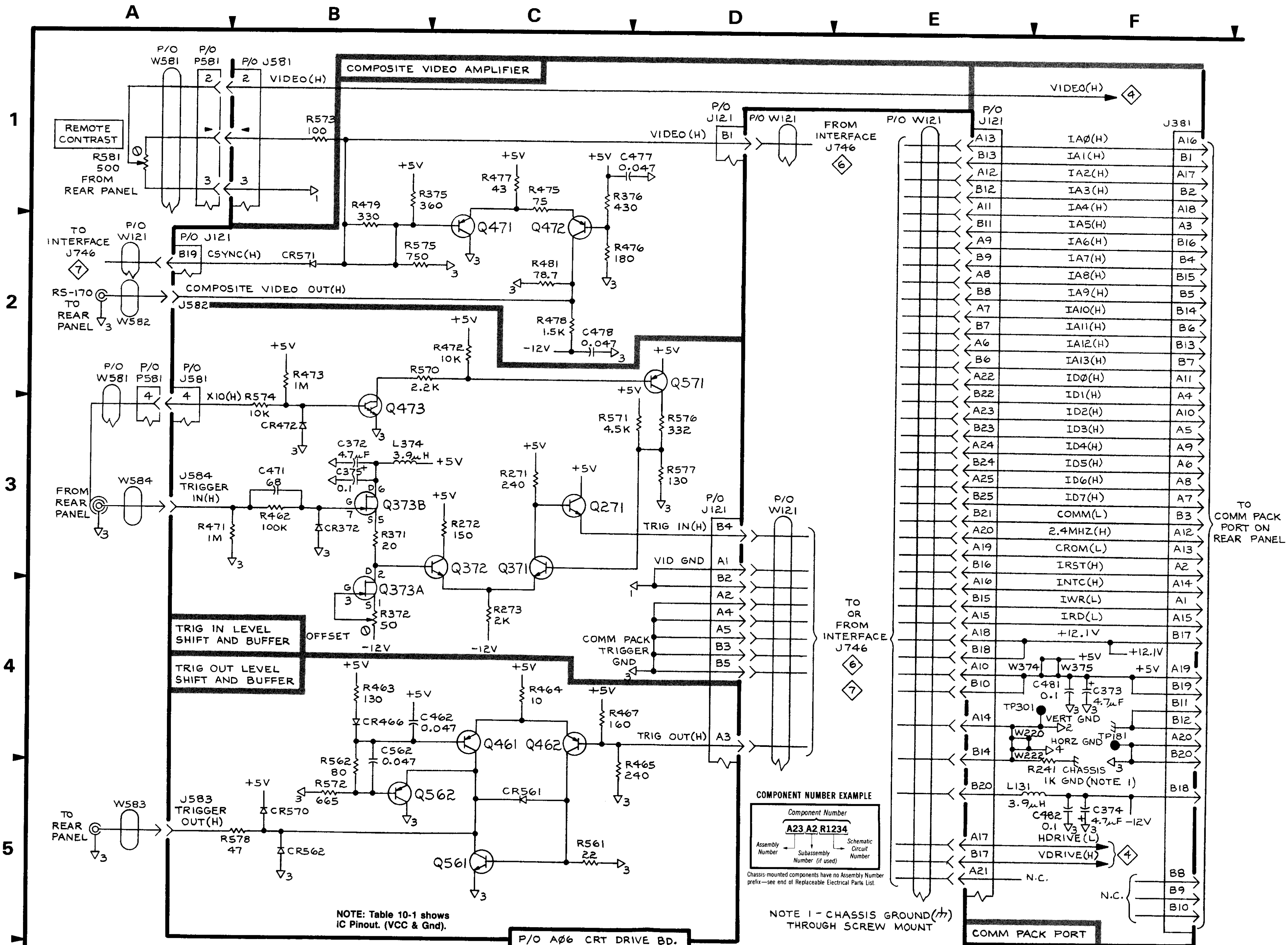
Figure 10-5. A06 CRT Drive Board Component Locations (B090100 & above).

SEE PARTS LIST FOR SERIAL NUMBER RANGES

Table 10-3

REAR PANEL CIRCUITS 3 — CRT DRIVE BOARD, ASSEMBLY A06

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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



P/O A06 CRT DRIVE BOARD REAR PANEL CIRCUITS

4717-603

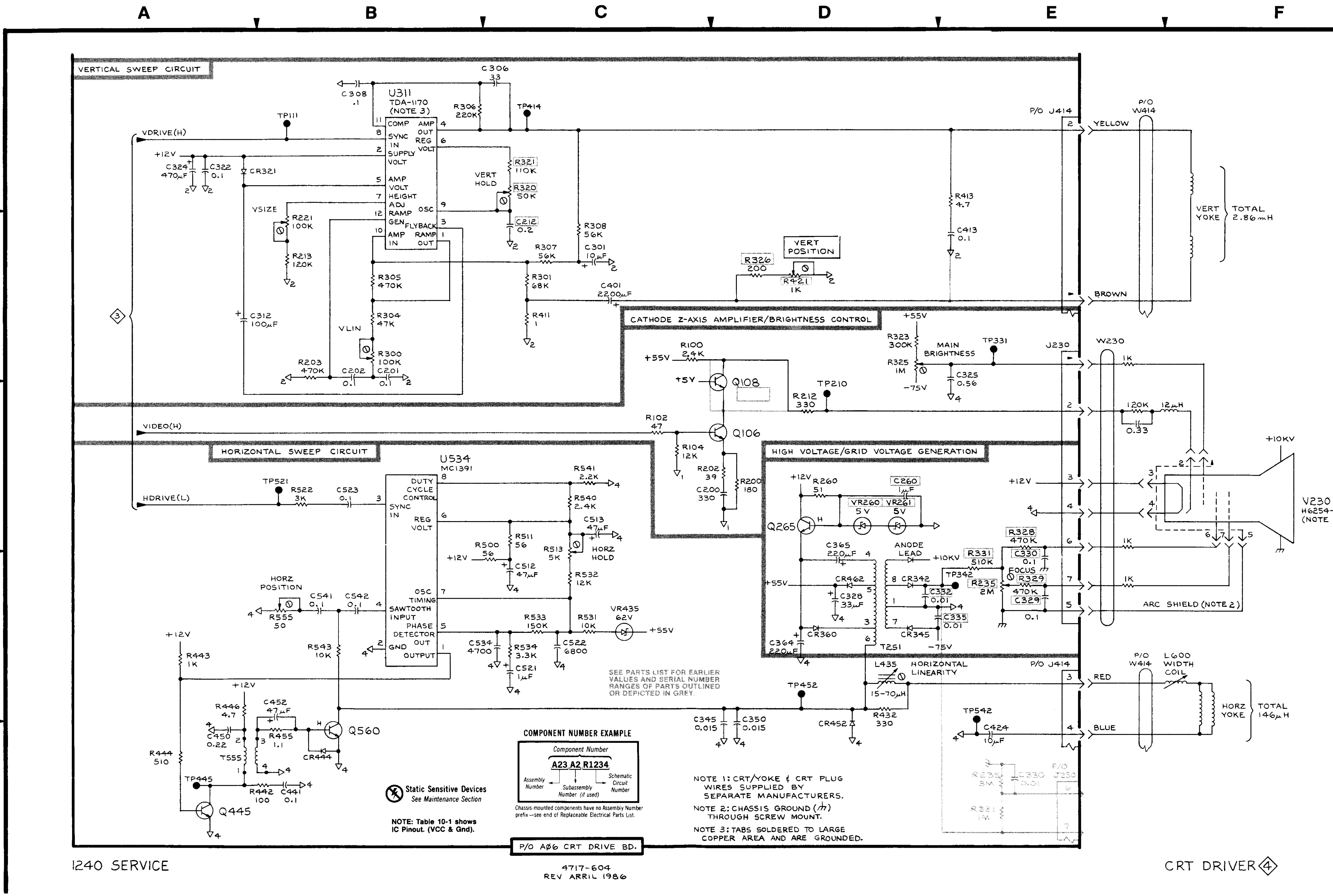
REAR PANEL CIRCUITS 3

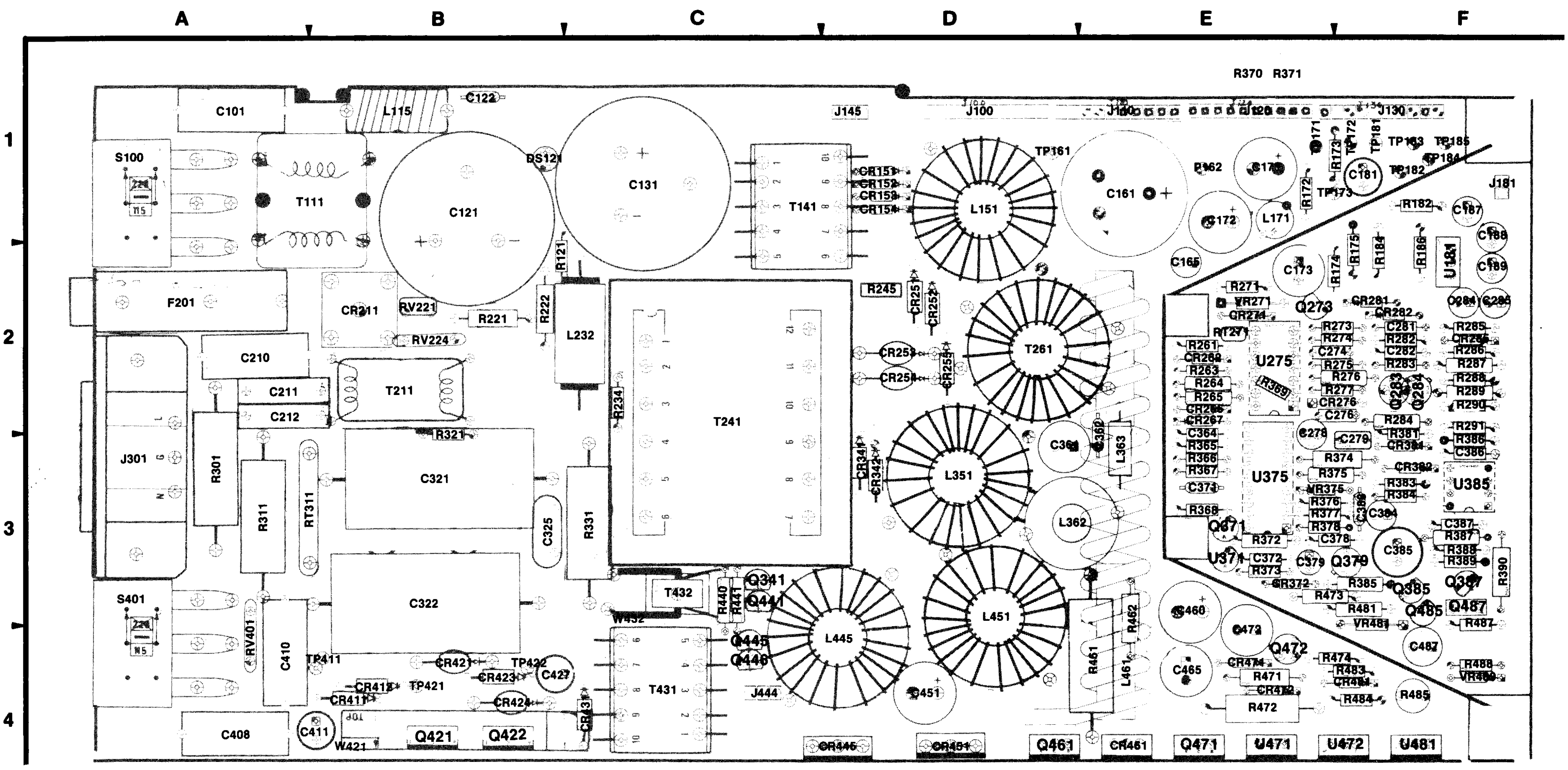
Table 10-4

CRT DRIVER ⟨4⟩ — CRT DRIVE BOARD, ASSEMBLY A06

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.**


A
B
C
D
E
F
1
2
3
4
5
VERTICAL SWEEP CIRCUIT
U311
TDA-1170
(NOTE 3)
COMP
SYNC IN
SUPPLY VOLT
AMP VOLT
HEIGHT ADJ
RAMP GEN
AMP IN
AMP OUT
REG VOLT
OSC
FLYBACK
RAMP OUT
C308 .1
C306 33
R306 220K
TP414
TP111
VDRIVE(H)
+12V
C324 470μF
C322 0.1
CR321
VSIZE
R221 100K
R213 120K
VERT HOLD
R321 110K
R320 50K
C212 0.2
R308 56K
R307 56K
C301 10μF
R305 470K
R301 68K
C401 2200μF
R304 47K
R411 1
VLIN
R300 100K
C312 100μF
R203 470K
C202 0.1
C201 0.1
R413 4.7
C413 0.1
VERT POSITION
R326 200
R421 1K
P/O J414
P/O W414
YELLOW
BROWN
VERT YOKE
TOTAL 2.86mH
CATHODE Z-AXIS AMPLIFIER/BRIGHTNESS CONTROL
+55V
R100 2.4K
+5V
Q108
TP210
R212 330
R102 47
VIDEO(H)
Q106
R104 12K
R202 39
C200 330
R200 180
R323 300K
R325 1M
MAIN BRIGHTNESS
-75V
TP331
C325 0.56
J230
W230
1K
120K
12μH
0.33
HORIZONTAL SWEEP CIRCUIT
U534
MC1391
DUTY CYCLE CONTROL
SYNC IN
REG VOLT
OSC TIMING
SAWTOOTH INPUT
PHASE DETECTOR OUT
GND
OUTPUT
TP521
HDRIVE(L)
R522 3K
C523 0.1
R541 2.2K
R540 2.4K
C513 47μF
R500 56
R511 56
C512 47μF
R513 5K
HORZ HOLD
R532 12K
HORZ POSITION
R555 50
C541 0.1
C542 0.1
R533 150K
R531 10K
VR435 62V
C534 4700
R534 3.3K
C521 1μF
C522 6800
R543 10K
R443 1K
R446 4.7
C452 47μF
C450 0.22
R455 1.1
Q560
T555
CR444
R444 510
TP445
R442 100
C441 0.1
Q445
HIGH VOLTAGE/GRID VOLTAGE GENERATION
R260 51
C260 1μF
VR260 5V
VR261 5V
Q265
C365 220μF
ANODE LEAD
+10KV
CR462
C328 33μF
CR342
C332 0.01
TP342
C335 0.01
CR360
CR345
C364 220μF
T251
R331 510K
R235 2M
FOCUS
R328 470K
C330 0.1
R329 470K
C329 0.1
ARC SHIELD (NOTE 2)
+10KV
V230
H6254-P31
(NOTE 1)
L435
HORIZONTAL LINEARITY
15-70μH
TP452
C345 0.015
C350 0.015
CR452
R432 330
RED
BLUE
L600 WIDTH COIL
HORZ YOKE
TOTAL 146μH
TP542
C424 10μF
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.
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.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
NOTE 1: CRT/YOKE & CRT PLUG WIRES SUPPLIED BY SEPARATE MANUFACTURERS.
NOTE 2: CHASSIS GROUND THROUGH SCREW MOUNT.
NOTE 3: TABS SOLDERED TO LARGE COPPER AREA AND ARE GROUNDED.
P/O A06 CRT DRIVE BD.



4717-645

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

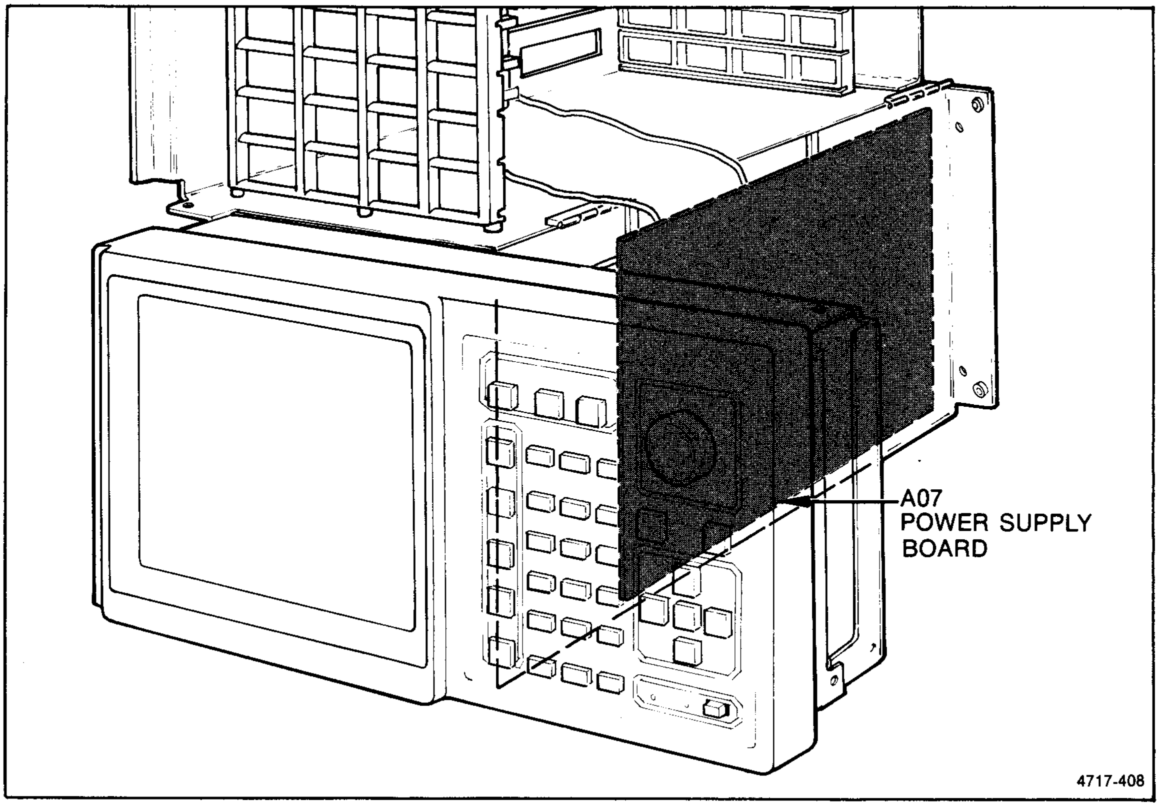


Figure 10-8. A07 Power Supply Board Mainframe Location.

Table 10-5

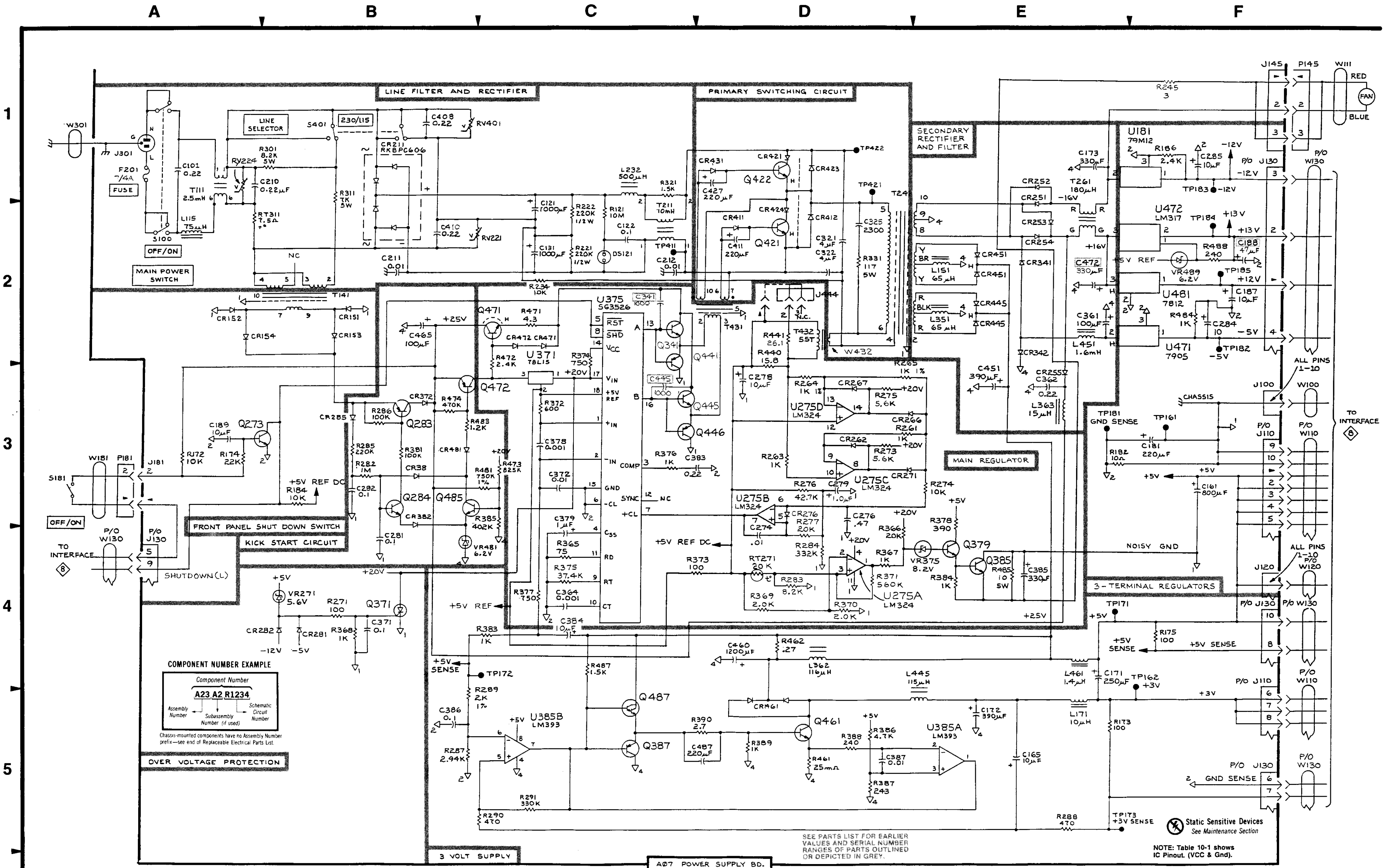
670-7534-06 POWER SUPPLY ◇5 — ASSEMBLY A07

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C101	A1	A1
C121	C2	B1
C122	C2	B1
C131	C2	C1
C161	F3	E1
C165	E5	E2
C171	E4	E1
C172	E5	E1
C173	E1	E2
C181	F3	F1
C187	F2	F1
*C188	F2	F1
C189	A3	F2
C210	A1	A2
C211	B2	A2
C212	C2	A2
C274	D4	F2
C276	D3	F2
C278	D3	E3
C279	D3	F3
C281	B4	F2
C282	B3	F2
C284	F2	F2
C285	F1	F2
C321	D2	B3
C322	D2	B3
C325	D2	B3
*C341	C2	Back Bd.
C361	E2	D3
C362	E3	E3
C364	C4	E3
C371	B4	E3
C372	C3	E3
C378	C3	F3
C379	C4	E3
C383	C3	F3
C384	C4	F3
C385	E4	F3
C386	B5	F3
C387	D5	F3
C408	B1	A4
C410	B2	A4
C411	D2	B4
C427	D1	B4
*C445	C3	Back Bd.
C451	E3	D4
C460	D4	E3
C465	B2	E4
*C472	E2	E4
C487	D5	F4
CR151	B2	D1
CR152	A2	D1
CR153	B2	D1
CR154	A2	D1
CR211	B1	B2
CR251	E1	D2
CR252	E1	D2
CR253	E2	D2
CR254	E2	D2
CR255	E3	D2
CR262	D3	E2
CR266	D3	E2
CR267	D3	E2
CR271	D3	E2
CR276	D3	F2
CR281	B4	F2
CR282	B4	F2
CR285	B3	F2
CR341	E2	D3
CR342	E2	D3
CR372	B3	E3
CR381	B3	F3
CR382	B3	F3
CR411	D2	B4
CR412	D2	B4
CR421	D1	B4
CR423	D1	B4
CR424	D2	B4
CR431	D1	C4
CR445	E2	D4
CR451	E2	D4
CR461	D5	E4
CR471	C2	E4
CR472	C2	E4
CR481	B3	F4
DS121	C2	B1

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
F201	A1	A2
J100	F3	D1
J110	F3	E1
J110	F5	E1
J120	F4	E1
J130	A4	F1
J130	F1	F1
J130	F5	F1
J130	F4	F1
J145	F1	D1
J181	A3	F1
J301	A1	A3
J444	D2	C4
L115	A2	B1
L151	E2	D1
L171	E5	E1
L232	C1	C2
L351	E2	D3
L362	D4	D3
L363	E3	E3
L445	E5	D4
L451	E2	D3
L461	E4	E4
Q273	A3	E2
Q283	B3	F2
Q284	B3	F2
Q341	C2	C3
Q371	B4	E3
Q379	E4	F3
Q385	E4	F3
Q387	C5	F3
Q421	D2	B4
Q422	D1	B4
Q441	C2	C3
Q445	C3	C4
Q446	C3	C4
Q461	D5	D4
Q471	C2	E4
Q472	B3	E4
Q485	B3	F3
Q487	C5	F3
R121	C2	B2
R172	A3	E1
R173	E5	F1
R174	A3	F2
R175	F4	F2
R182	E3	F1
R184	B3	F2
R186	F1	F2
R221	C2	B2
R222	C2	B2
R234	C2	C2
R245	F1	D2
R261	D3	E2
R263	D3	E2
R264	D3	E2
R265	D3	E2
R271	B4	E2
R273	D3	F2
R274	E3	F2
R275	D3	F2
R276	D3	F2
R277	D4	F2
R282	B3	F2
R283	D4	F2
R284	D4	F2
R285	B3	F2
R286	B3	F2
R287	B5	F2
R288	E5	F2
R289	B4	F2
R290	B5	F2
R291	C5	F2
R301	B1	A3
R311	B1	A3
R321	C1	B3
R331	D2	C3
R365	C4	E3
R366	D4	E3
R367	D4	E3
R368	B4	E3
R369	D4	E2
R370	D4	E2 Back
R371	D4	E2 Back
R372	C3	E3

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
R373	C4	E3
R374	C2	F3
R375	C4	F3
R376	C3	E3
R377	C4	E3
R378	E3	E3
R381	B3	F3
R383	C4	F3
R384	E4	F3
R385	C3	F3
R386	D5	F3
R387	D5	F3
R388	D5	F3
R389	D5	F3
R390	D5	F3
R440	D2	C3
R441	D2	C3
R461	D5	E4
R462	D4	E3
R471	C2	E4
R472	C2	E4
R473	C3	E3
R474	B3	F4
R481	C3	F3
R483	B3	F4
R484	F2	F4
R485	E4	F4
R487	C4	F3
R488	F2	F4
RT271	D4	E2
RT311	A2	B3
RV221	B2	B2
RV224	A1	B1
RV401	B1	A4
S100	A2	A1
S401	B1	A3
T111	A1	B1
T141	B2	C1
T211	C2	B2
T241	D2	C2
T261	E2	D2
T431	D2	C4
T432	D2	C3
TP161	F3	D1
TP162	F4	E1
TP171	E4	E1
TP172	B4	F1
TP173	E5	F1
TP181	E3	F1
TP182	F2	F1
TP183	F1	F1
TP184	F2	F1
TP185	F2	F1
TP411	C2	B4
TP421	D1	B4
TP422	D1	B4
U181	F1	F2
U275A	D4	E2
U275B	D3	E2
U275C	D3	E2
U275D	D3	E2
U371	C3	E3
U375	C2	E3
U385A	E5	F3
U385B	C5	F3
U471	F2	E4
U472	F2	F4
U481	F2	F4
VR271	B4	E2
VR375	E4	E3
VR481	B4	F3
VR489	F2	F4
W100	F3	Off Bd.
W110	F3	Off Bd.
W110	F5	Off Bd.
W111	F1	Off Bd.
W120	F4	Off Bd.
W130	A4	Off Bd.
W130	F1	Off Bd.
W130	F4	Off Bd.
W130	F5	Off Bd.
W181	A3	Off Bd.
W301	A1	Off Bd.
W421	Not Shown	B4
W432	D2	C3

***SEE PARTS LIST FOR SERIAL NUMBER RANGES.**



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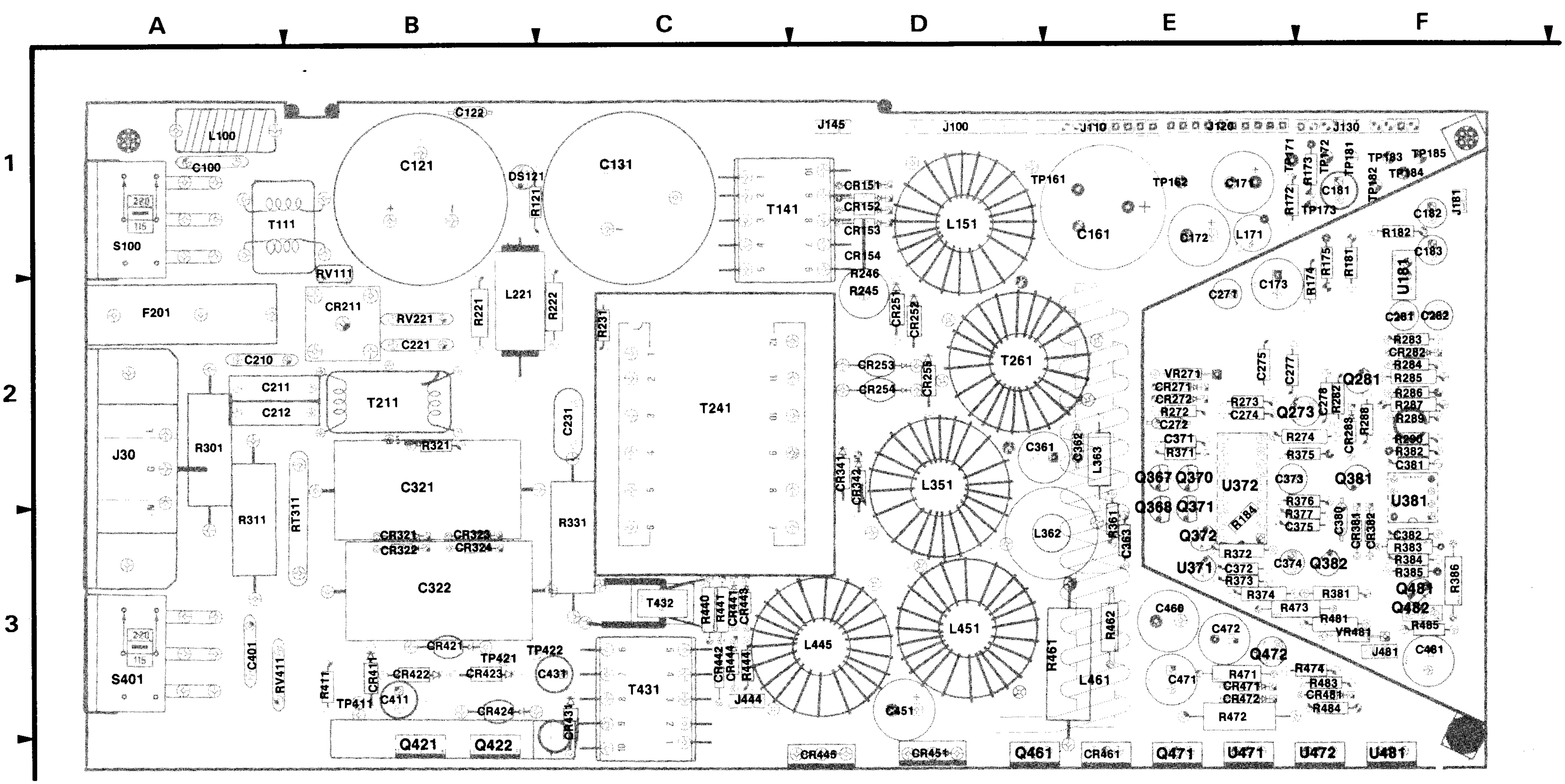
A07 POWER SUPPLY
670-7534-06



4717-407

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

Table 10-5A

670-7534-05 POWER SUPPLY ⟨5⟩ — ASSEMBLY A07

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.**

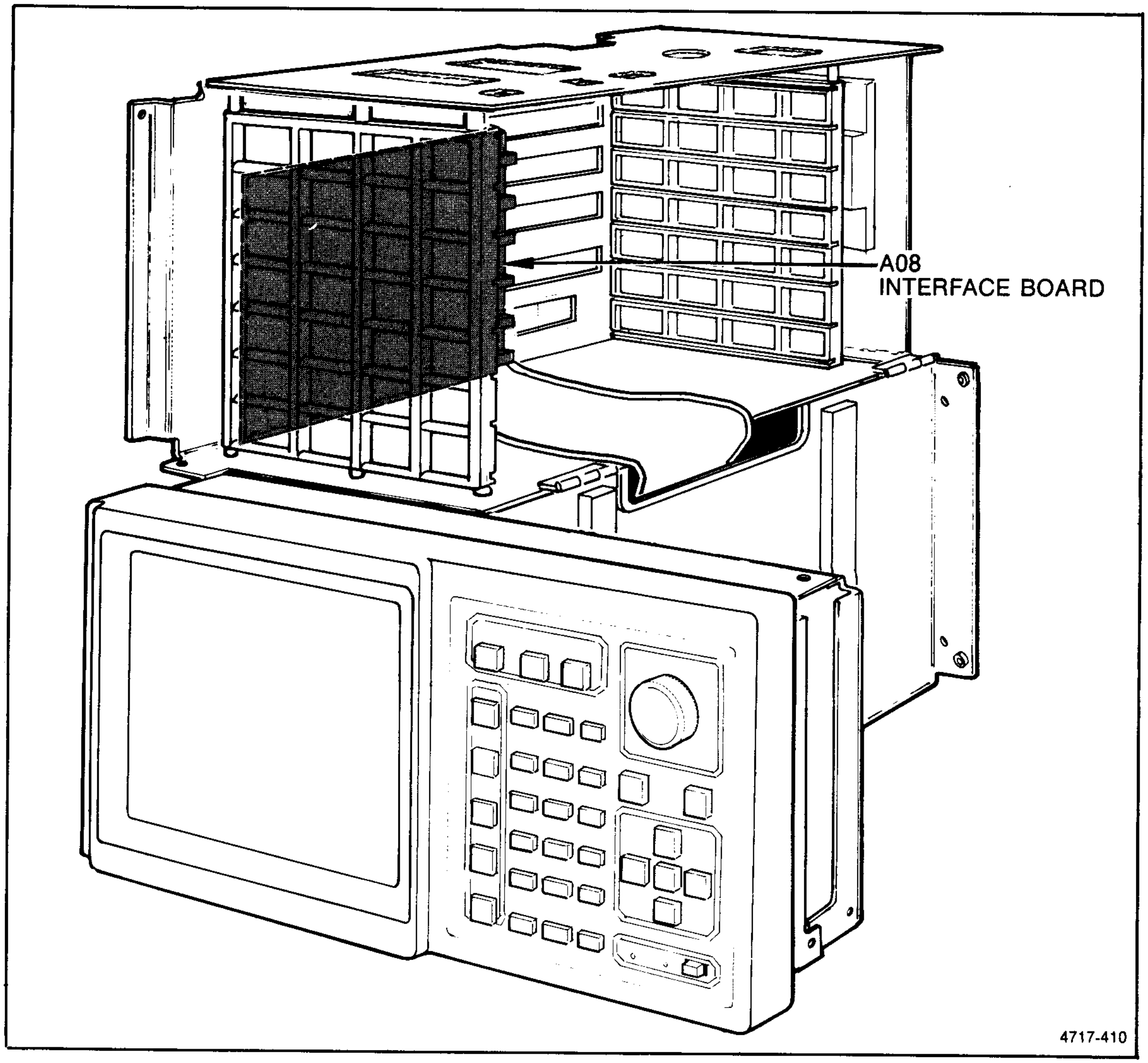
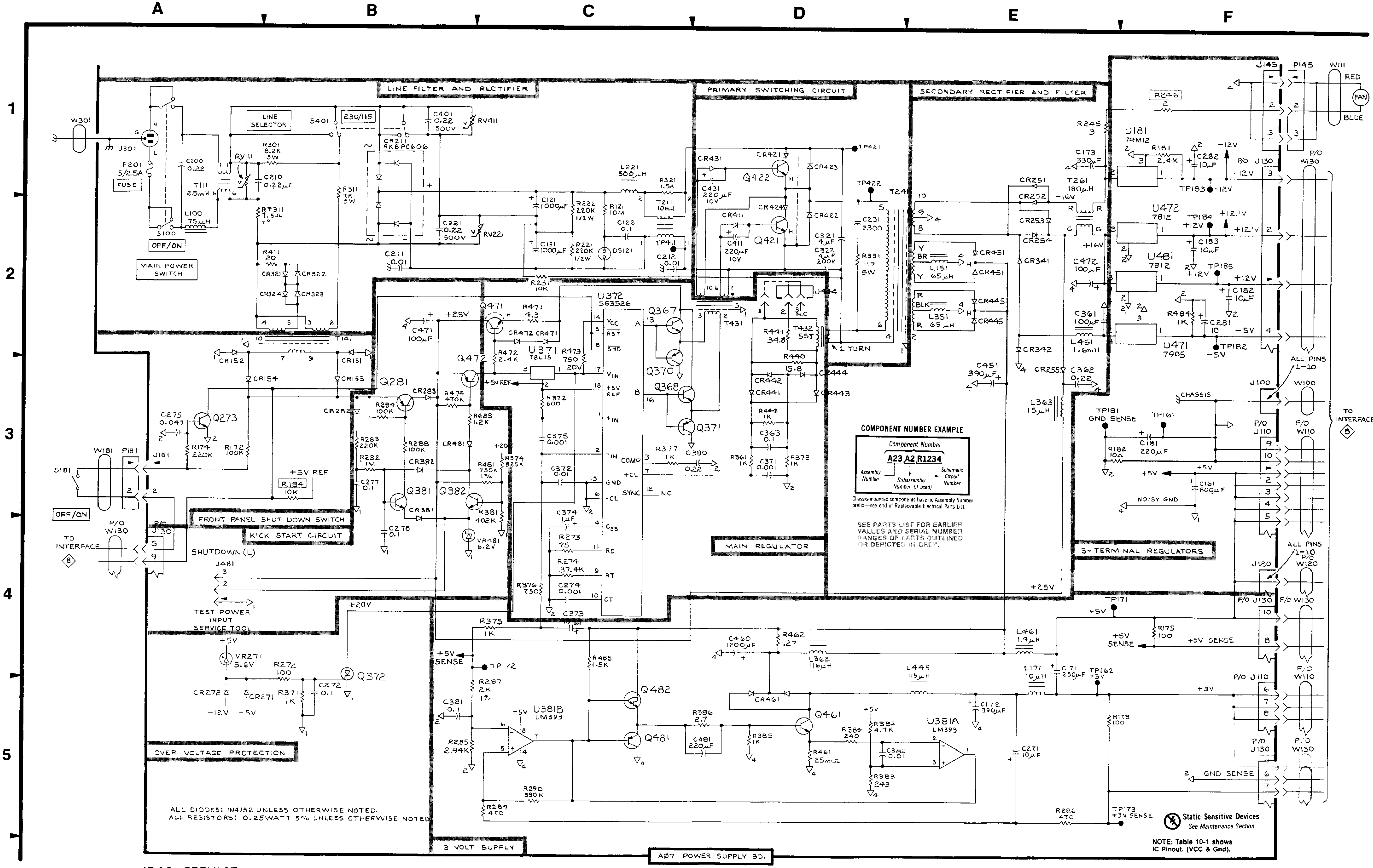


Figure 10-10. A08 Interface Board Card Cage Location.


A
B
C
D
E
F
LINE FILTER AND RECTIFIER
PRIMARY SWITCHING CIRCUIT
SECONDARY RECTIFIER AND FILTER
MAIN POWER SWITCH
LINE SELECTOR
OFF/ON
FUSE
FRONT PANEL SHUT DOWN SWITCH
KICK START CIRCUIT
MAIN REGULATOR
3-TERMINAL REGULATORS
OVER VOLTAGE PROTECTION
3 VOLT SUPPLY
TEST POWER INPUT SERVICE TOOL
SHUTDOWN (L)
TO INTERFACE
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.
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.
ALL DIODES: 1N4152 UNLESS OTHERWISE NOTED.
ALL RESISTORS: 0.25WATT 5% UNLESS OTHERWISE NOTED
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
A07 POWER SUPPLY BD.

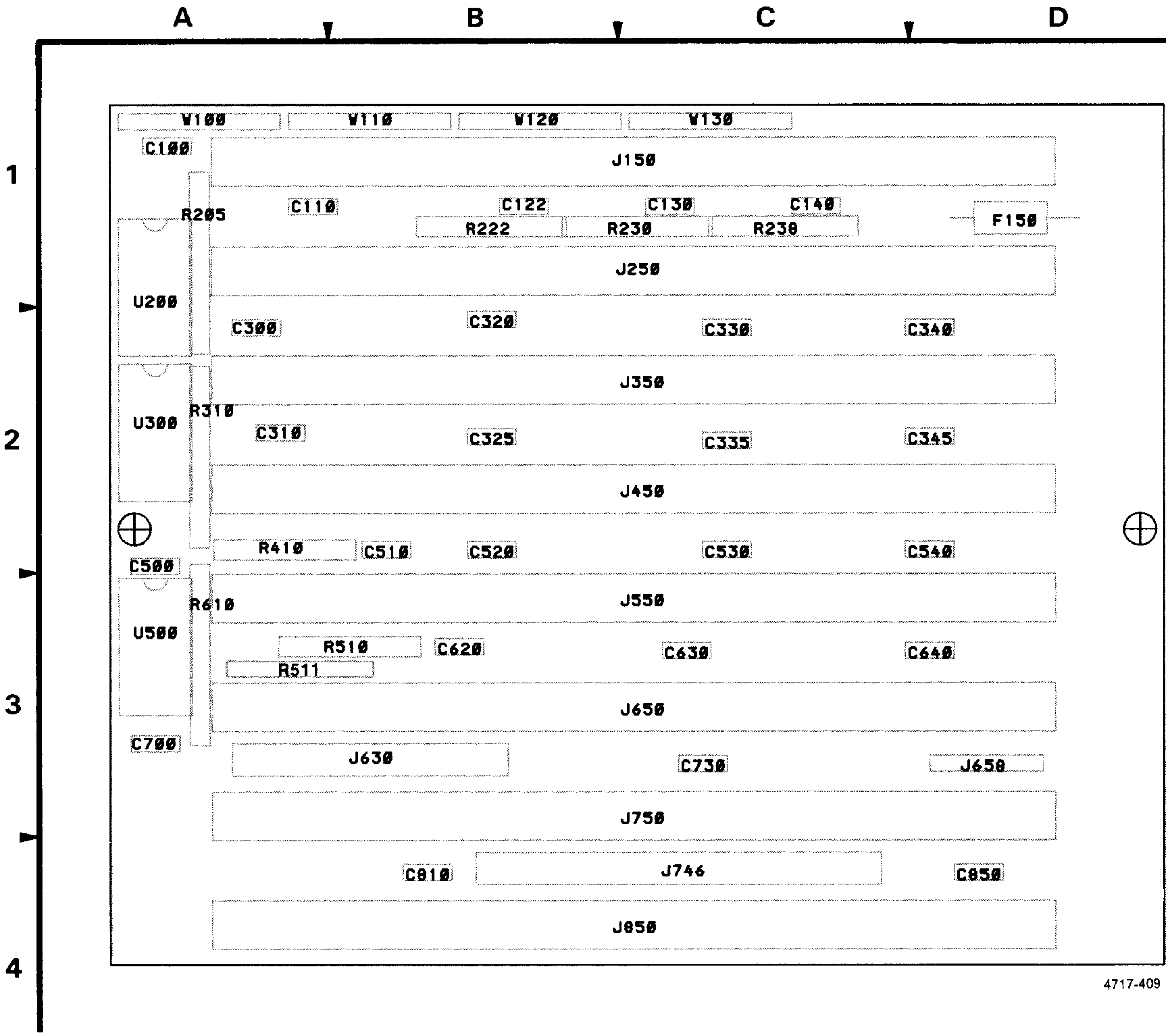


Figure 10-9. A08 Interface Board Component Locations.

Table 10-6

INTERFACE ⟨6⟩ — ASSEMBLY A08

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			

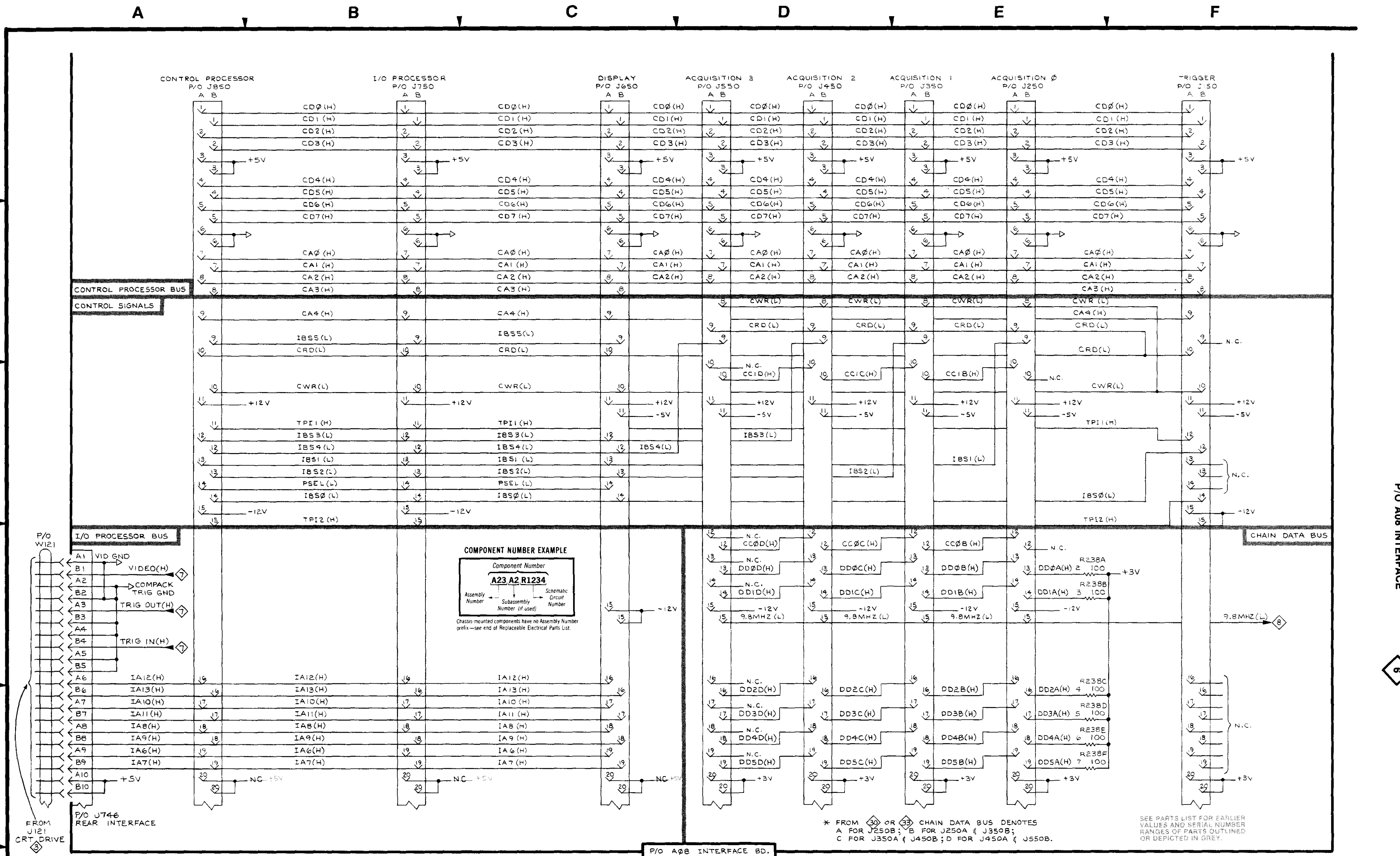
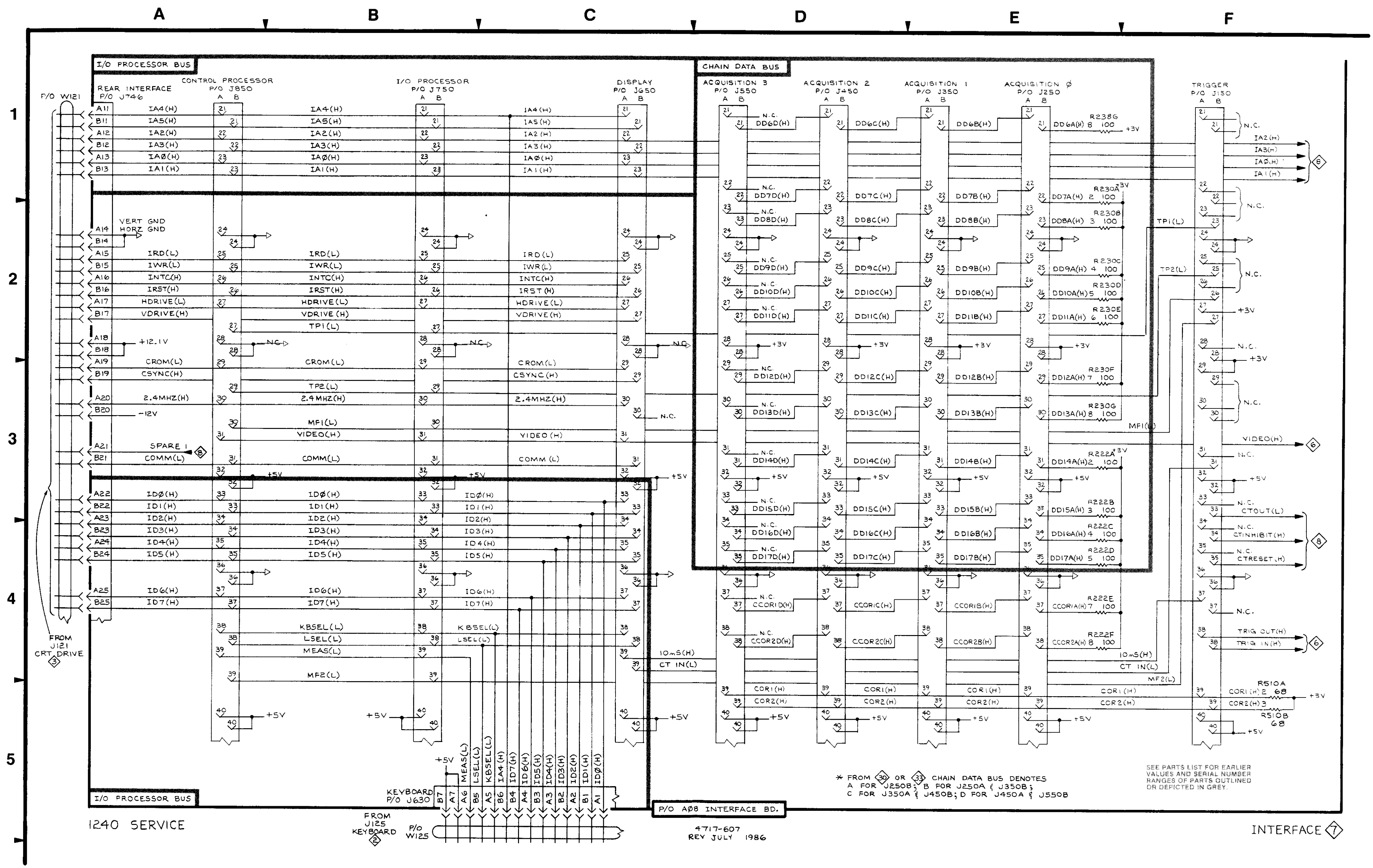

CONTROL PROCESSOR P/O J850
I/O PROCESSOR P/O J750
DISPLAY P/O J650
ACQUISITION 3 P/O J550
ACQUISITION 2 P/O J450
ACQUISITION 1 P/O J350
ACQUISITION Ø P/O J250
TRIGGER P/O J150
CONTROL PROCESSOR BUS
CONTROL SIGNALS
I/O PROCESSOR BUS
CHAIN DATA BUS
P/O W121
P/O U746 REAR INTERFACE
FROM J121 CRT DRIVE
COMPONENT NUMBER EXAMPLE
A23 A2 R1234
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.
* 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 BD.
P/O A08 INTERFACE

Table 10-7

INTERFACE ⟨7⟩ — ASSEMBLY A08

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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



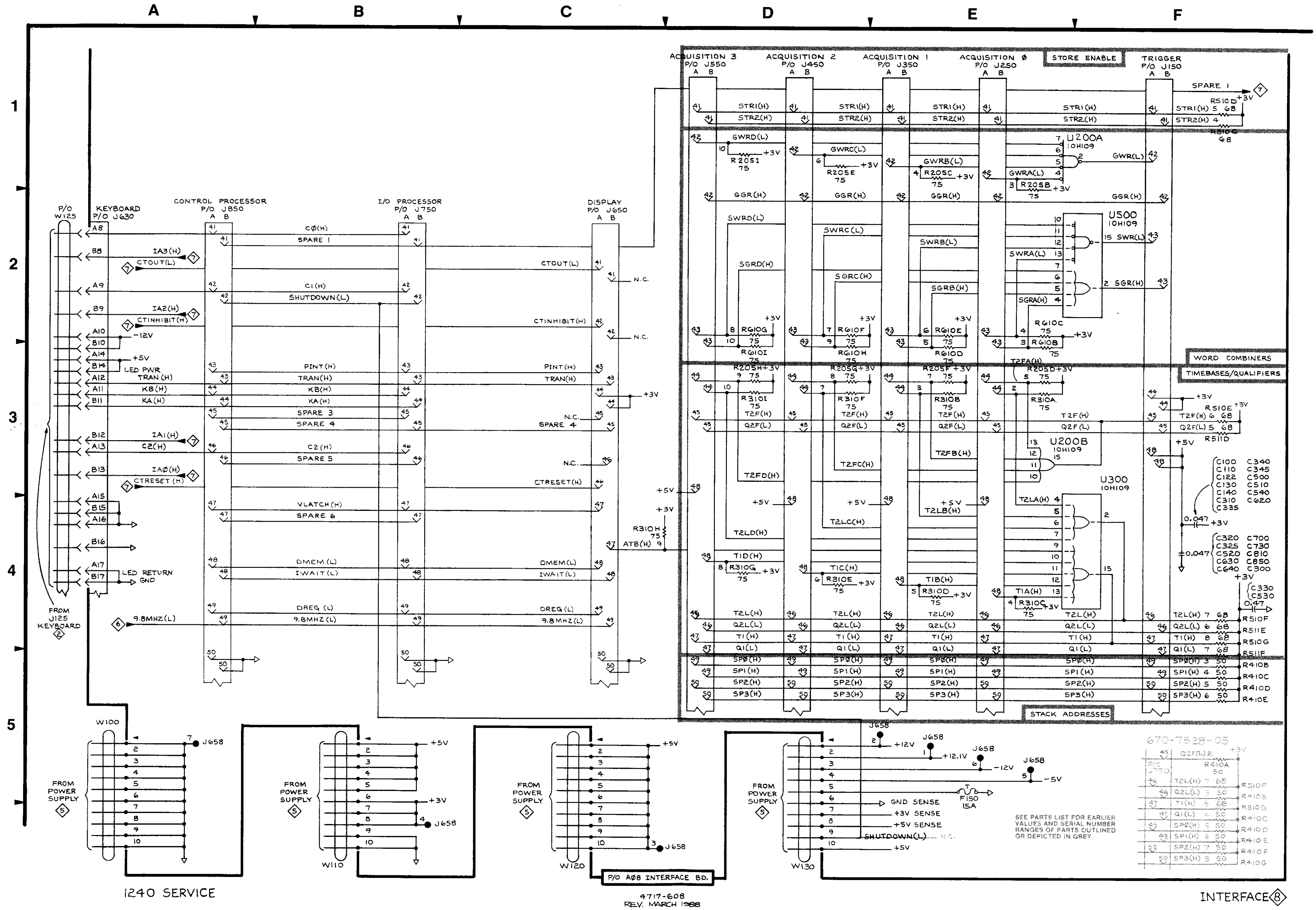
I/O PROCESSOR BUS
CHAIN DATA BUS
REAR INTERFACE P/O J746
CONTROL PROCESSOR P/O J850
I/O PROCESSOR P/O J750
DISPLAY P/O J650
ACQUISITION 3 P/O J550
ACQUISITION 2 P/O J450
ACQUISITION 1 P/O J350
ACQUISITION Ø P/O J250
TRIGGER P/O J150
P/O W121
FROM J121 CRT DRIVE
KEYBOARD P/O J630
FROM J125 KEYBOARD
P/O W125
P/O AØ8 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.
4717-607 REV JULY 1986

Table 10-8

INTERFACE ⟨8⟩ — ASSEMBLY A08

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.



1240 SERVICE

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REV. MARCH 1988

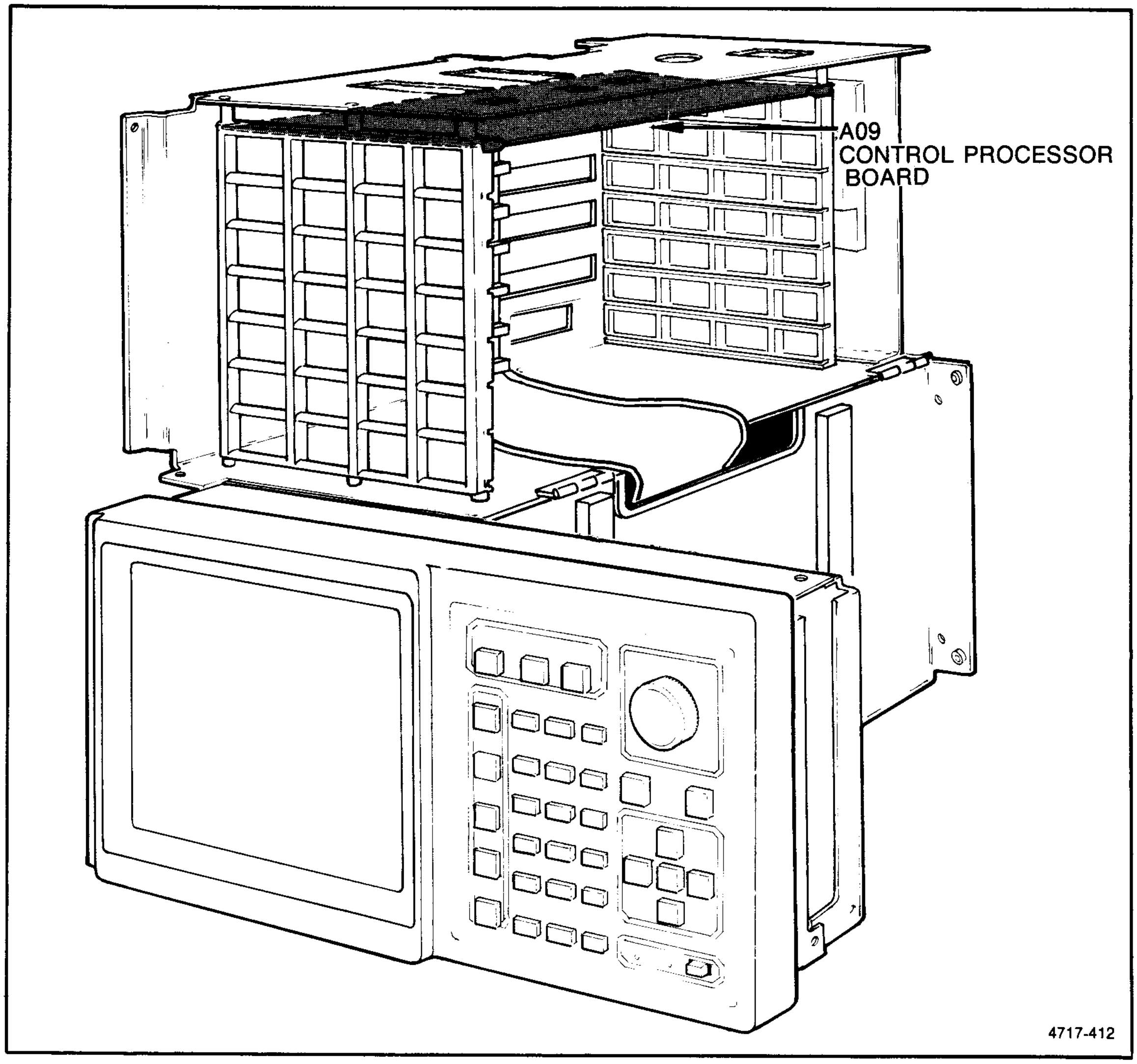
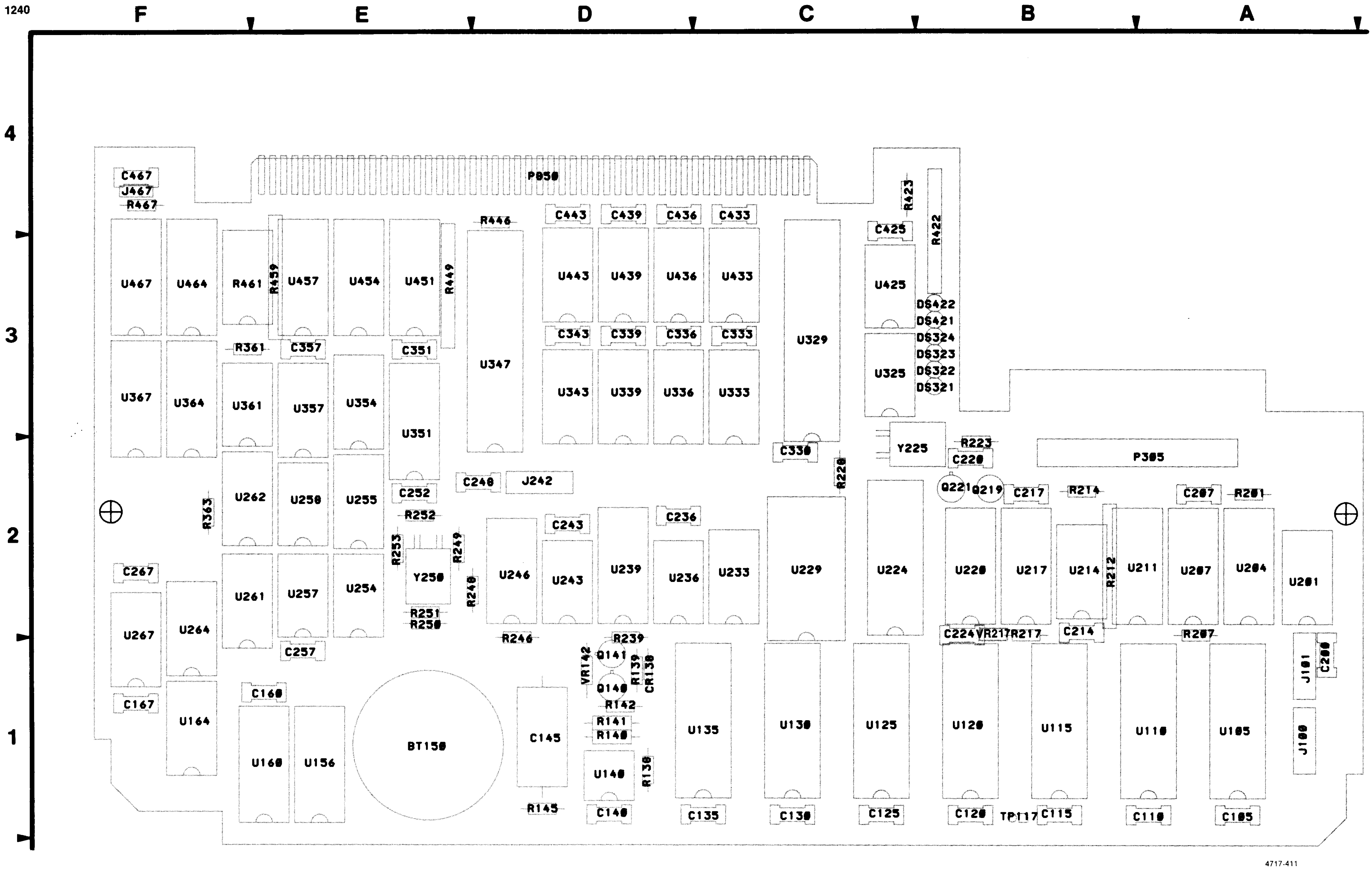


Figure 10-12. A09 Control Processor Board Card Cage Location.



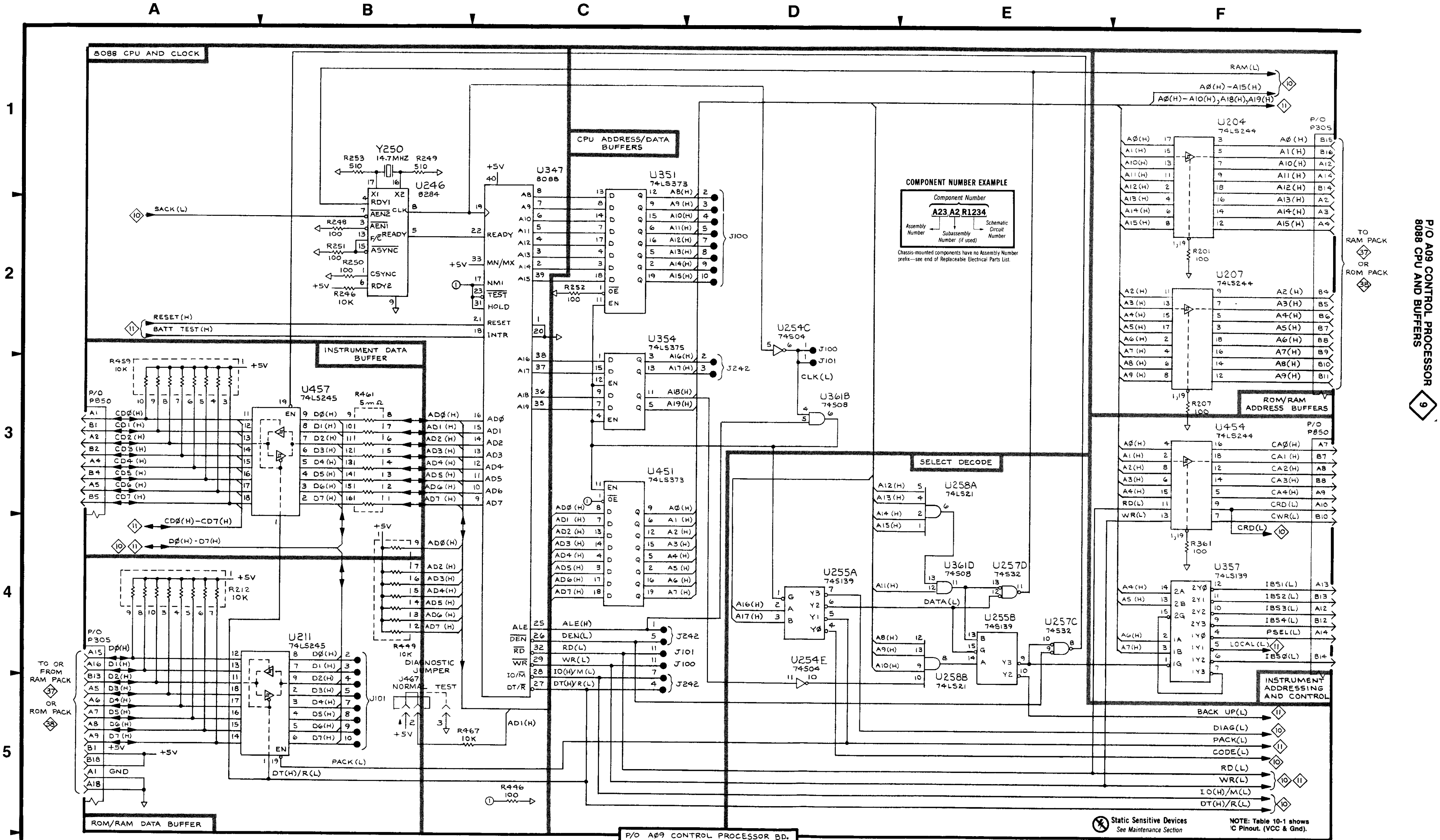
Static Sensitive Devices
See Maintenance Section

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

Table 10-9

8088 CPU AND BUFFERS ⟨9⟩ — CONTROL PROCESSOR BOARD, ASSEMBLY A09

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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


8088 CPU AND CLOCK
CPU ADDRESS/DATA BUFFERS
INSTRUMENT DATA BUFFER
ROM/RAM DATA BUFFER
SELECT DECODE
ROM/RAM ADDRESS BUFFERS
INSTRUMENT ADDRESSING AND CONTROL
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).
P/O A09 CONTROL PROCESSOR BD.
P/O A09 CONTROL PROCESSOR
8088 CPU AND BUFFERS

4717-609

Table 10-10

ROMS AND RAMS ⟨10⟩ — CONTROL PROCESSOR BOARD, ASSEMBLY A09

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			

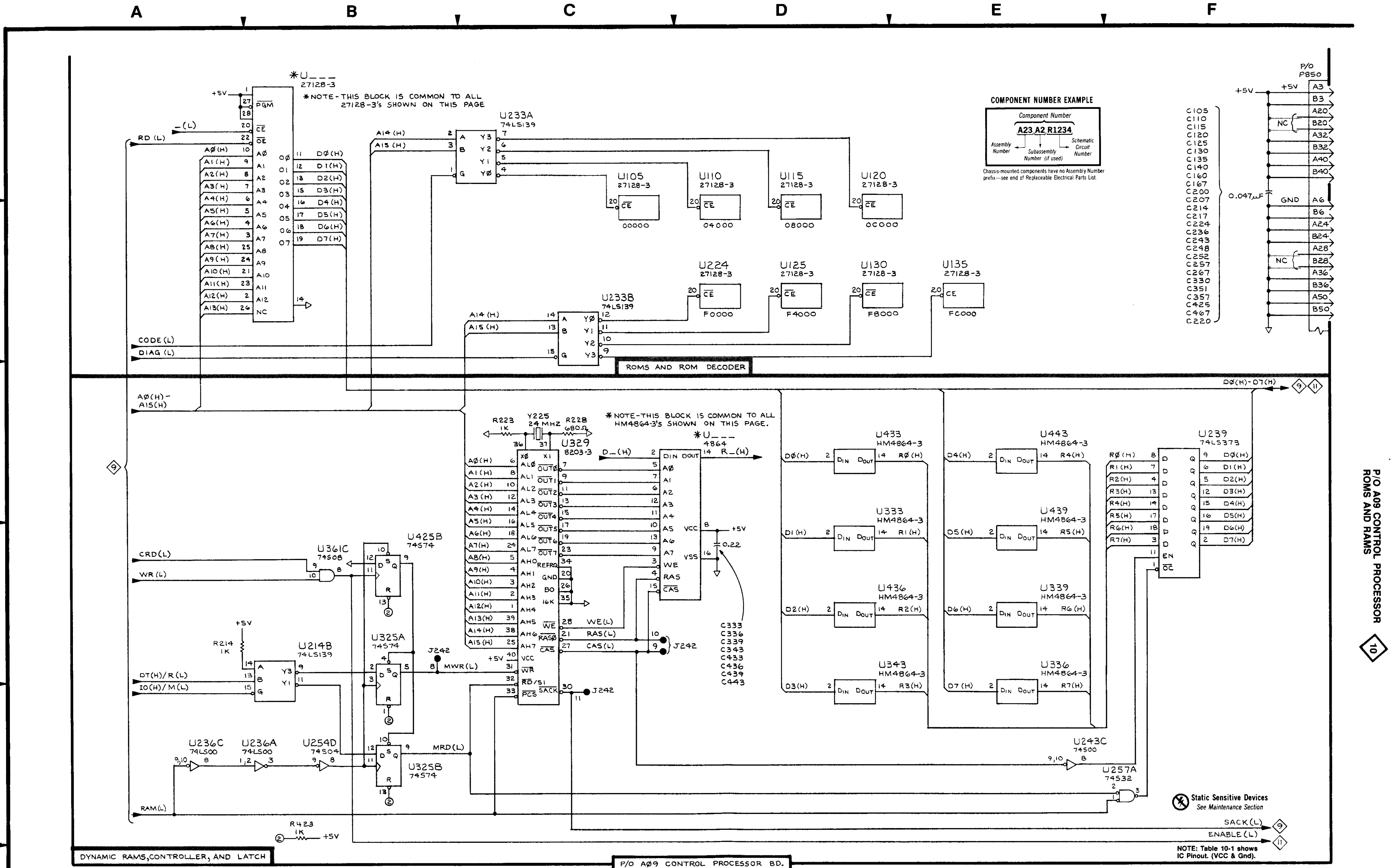
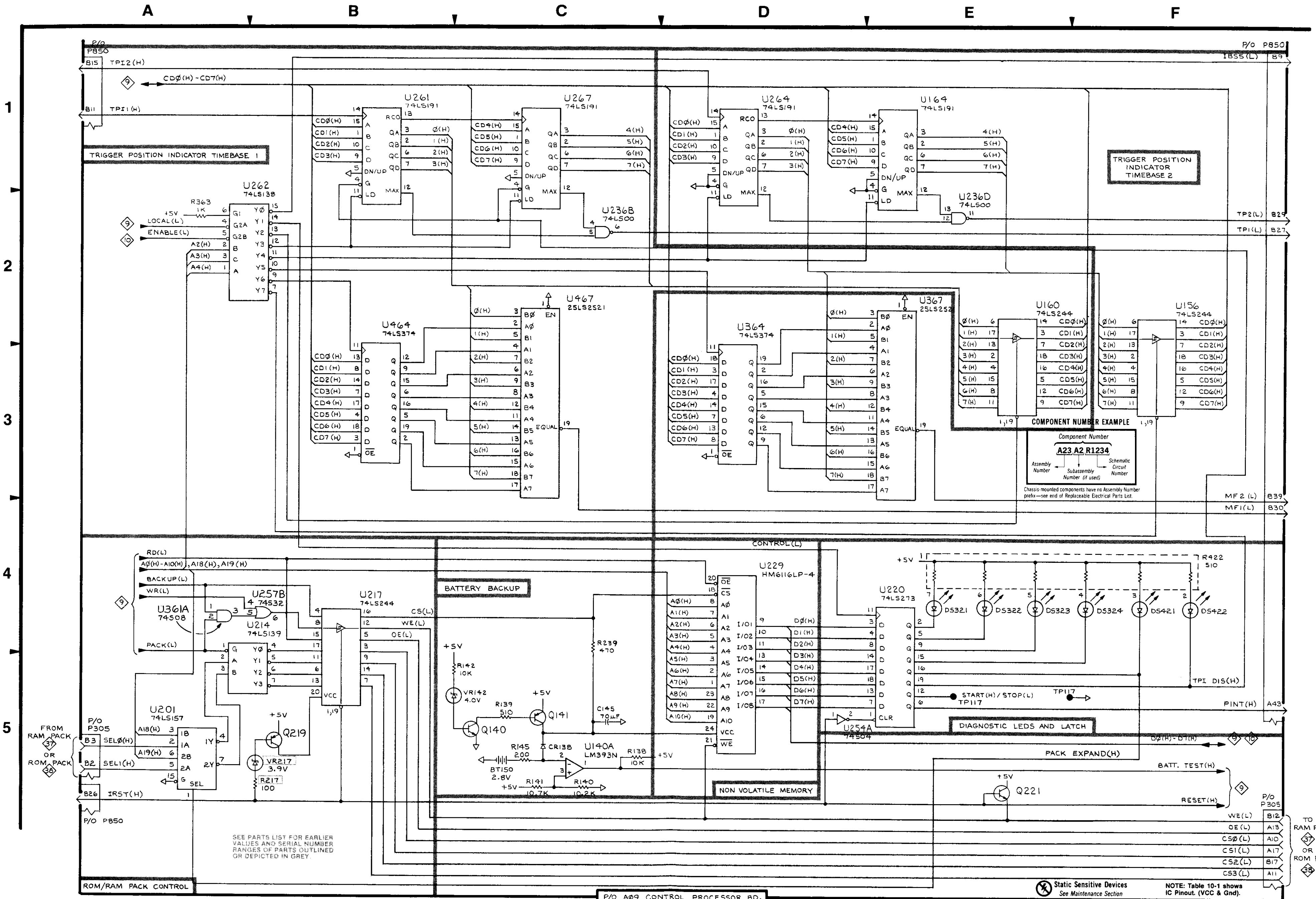

ROMS AND ROM DECODER
DYNAMIC RAMS, CONTROLLER, AND LATCH
COMPONENT NUMBER EXAMPLE
*NOTE-THIS BLOCK IS COMMON TO ALL 27128-3's SHOWN ON THIS PAGE
*NOTE-THIS BLOCK IS COMMON TO ALL HM4864-3's SHOWN ON THIS PAGE.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A09 CONTROL PROCESSOR BD.
P/O A09 CONTROL PROCESSOR
ROMS AND RAMS

Table 10-11

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

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.



P/O A09 CONTROL PROCESSOR
TRIGGER POS'N & BACKUP CIRC.

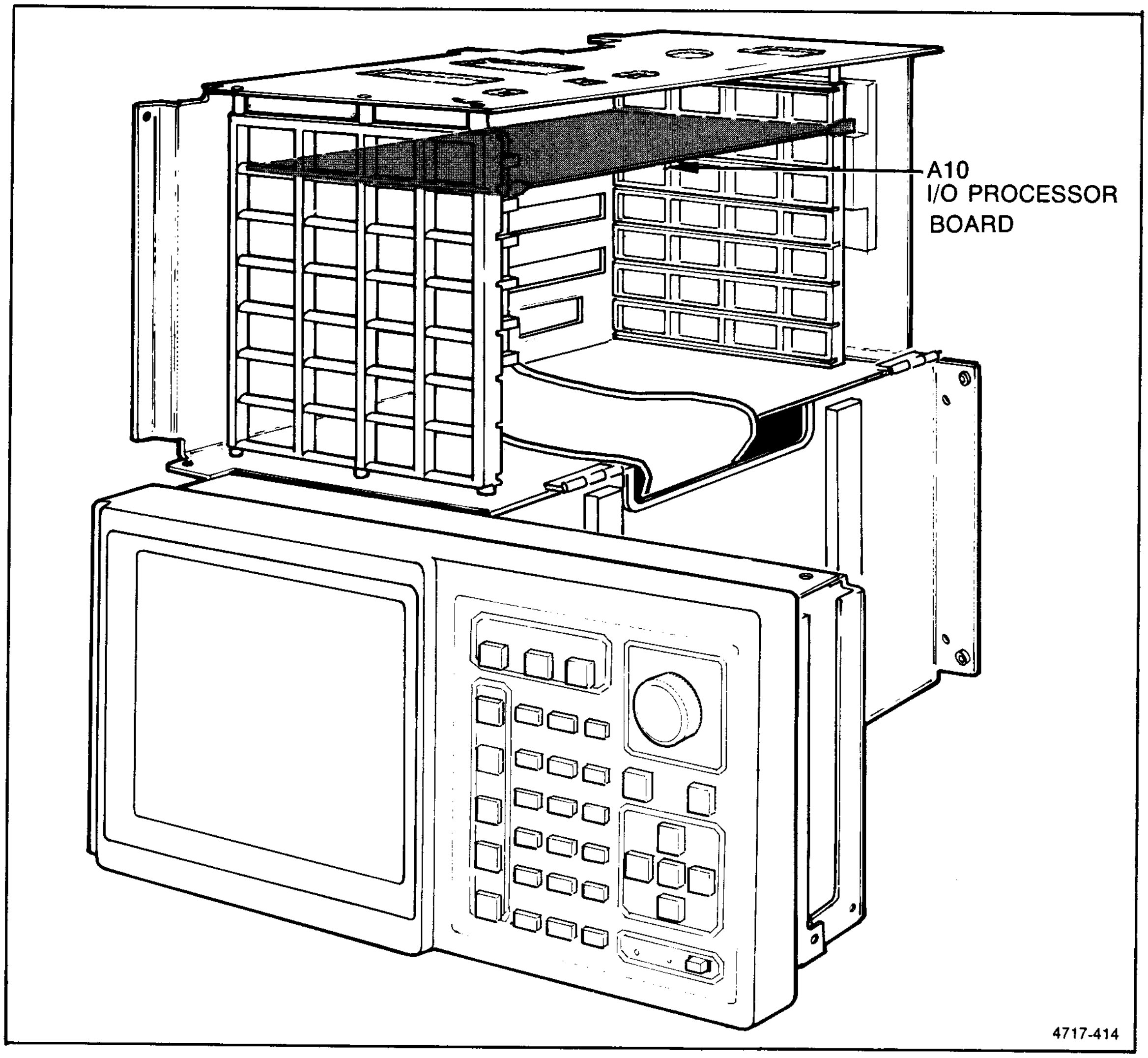
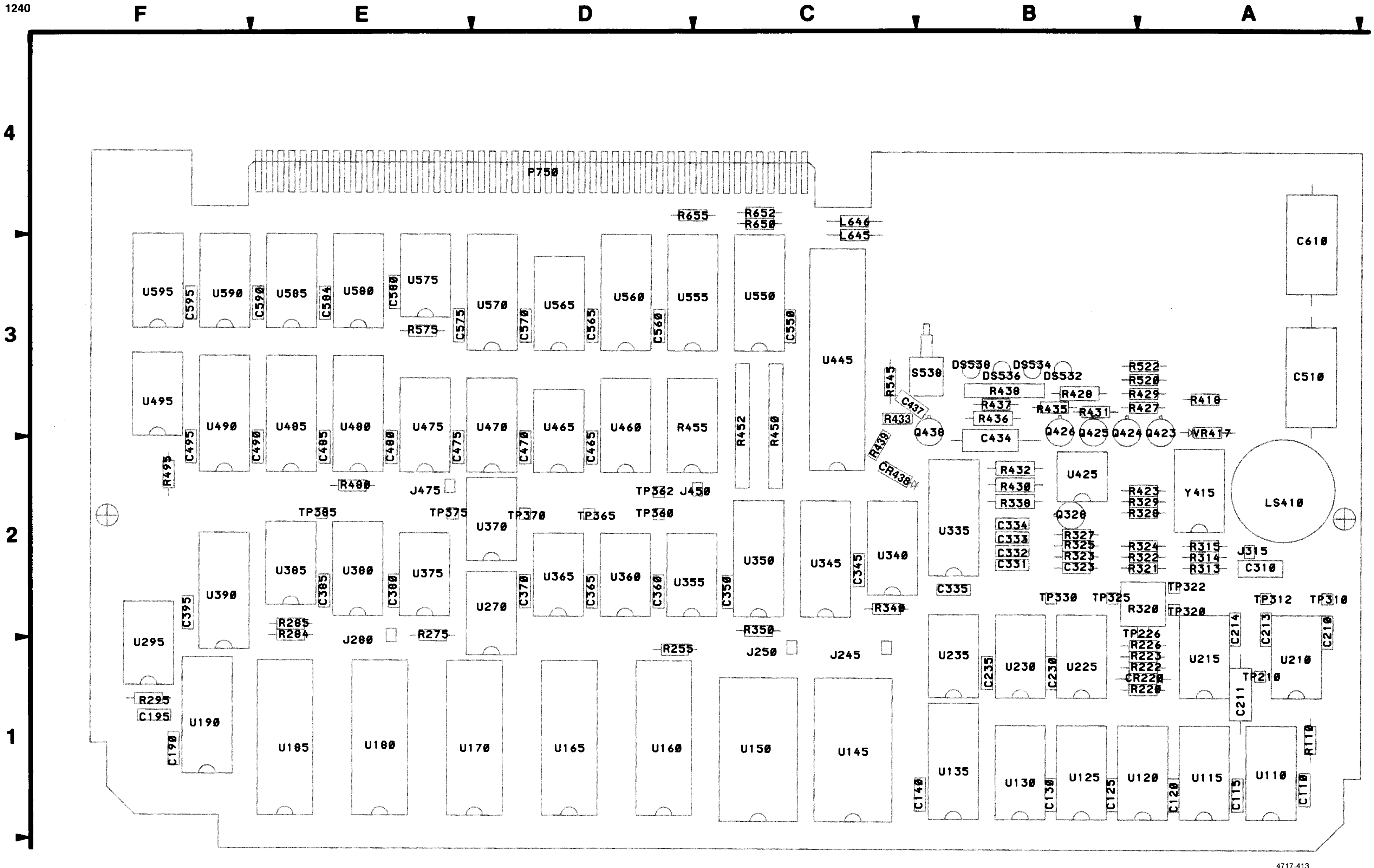


Figure 10-14. A10 I/O Processor Board Card Cage Location.

1240



Static Sensitive Devices
See Maintenance Section

REV APR 1986

REV APR 1986

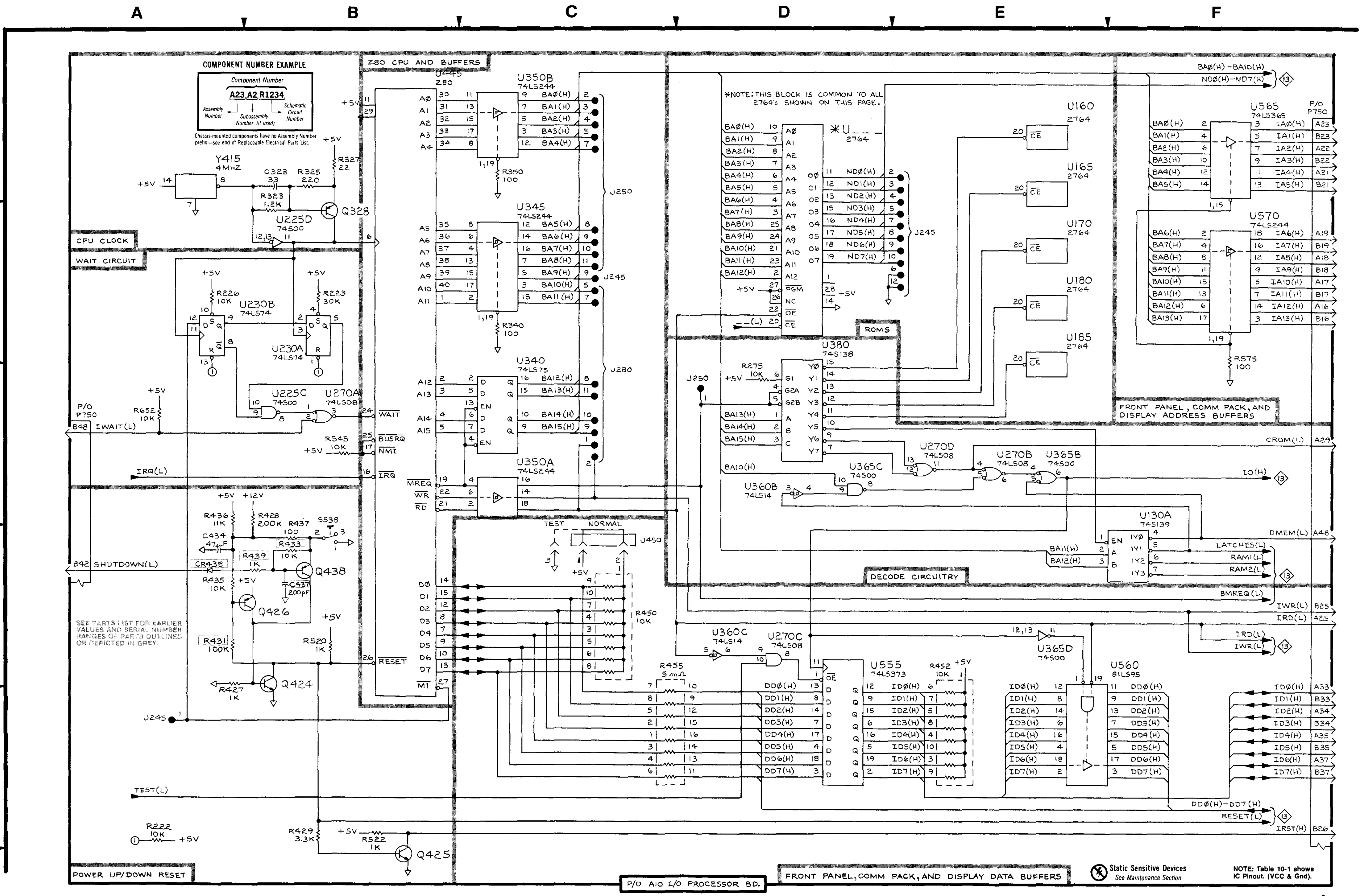
Figure 10-13. A10 I/O Processor Board Component Locations.

Table 10-12

Z80 CPU AND BUFFERS ⟨12⟩ — I/O PROCESSOR BOARD, ASSEMBLY A10

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.**



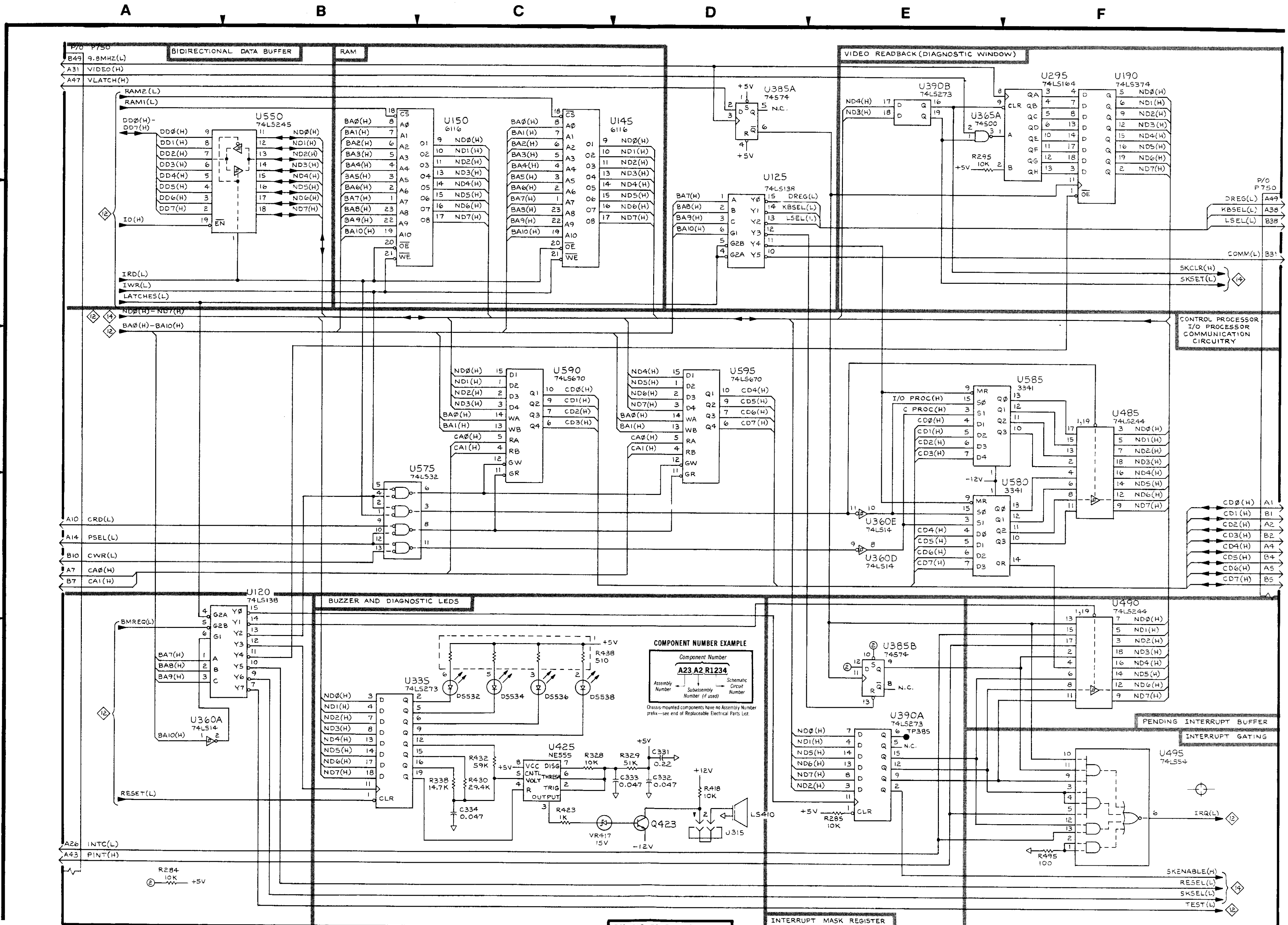
P/O A10 I/O PROCESSOR
Z80 CPU AND BUFFERS

4717-612
MS9544-2/86

Table 10-13

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

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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



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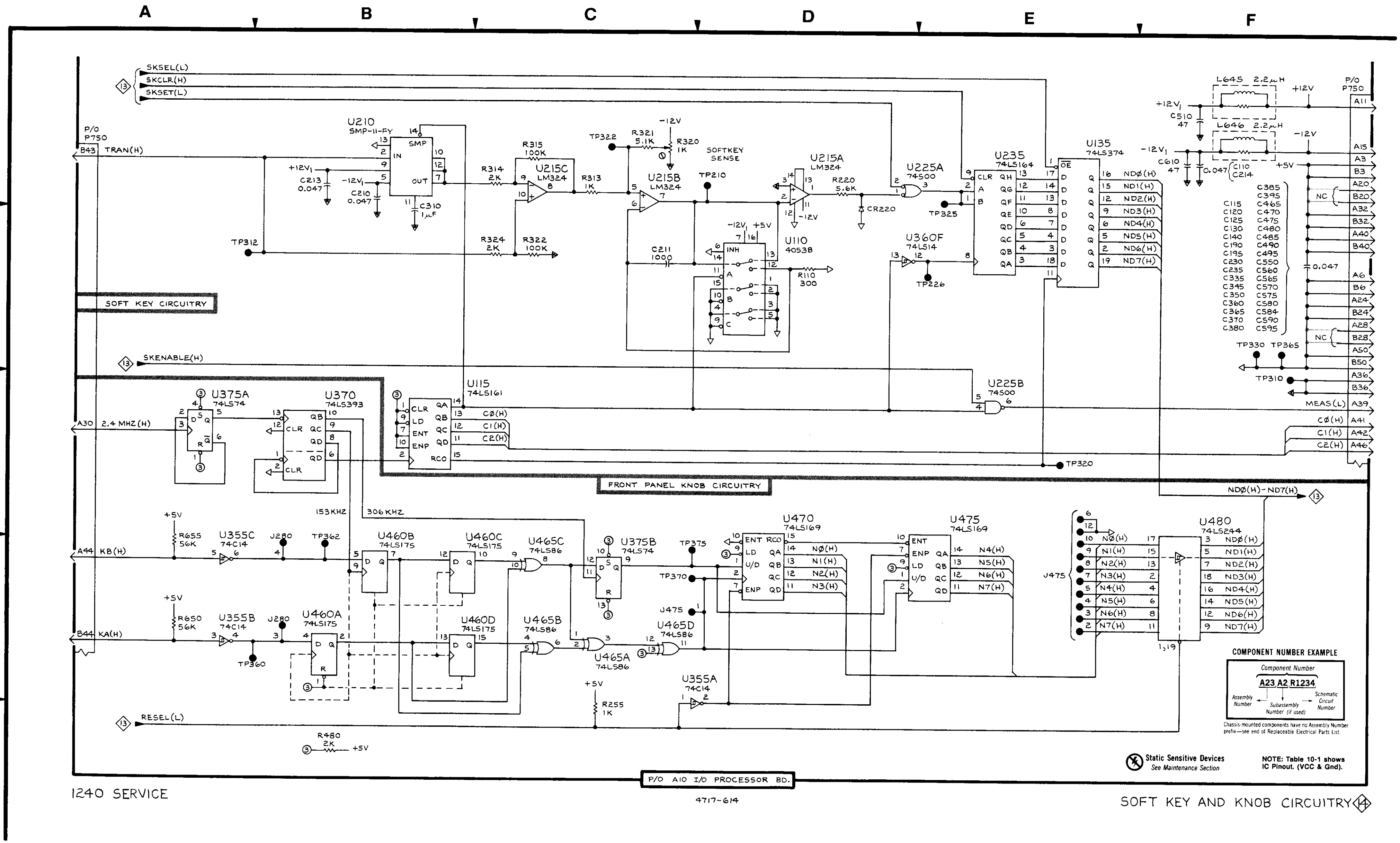
RAM AND INTERRUPT CIRCUITRY 13

Table 10-14

SOFT KEY & KNOB CIRCUITRY ⟨14⟩ — I/O PROCESSOR BOARD, ASSEMBLY A10

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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



SOFT KEY AND KNOB CIRCUITRY 14

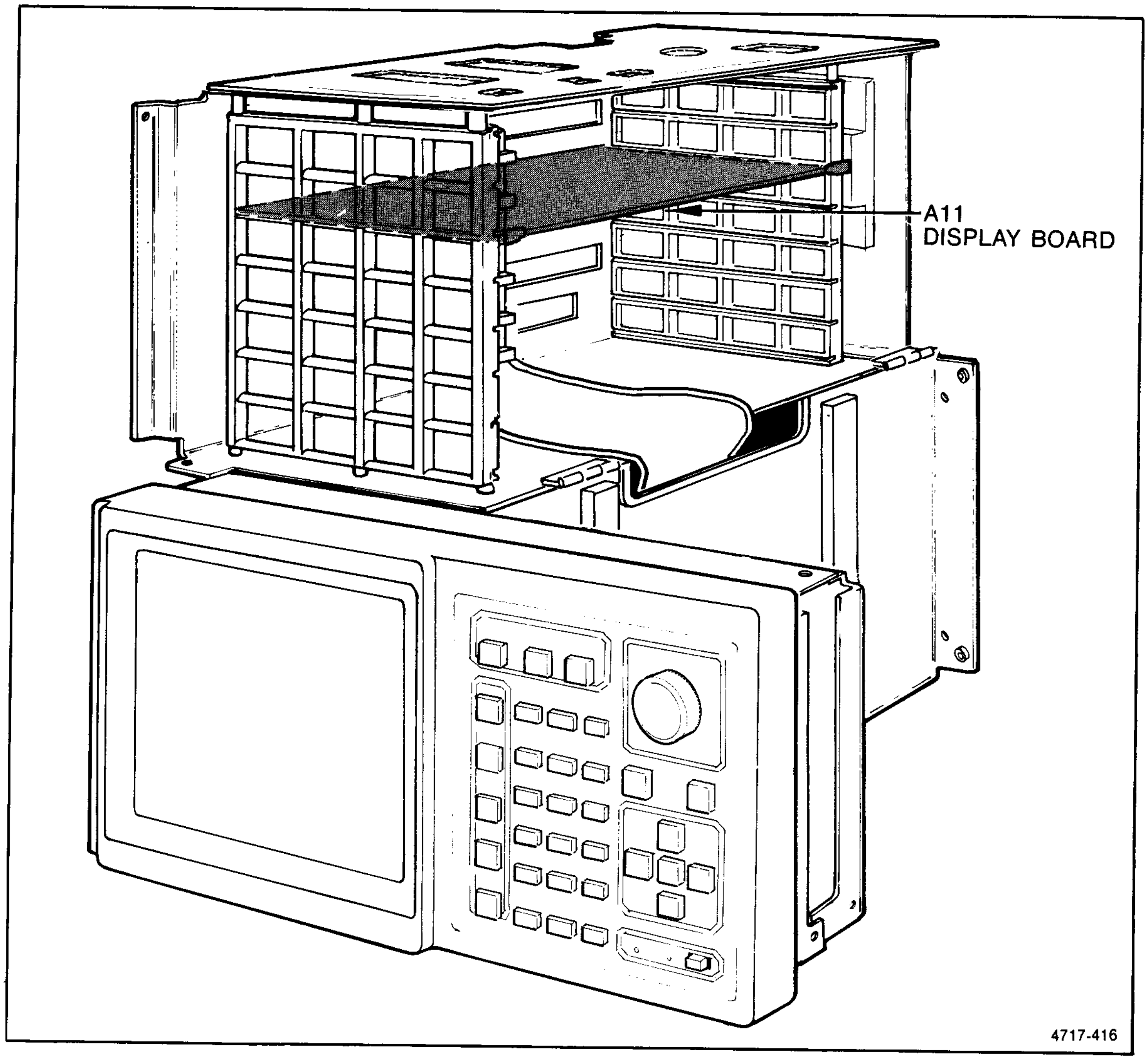


Figure 10-16. A11 Display Board Card Cage Location.

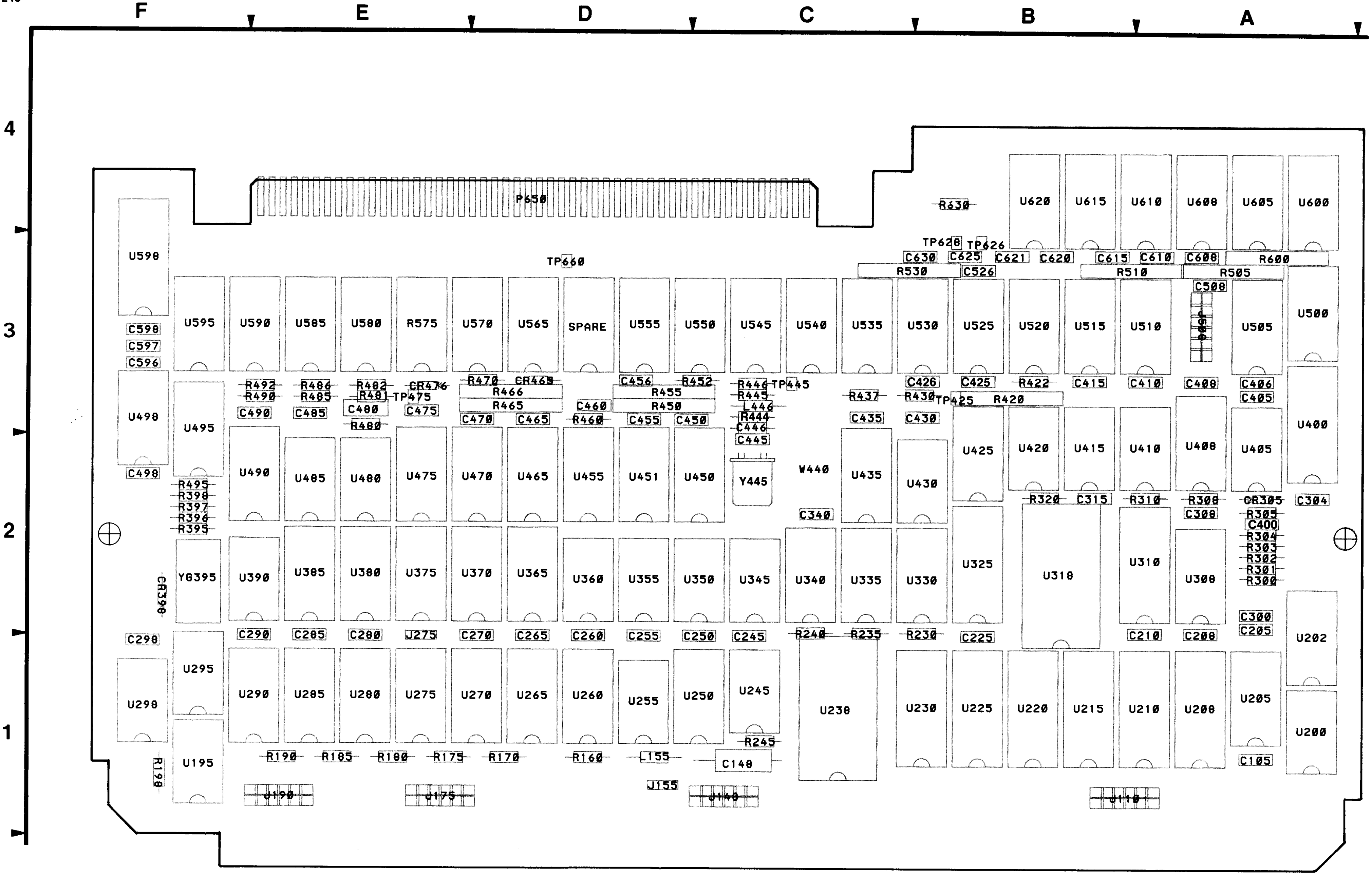


Figure 10-15. A11 Display Board Component Locations.

Table 10-15

DISPLAY RAM ADDRESSING 15 — DISPLAY BOARD, ASSEMBLY A11

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			

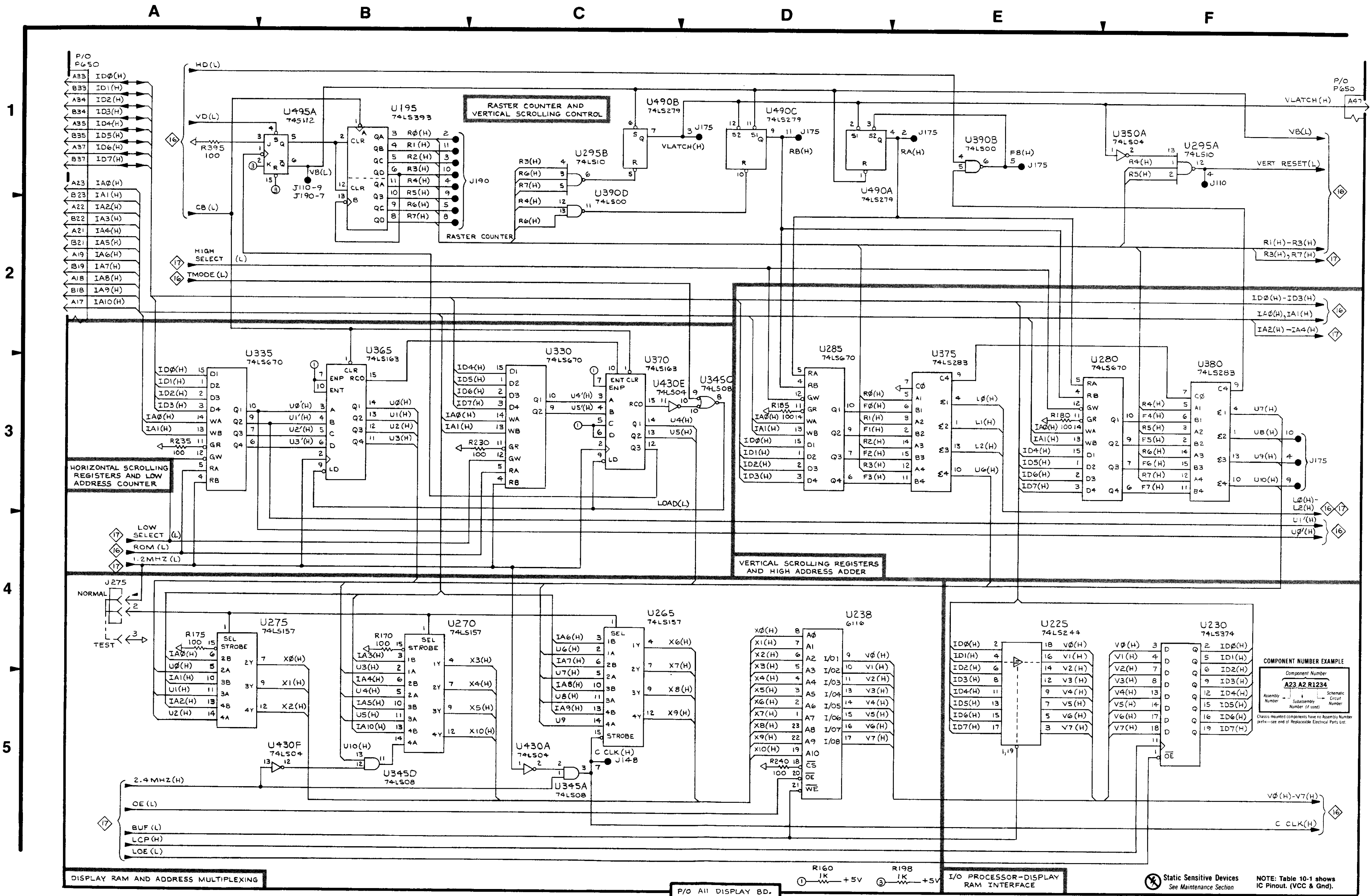

RASTER COUNTER AND VERTICAL SCROLLING CONTROL
HORIZONTAL SCROLLING REGISTERS AND LOW ADDRESS COUNTER
VERTICAL SCROLLING REGISTERS AND HIGH ADDRESS ADDER
DISPLAY RAM AND ADDRESS MULTIPLEXING
I/O PROCESSOR-DISPLAY RAM INTERFACE
P/O A11 DISPLAY BD.
COMPONENT NUMBER EXAMPLE
A23 A2 R1234
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).

Table 10-16

DISPLAY DATA PROCESSING 16 — DISPLAY BOARD, ASSEMBLY A11

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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

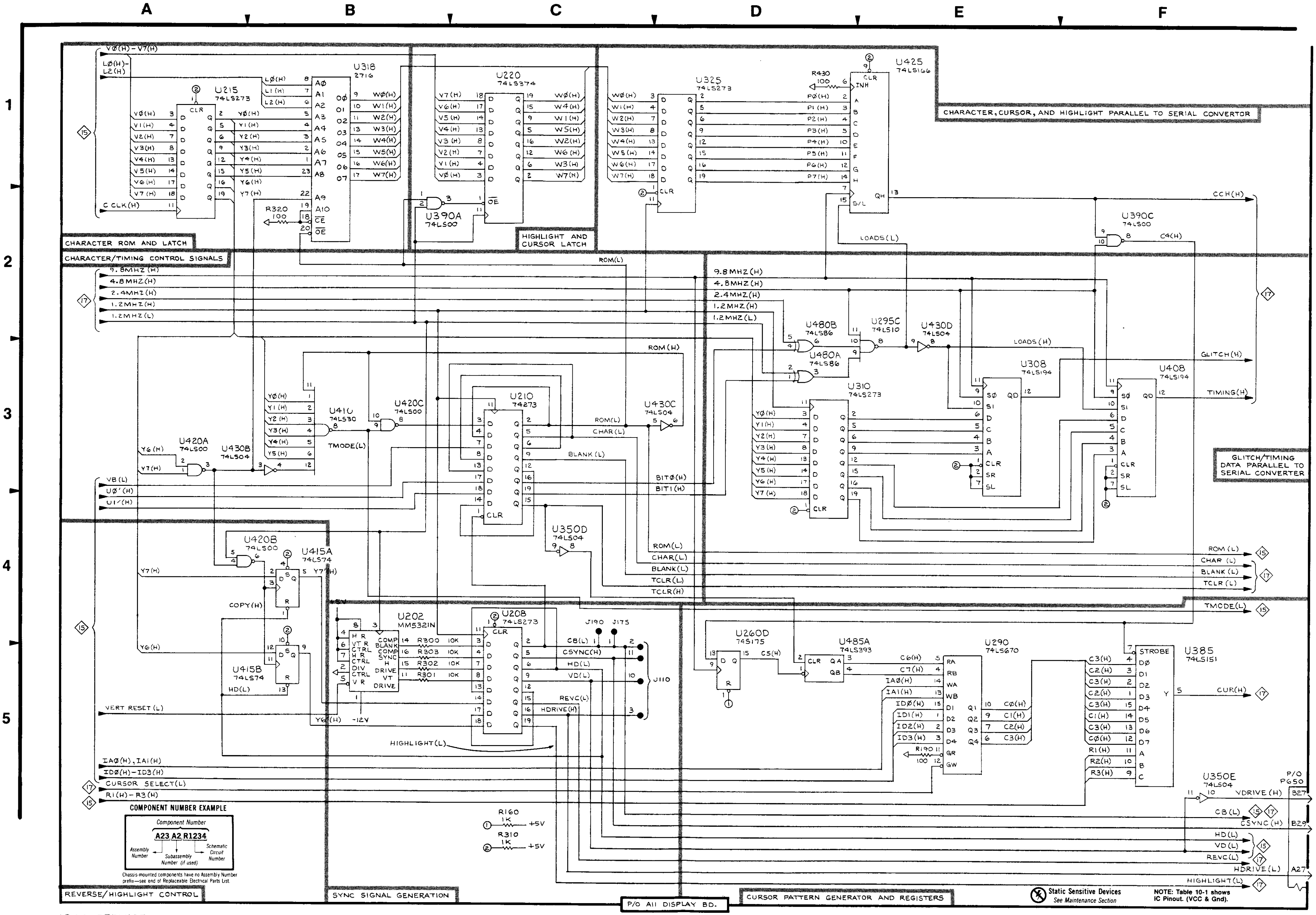


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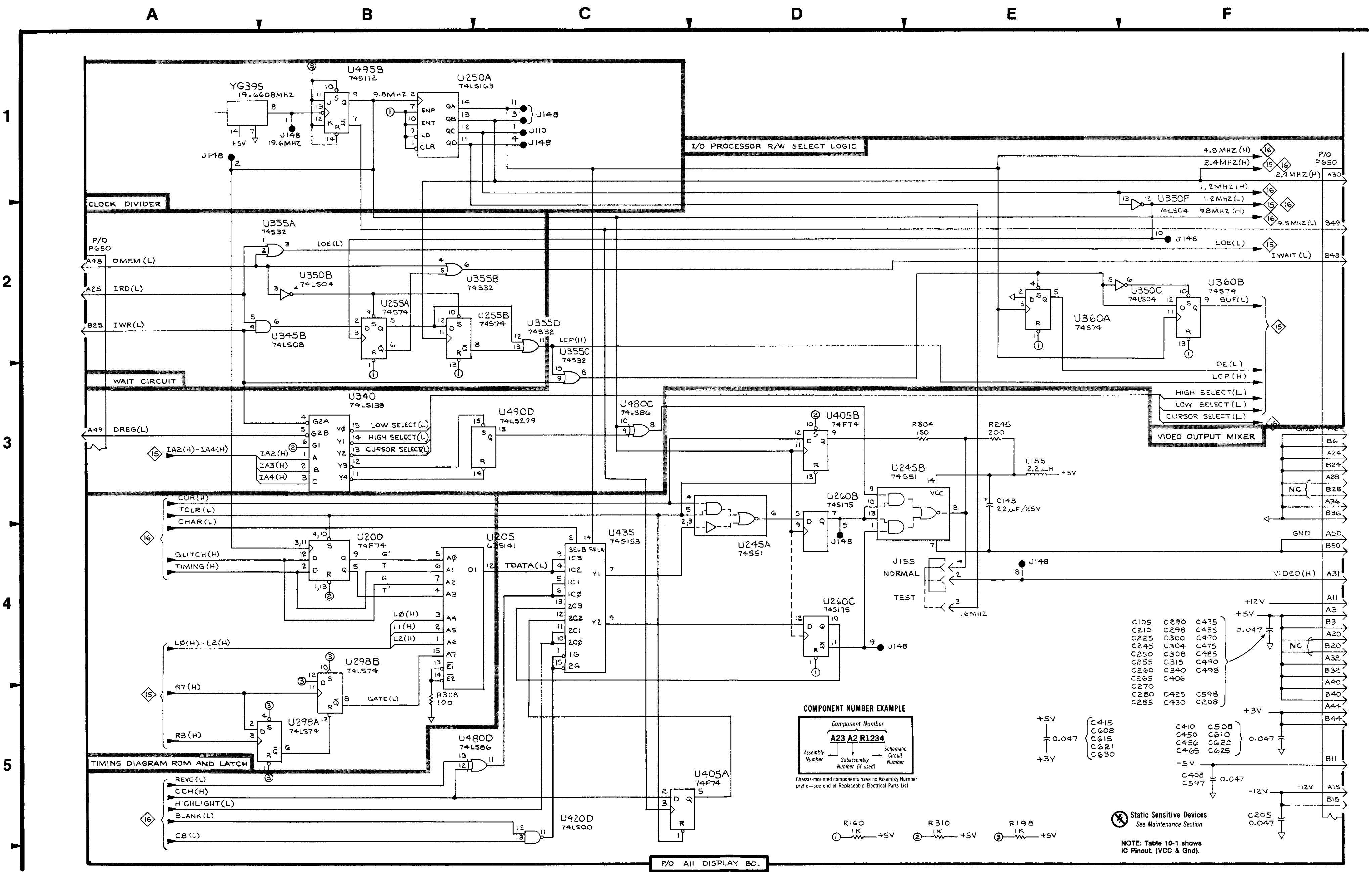
Table 10-17

I/O PROCESSOR DMA & VIDEO MIXER ⟨17⟩ — DISPLAY BOARD, ASSEMBLY A11

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			



CLOCK DIVIDER
I/O PROCESSOR R/W SELECT LOGIC
WAIT CIRCUIT
VIDEO OUTPUT MIXER
TIMING DIAGRAM ROM AND LATCH
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.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A11 DISPLAY BD.
4717-617

Table 10-18

DISPLAY COUNTER/TIMER 18 — DISPLAY BOARD,ASSEMBLY A11

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

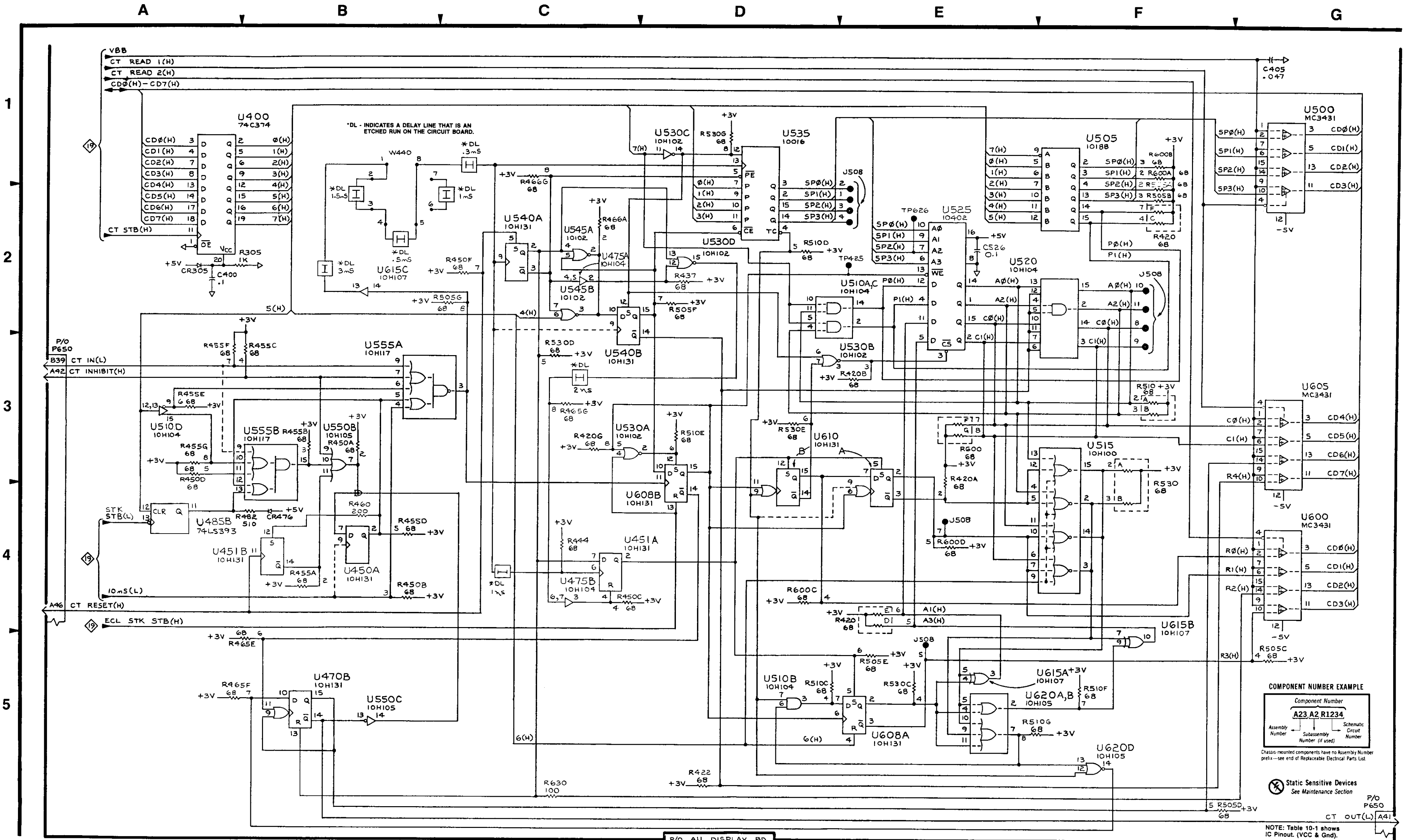
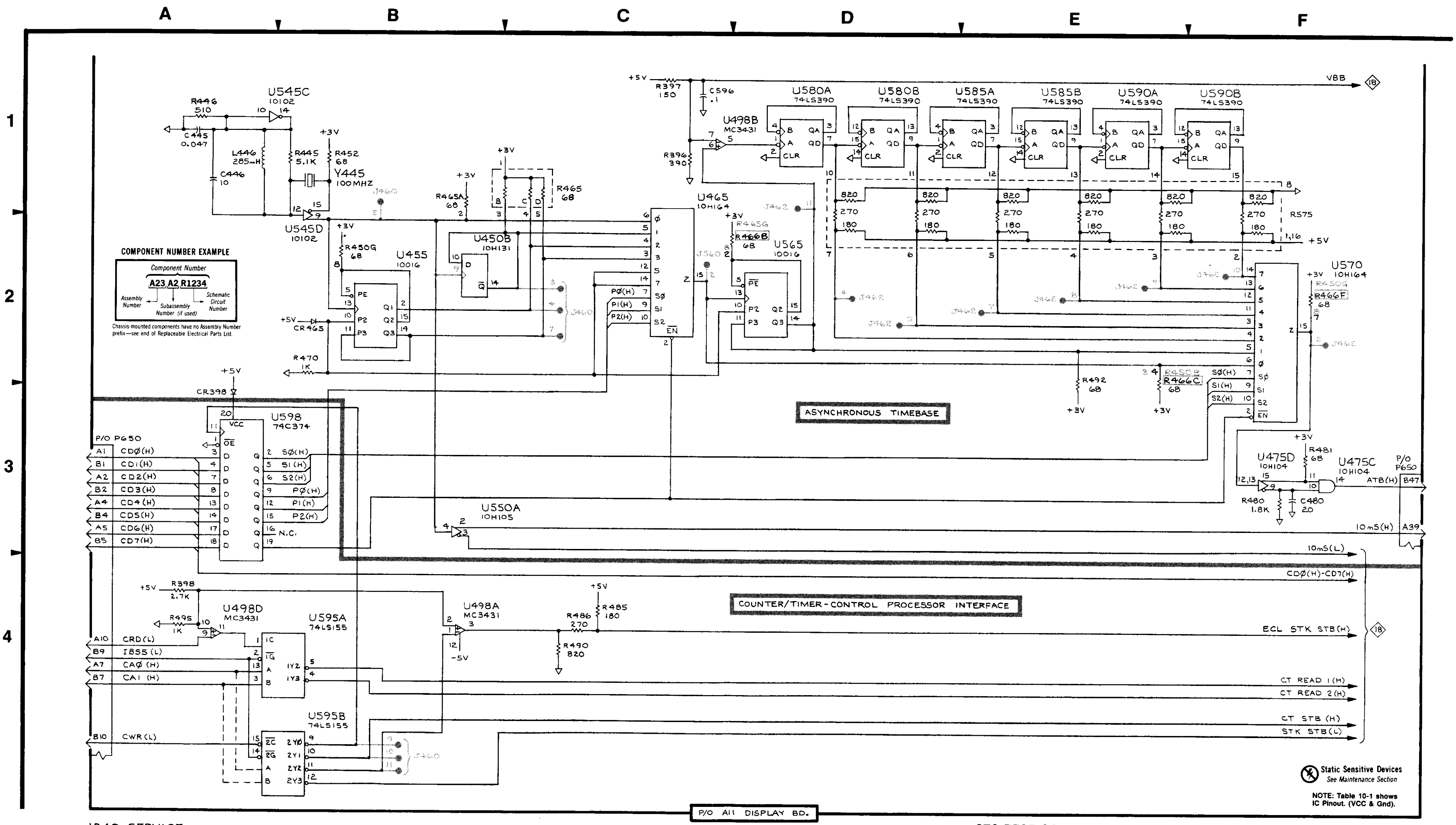

*DL - INDICATES A DELAY LINE THAT IS AN ETCHED RUN ON THE CIRCUIT BOARD.
COMPONENT NUMBER EXAMPLE
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A11 DISPLAY BD.

Table 10-19

ASYNCHRONOUS TIMEBASE ⟨19⟩ — DISPLAY BOARD, ASSEMBLY A11

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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
1
2
3
4
U545C
10102
R446
510
C445
0.047
L446
285nH
C446
10
R445
5.1K
R452
68
+3V
Y445
100MHZ
U545D
10102
J460
R465A
68
U450B
10H131
R465
68
U455
10016
R450G
68
CR465
R470
1K
U465
10H164
PØ(H)
P1(H)
P2(H)
+5V
R397
150
C596
.1
R396
390
U498B
MC3431
U580A
74LS390
U580B
74LS390
U585A
74LS390
U585B
74LS390
U590A
74LS390
U590B
74LS390
VBB
18
820
270
180
R575
J462
R465G
R466B
68
J560
U565
10016
U570
10H164
R450G
R466F
68
R492
68
R450R
R466C
SØ(H)
S1(H)
S2(H)
ASYNCHRONOUS TIMEBASE
CR398
U598
74C374
P/O P650
CDØ(H)
CD1(H)
CD2(H)
CD3(H)
CD4(H)
CD5(H)
CD6(H)
CD7(H)
N.C.
U550A
10H105
U475D
10H104
R481
68
U475C
10H104
R480
1.8K
C480
20
ATB(H)
B47
10mS(H)
A39
10mS(L)
CDØ(H)-CD7(H)
COUNTER/TIMER-CONTROL PROCESSOR INTERFACE
R398
2.7K
R495
1K
U498D
MC3431
U595A
74LS155
U498A
MC3431
R486
270
R485
180
R490
820
-5V
ECL STK STB(H)
CRD(L)
IBSS(L)
CAØ (H)
CA1 (H)
CT READ 1(H)
CT READ 2(H)
U595B
74LS155
CWR(L)
CT STB (H)
STK STB(L)
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.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A11 DISPLAY BD.

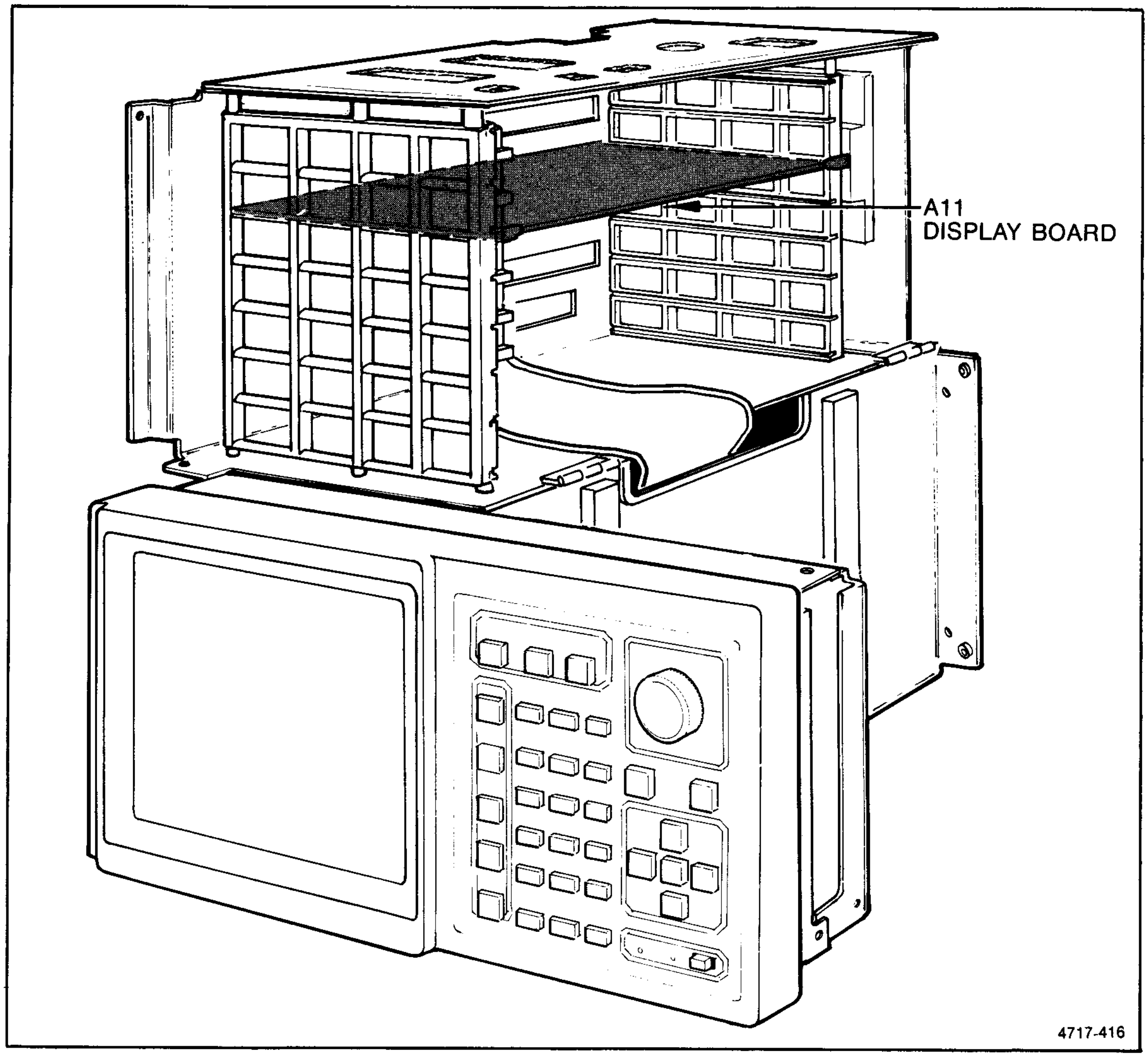
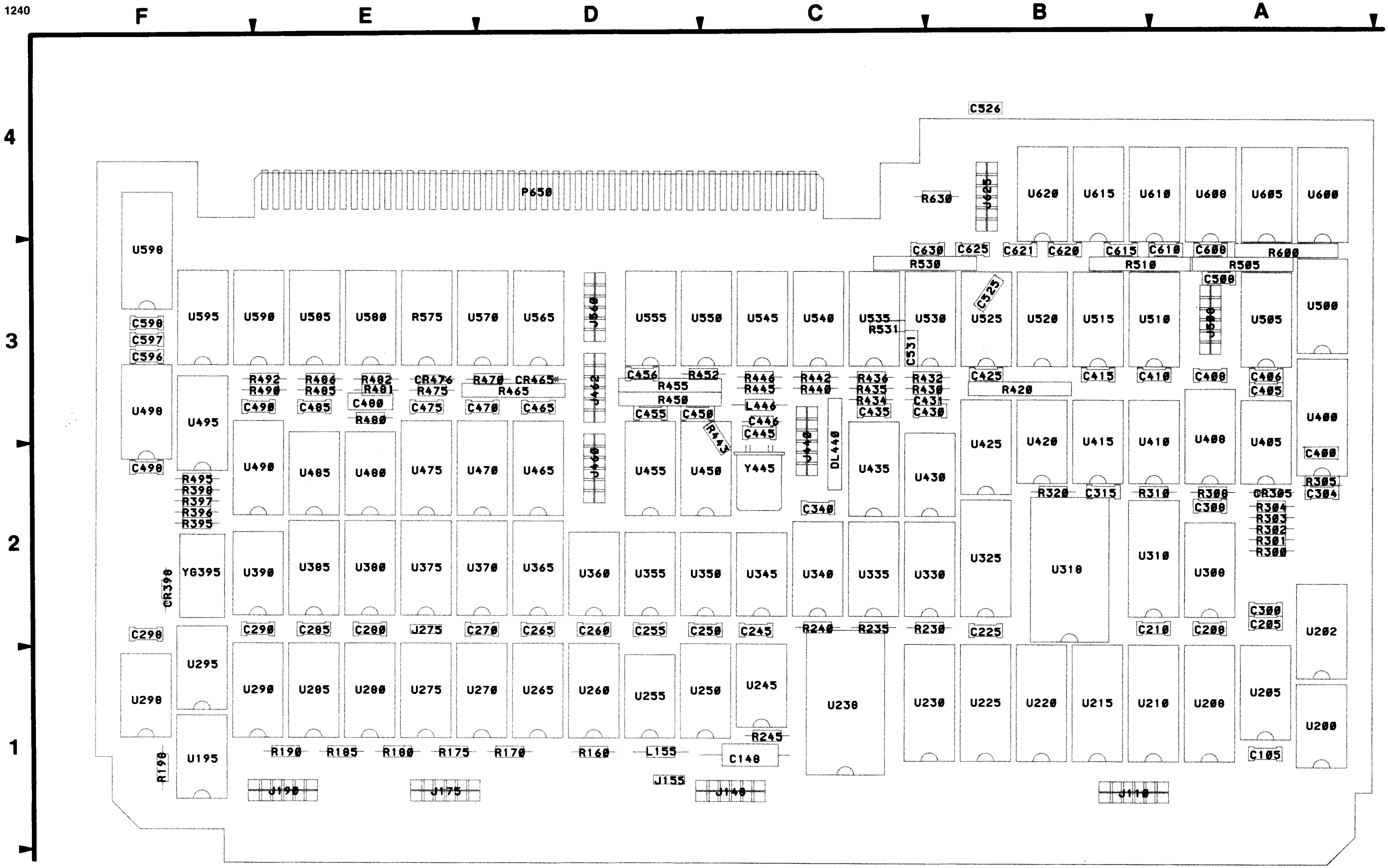


Figure 10-16a. A11 Display Board Card Cage Location.

1240



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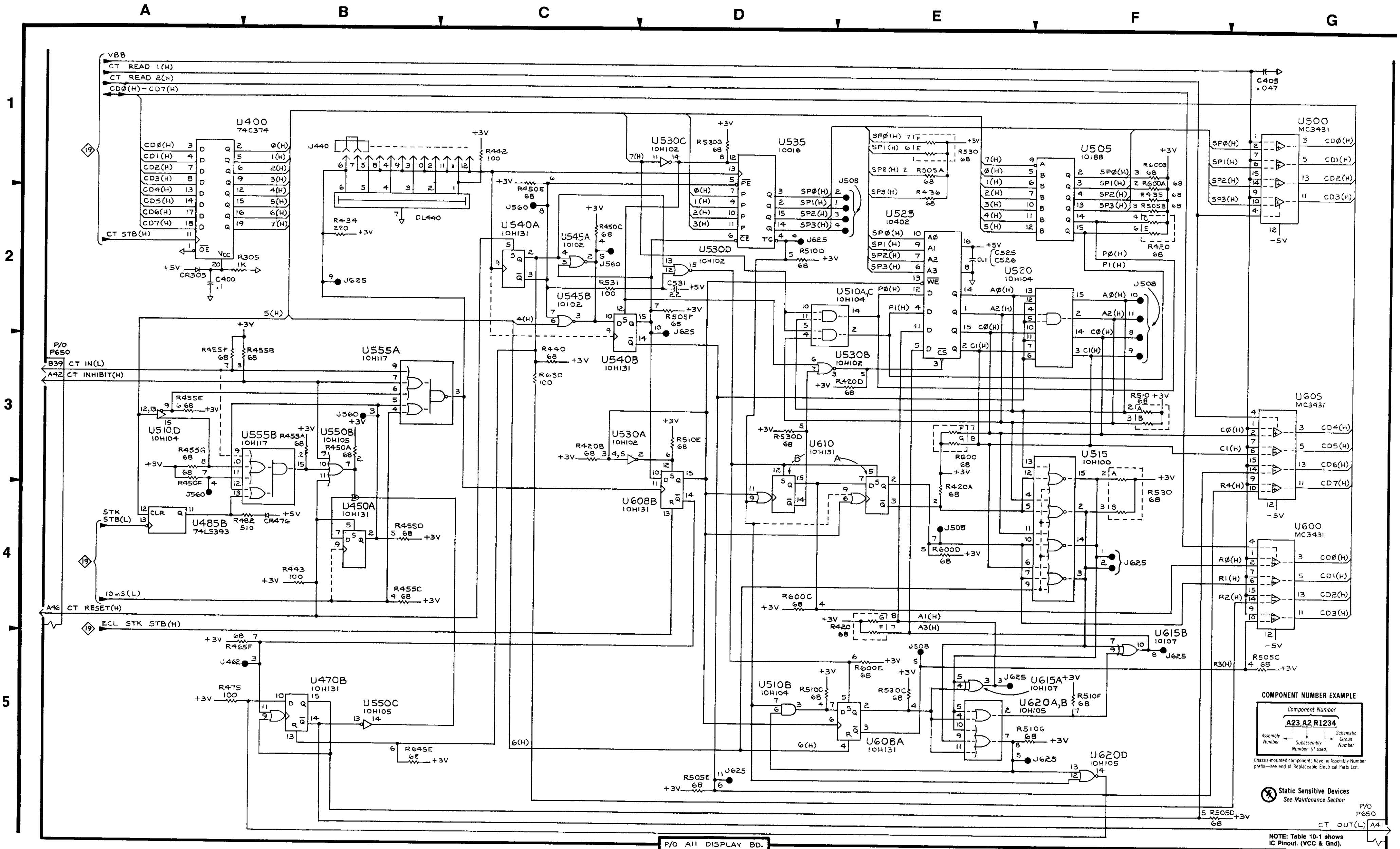
Static Sensitive Devices
See Maintenance Section

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

Table 10-18A

COUNTER/TIMER 18A — DISPLAY BOARD, ASSEMBLY A11

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			



U400 74C374
U440
DL440
U530C 10H102
U535 10016
U505 10188
U500 MC3431
U525 10402
U520 10H104
U540A 10H131
U545A 10102
U545B 10102
U540B 10H131
U530D 10H102
U510A,C 10H104
U530B 10H102
U555A 10H117
U555B 10H117
U550B 10H105
U510D 10H104
U450A 10H131
U485B 74LS393
U530A 10H102
U608B 10H131
U610 10H131
U515 10H100
U605 MC3431
U600 MC3431
U615B 10107
U615A 10H107
U620A,B 10H105
U620D 10H105
U510B 10H104
U608A 10H131
U470B 10H131
U550C 10H105
CT READ 1(H)
CT READ 2(H)
CDØ(H)-CD7(H)
CT STB(H)
CT IN(L)
CT INHIBIT(H)
CT RESET(H)
ECL STK STB(H)
STK STB(L)
10mS(L)
CT OUT(L)
P/O P650
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
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A11 DISPLAY BD.

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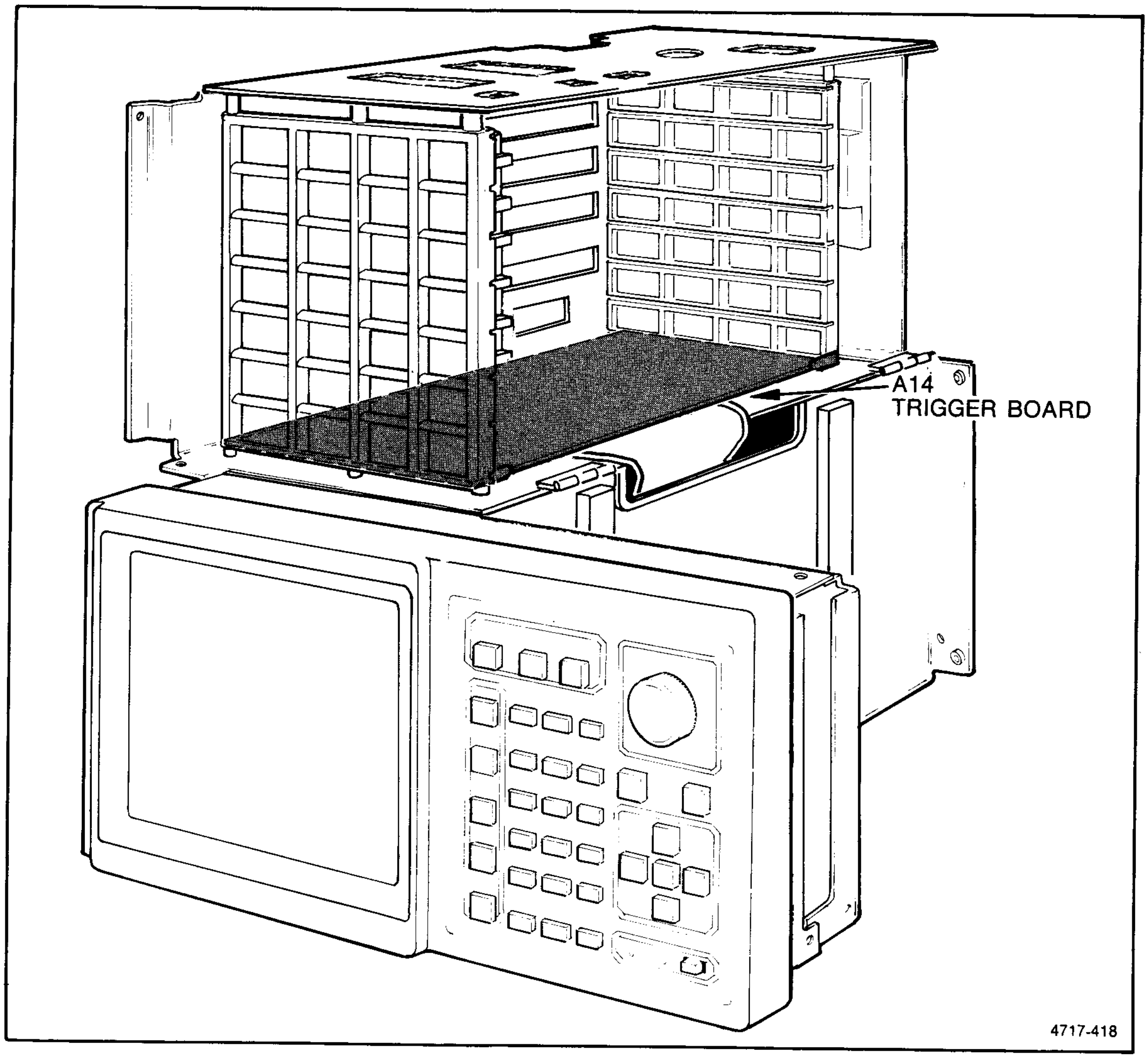
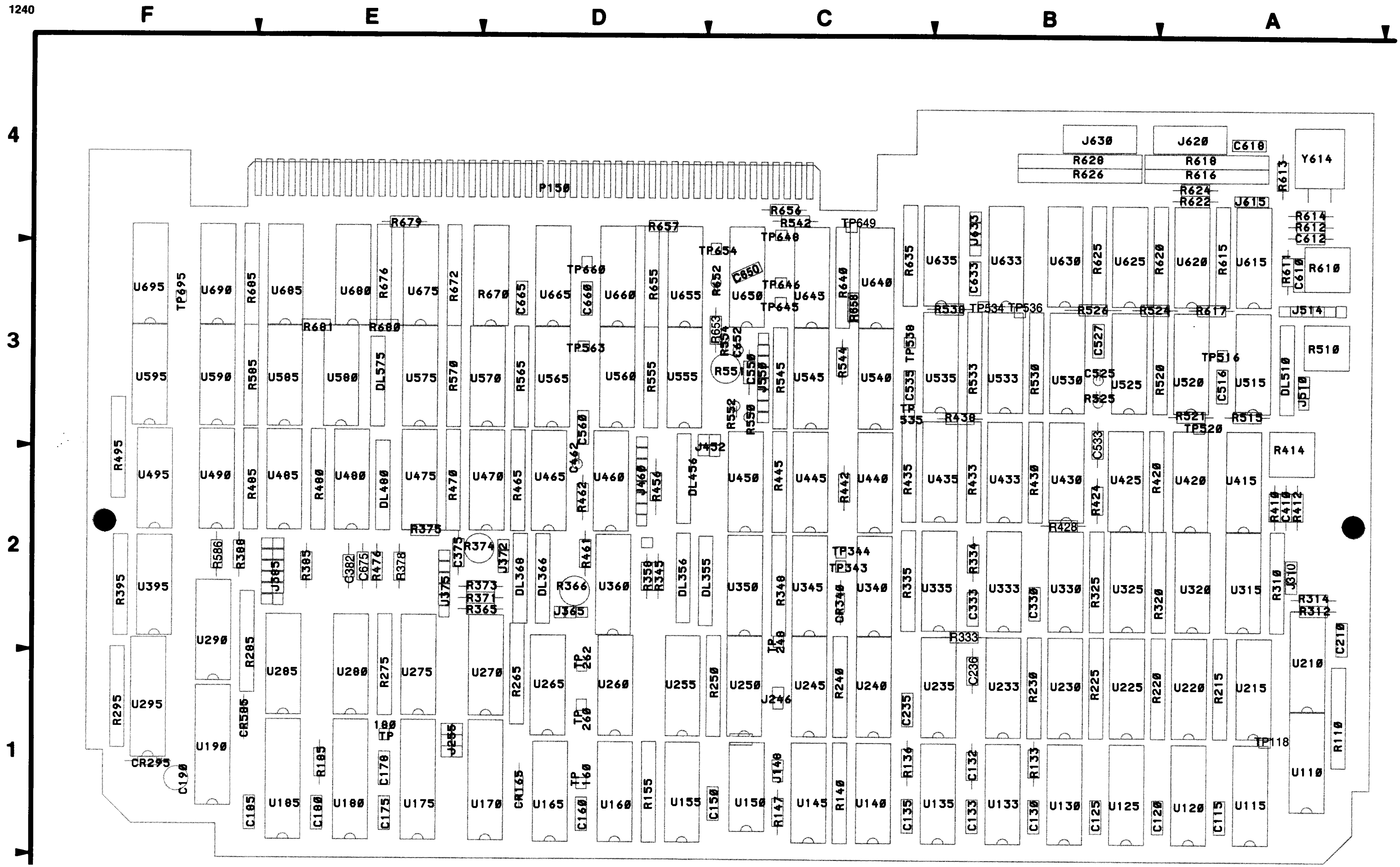


Figure 10-18. A14 Trigger Board Card Cage Location.

1240



Static Sensitive Devices
See Maintenance Section

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Figure 10-17. A14 Trigger Board Component Locations (670-7523-11).

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Table 10-20

670-7523-11 TIMEBASE 1 ⟨20⟩ — TRIGGER BOARD, ASSEMBLY A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.**

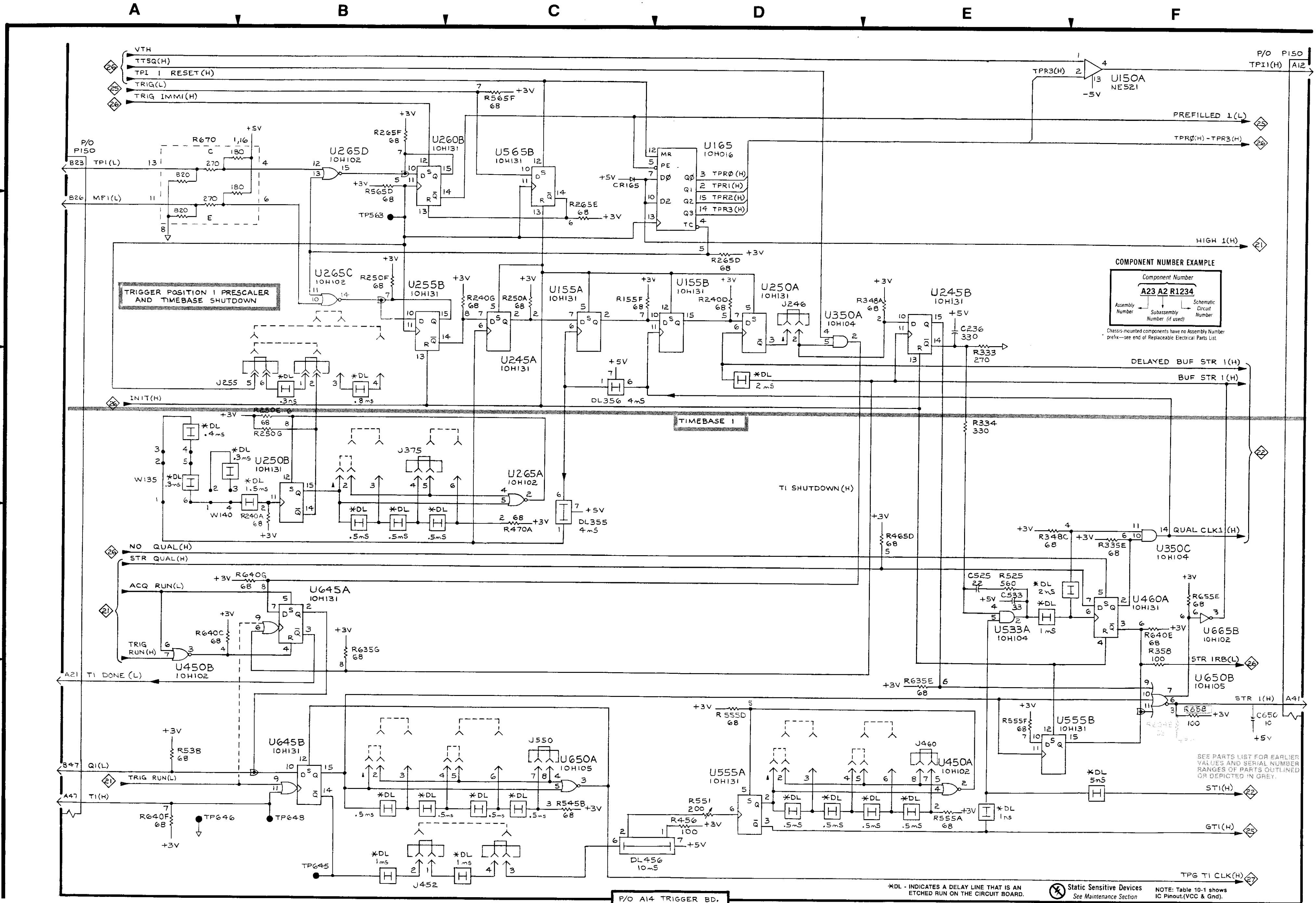
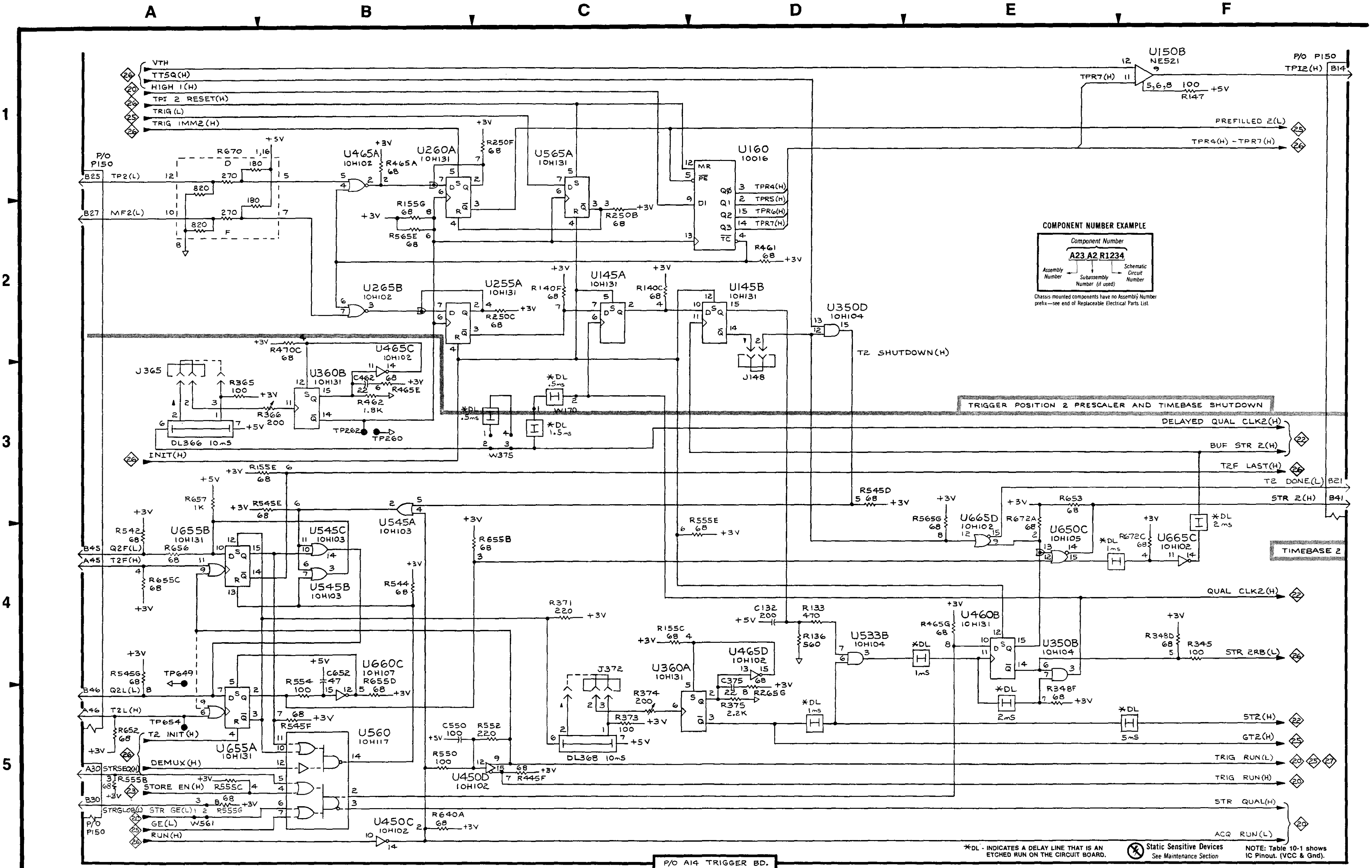

TRIGGER POSITION 1 PRESCALER AND TIMEBASE SHUTDOWN
TIMEBASE 1
T1 SHUTDOWN(H)
COMPONENT NUMBER EXAMPLE
Component Number
A23 A2 R1234
Assembly Number
Subassembly Number (if used)
Schematic Circuit Number
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.
*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).
P/O A14 TRIGGER BD.
VTH
TTSQ(H)
TP1 1 RESET(H)
TRIG(L)
TRIG IMM1(H)
PREFILLED 1(L)
TPRØ(H)-TPR3(H)
HIGH 1(H)
DELAYED BUF STR 1(H)
BUF STR 1(H)
INIT(H)
NO QUAL(H)
STR QUAL(H)
ACQ RUN(L)
TRIG RUN(H)
T1 DONE (L)
QUAL CLK1(H)
STR IRB(L)
STR 1(H)
Q1(L)
TRIG RUN(L)
T1(H)
ST1(H)
GT1(H)
TPG T1 CLK(H)
TP1(L)
MF1(L)
TP11(H)

Table 10-21

670-7523-10 TIMEBASE 2 ⟨21⟩ — TRIGGER BOARD, ASSEMBLY A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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

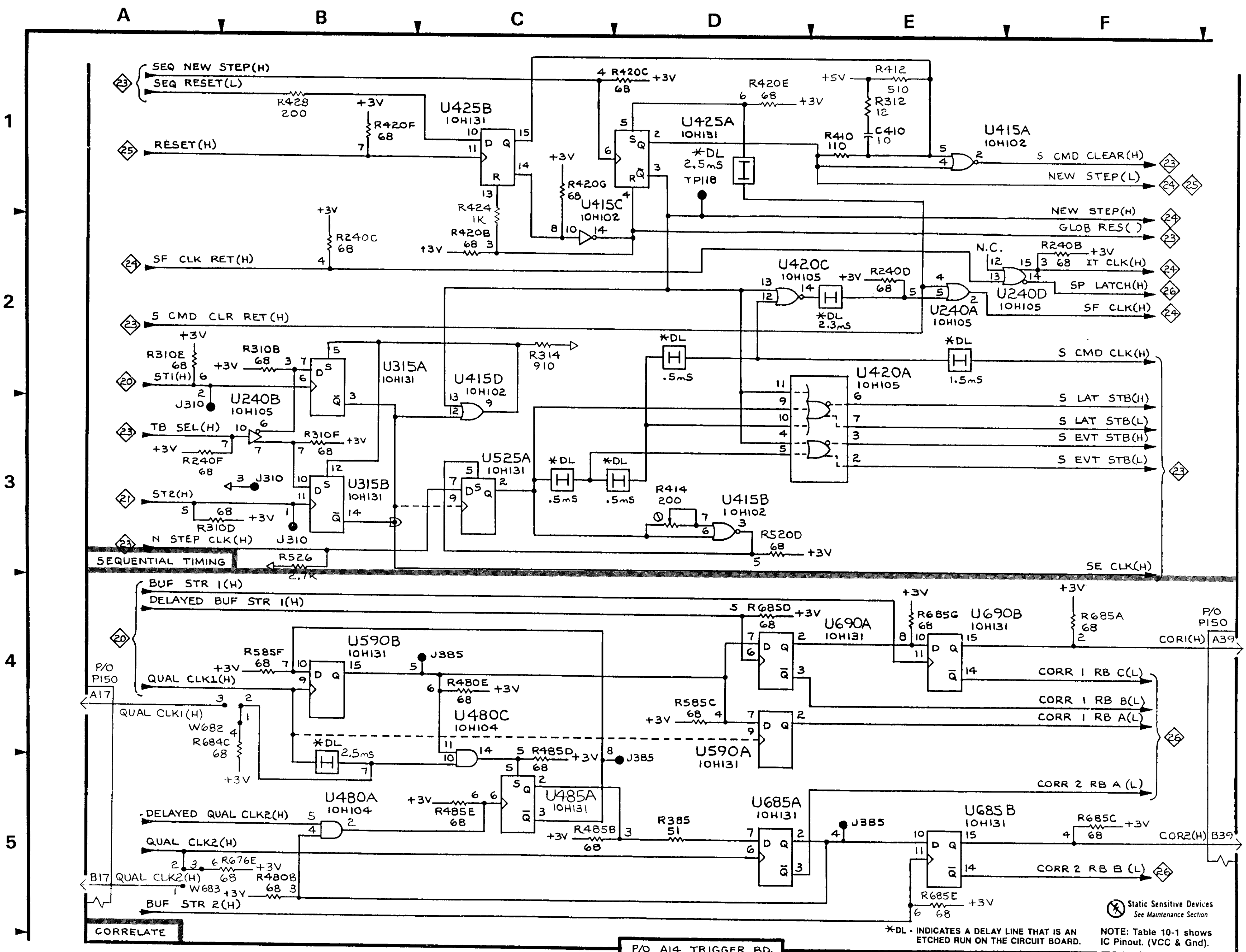


TRIGGER POSITION 2 PRESCALER AND TIMEBASE SHUTDOWN
TIMEBASE 2
COMPONENT NUMBER EXAMPLE
*DL - INDICATES A DELAY LINE THAT IS AN ETCHED RUN ON THE CIRCUIT BOARD.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A14 TRIGGER BD.

Table 10-22

670-7523-10 SEQ. TIMING & CORRELATE ⟨22⟩ — TRIGGER BD., ASSY. A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			



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SEQUENTIAL TIMING AND CORRELATE 22

Table 10-23

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

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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

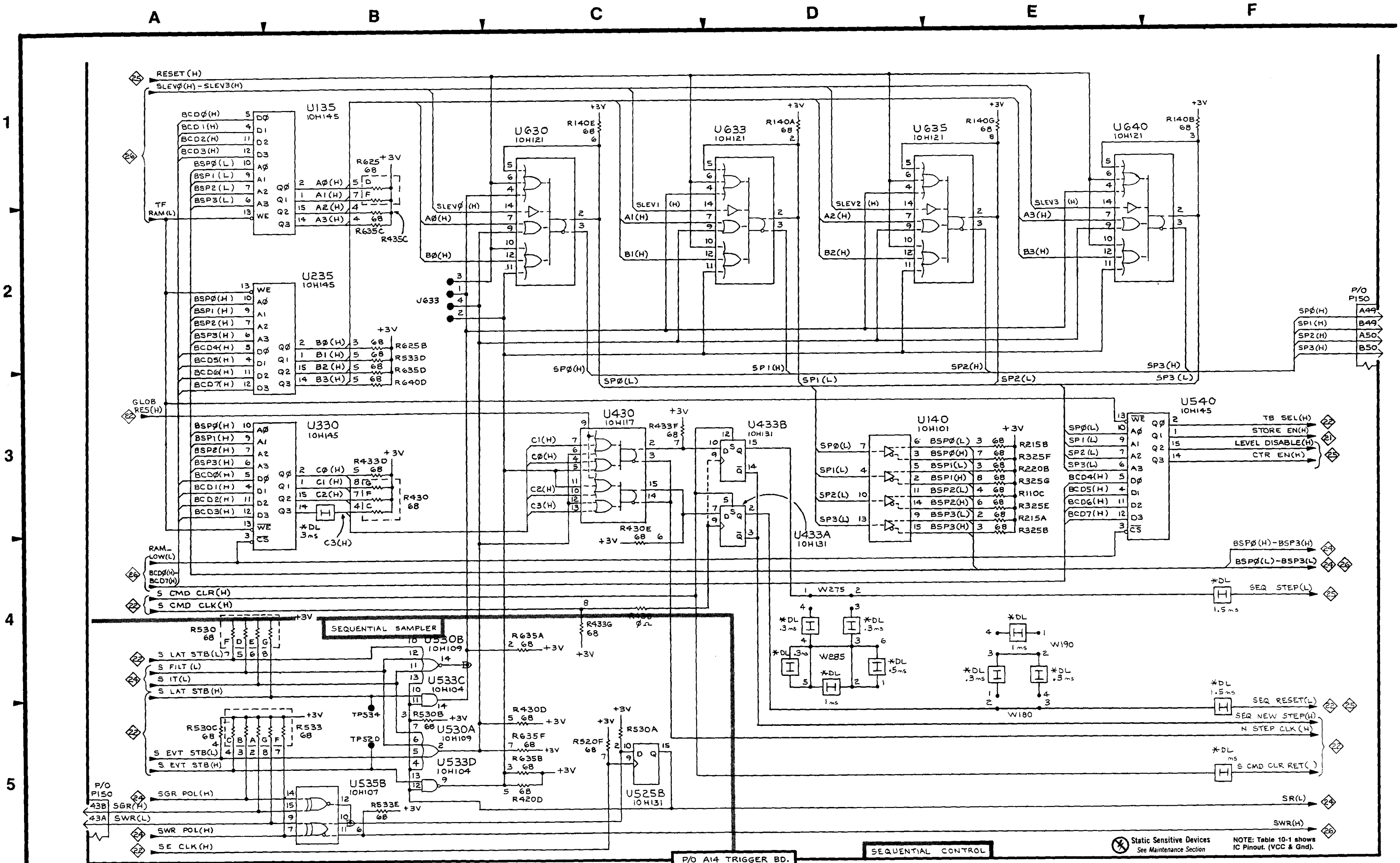

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Table 10-24

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

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.**

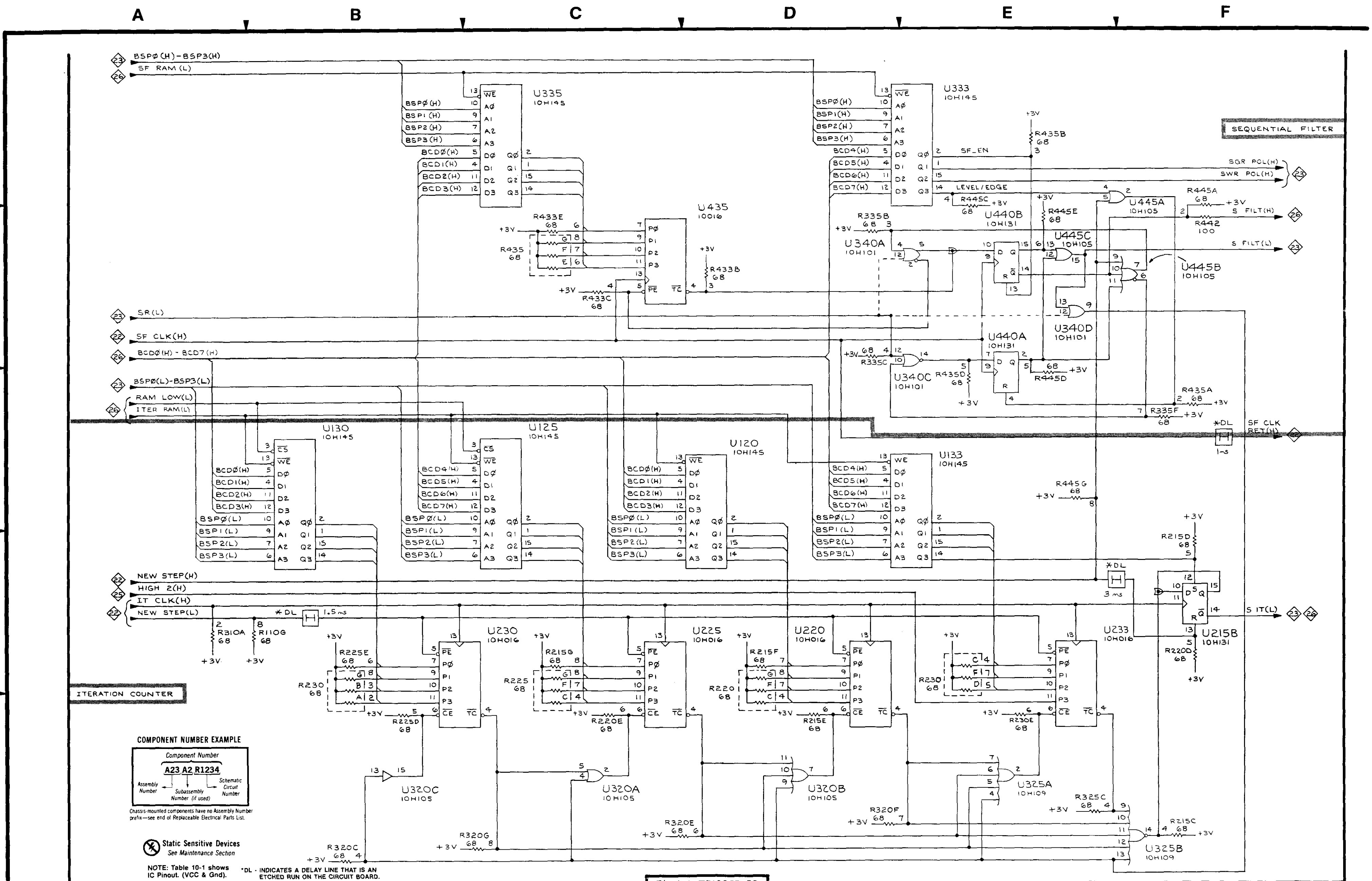
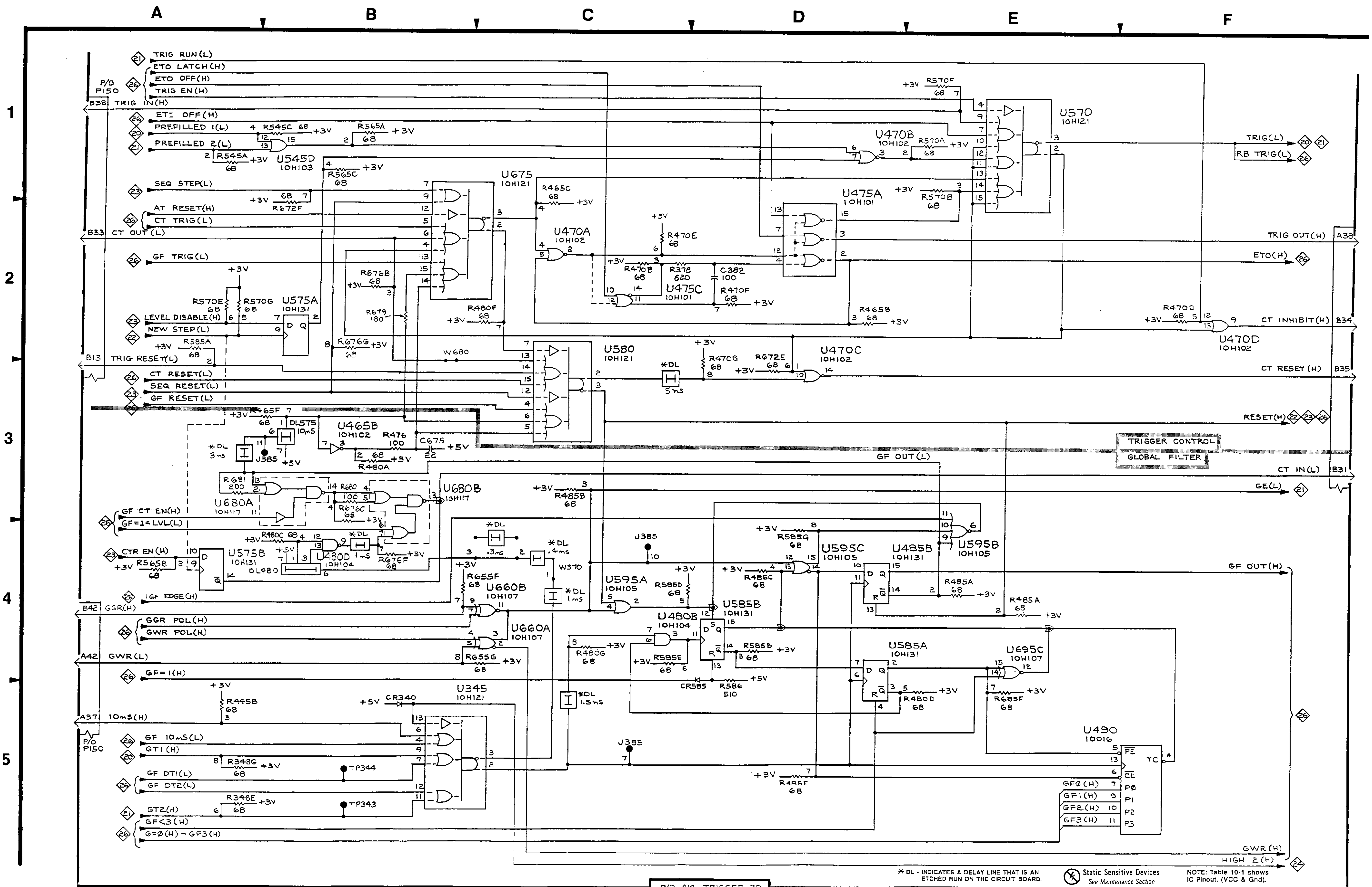

SEQUENTIAL FILTER
ITERATION COUNTER
U335 10H145
U333 10H145
U435 10016
U340A 10H101
U440B 10H131
U445C 10H105
U445A 10H105
U445B 10H105
U340D 10H101
U440A 10H131
U340C 10H101
U130 10H145
U125 10H145
U120 10H145
U133 10H145
U230 10H016
U225 10H016
U220 10H016
U233 10H016
U215B 10H131
U320C 10H105
U320A 10H105
U320B 10H105
U325A 10H109
U325B 10H109
BSPØ(H)-BSP3(H)
SF RAM (L)
SR(L)
SF CLK(H)
BCDØ(H) - BCD7(H)
BSPØ(L)-BSP3(L)
RAM LOW(L)
ITER RAM(L)
NEW STEP(H)
HIGH 2(H)
IT CLK(H)
NEW STEP(L)
SF_EN
LEVEL/EDGE
SGR POL(H)
SWR POL(H)
S FILT(H)
S FILT(L)
SF CLK RET(H)
S IT(L)
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.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
*DL - INDICATES A DELAY LINE THAT IS AN ETCHED RUN ON THE CIRCUIT BOARD.
P/O A14 TRIGGER BD.

Table 10-25

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

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			



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670-7523-10

GLOBAL FILTER AND TRIGGER CONTROL 25

Table 10-26

670-7523-10 PROCESSOR INTERFACE ⟨26⟩ — TRIGGER BD., ASSY. A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			

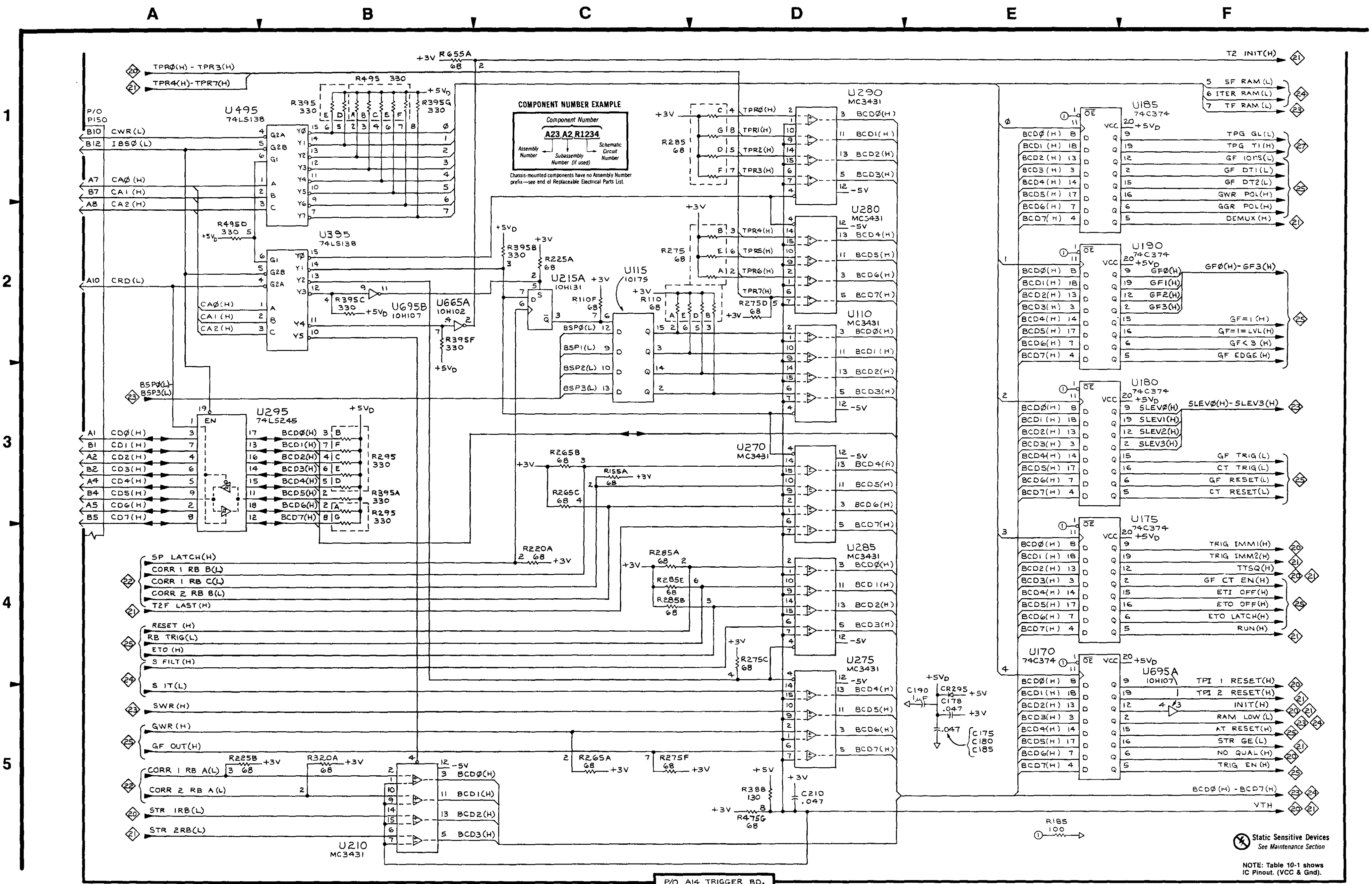
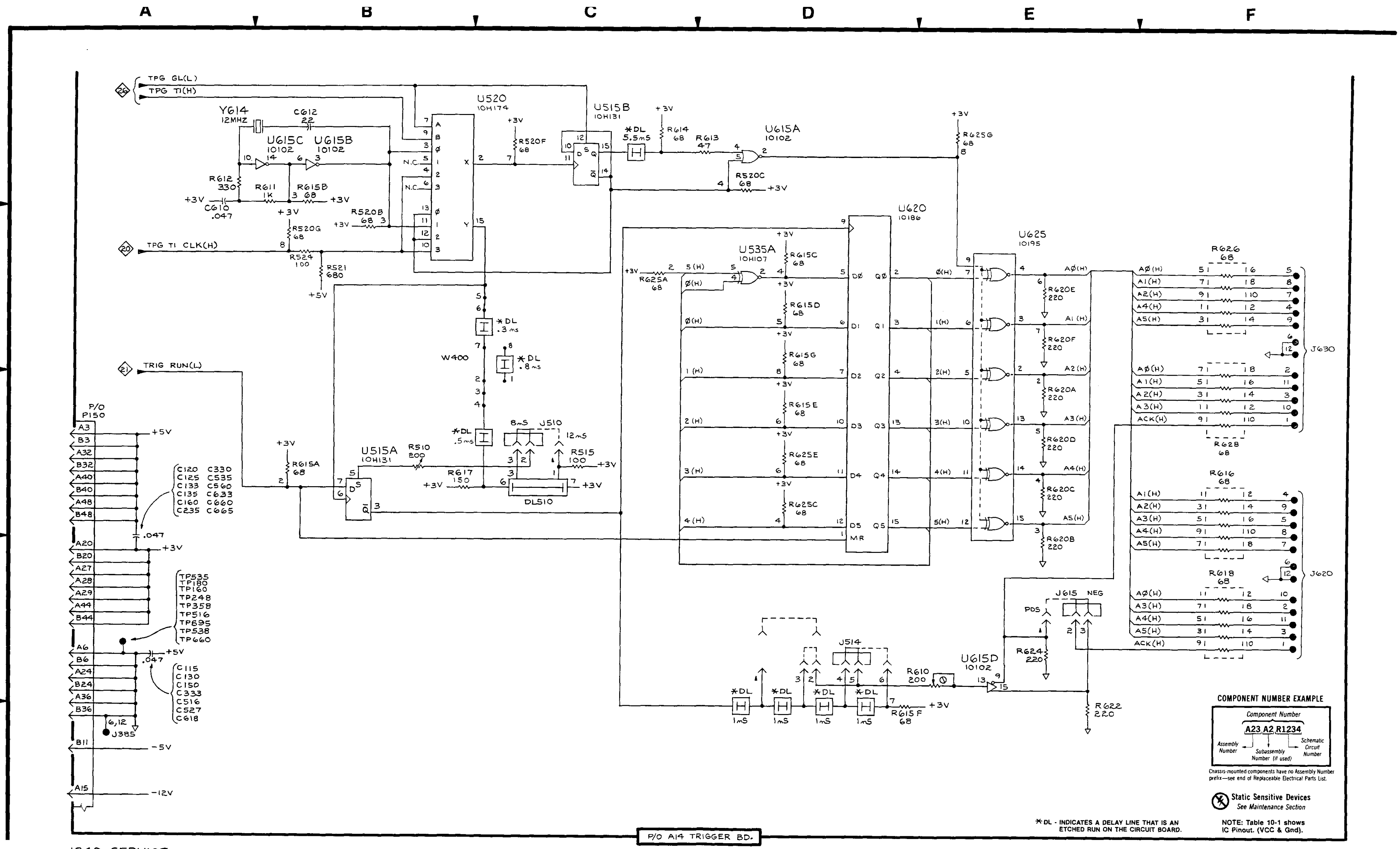

COMPONENT NUMBER EXAMPLE
Component Number
A23 A2 R1234
Assembly Number
Subassembly Number (if used)
Schematic Circuit Number
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A14 TRIGGER BD.

Table 10-27

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

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			



TPG GL(L)
TPG TI(H)
TPG TI CLK(H)
TRIG RUN(L)
Y614 12MHZ
C612 22
U615C 10102
U615B 10102
U520 10H174
U515B 10H131
U615A 10102
U620 10186
U625 10195
U535A 10H107
U515A 10H131
U615D 10102
R626 68
R628 68
R616 68
R618 68
J630
J620
J615
J514
J510
DL510
W400
P/O P150
J385
C120 C330 C125 C535 C133 C560 C135 C633 C160 C660 C235 C665
TP535 TP180 TP160 TP248 TP358 TP516 TP695 TP538 TP660
C115 C130 C150 C333 C516 C527 C618
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.
Static Sensitive Devices
See Maintenance Section
*DL - INDICATES A DELAY LINE THAT IS AN ETCHED RUN ON THE CIRCUIT BOARD.
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A14 TRIGGER BD.

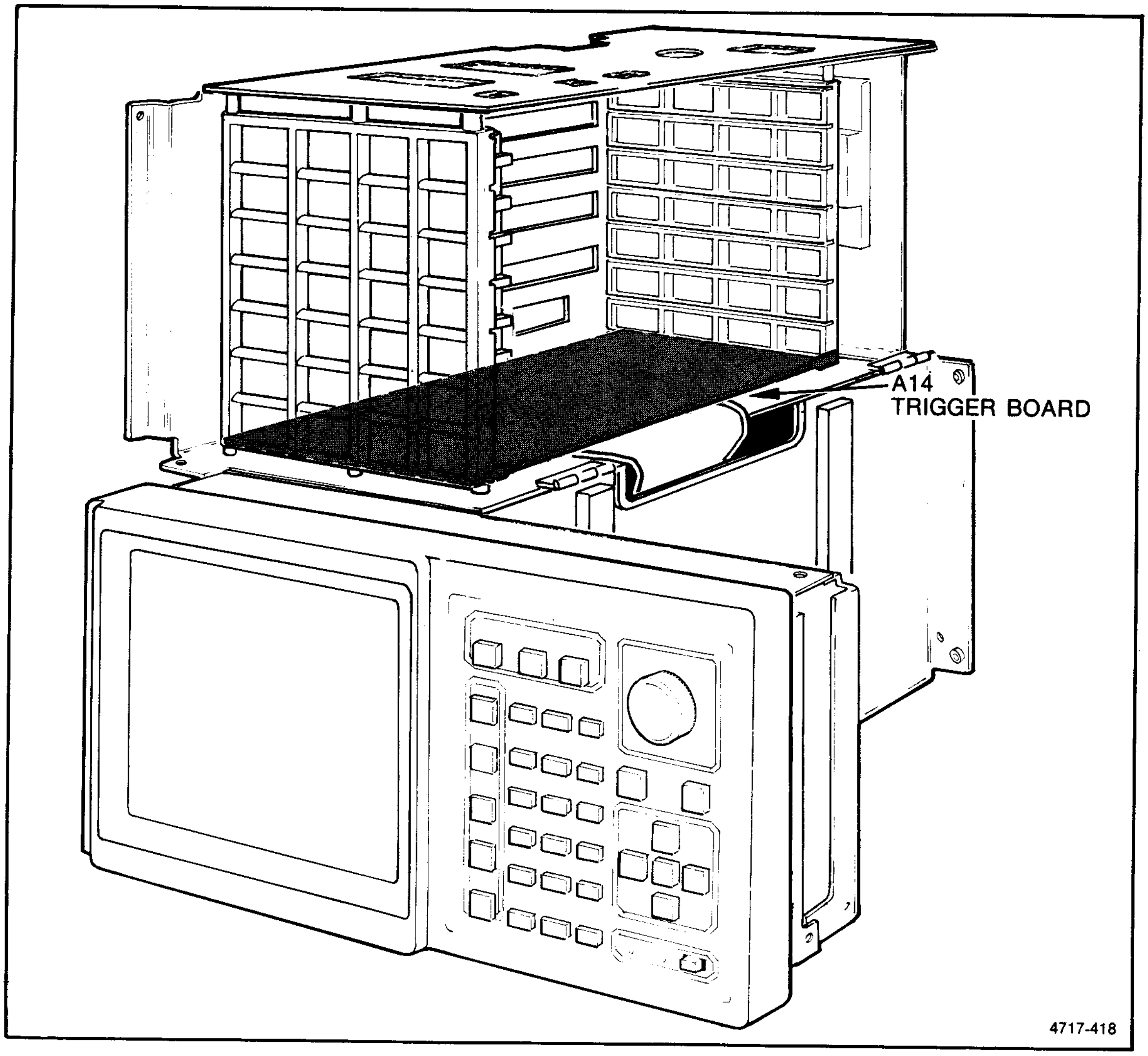


Figure 10-18a. A14 Trigger Board Card Cage Location.

1240

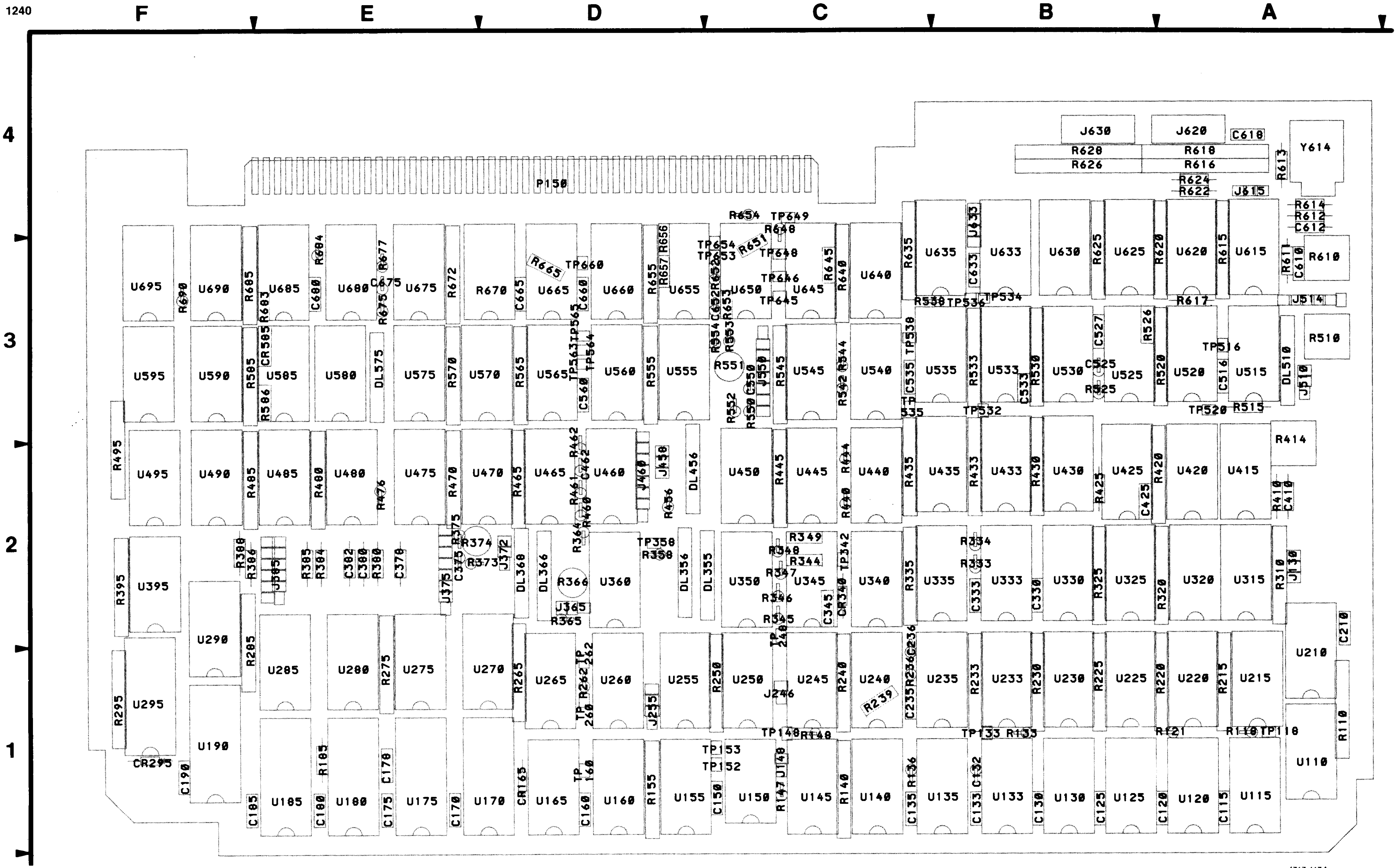


Figure 10-17a. A14 Trigger Board Component Locations (670-7523-09 & below).

Static Sensitive Devices
See Maintenance Section

Table 10-20a

670-7523-09 TIMEBASE 1 20A — TRIGGER BOARD, ASSEMBLY A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.

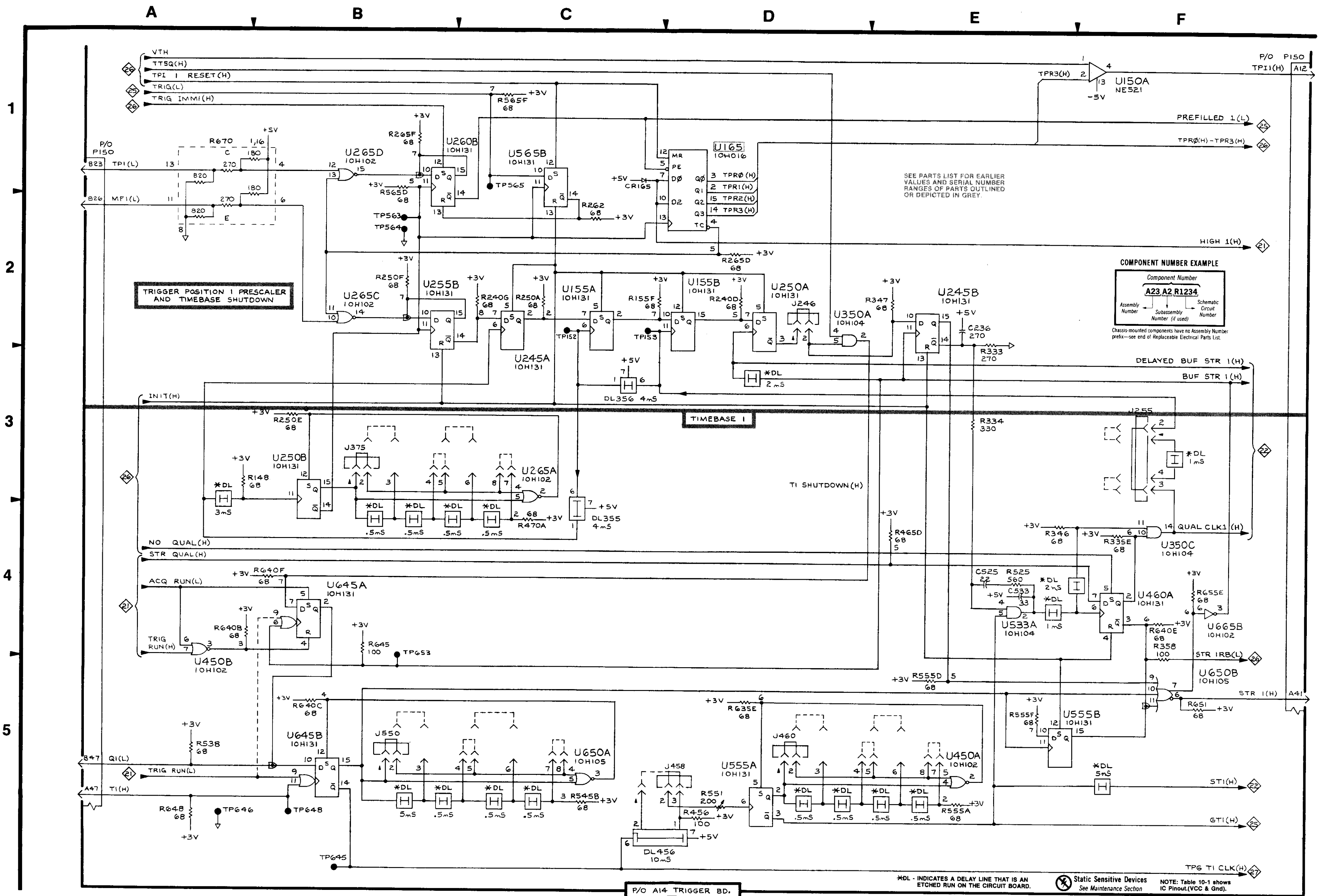
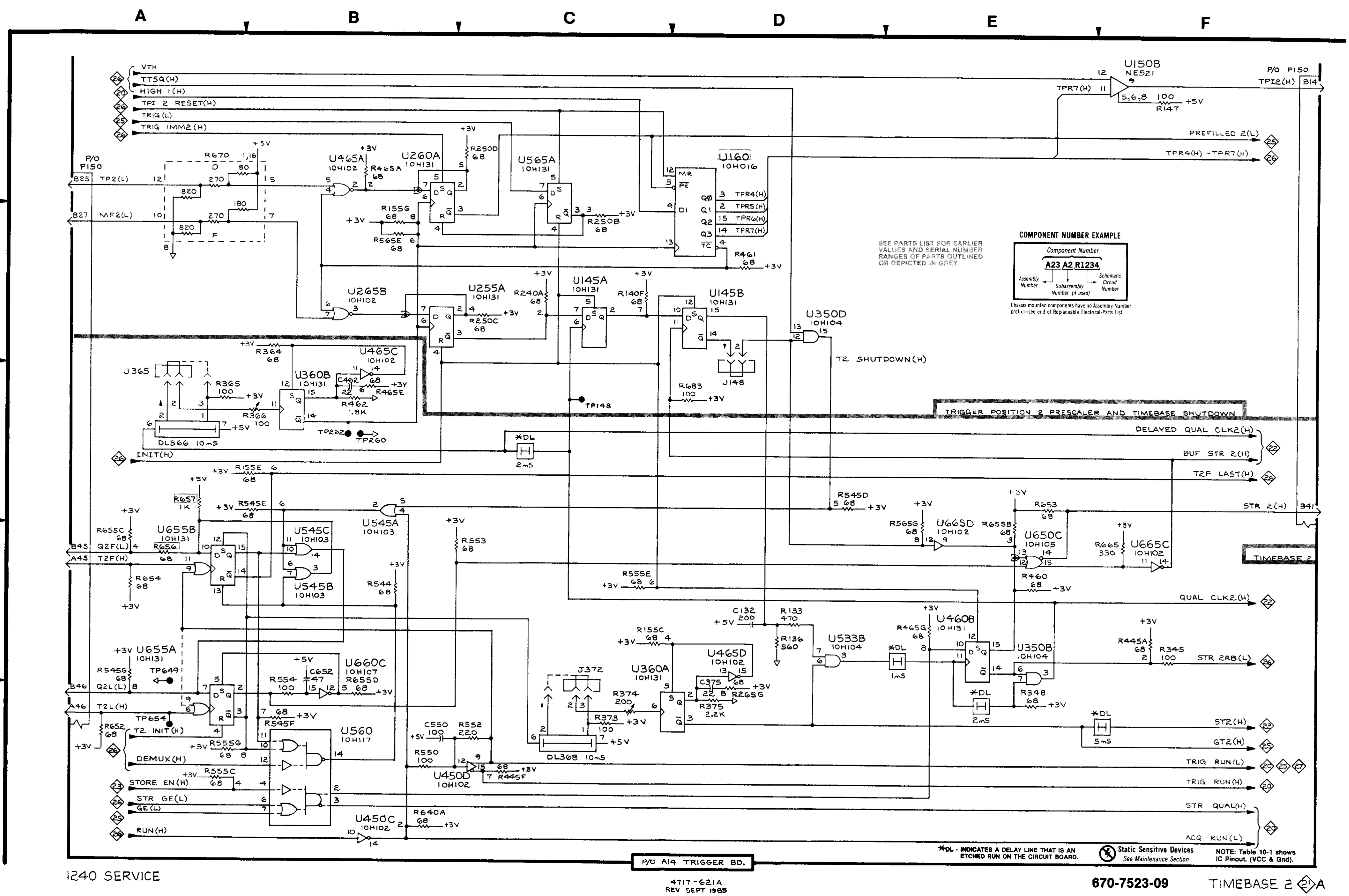

TRIGGER POSITION 1 PRESCALER AND TIMEBASE SHUTDOWN
TIMEBASE 1
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.
COMPONENT NUMBER EXAMPLE
Component Number
A23 A2 R1234
Assembly Number
Subassembly Number (if used)
Schematic Circuit Number
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.
VTH
TTSQ(H)
TPI 1 RESET(H)
TRIG(L)
TRIG IMMI(H)
TPI(L)
MFI(L)
PREFILLED 1(L)
TPRØ(H)-TPR3(H)
HIGH 1(H)
DELAYED BUF STR 1(H)
BUF STR 1(H)
INIT(H)
T1 SHUTDOWN(H)
NO QUAL(H)
STR QUAL(H)
ACQ RUN(L)
TRIG RUN(H)
QUAL CLK1(H)
STR IRB(L)
STR 1(H)
Q1(L)
TRIG RUN(L)
T1(H)
ST1(H)
GT1(H)
TPG T1 CLK(H)
U150A NE521
U165 10H016
U265D 10H102
U260B 10H131
U565B 10H131
U265C 10H102
U255B 10H131
U245A 10H131
U155A 10H131
U155B 10H131
U250A 10H131
U350A 10H104
U245B 10H131
U250B 10H131
U265A 10H102
U645A 10H131
U450B 10H102
U645B 10H131
U650A 10H105
U555A 10H131
U450A 10H102
U460A 10H131
U533A 10H104
U350C 10H104
U665B 10H102
U650B 10H105
U555B 10H131
P/O A14 TRIGGER BD.
*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 10-21a

670-7523-09 TIMEBASE 2 21A — TRIGGER BOARD, ASSEMBLY A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.**



A
B
C
D
E
F
1
2
3
4
5
U150B
NE521
P/O P150
TPI2(H)
B14
PREFILLED 2(L)
TPR4(H) - TPR7(H)
U465A
U260A
U565A
U160
10H016
U265B
U255A
U145A
U145B
U350D
T2 SHUTDOWN(H)
J148
U360B
U465C
J365
DL366 10mS
TP148
TP262
TP260
INIT(H)
TRIGGER POSITION 2 PRESCALER AND TIMEBASE SHUTDOWN
DELAYED QUAL CLK2(H)
BUF STR 2(H)
T2F LAST(H)
STR 2(H)
U655B
U545C
U545A
U545B
U665D
U650C
U665C
TIMEBASE 2
QUAL CLK2(H)
U655A
U660C
U560
U450D
U450C
U360A
U465D
J372
DL368 10mS
U533B
U460B
U350B
STR 2RB(L)
ST2(H)
GT2(H)
TRIG RUN(L)
TRIG RUN(H)
STR QUAL(H)
ACQ RUN(L)
T2 INIT(H)
DEMUX(H)
STORE EN(H)
STR GE(L)
GE(L)
RUN(H)
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.
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).
P/O A14 TRIGGER BD.
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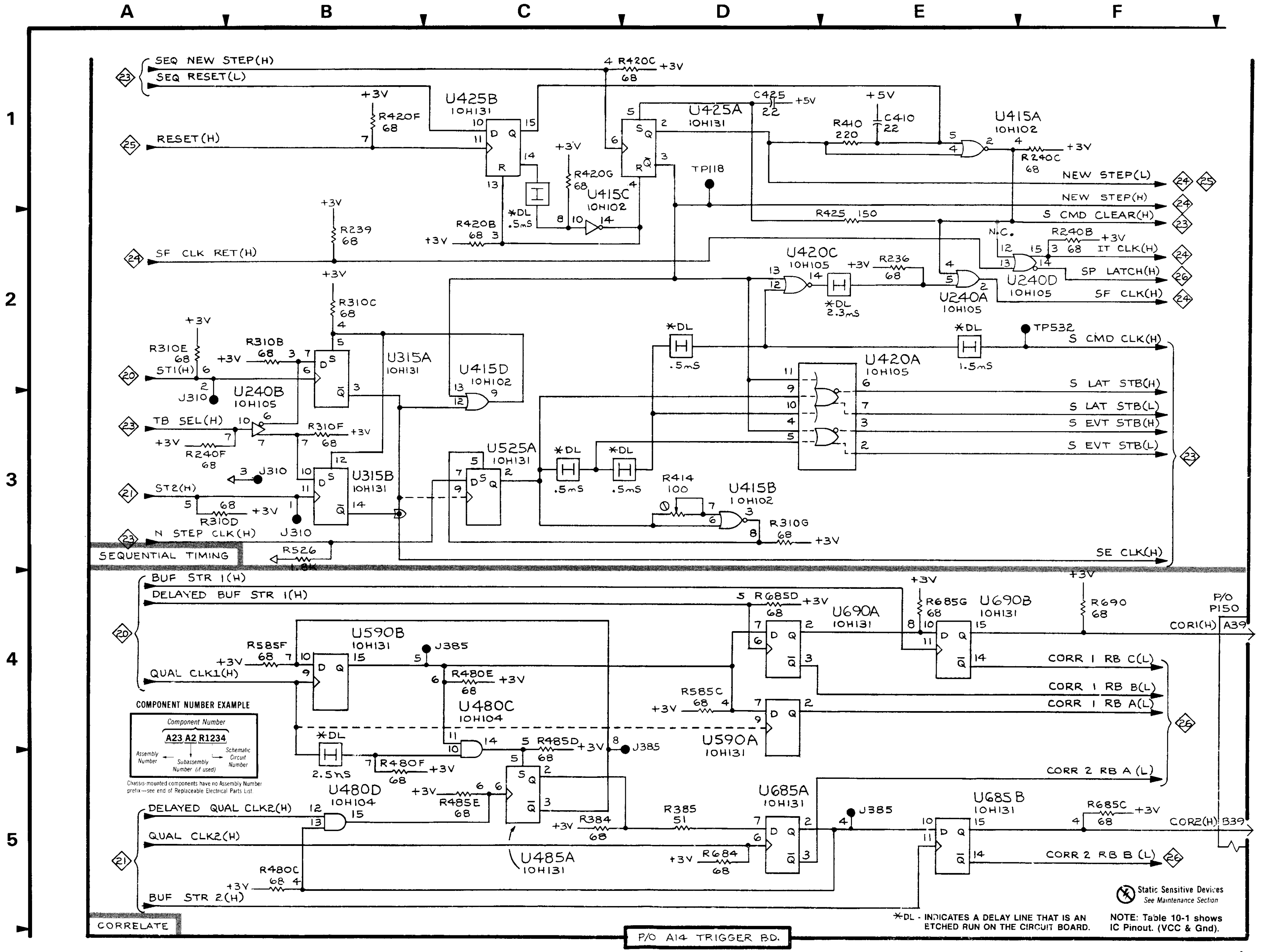
Table 10-22a

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

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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



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SEQUENTIAL TIMING AND CORRELATE 22 A

Table 10-23a

670-7523-09 SEQUENTIAL CONTROL 23A — TRIGGER BOARD, ASSY. A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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

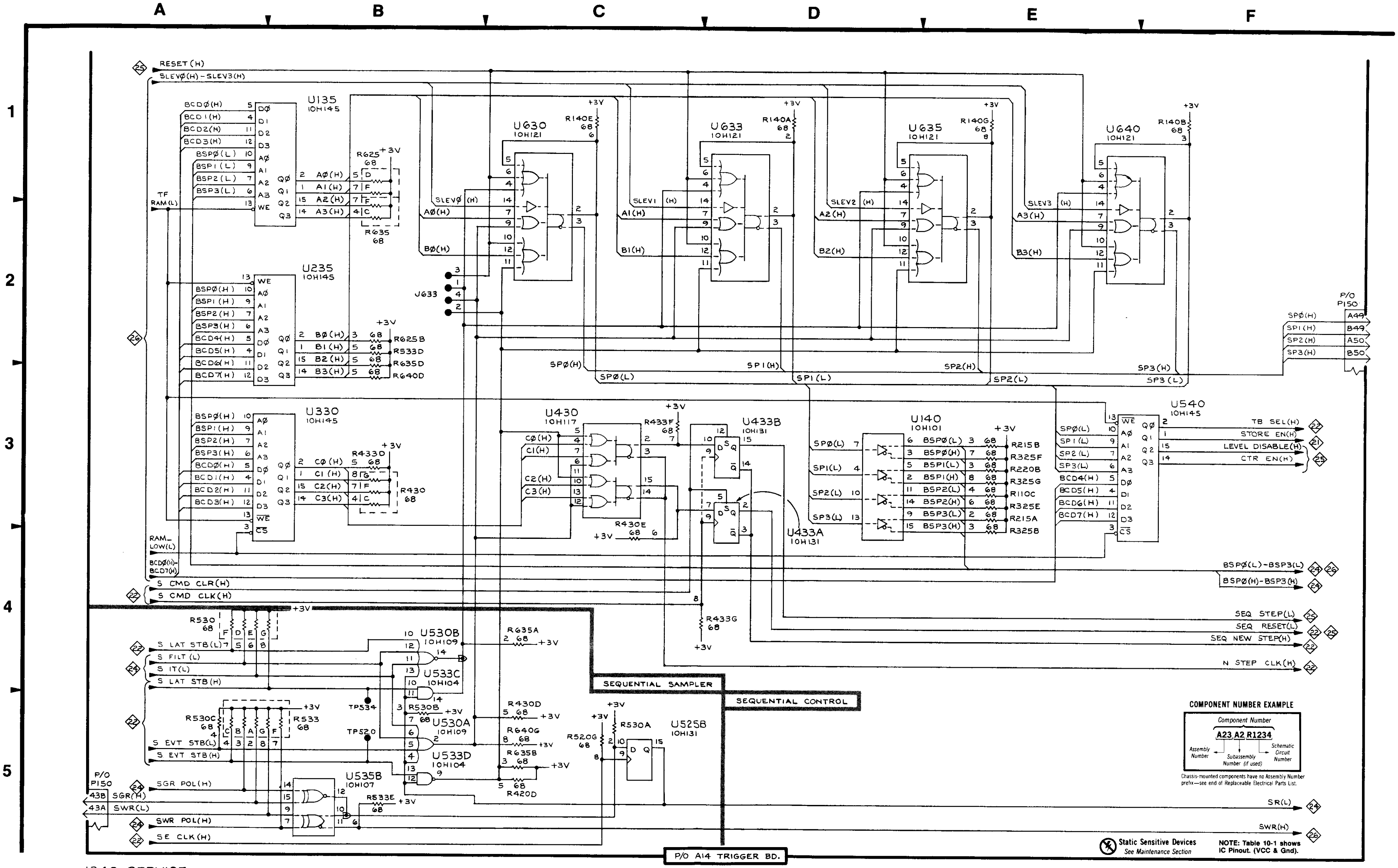

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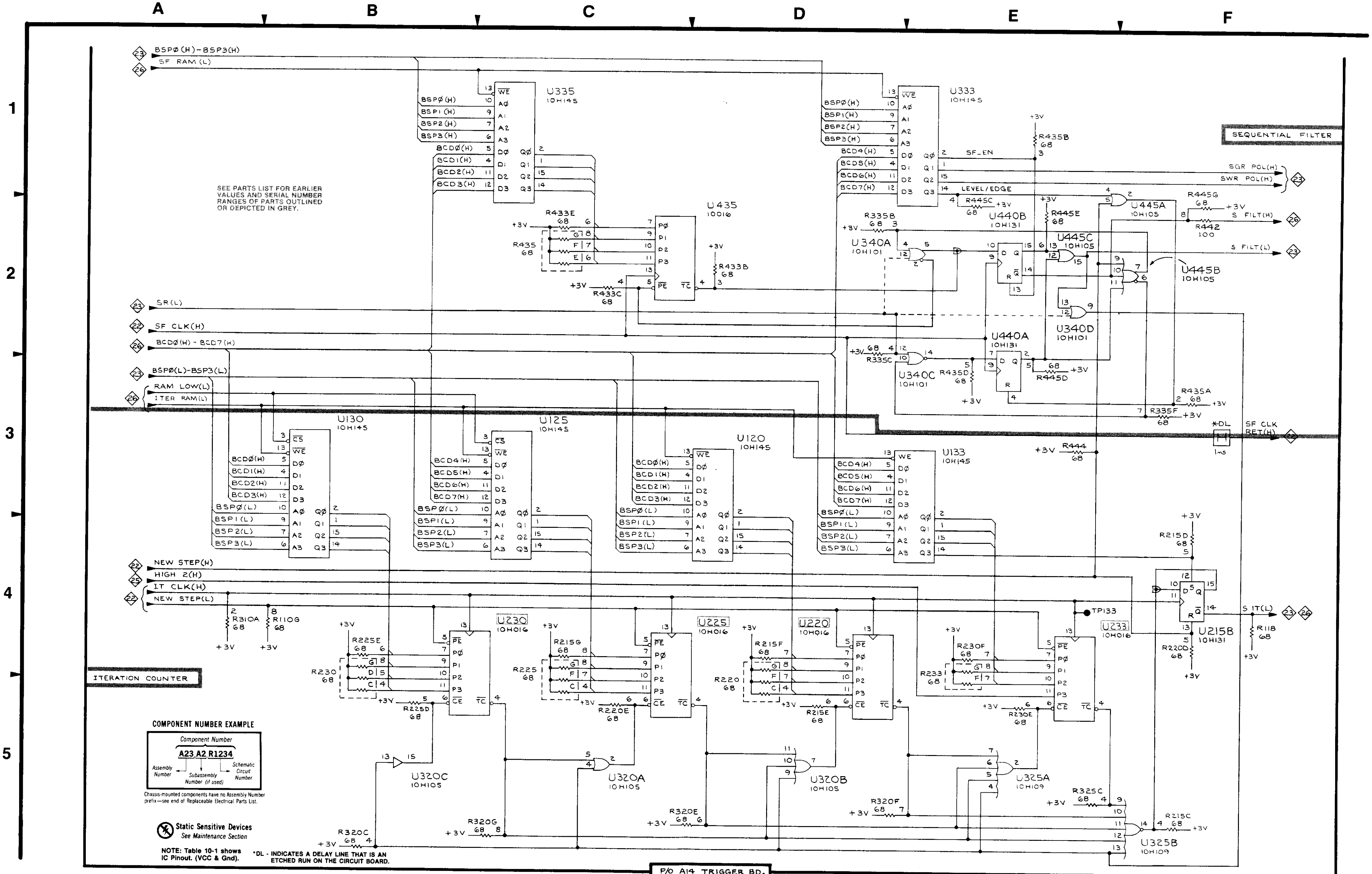
Table 10-24a

670-7523-09 SEQ. FILTER & ITERATION CNTR. 24A — TRIG. BD., ASSY. A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.**



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670-7523-09

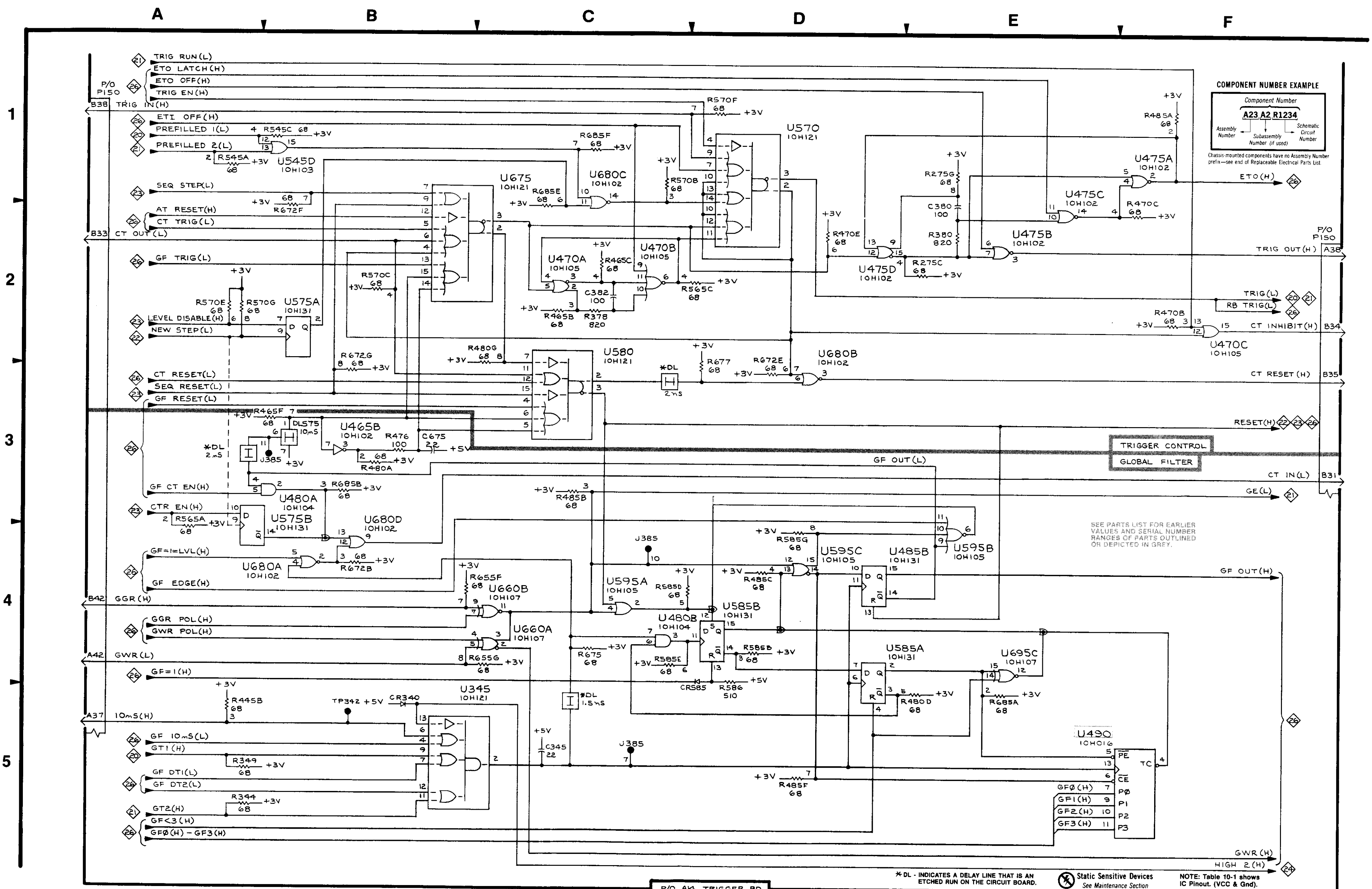
SEQUENTIAL FILTER AND ITERATION COUNTER 24 A

Table 10-25a

670-7523-09 GLOBAL FILTER & TRIGGER CNTL. 25A — TRIG. BD., ASSY. A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.



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670-7523-09

GLOBAL FILTER AND TRIGGER CONTROL 25A

Table 10-26a

670-7523-09 PROCESSOR INTERFACE 26A — TRIGGER BD., ASSY. A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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

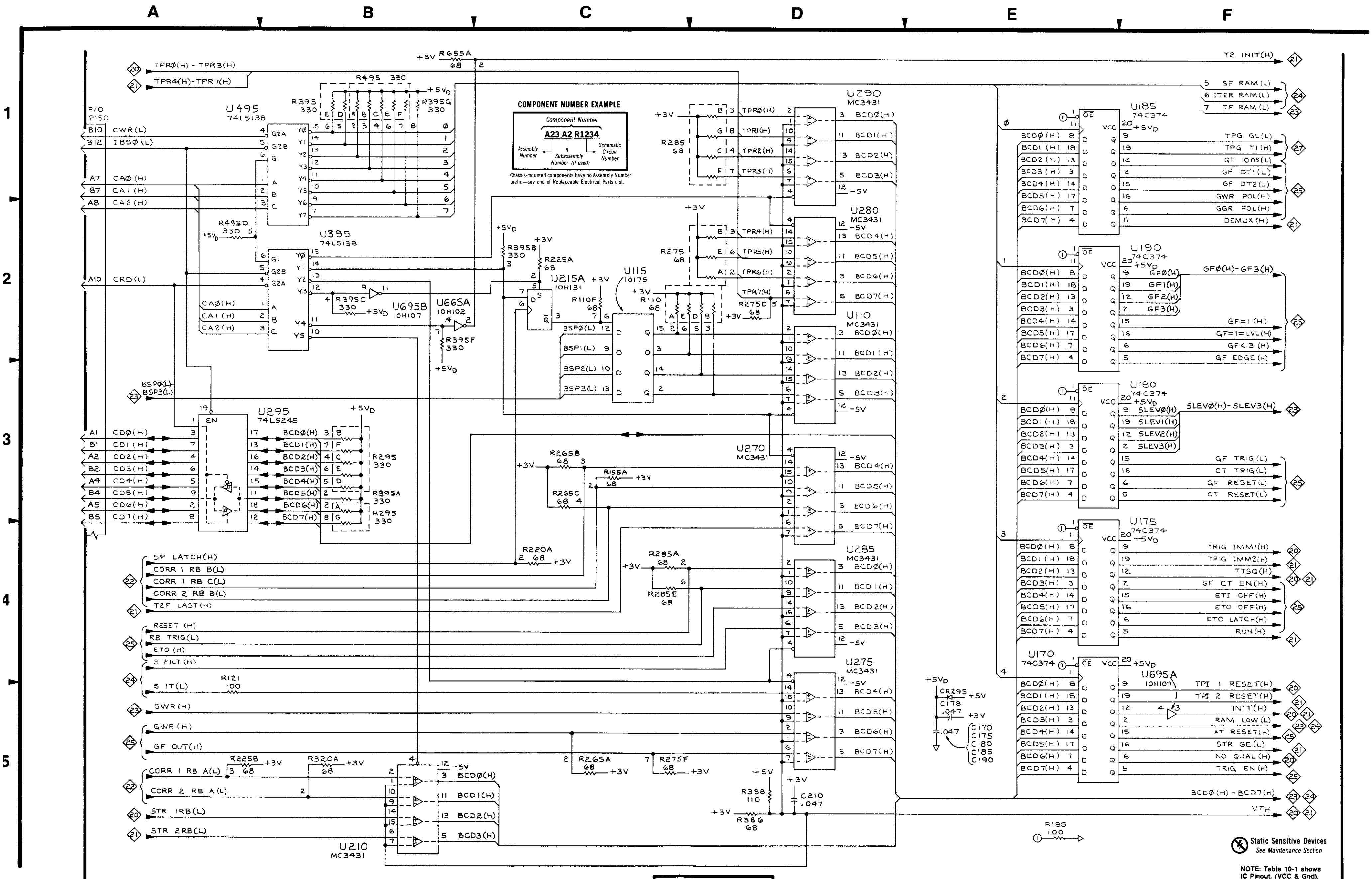
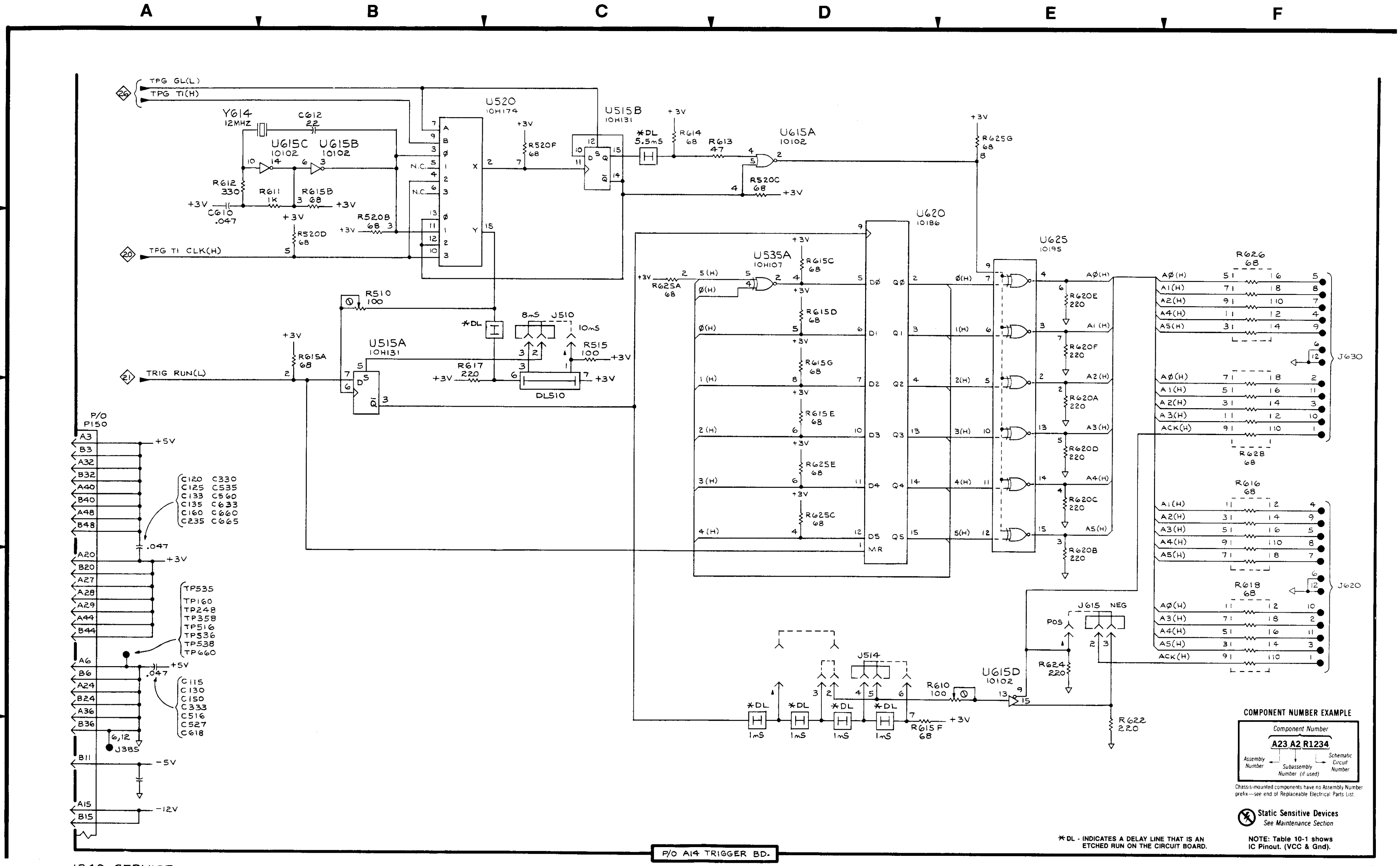

COMPONENT NUMBER EXAMPLE
Component Number
A23 A2 R1234
Assembly Number
Subassembly Number (if used)
Schematic Circuit Number
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.
U495
74LS138
U395
74LS138
U295
74LS245
U290
MC3431
U280
MC3431
U110
MC3431
U270
MC3431
U285
MC3431
U275
MC3431
U210
MC3431
U115
10175
U215A
10H131
U665A
10H102
U695B
10H107
U185
74C374
U190
74C374
U180
74C374
U175
74C374
U170
74C374
U695A
10H107
P/O P150
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A14 TRIGGER BD.

Table 10-27a

670-7523-09 TEST PATTERN GENERATION 27A — TRIGGER BD., ASSY. A14

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			



TPG GL(L)
TPG TI(H)
TPG TI CLK(H)
TRIG RUN(L)
Y614 12MHZ
C612 22
U615C 10102
U615B 10102
U520 10H174
U515B 10H131
U515A 10H131
U615A 10102
U615D 10102
U535A 10H107
U620 10186
U625 10195
DL510
J510
J514
J615 POS NEG
J630
J620
J385
P/O P150
R626 68
R628 68
R616 68
R618 68
*DL 5.5mS
8mS
10mS
1mS
C120 C330
C125 C535
C133 C560
C135 C633
C160 C660
C235 C665
TP535
TP160
TP248
TP358
TP516
TP536
TP538
TP660
C115
C130
C150
C333
C516
C527
C618
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.
Static Sensitive Devices
See Maintenance Section
*DL - INDICATES A DELAY LINE THAT IS AN ETCHED RUN ON THE CIRCUIT BOARD.
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A14 TRIGGER BD.

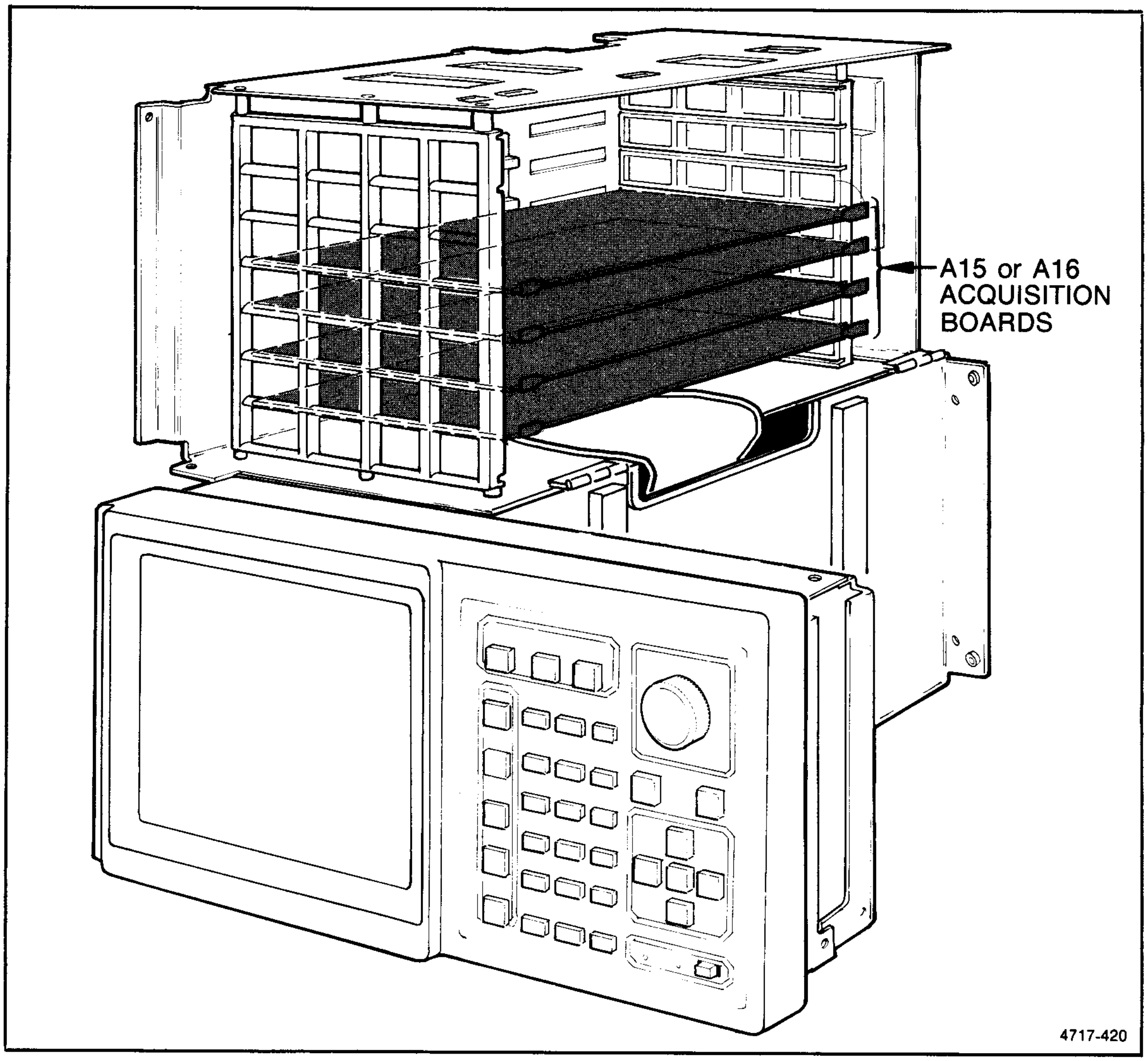


Figure 10-20. A15 9-Channel Acquisition Board Card Cage Locations.

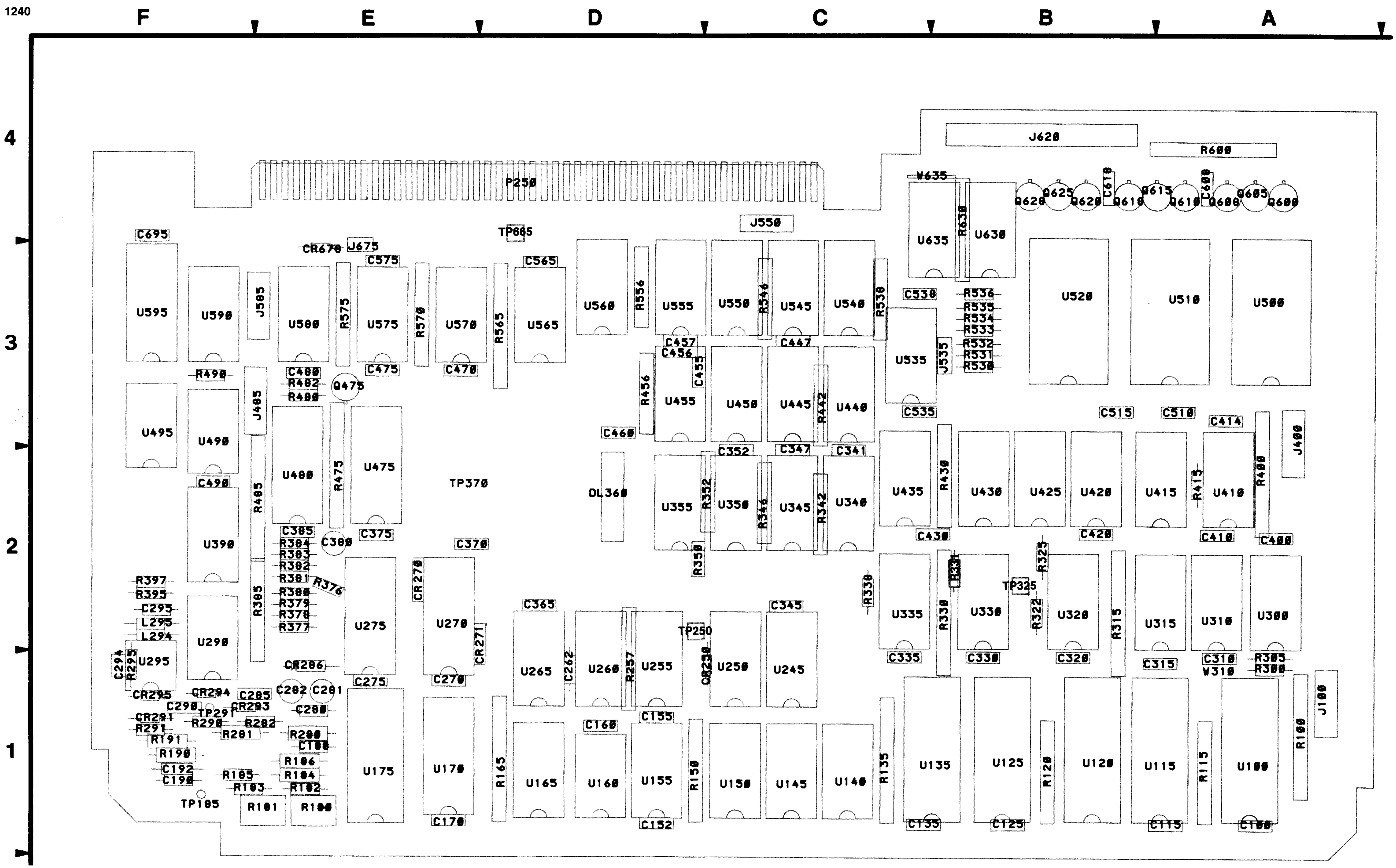


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Figure 10-19. A15 9-Channel Acquisition Board Component Locations.

Static Sensitive Devices
See Maintenance Section

Table 10-28

FRONT END CIRCUITS 28 — 9-CHANNEL ACQ. BOARD, ASSEMBLY A15

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.

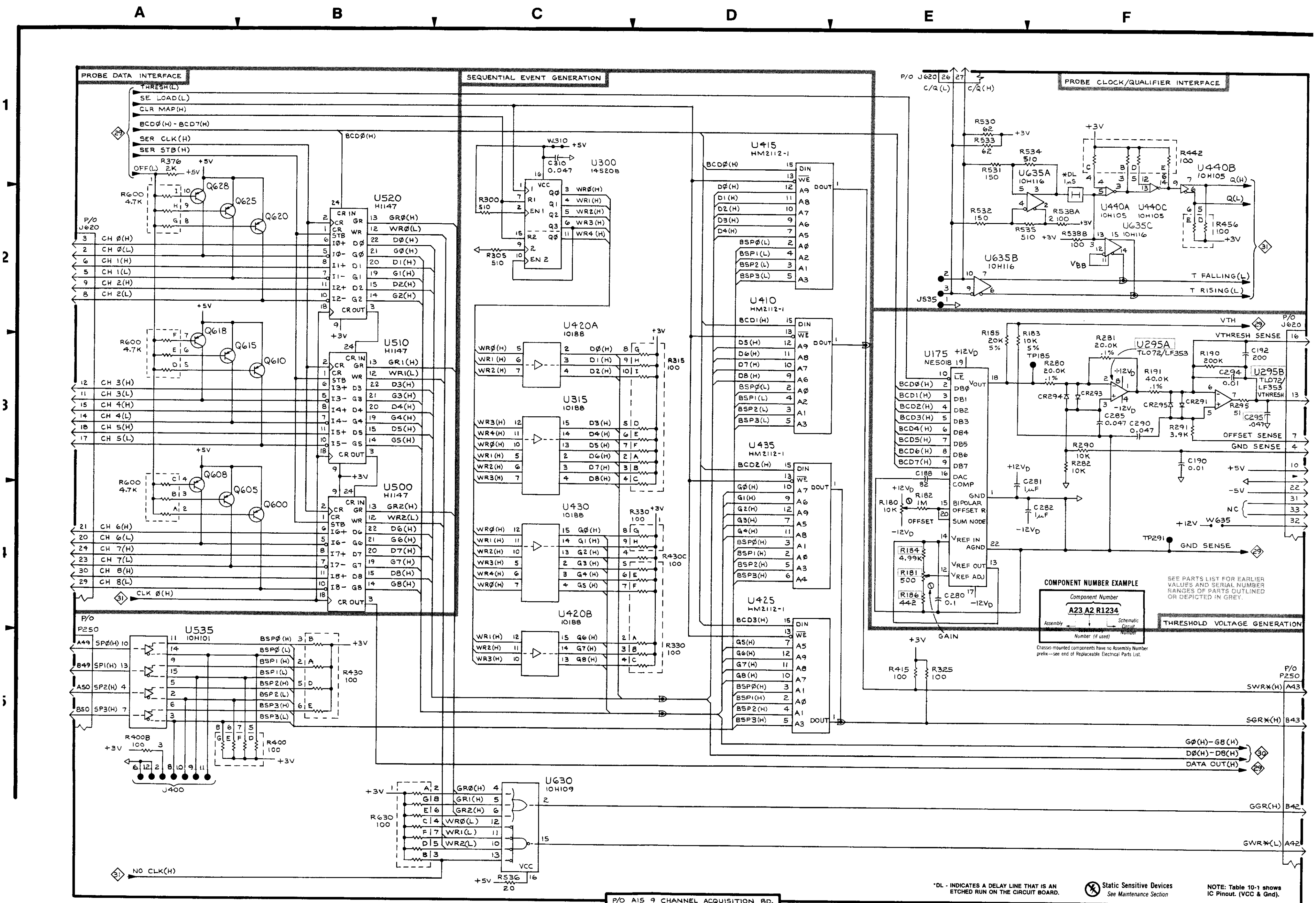
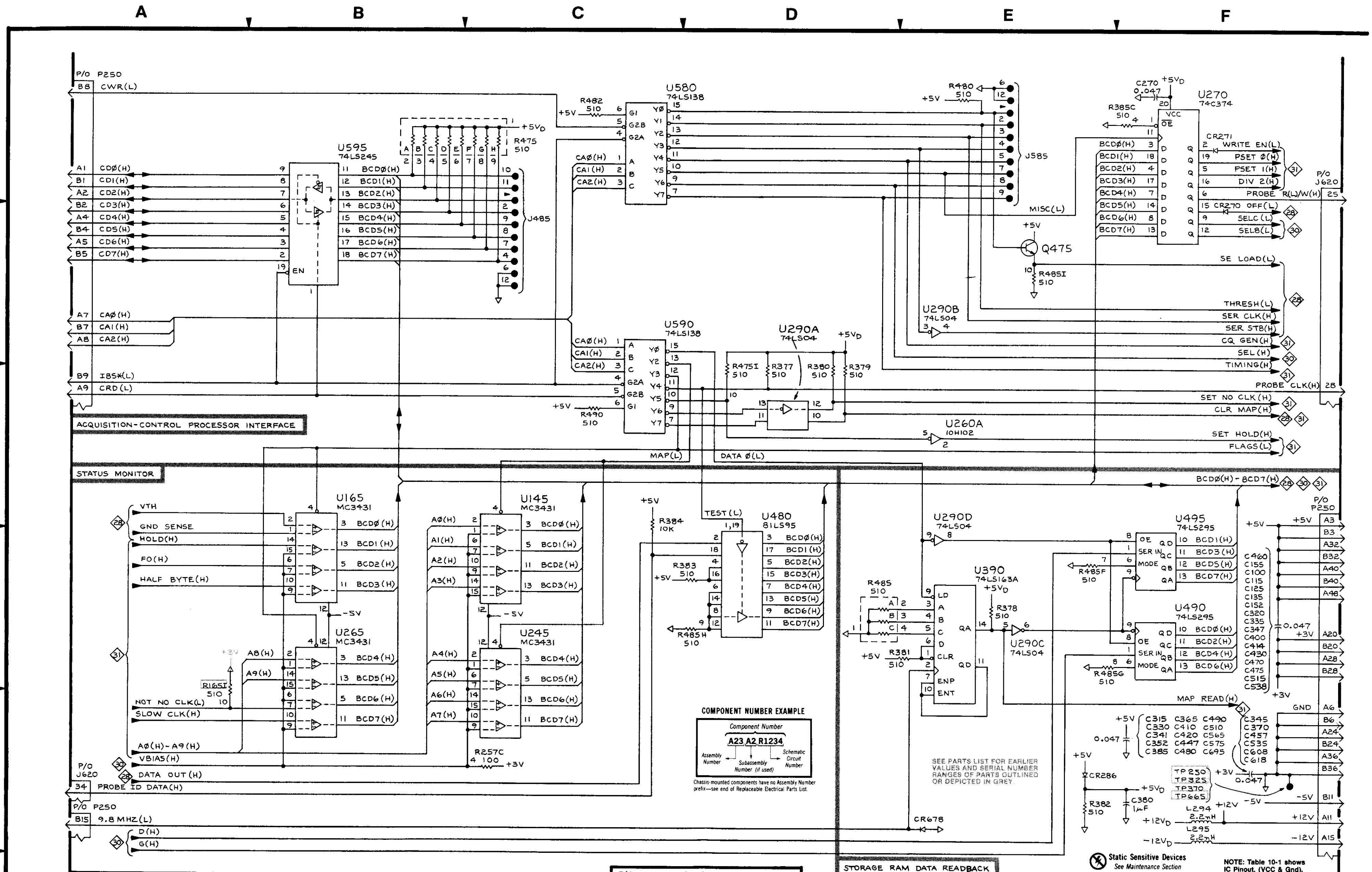

PROBE DATA INTERFACE
SEQUENTIAL EVENT GENERATION
PROBE CLOCK/QUALIFIER INTERFACE
THRESHOLD VOLTAGE GENERATION
U520 H1147
U510 H1147
U500 H1147
U300 14520B
U420A 10188
U315 10188
U430 10188
U420B 10188
U415 HM2112-1
U410 HM2112-1
U435 HM2112-1
U425 HM2112-1
U535 10H101
U630 10H109
U175 NE5018
U295A TL072/LF353
U295B TL072/LF353
U635A 10H116
U635B 10H116
U635C 10H116
U440A 10H105
U440B 10H105
U440C 10H105
COMPONENT NUMBER EXAMPLE
A23 A2 R1234
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.
*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).
P/O A15 9 CHANNEL ACQUISITION BD.

Table 10-29

9-CH. PROCESSOR INTERFACE ◇29 — 9-CHANNEL ACQ. BD., ASSEMBLY A15

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.



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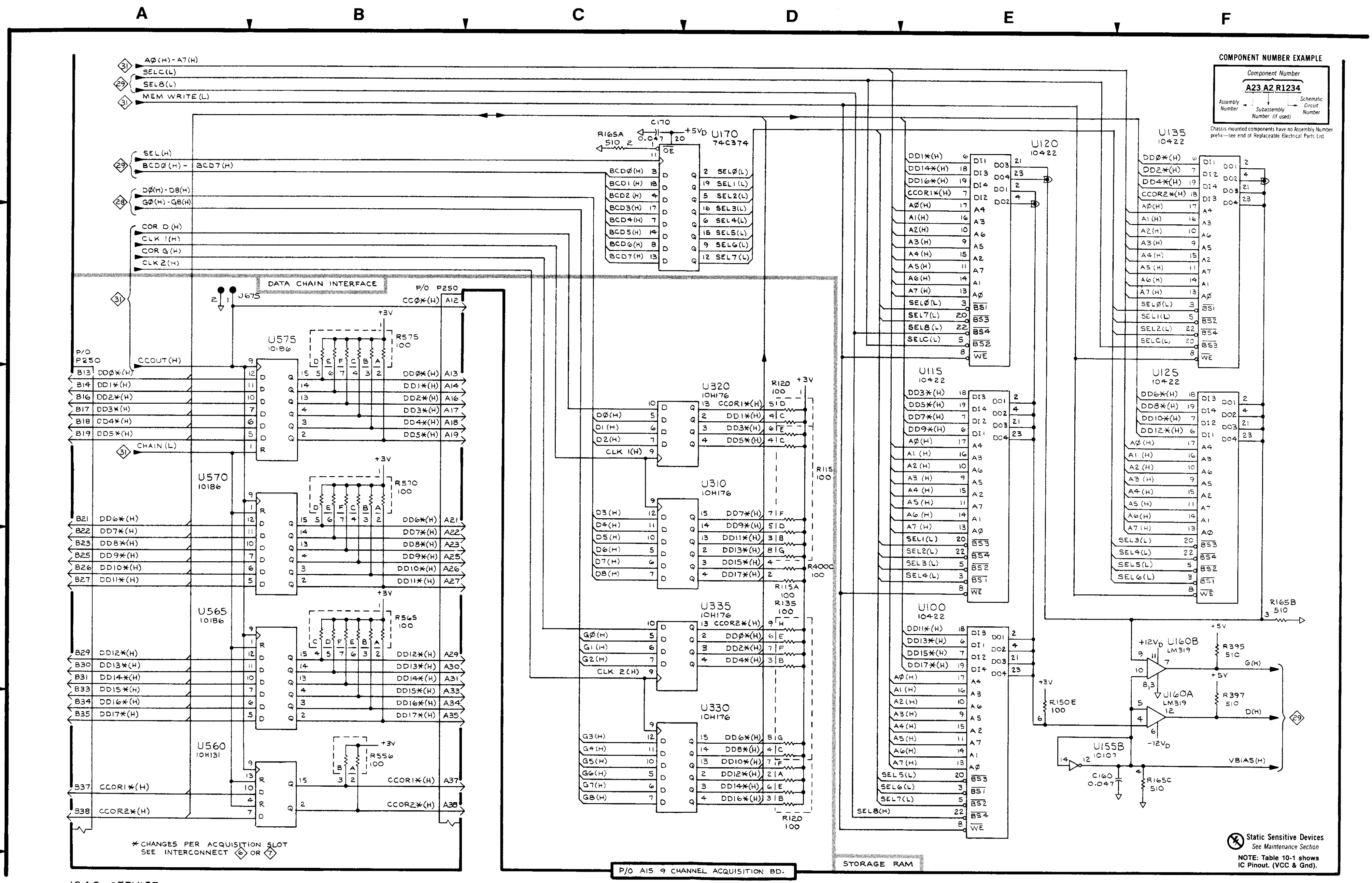
9 CHANNEL PROCESSOR INTERFACE 29

Table 10-30

STORAGE RAM & CHAIN DATA ⟨30⟩ — 9-CHANNEL ACQ. BD., ASSEMBLY A15

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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			



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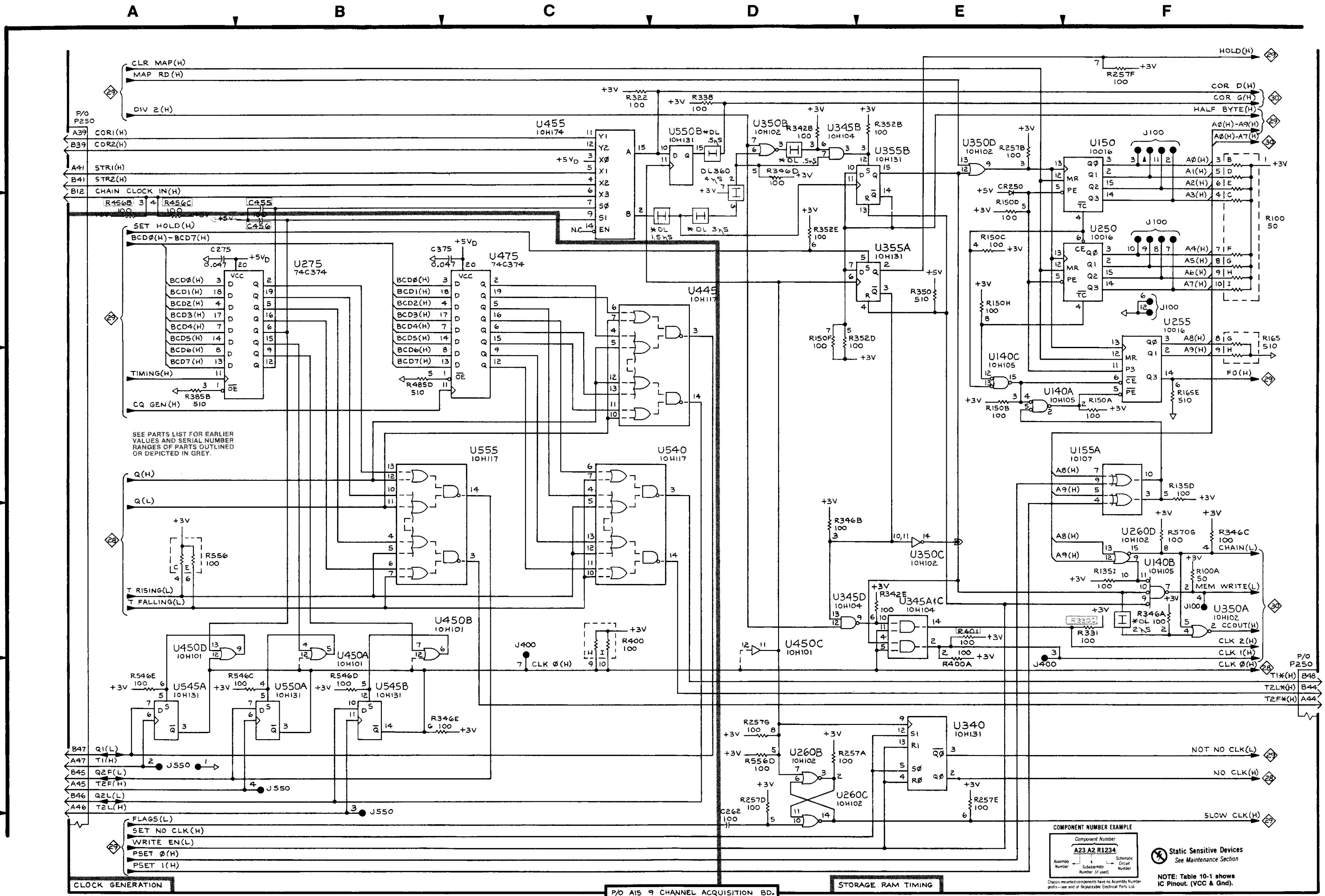
STORAGE RAM AND CHAIN DATA 30

Table 10-31

TIMING CIRCUITS ⟨31⟩ — 9-CHANNEL ACQ. BOARD, ASSEMBLY A15

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.**



CLOCK GENERATION
P/O A15 9 CHANNEL ACQUISITION BD.
STORAGE RAM TIMING
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.
COMPONENT NUMBER EXAMPLE
Static Sensitive Devices See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).

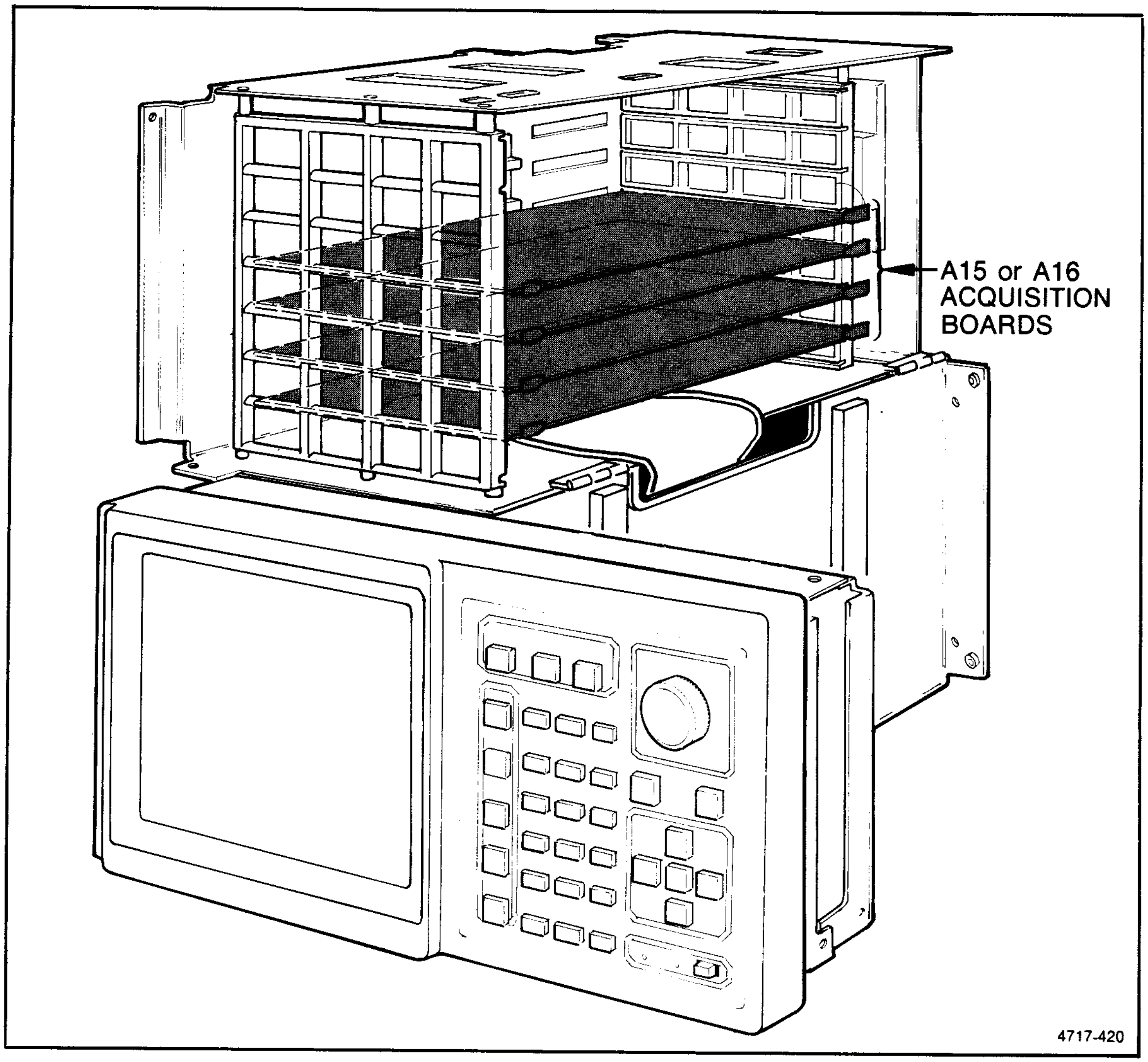


Figure 10-22. A16 18-Channel Acquisition Board Card Cage Locations.

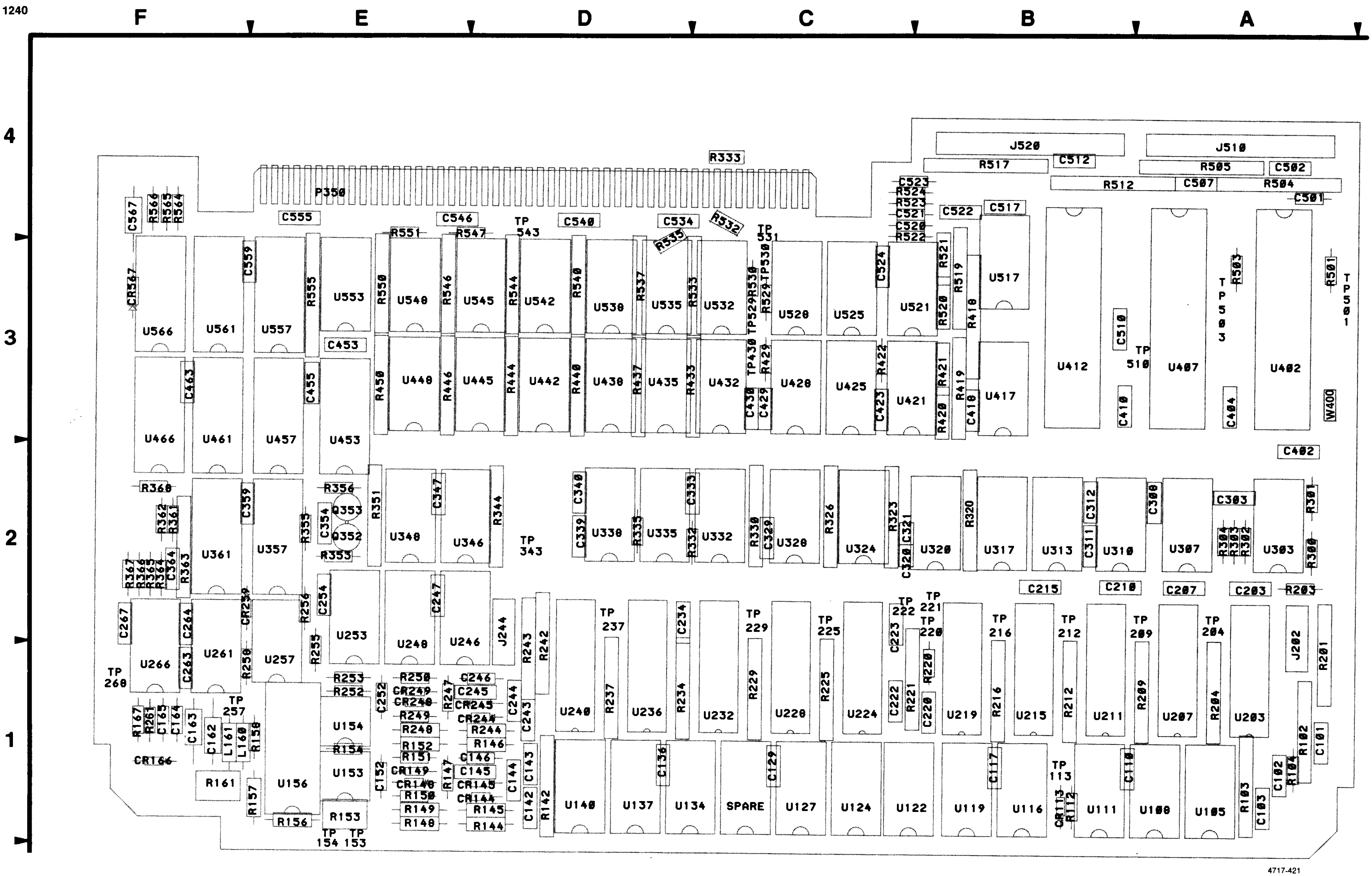


Figure 10-21. A16 18-Channel Acquisition Board Component Locations.

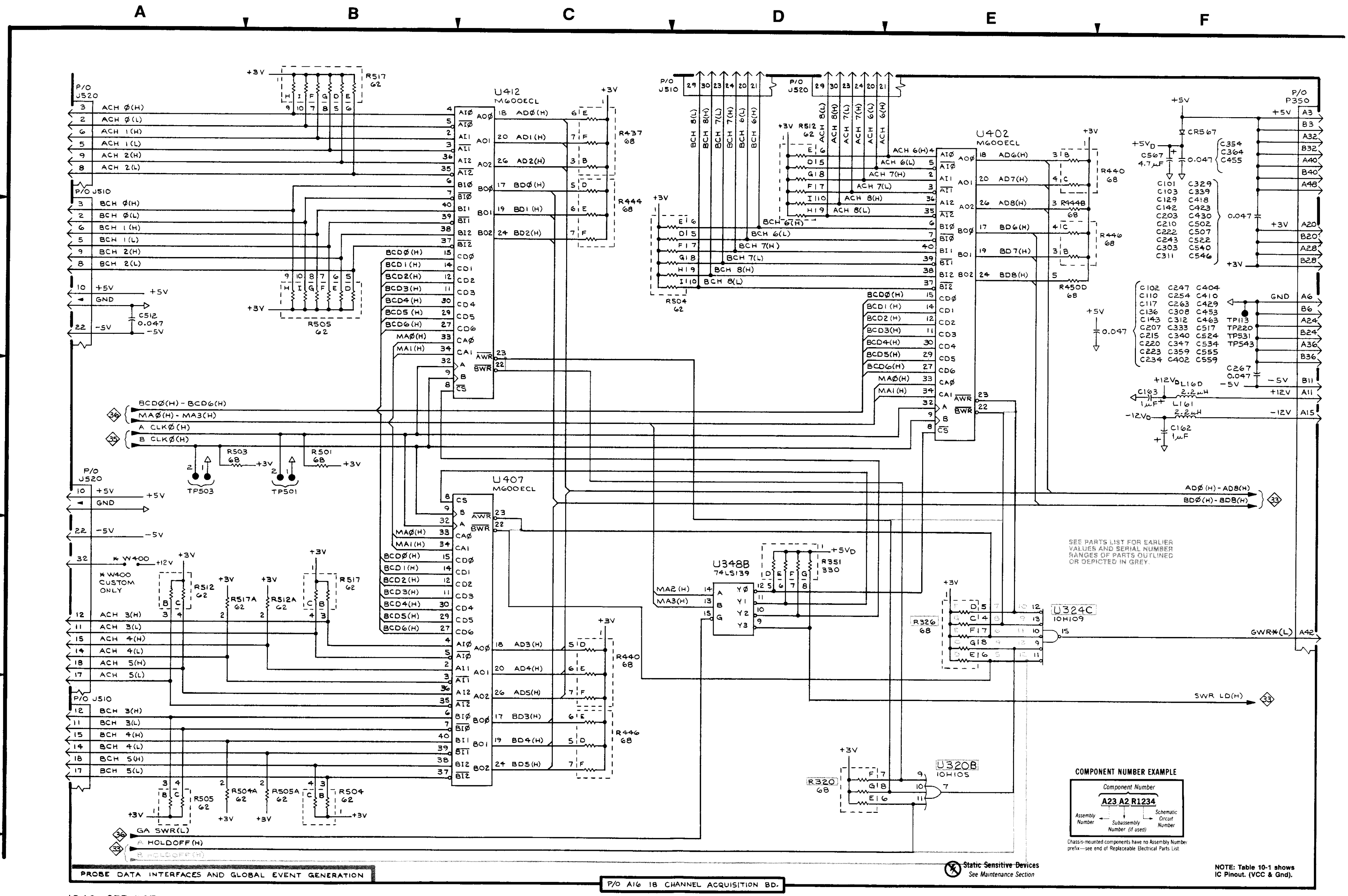
Static Sensitive Devices
See Maintenance Section

Table 10-32

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

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.



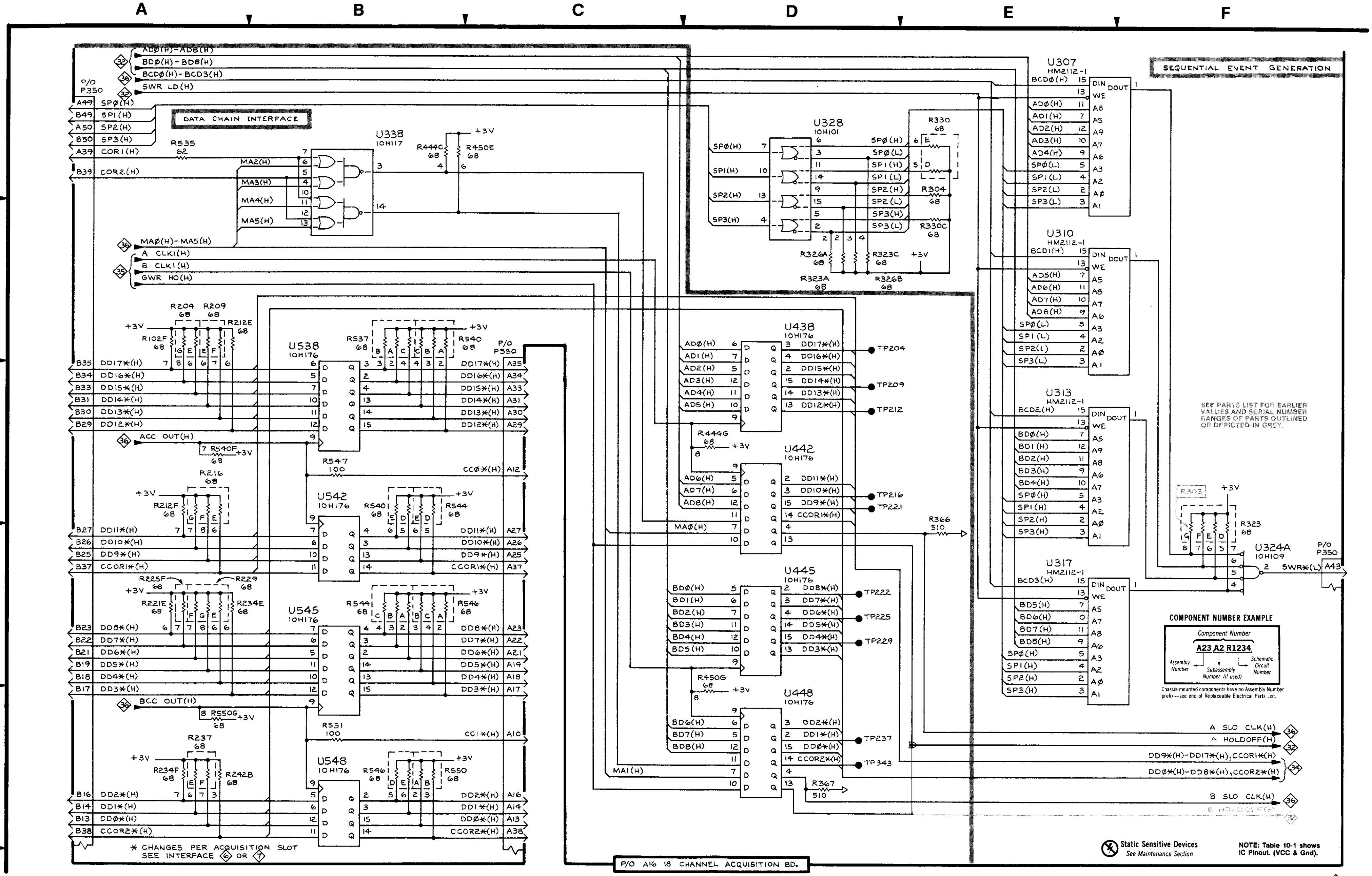
PROBE DATA INTERFACES AND GLOBAL EVENT GENERATION
P/O A16 18 CHANNEL ACQUISITION BD.
U412
M600ECL
U402
M600ECL
U407
M600ECL
U348B
74LS139
U324C
10H109
U320B
10H105
P/O J520
P/O J510
P/O P350
BCDØ(H) - BCD6(H)
MAØ(H) - MA3(H)
A CLKØ(H)
B CLKØ(H)
ADØ(H) - AD8(H)
BDØ(H) - BD8(H)
GWR*(L)
SWR LD(H)
GA SWR(L)
A HOLDOFF(H)
B HOLDOFF(H)
TP503
TP501
* W400 CUSTOM ONLY
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.
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
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).

Table 10-33

DATA CHAIN INTERFACE 33 — 18-CHANNEL ACQ. BOARD, ASSEMBLY A16

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

*SEE PARTS LIST FOR SERIAL NUMBER RANGES.

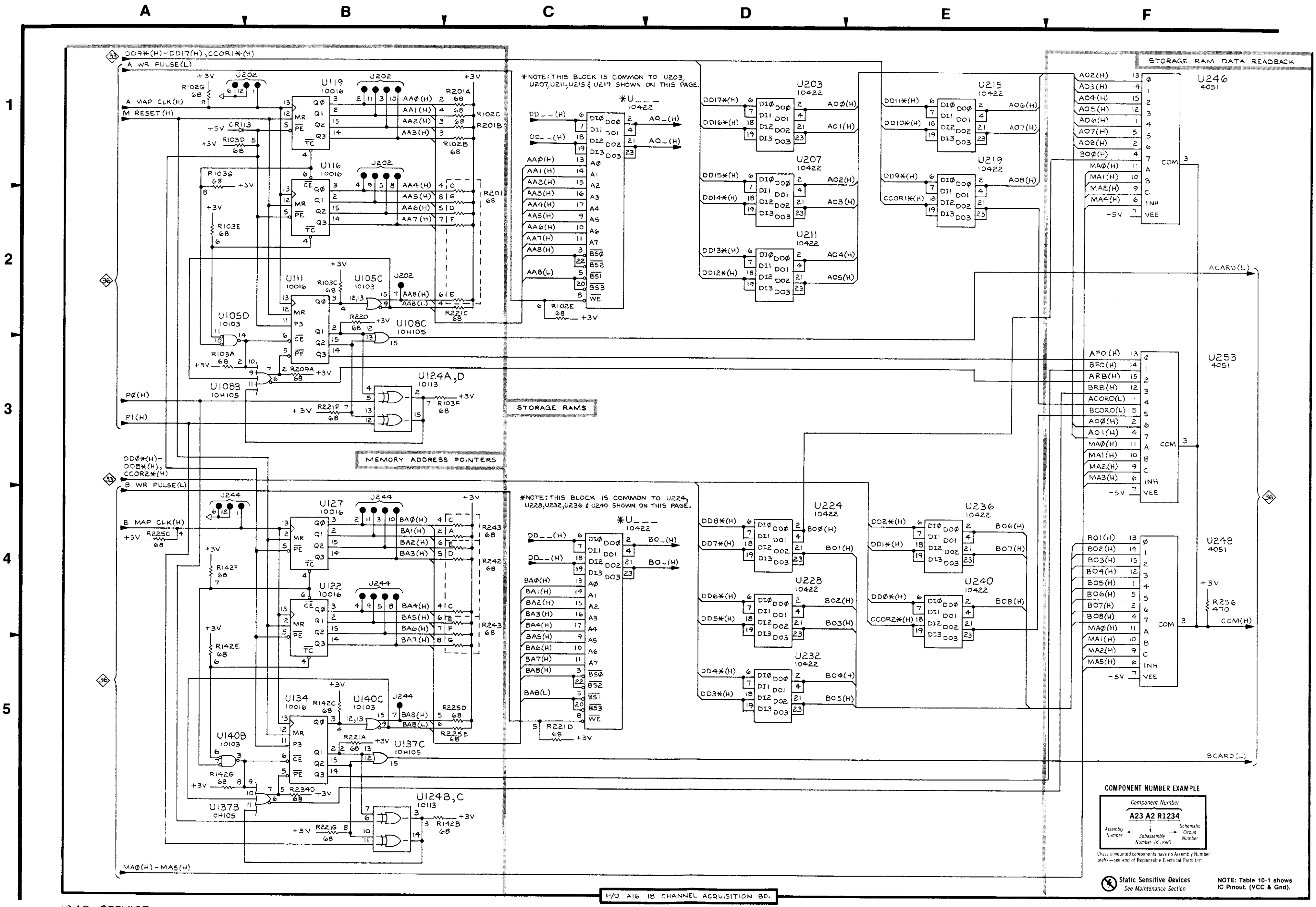


SEQUENTIAL EVENT GENERATION
DATA CHAIN INTERFACE
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.
COMPONENT NUMBER EXAMPLE
Component Number
A23 A2 R1234
Assembly Number
Subassembly Number (if used)
Schematic Circuit Number
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.
* CHANGES PER ACQUISITION SLOT SEE INTERFACE 6 OR 7
P/O A16 18 CHANNEL ACQUISITION BD.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
4717-633

Table 10-34

STORAGE RAMS & READBACK 34 — 18-CHANNEL ACQ. BD., ASSEMBLY A16

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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



A
B
C
D
E
F
1
2
3
4
5
DD9*(H)-DD17(H), CCOR1*(H)
A WR PULSE(L)
A MAP CLK(H)
M RESET(H)
U119 10016
U116 10016
U111 10016
U105C 10103
U105D 10103
U108B 10H105
U108C 10H105
U124A,D 10113
J202
P0(H)
P1(H)
MEMORY ADDRESS POINTERS
STORAGE RAMS
*NOTE: THIS BLOCK IS COMMON TO U203, U207, U211, U215 & U219 SHOWN ON THIS PAGE.
*U___ 10422
U203 10422
U207 10422
U211 10422
U215 10422
U219 10422
STORAGE RAM DATA READBACK
U246 4051
U253 4051
U248 4051
ACARD(L)
BCARD(L)
COM(H)
DD0*(H)-DD8*(H), CCOR2*(H)
B WR PULSE(L)
B MAP CLK(H)
U127 10016
U122 10016
U134 10016
U140C 10103
U140B 10103
U137B 10H105
U137C 10H105
U124B,C 10113
J244
*NOTE: THIS BLOCK IS COMMON TO U224, U228, U232, U236 & U240 SHOWN ON THIS PAGE.
U224 10422
U228 10422
U232 10422
U236 10422
U240 10422
MA0(H)-MA5(H)
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.
Static Sensitive Devices See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A16 18 CHANNEL ACQUISITION BD.

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Table 10-35

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

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.

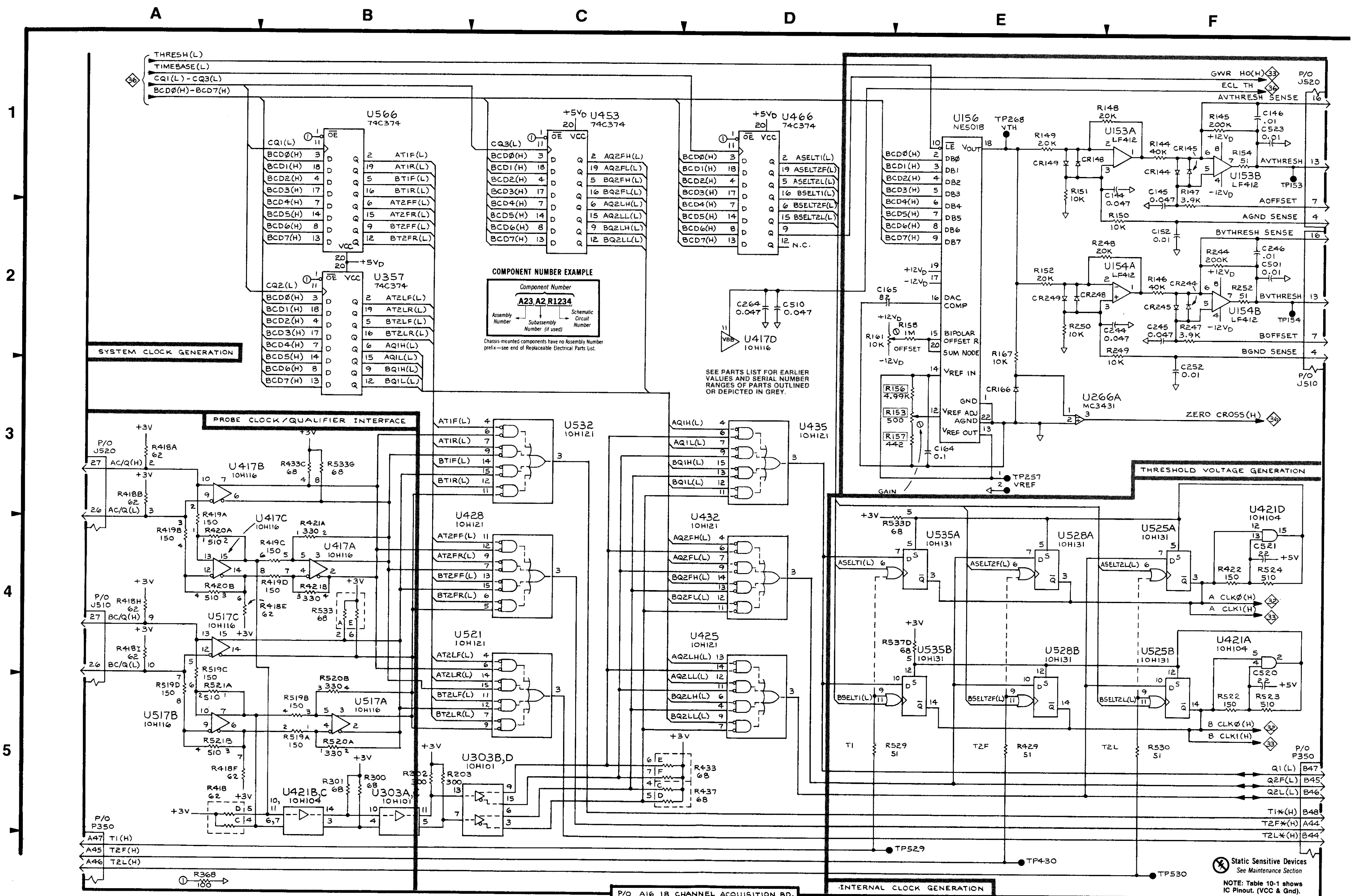
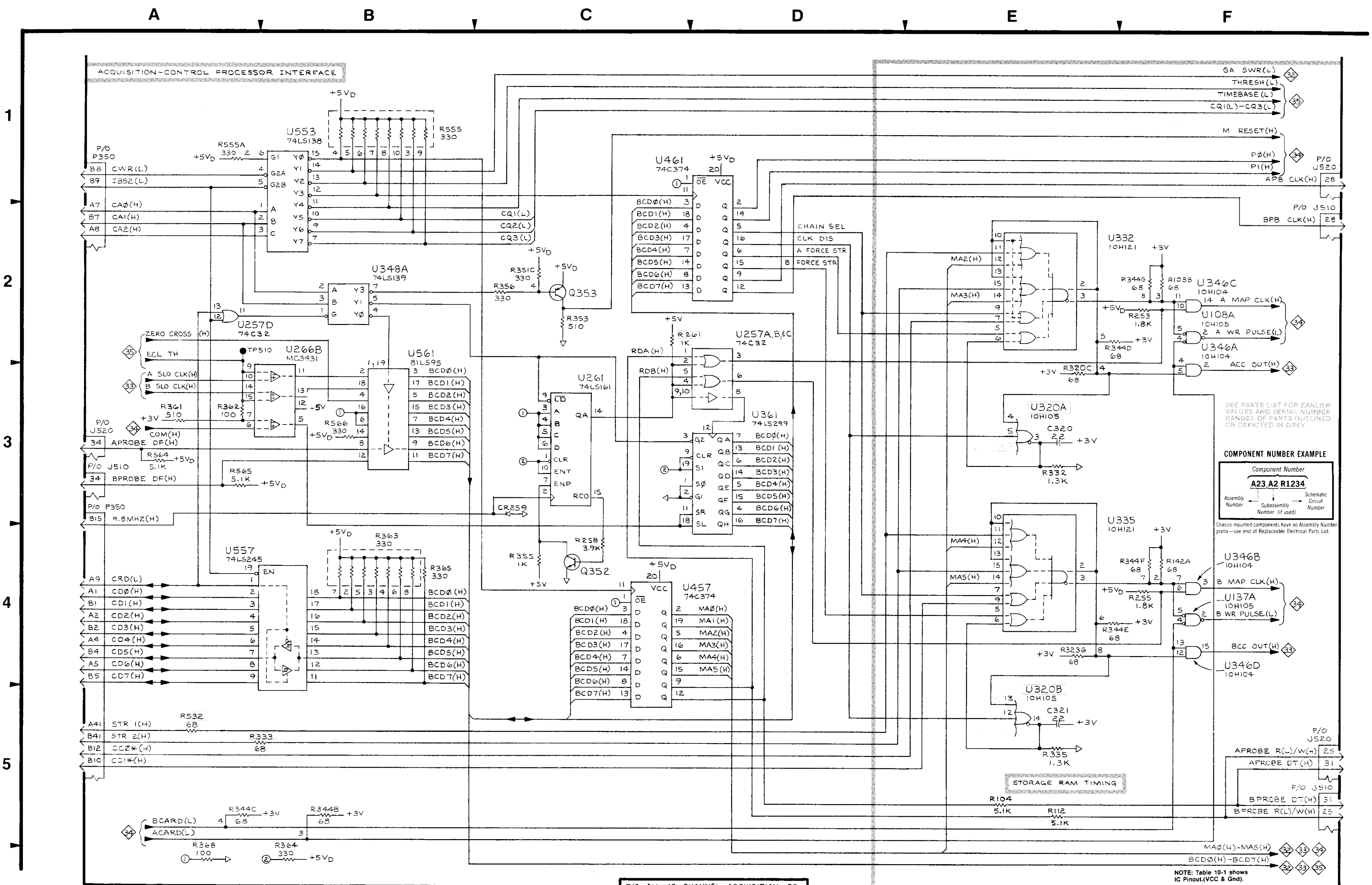

SYSTEM CLOCK GENERATION
PROBE CLOCK/QUALIFIER INTERFACE
THRESHOLD VOLTAGE GENERATION
INTERNAL CLOCK GENERATION
P/O A16 18 CHANNEL ACQUISITION BD.
COMPONENT NUMBER EXAMPLE
Component Number
A23 A2 R1234
Assembly Number
Subassembly Number (if used)
Schematic Circuit Number
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
THRESH(L)
TIMEBASE(L)
CQ1(L)-CQ3(L)
BCDØ(H)-BCD7(H)
U566 74C374
U357 74C374
U453 74C374
U466 74C374
U156 NE5018
U153A LF412
U153B LF412
U154A LF412
U154B LF412
U266A MC3431
ZERO CROSS(H)
U532 10H121
U435 10H121
U428 10H121
U432 10H121
U521 10H121
U425 10H121
U417B 10H116
U417C 10H116
U417A 10H116
U517C 10H116
U517B 10H116
U517A 10H116
U421B,C 10H104
U303A 10H101
U303B,D 10H101
U417D 10H116
U535A 10H131
U528A 10H131
U525A 10H131
U421D 10H104
U535B 10H131
U528B 10H131
U525B 10H131
U421A 10H104
A CLKØ(H)
A CLK1(H)
B CLKØ(H)
B CLK1(H)
GWR HO(H)
ECL TH
AVTHRESH SENSE
AVTHRESH
AOFFSET
AGND SENSE
BVTHRESH SENSE
BVTHRESH
BOFFSET
BGND SENSE
Q1(L)
Q2F(L)
Q2L(L)
T1*(H)
T2F*(H)
T2L*(H)
T1(H)
T2F(H)
T2L(H)
TP268 VTH
TP257 VREF
TP529
TP430
TP530
TP153
TP154

Table 10-36

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

CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD 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.**



4717-636
REV APRIL 1986

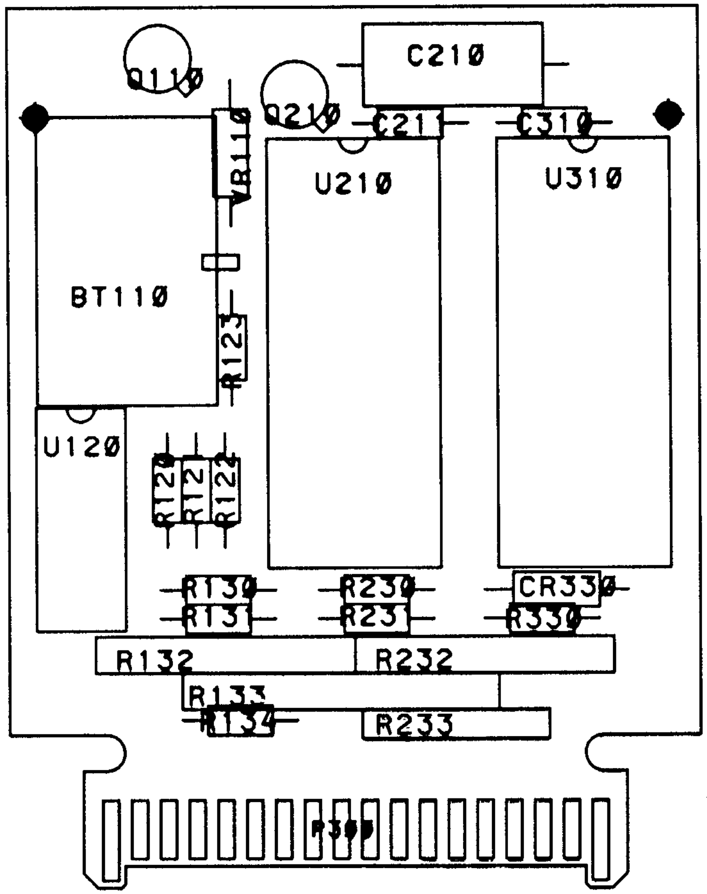


Figure 10-23. A41 8K RAM Pack Board Component Locations
(670-7620-01 SN~~B014469~~ & above.)
B061918

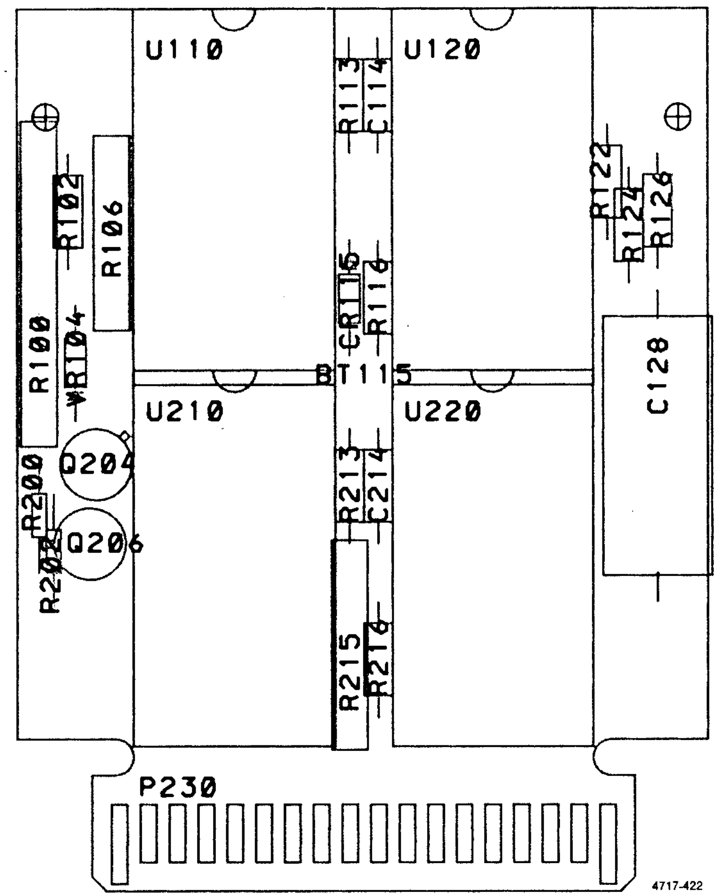
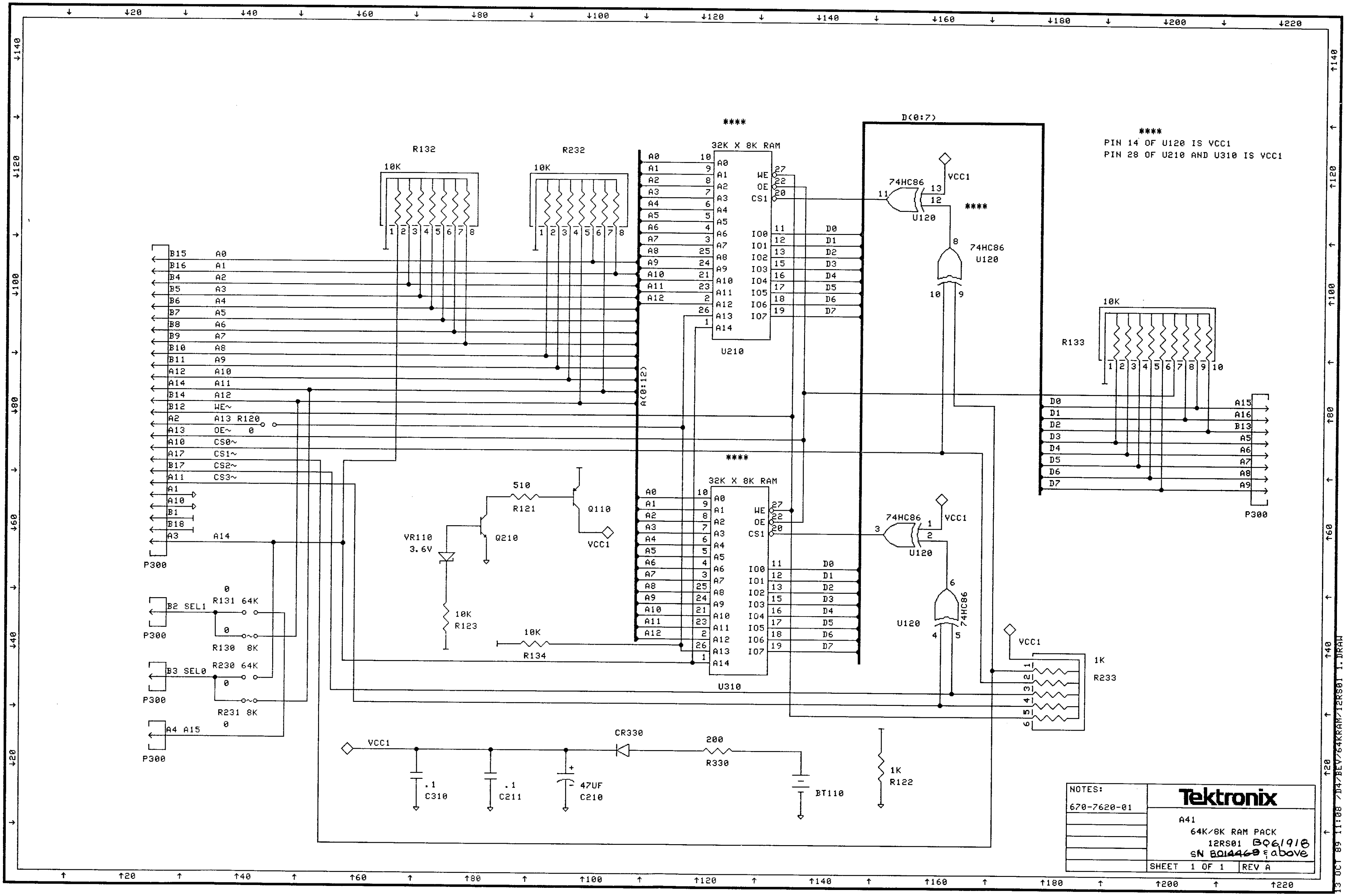
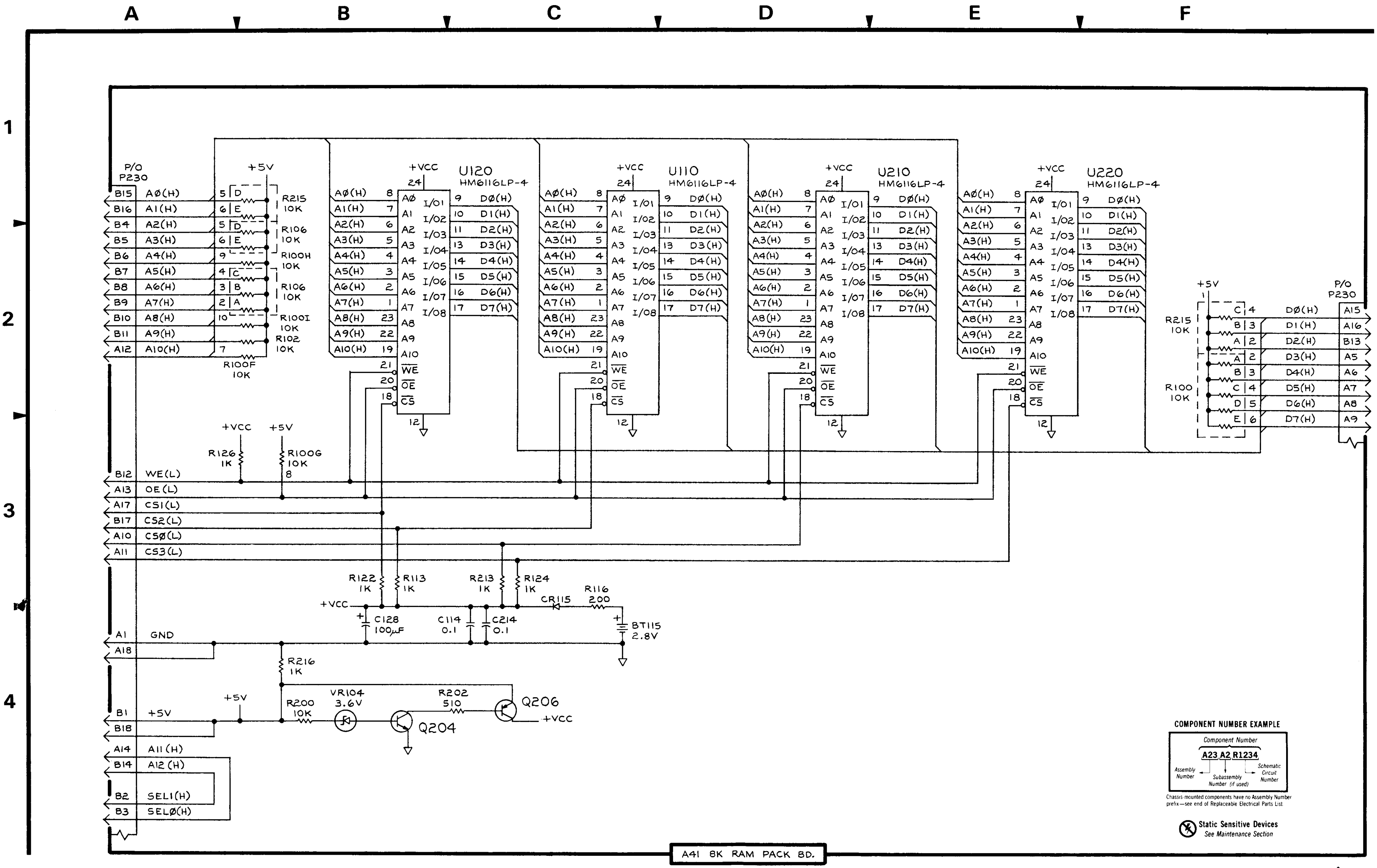


Figure 10-23a. A41 8K RAM Pack Board Component Locations
(SN~~B014468 &~~ below.)
B061917



PIN 14 OF U120 IS VCC1
PIN 28 OF U210 AND U310 IS VCC1
****
32K X 8K RAM
U210
U310
D(0:7)
A(0:12)
74HC86
U120
VCC1
R132
R232
R133
10K
R120
R121
510
Q110
Q210
VR110
3.6V
R123
R134
R130
8K
R131
64K
R230
R231
R233
1K
R122
CR330
200
R330
BT110
C310
C211
C210
47UF
.1
P300
B2 SEL1
B3 SEL0
A4 A15
WE~
OE~
CS0~
CS1~
CS2~
CS3~
NOTES:
670-7620-01
Tektronix
A41
64K/8K RAM PACK
12RS01 BQ61918
SN B014469 & above
SHEET 1 OF 1
REV A
13 OCT 89 11:08 /D4/BEV/64KRAM/12RS01 1.DRAW



A
B
C
D
E
F
1
2
3
4
P/O P230
B15 AØ(H)
B16 A1(H)
B4 A2(H)
B5 A3(H)
B6 A4(H)
B7 A5(H)
B8 A6(H)
B9 A7(H)
B10 A8(H)
B11 A9(H)
A12 A10(H)
+5V
R215 10K
R106 10K
R100H 10K
R106 10K
R100I 10K
R102 10K
R100F 10K
U120 HM6116LP-4
U110 HM6116LP-4
U210 HM6116LP-4
U220 HM6116LP-4
+VCC
AØ A1 A2 A3 A4 A5 A6 A7 A8 A9 A10
WE OE CS
I/O1 I/O2 I/O3 I/O4 I/O5 I/O6 I/O7 I/O8
DØ(H) D1(H) D2(H) D3(H) D4(H) D5(H) D6(H) D7(H)
R215 10K
R100 10K
P/O P230
A15 A16 B13 A5 A6 A7 A8 A9
R126 1K
R100G 10K
B12 WE(L)
A13 OE(L)
A17 CS1(L)
B17 CS2(L)
A10 CSØ(L)
A11 CS3(L)
R122 1K
R113 1K
R213 1K
R124 1K
CR115
R116 200
C128 100μF
C114 0.1
C214 0.1
BT115 2.8V
A1 GND
A18
R216 1K
B1 +5V
B18
R200 10K
VR104 3.6V
Q204
R202 510
Q206
A14 A11(H)
B14 A12(H)
B2 SEL1(H)
B3 SELØ(H)
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
Static Sensitive Devices
See Maintenance Section
A41 8K RAM PACK BD.

4717-637

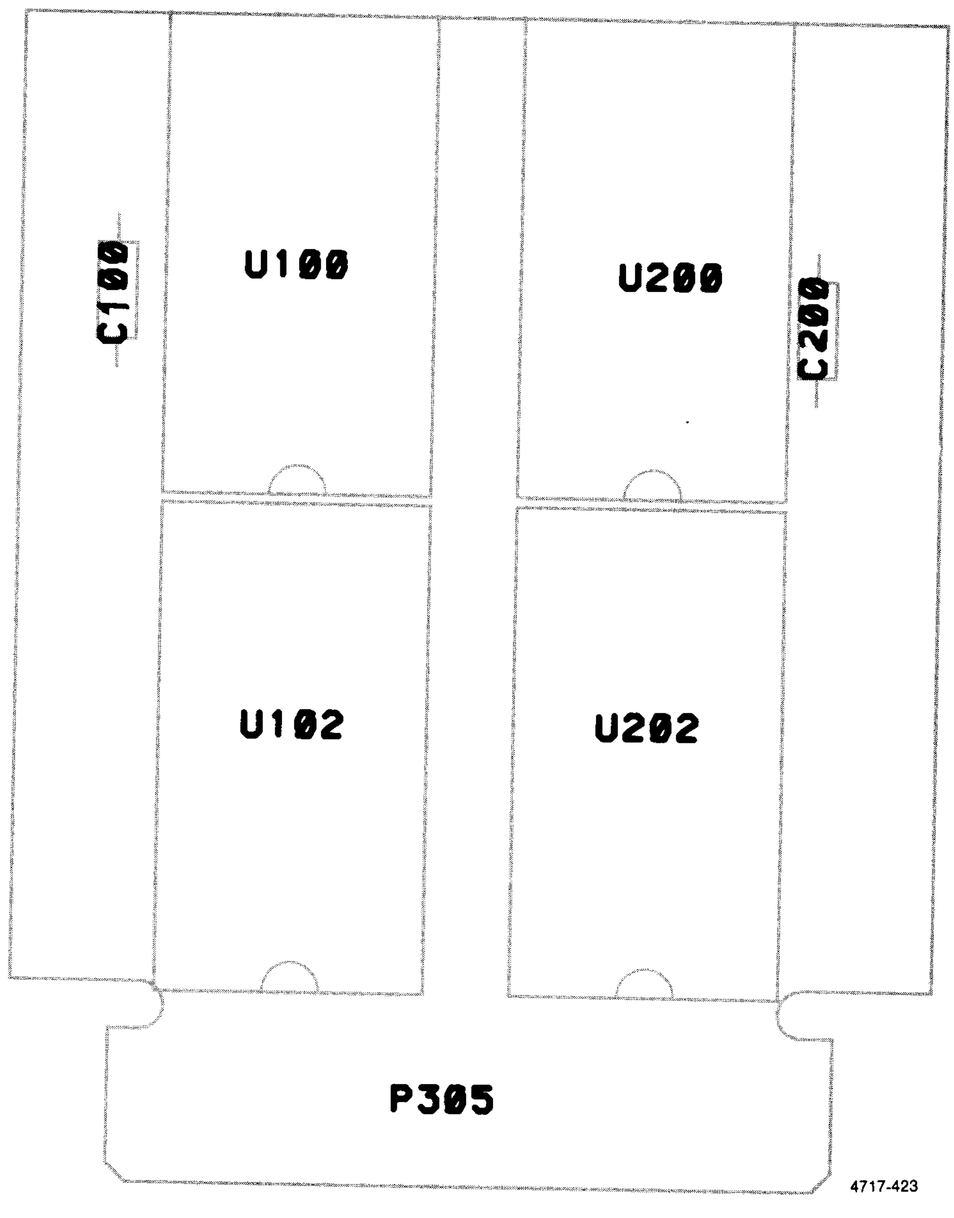


Figure 10-24. A42 32K EPROM Pack Component Locations. This board is used for the empty and blank 32K EPROM packs (12RS11, 12RS12).

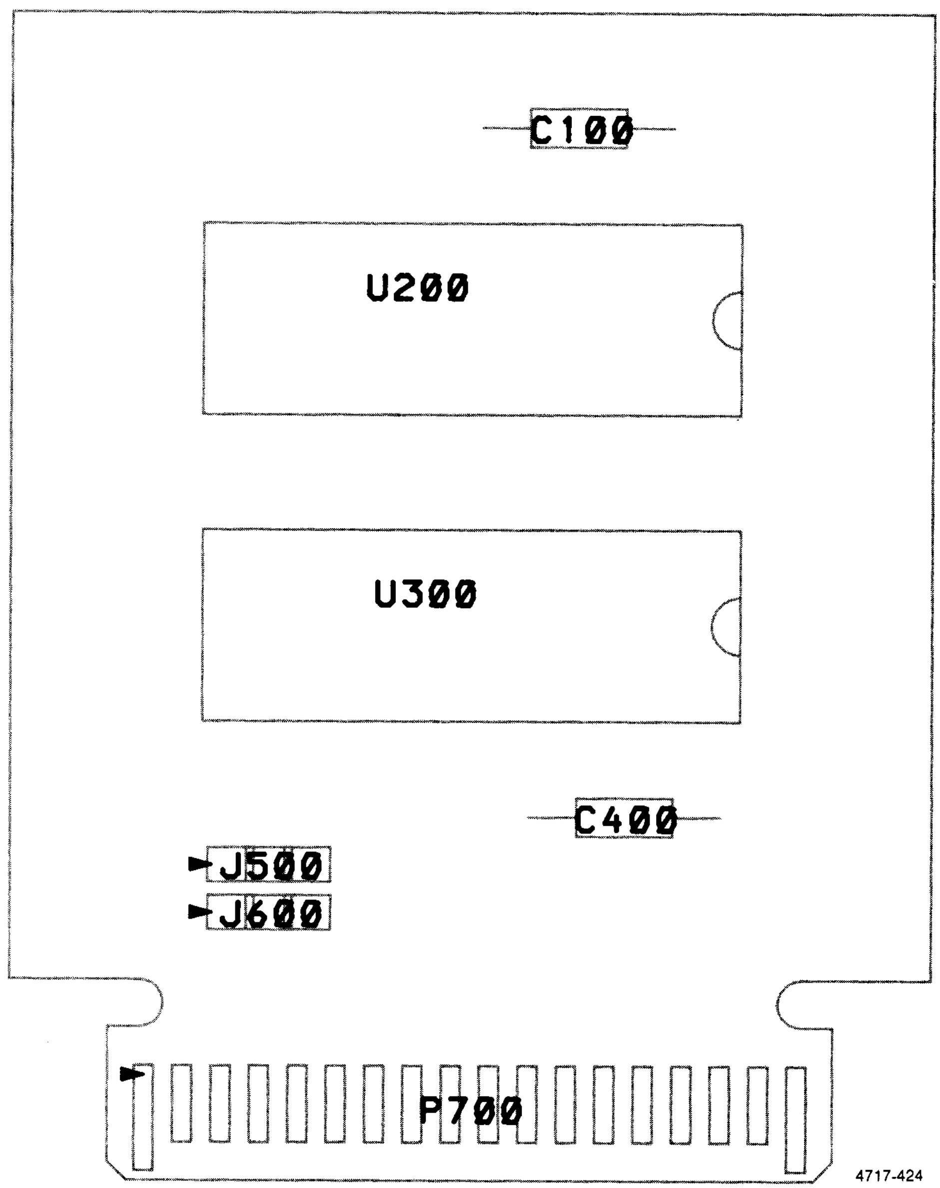
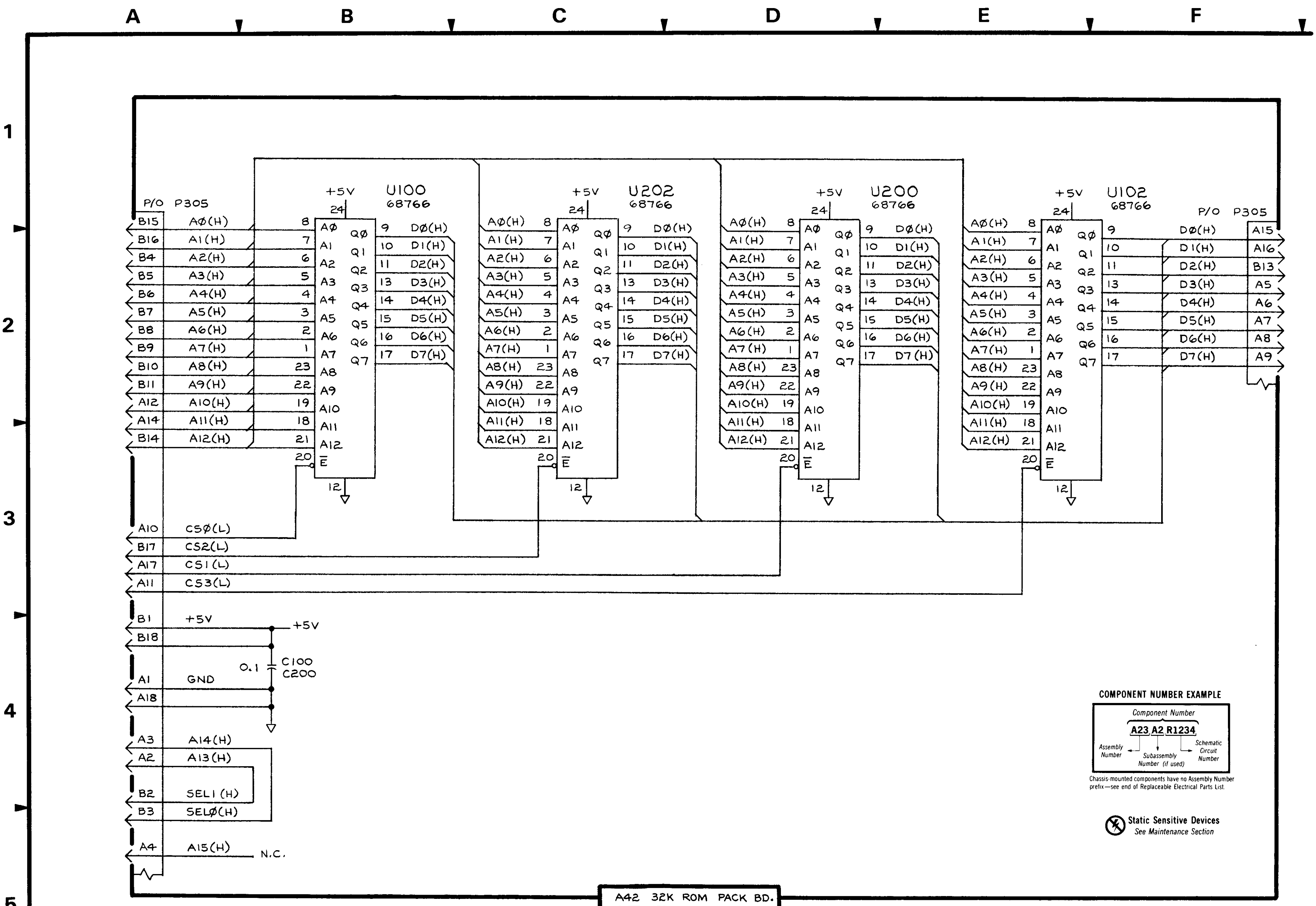
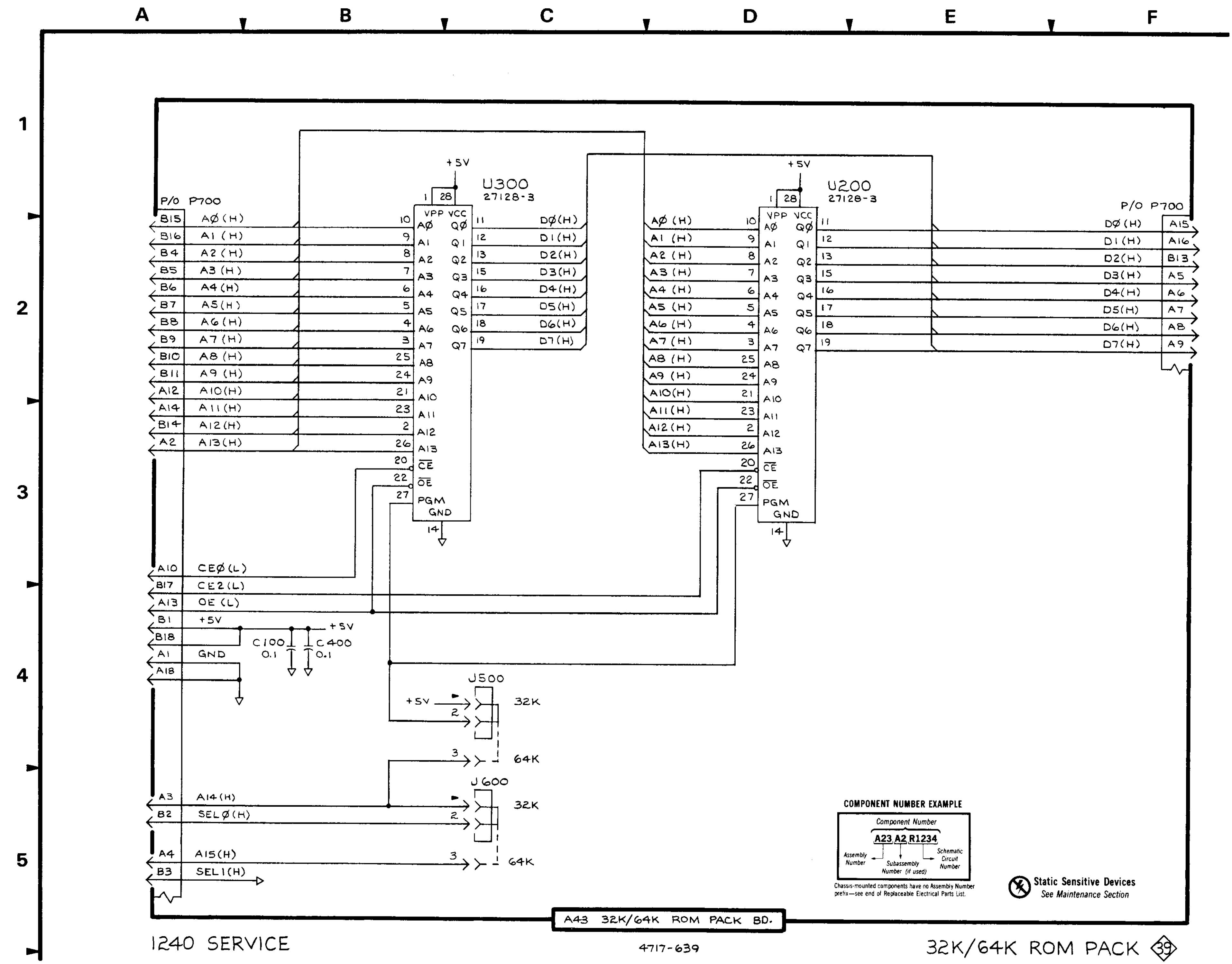


Figure 10-25. A43 32K/64K ROM Pack Component Locations. This board is used for all Tektronix-programmed ROM packs.


P/O P305
U100 68766
U202 68766
U200 68766
U102 68766
+5V
B15 AØ(H)
B16 A1(H)
B4 A2(H)
B5 A3(H)
B6 A4(H)
B7 A5(H)
B8 A6(H)
B9 A7(H)
B10 A8(H)
B11 A9(H)
A12 A10(H)
A14 A11(H)
B14 A12(H)
A10 CSØ(L)
B17 CS2(L)
A17 CS1(L)
A11 CS3(L)
B1 +5V
B18
A1 GND
A18
0.1 C100 C200
A3 A14(H)
A2 A13(H)
B2 SEL1(H)
B3 SELØ(H)
A4 A15(H) N.C.
A15 DØ(H)
A16 D1(H)
B13 D2(H)
A5 D3(H)
A6 D4(H)
A7 D5(H)
A8 D6(H)
A9 D7(H)
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.
Static Sensitive Devices
See Maintenance Section
A42 32K ROM PACK BD.



4717-639

32K/64K ROM PACK 39

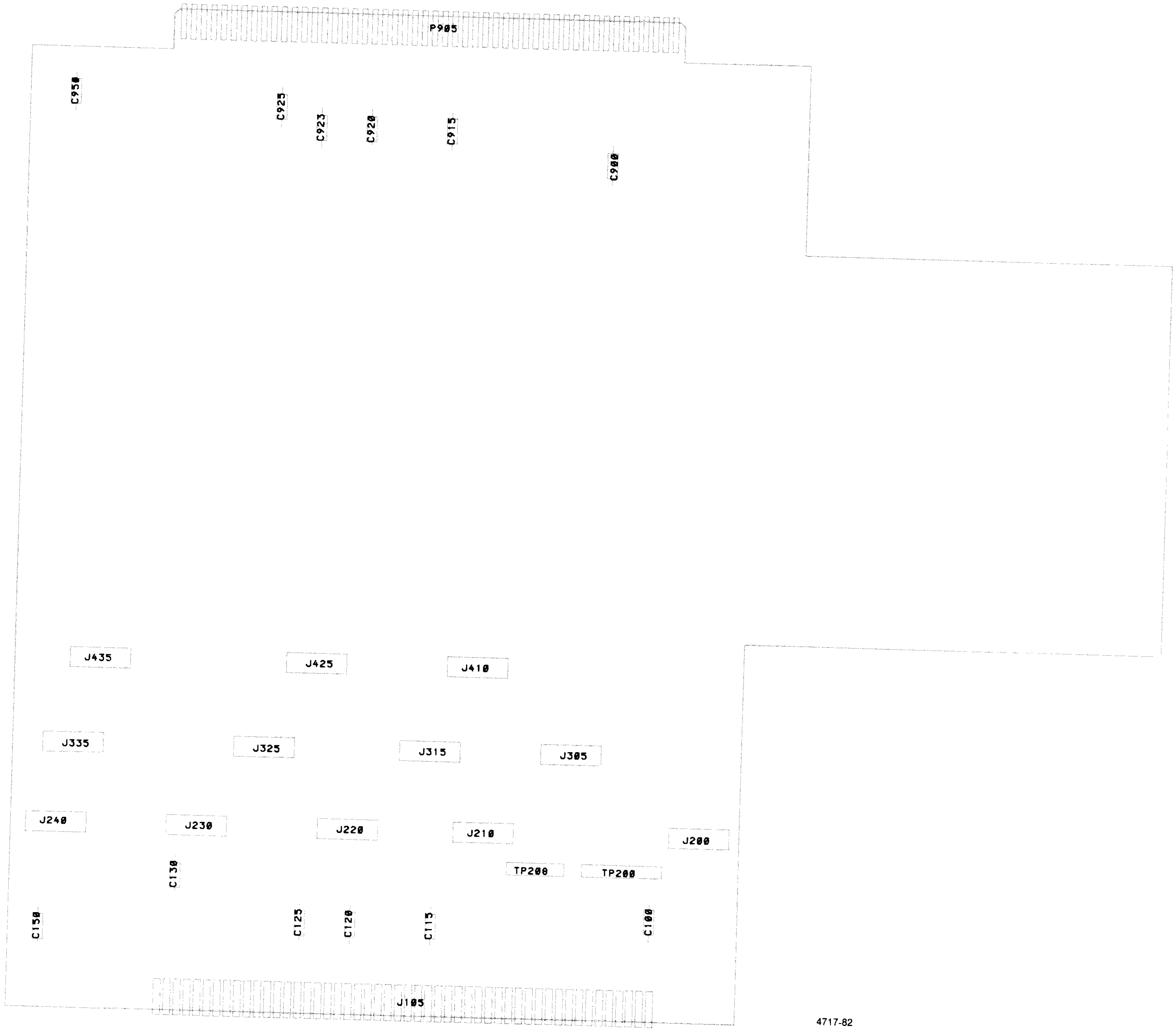
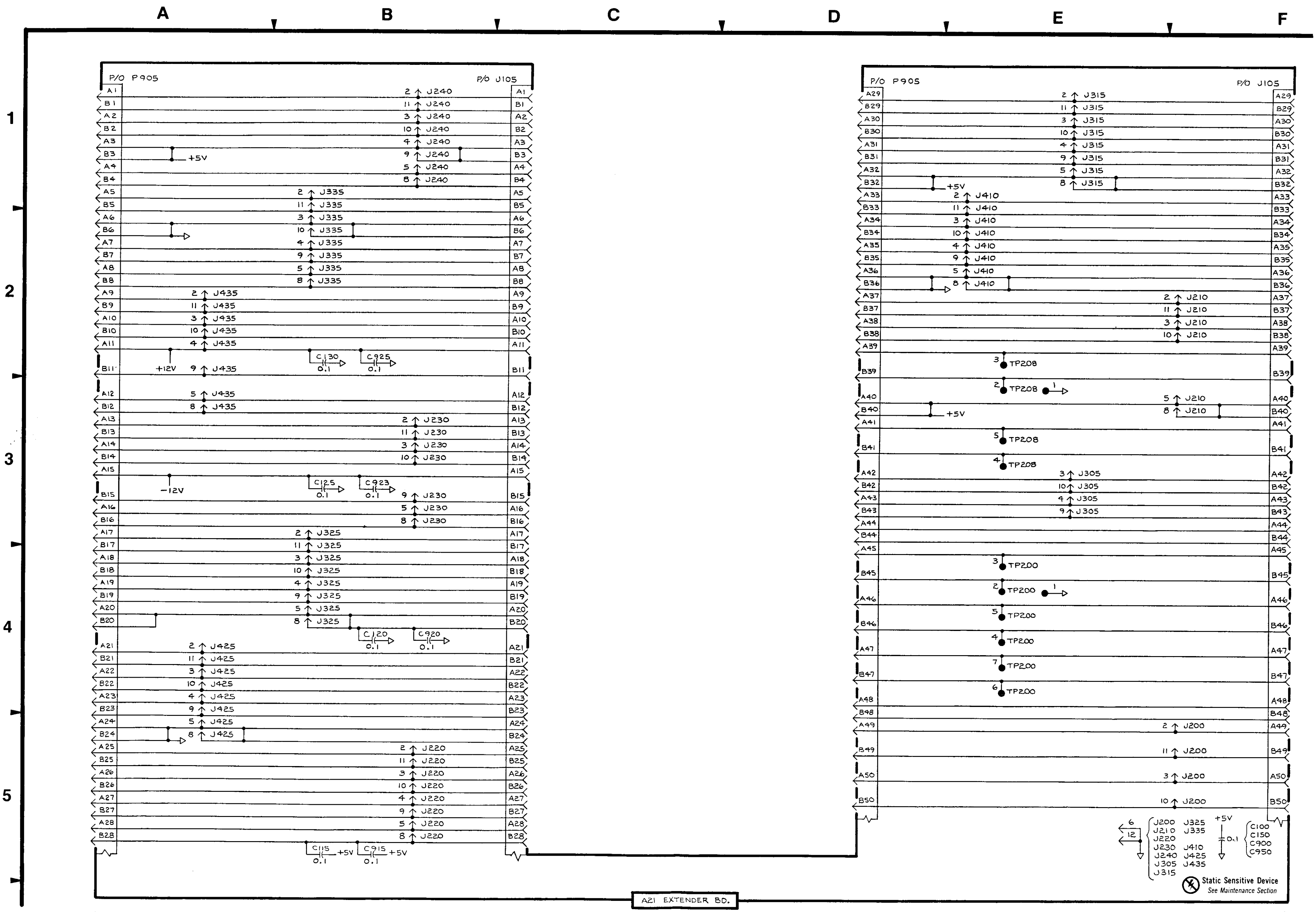


Figure 10-26. A21 Processor Extender Board Component Locations.



4717-640

TRIGGER, DISPLAY, I/O PROCESSOR, AND CONTROL PROCESSOR EXTENDER

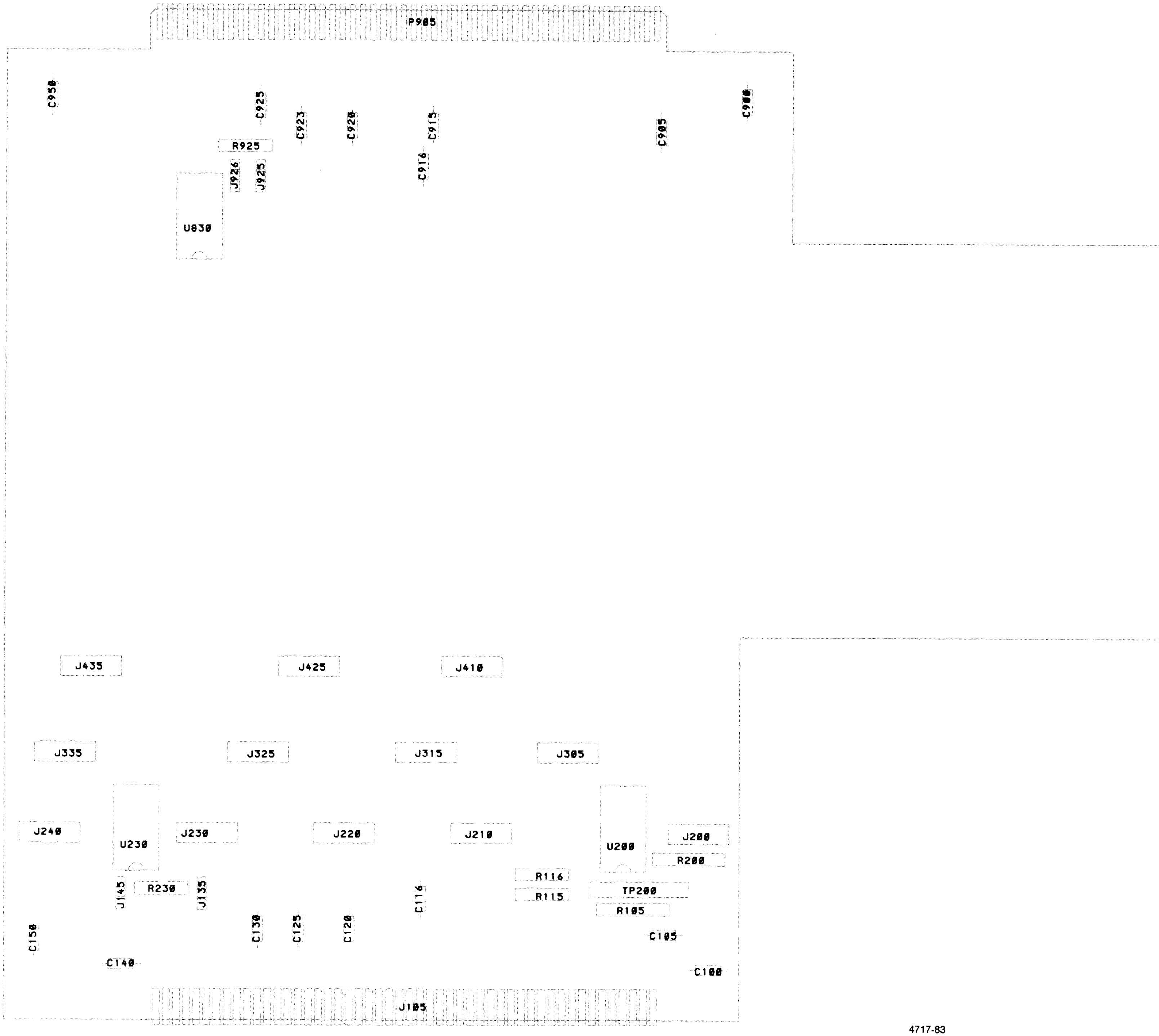
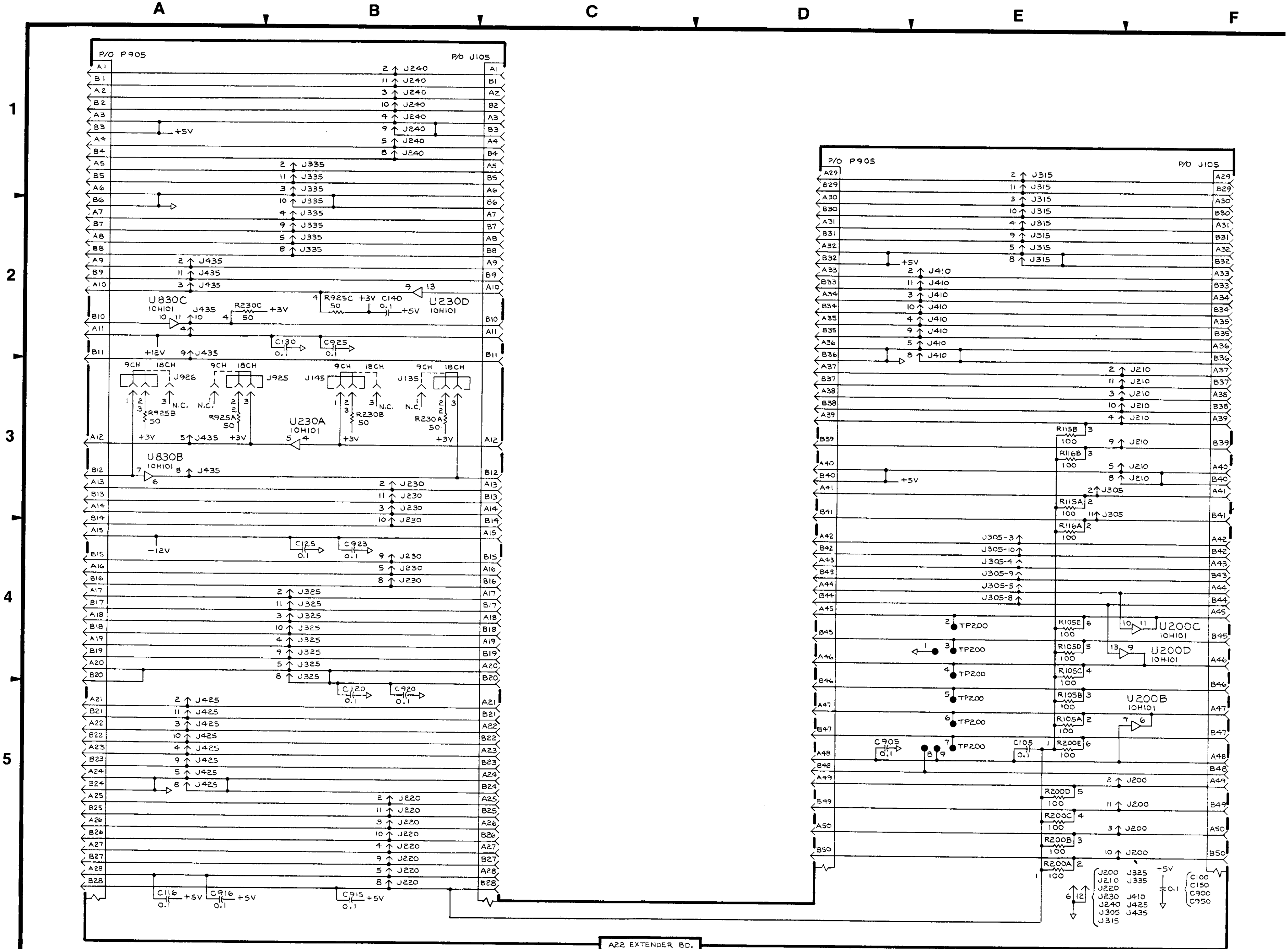


Figure 10-27. A22 Acquisition Extender Board Component Locations.


A
B
C
D
E
F
1
2
3
4
5
P/O P905
P/O J105
J240
J335
J435
U830C
10H101
R230C
50
R925C
C140
U230D
10H101
C130
C925
+12V
-12V
+5V
+3V
9CH
18CH
J926
J925
J145
J135
N.C.
R925B
R925A
R230B
R230A
U230A
10H101
U830B
10H101
J230
C125
C923
J325
C120
C920
J425
J220
C116
C916
C915
J315
J410
J210
R115B
R116B
R115A
R116A
J305
U200C
10H101
U200D
10H101
U200B
10H101
TP200
R105E
R105D
R105C
R105B
R105A
R200E
C905
C105
J200
R200D
R200C
R200B
R200A
C100
C150
C900
C950
A22 EXTENDER BD.

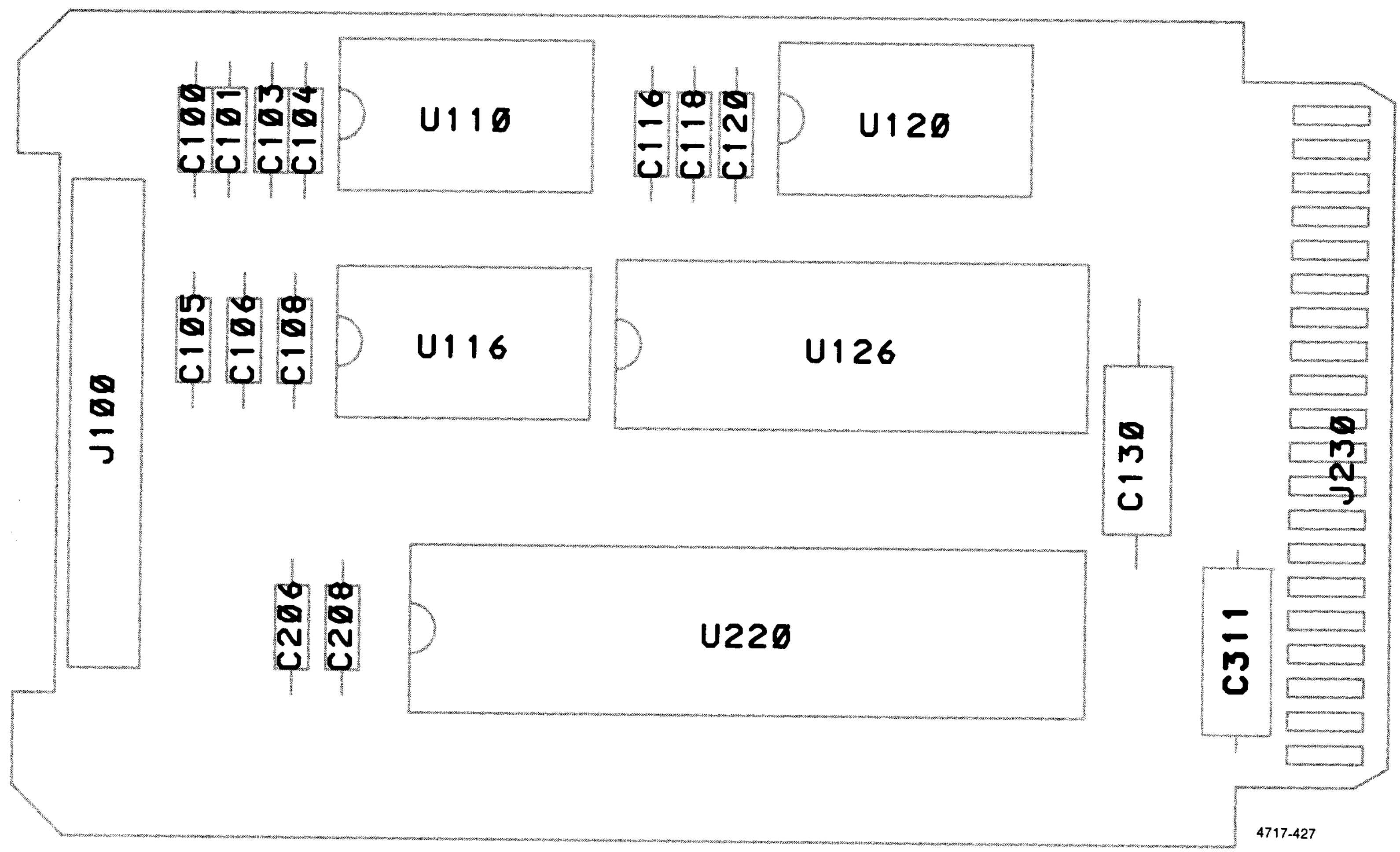
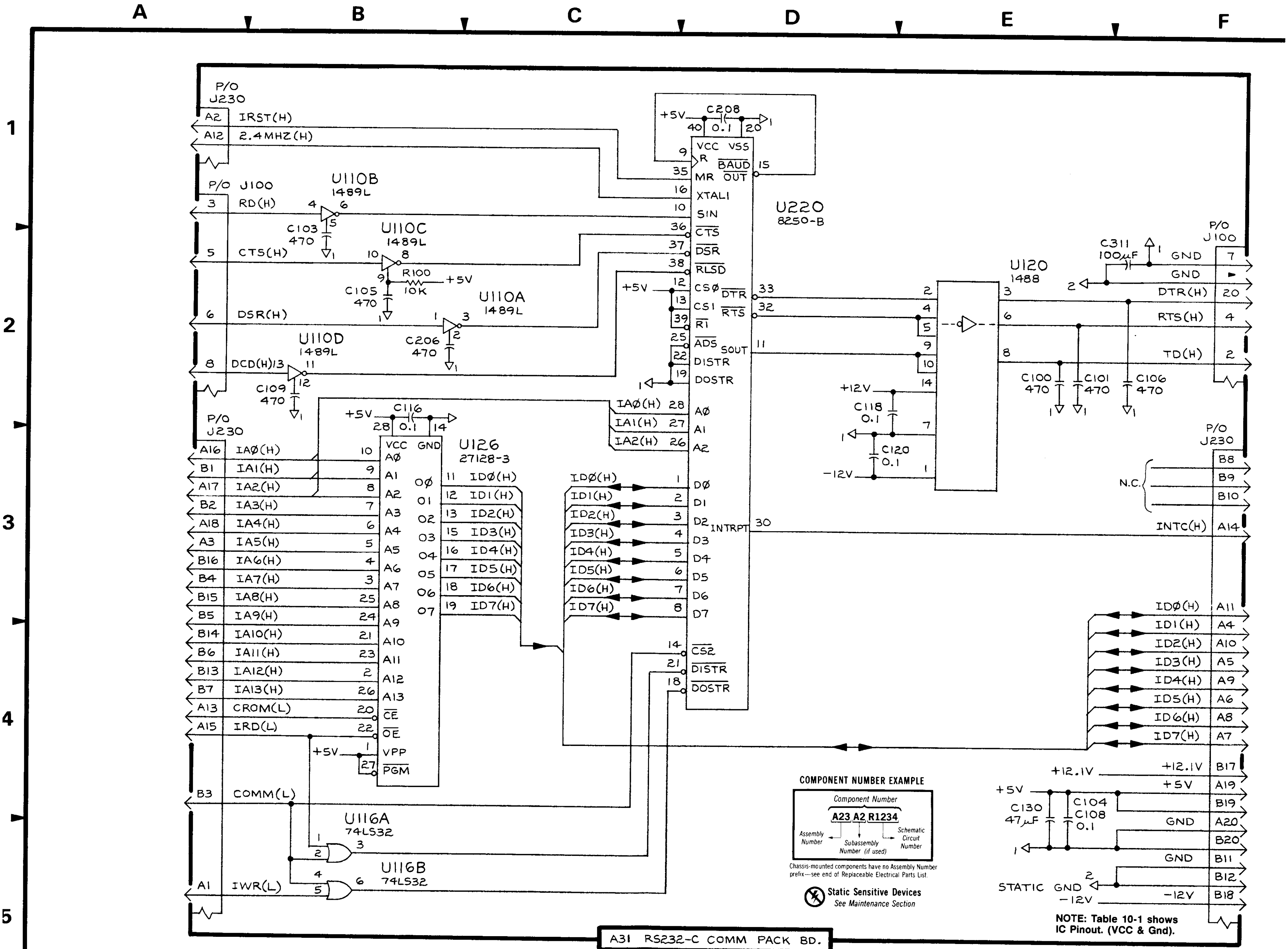


Figure 10-28. A31 RS232C COMM Pack Component Locations.


A
B
C
D
E
F
1
2
3
4
5
P/O J230
IRST(H)
2.4MHZ(H)
P/O J100
RD(H)
CTS(H)
DSR(H)
DCD(H)
U110B 1489L
U110C 1489L
U110A 1489L
U110D 1489L
C103 470
C105 470
C206 470
C109 470
R100 10K
C208 0.1
U220 8250-B
VCC
VSS
MR
XTAL1
SIN
CTS
DSR
RLSD
CS0
CS1
RI
ADS
DISTR
DOSTR
BAUD OUT
DTR
RTS
SOUT
INTRPT
CS2
U120 1488
C311 100µF
GND
DTR(H)
RTS(H)
TD(H)
C100 470
C101 470
C106 470
C118 0.1
C120 0.1
+12V
−12V
+5V
U126 27128-3
C116 0.1
VPP
PGM
CE
OE
IA0(H)
IA1(H)
IA2(H)
IA3(H)
IA4(H)
IA5(H)
IA6(H)
IA7(H)
IA8(H)
IA9(H)
IA10(H)
IA11(H)
IA12(H)
IA13(H)
CROM(L)
IRD(L)
COMM(L)
IWR(L)
ID0(H)
ID1(H)
ID2(H)
ID3(H)
ID4(H)
ID5(H)
ID6(H)
ID7(H)
INTC(H)
N.C.
U116A 74LS32
U116B 74LS32
+12.1V
C130 47µF
C104
C108 0.1
STATIC GND
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.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
A31 RS232-C COMM PACK BD.

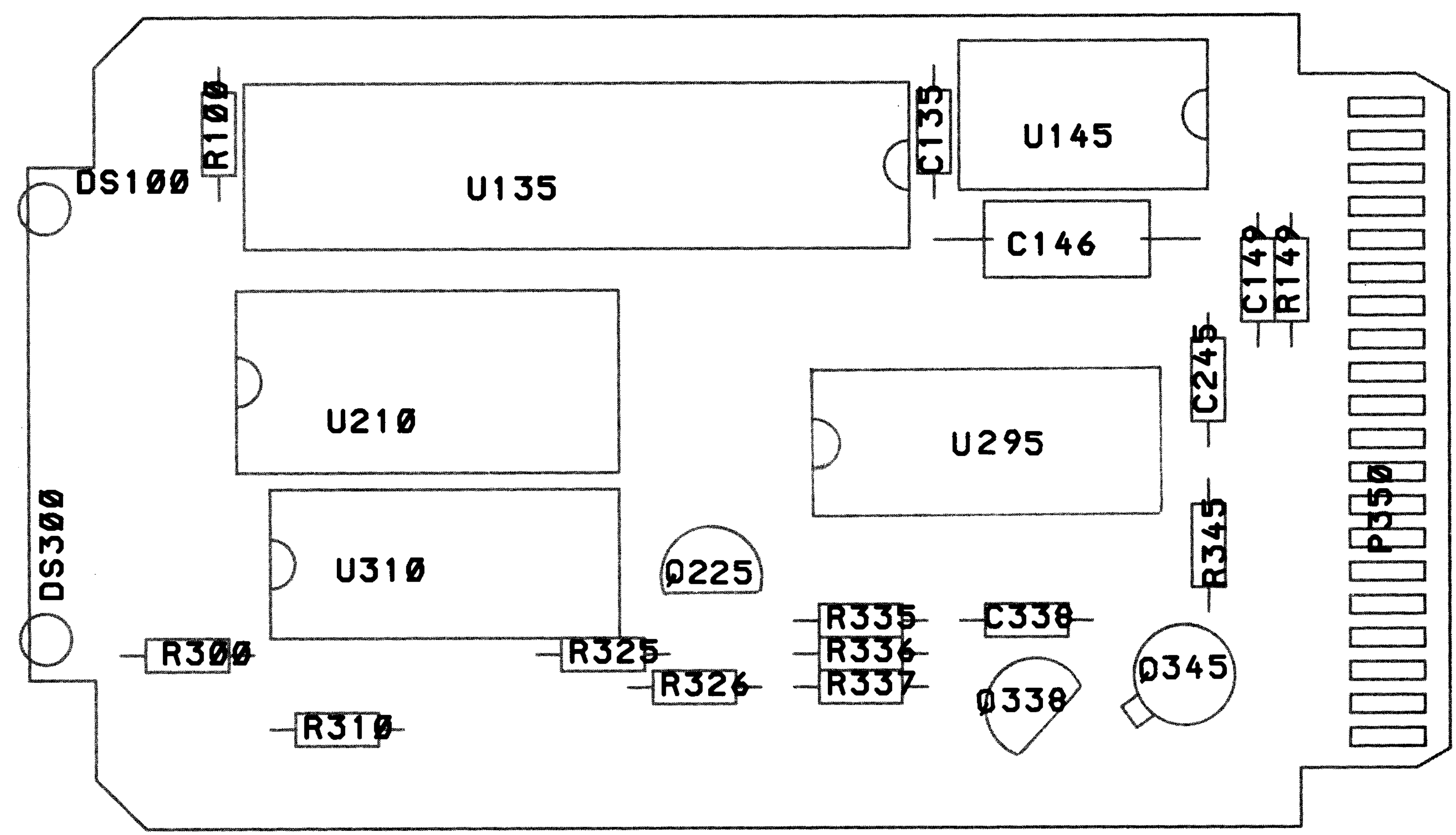
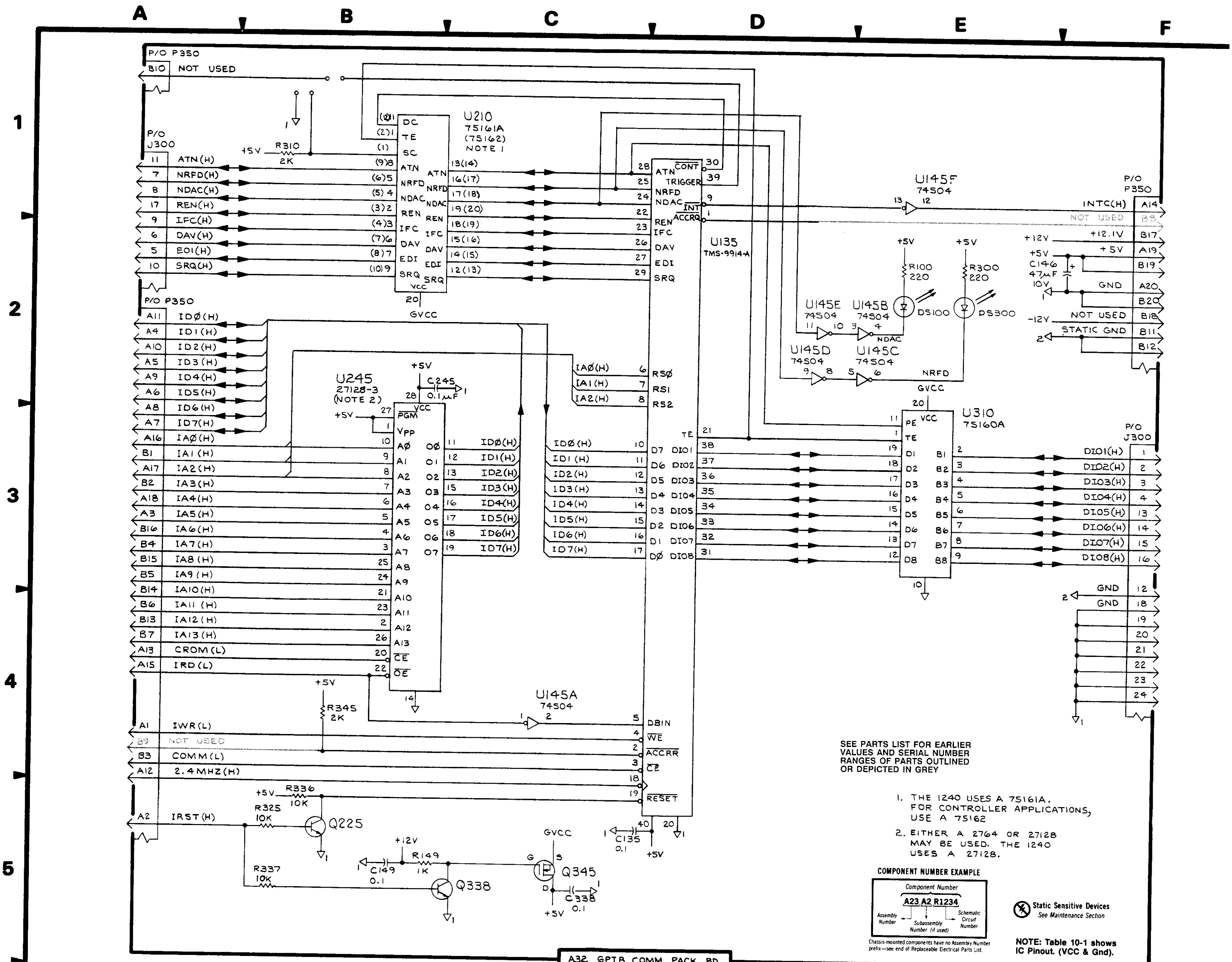


Figure 10-29. A32 GPIB COMM Pack Component Locations.



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

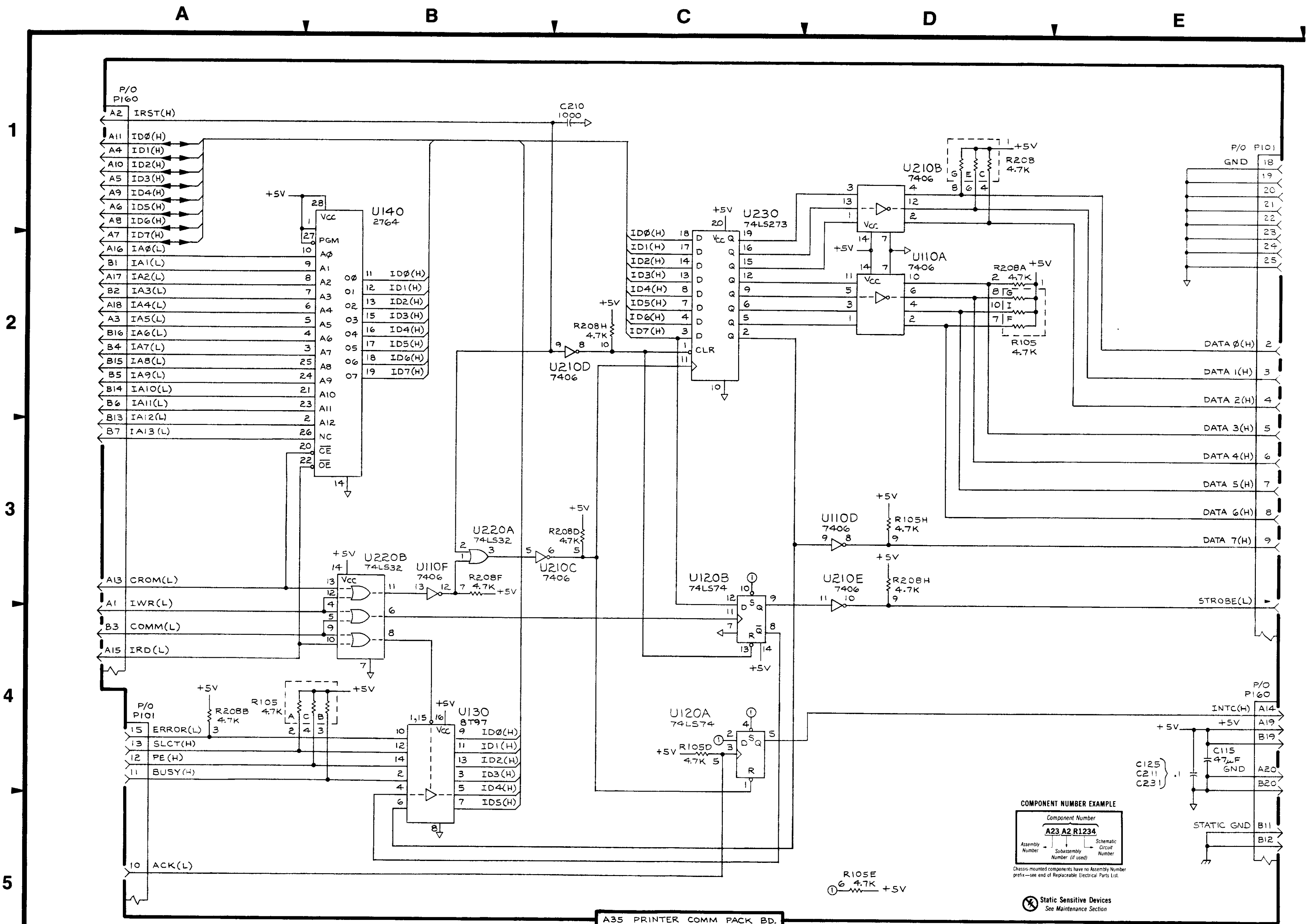
Component Number A23 A2 R1234 — Assembly Number, Subassembly Number (if used), Schematic Circuit Number

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

Static Sensitive Devices See Maintenance Section

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

A32 GPIB COMM PACK BD.



A
B
C
D
E
1
2
3
4
5
P/O P160
A2 IRST(H)
A11 IDØ(H)
A4 ID1(H)
A10 ID2(H)
A5 ID3(H)
A9 ID4(H)
A6 ID5(H)
A8 ID6(H)
A7 ID7(H)
A16 IAØ(L)
B1 IA1(L)
A17 IA2(L)
B2 IA3(L)
A18 IA4(L)
A3 IA5(L)
B16 IA6(L)
B4 IA7(L)
B15 IA8(L)
B5 IA9(L)
B14 IA10(L)
B6 IA11(L)
B13 IA12(L)
B7 IA13(L)
U140
2764
Vcc
PGM
CE
OE
C210
1000
U230
74LS273
CLR
U210B
7406
R208
4.7K
U110A
7406
R208A 4.7K
R105
4.7K
P/O P101
GND
DATA Ø(H)
DATA 1(H)
DATA 2(H)
DATA 3(H)
DATA 4(H)
DATA 5(H)
DATA 6(H)
DATA 7(H)
STROBE(L)
U210D
7406
R208H 4.7K
U220A
74LS32
U220B
74LS32
U110F
7406
R208F 4.7K
U210C
7406
R208D 4.7K
U110D
7406
R105H 4.7K
U210E
7406
R208H 4.7K
U120B
74LS74
U120A
74LS74
R105D 4.7K
A13 CROM(L)
A1 IWR(L)
B3 COMM(L)
A15 IRD(L)
P/O P101
15 ERROR(L)
13 SLCT(H)
12 PE(H)
11 BUSY(H)
10 ACK(L)
R208B 4.7K
R105 4.7K
U130
8T97
P/O P160
INTC(H) A14
+5V A19
B19
A20
B20
C115 47µF
GND
C125 C211 C231 .1
STATIC GND B11
B12
+5V
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.
R105E 4.7K
Static Sensitive Devices
See Maintenance Section
A35 PRINTER COMM PACK BD.

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.

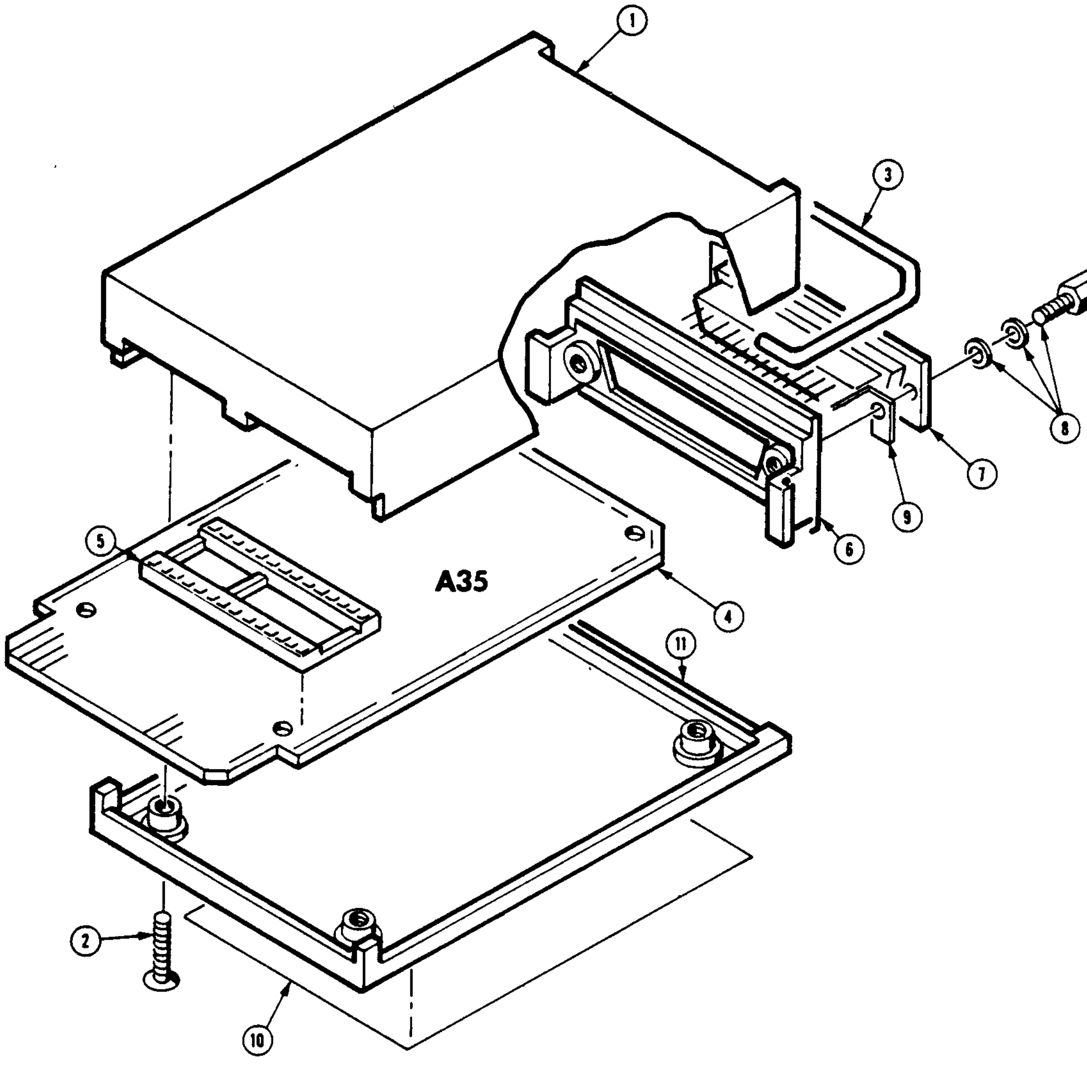
ABBREVIATIONS

"	INCH	ELCTRN	ELECTRON	IN	INCH	SE	SINGLE END
#	NUMBER SIZE	ELEC	ELECTRICAL	INCAND	INCANDESCENT	SECT	SECTION
ACTR	ACTUATOR	ELCTLT	ELECTROLYTIC	INSUL	INSULATOR	SEMICOND	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	SLEEVING
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	HLCPS	HELICAL COMPRESSION	RES	RESISTOR	TRH	TRUSS HEAD
CONN	CONNECTOR	HLEXT	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	IDENT	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. & Index No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Qty	1 2 3 4 5 Name & Description	Mfr Code	Mfr Part Number
1-1	380-0343-09			1	HSG HALF,ROM PK:INNER	80009	380-0343-09
					**************(ATTACHING PARTS)***********		
-2	211-0102-00			4	SCREW,MACHINE:4-40 X 0.500",FLH,STL	83385	OBD
					************(END ATTACHING PARTS)*********		
-3	367-0328-00			1	HANDLE,BOW:2.9 INCH LONG,SST	80009	367-0328-00
-4	----- -----			1	CKT BOARD ASSY:PARALLEL PRINTER		
	----- -----			-	(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


1
3
8
7
9
6
5
A35
4
11
2
10

GLOSSARY

Signal Name	Description
ACK(L)	Acknowledge; pulsed active low for 2.0 - 8.0 µs 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 µs before the falling edge of STROBE(L) and for 1.0 µs 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 µs.
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 µs.
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:

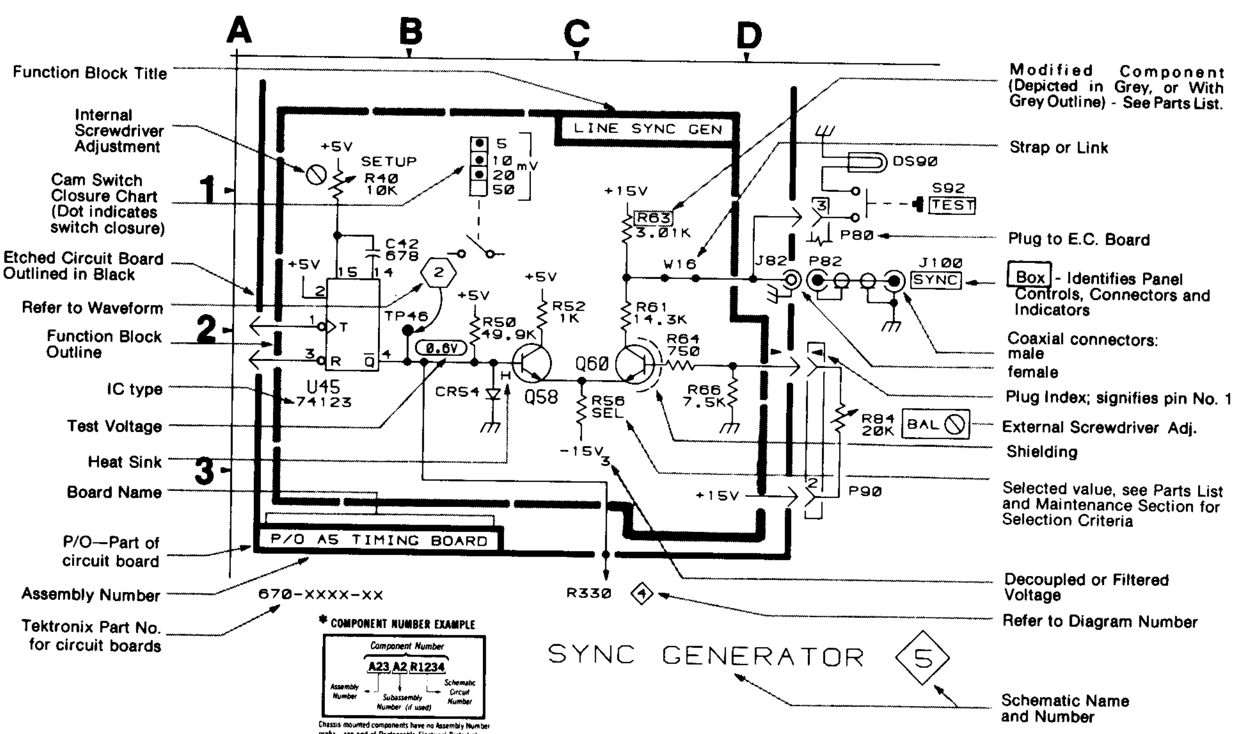
Capacitors = Values one or greater are in picofarads (pF).
Values less than one are in microfarads (μF).
Resistors = Ohms (Ω).

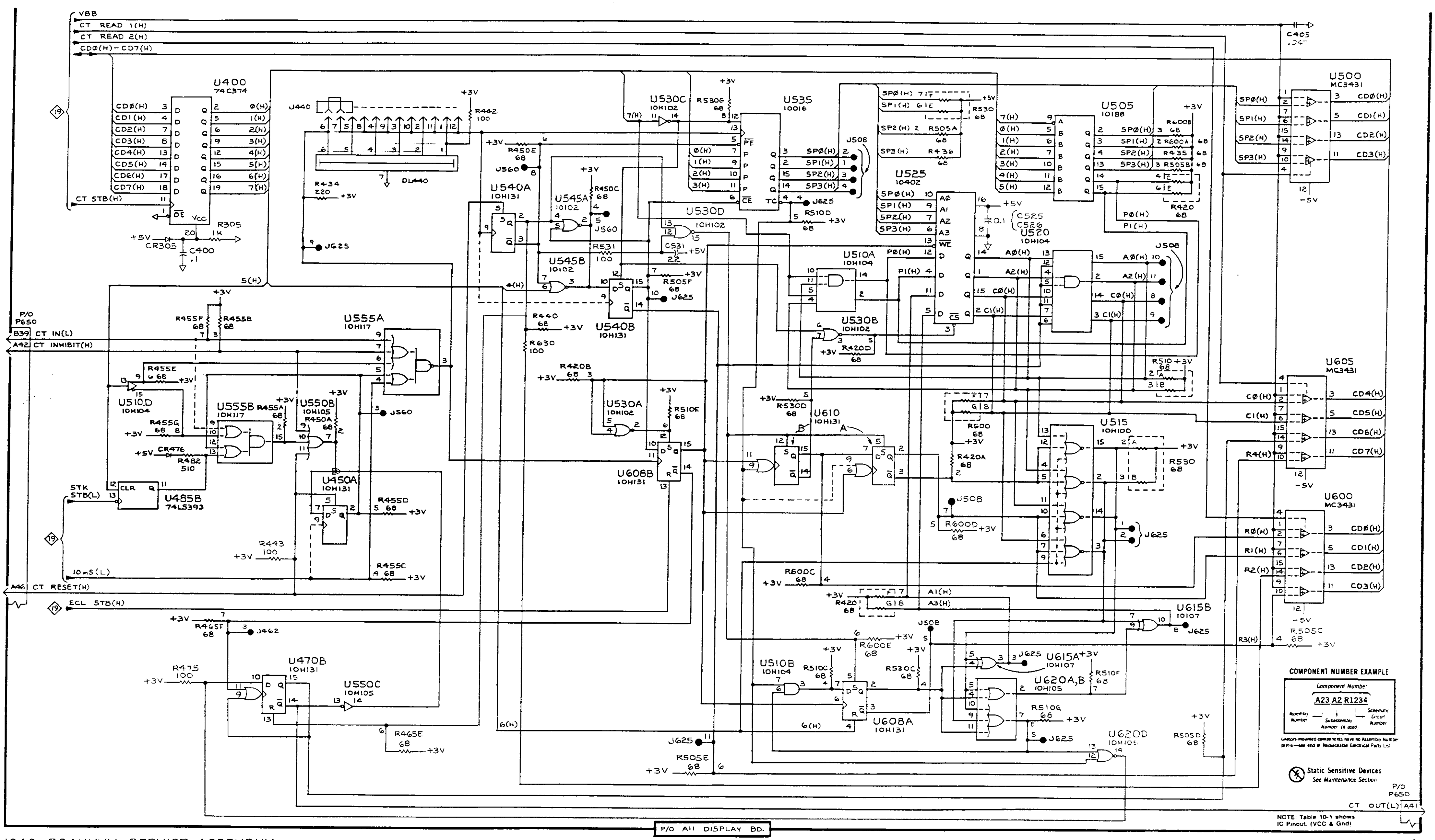
The information and special symbols below may appear in this manual.

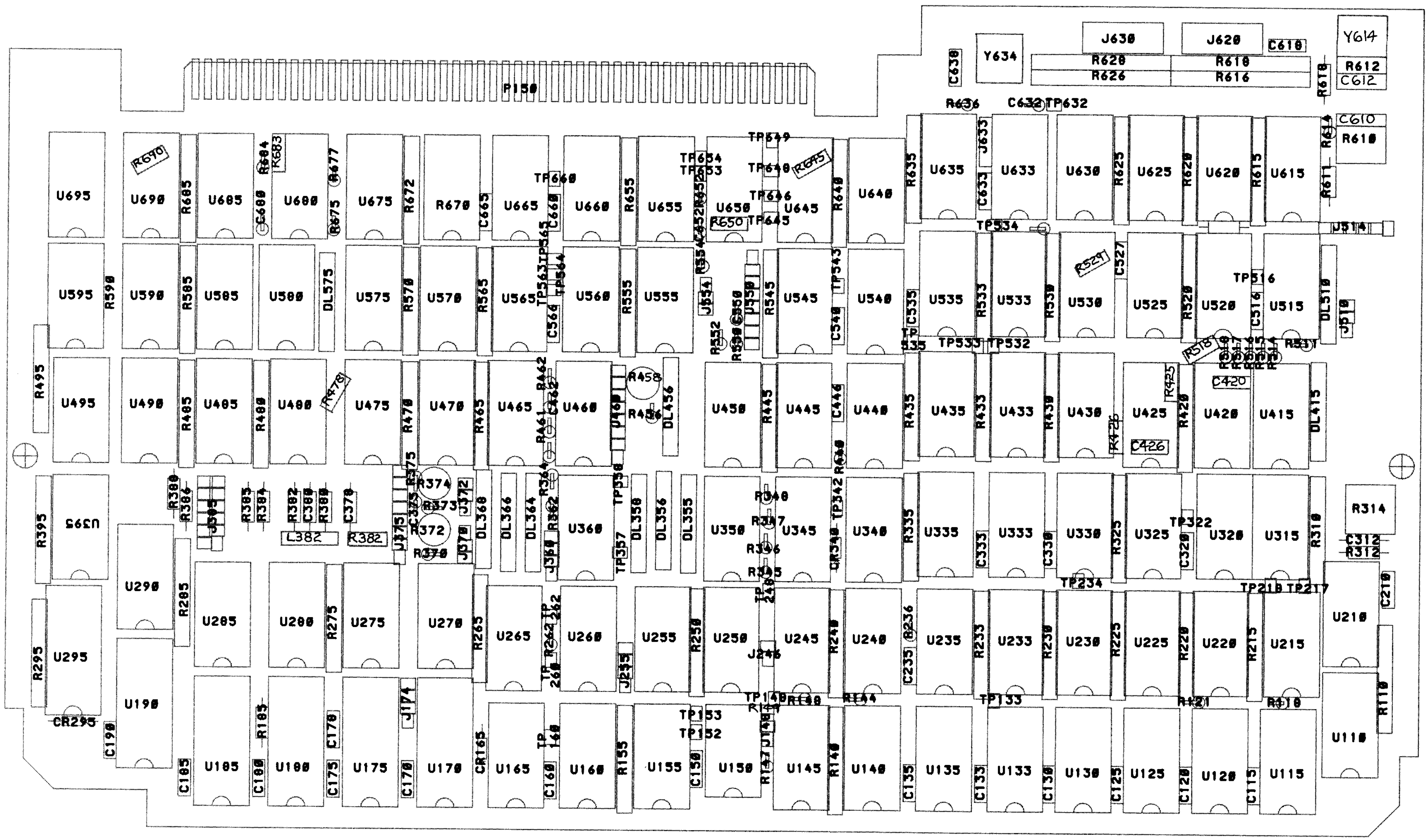
Assembly Numbers and Grid Coordinates

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.

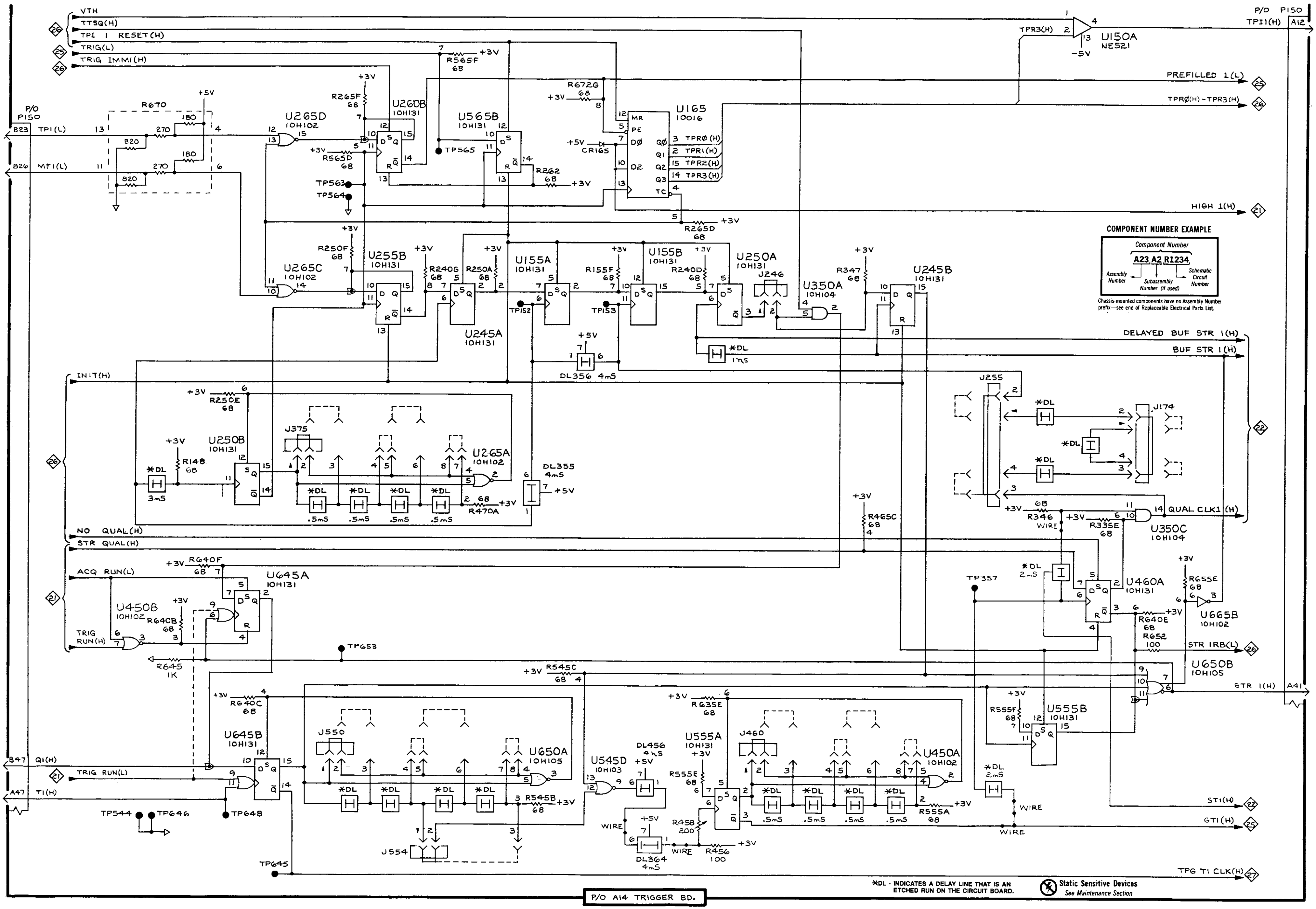


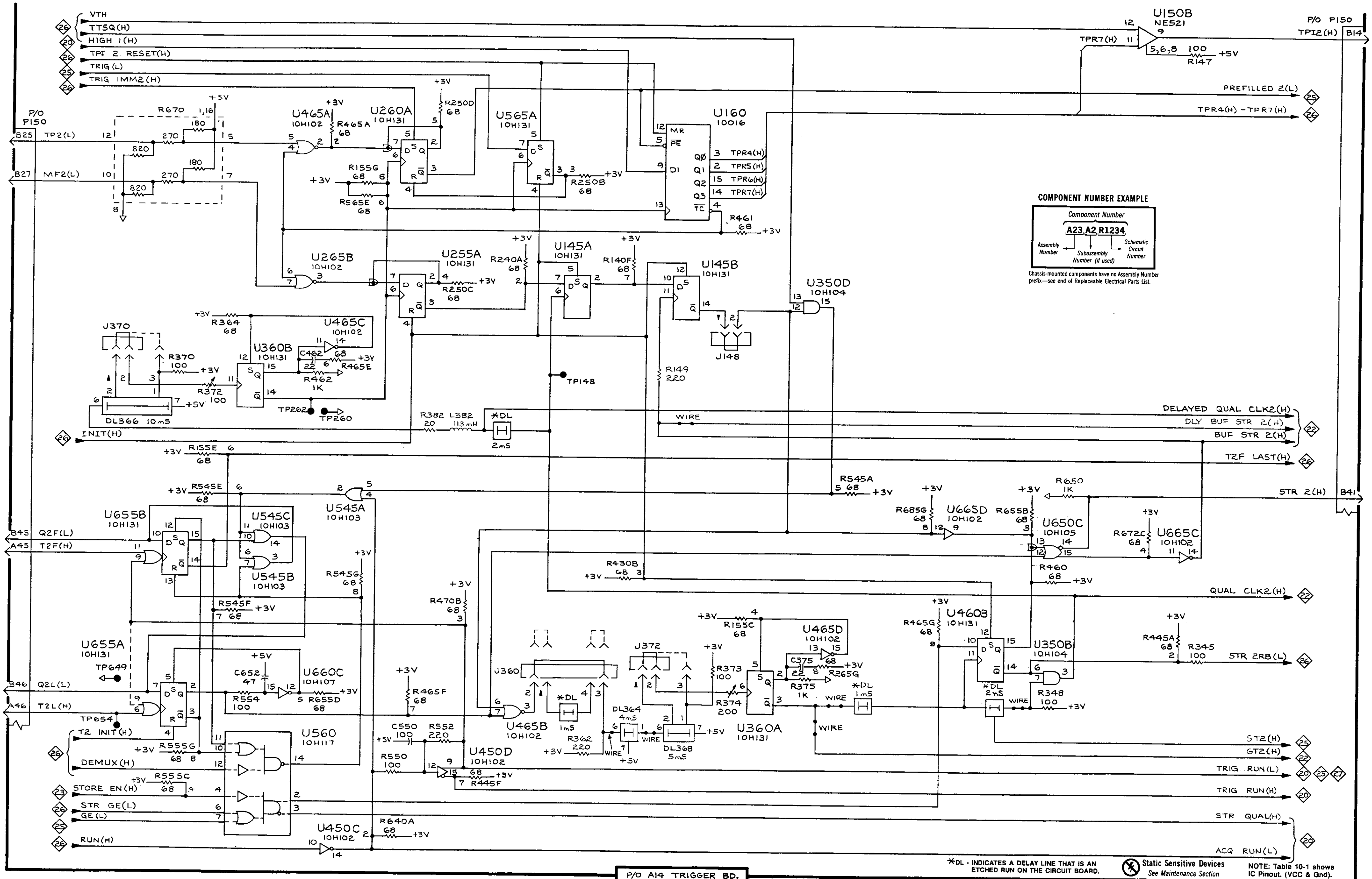


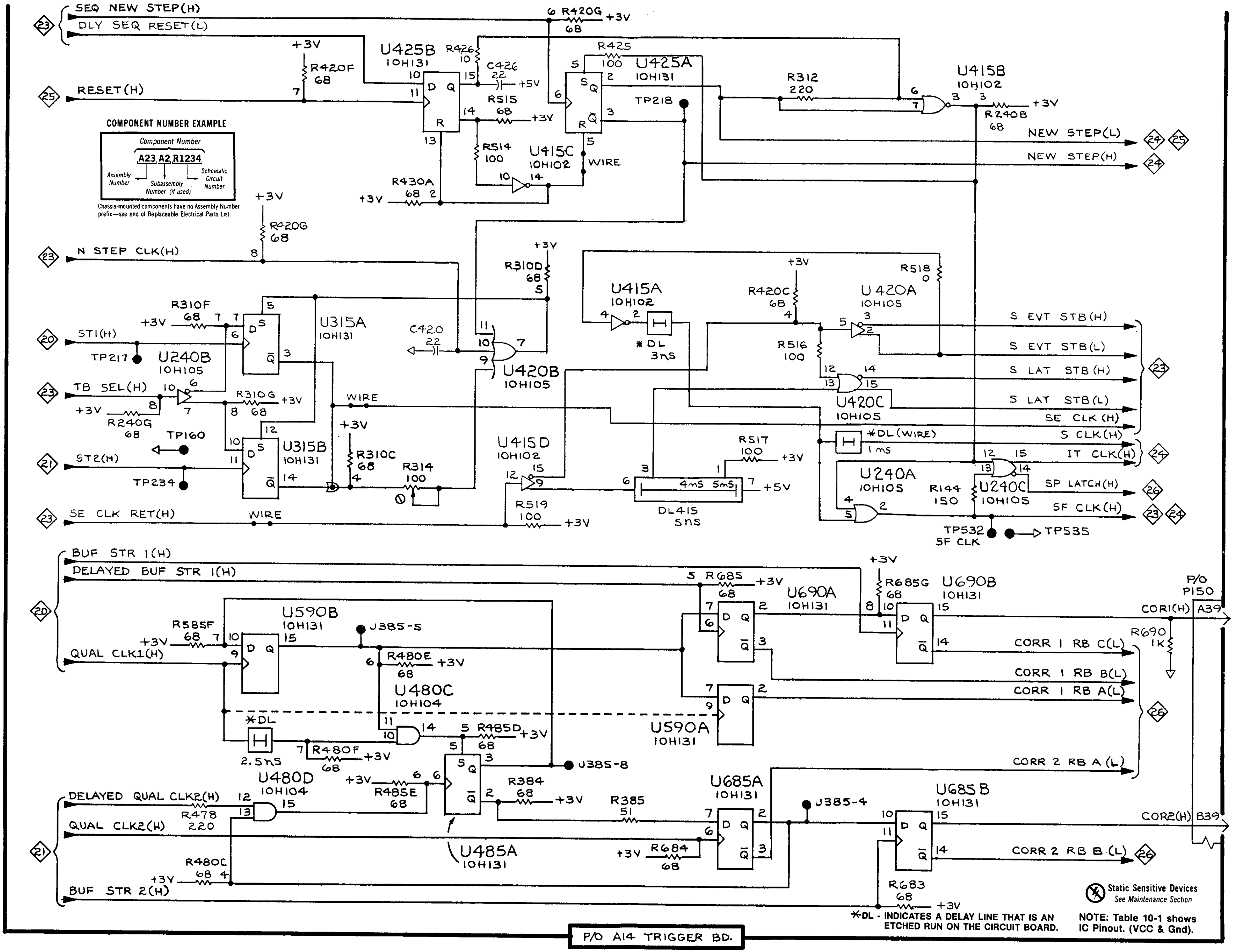


4982-01

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


VTH
TTSQ(H)
TP1 1 RESET(H)
TRIG(L)
TRIG IMMI(H)
P/O P150
TP11(H)
A12
U150A
NE521
TPR3(H)
PREFILLED 1(L)
TPRØ(H)-TPR3(H)
HIGH 1(H)
R670
B23 TP1(L)
B26 MF1(L)
U265D
10H102
U260B
10H131
U565B
10H131
TP565
R265F
R565D
R565F
R262
R672G
U165
10016
MR
PE
DØ
D2
TC
TPRØ(H)
TPR1(H)
TPR2(H)
TPR3(H)
CR165
TP563
TP564
R265D
U265C
10H102
U255B
10H131
R250F
R240G
R250A
U245A
10H131
U155A
10H131
U155B
10H131
R155F
R240D
U250A
10H131
J246
U350A
10H104
R347
U245B
10H131
TP152
TP153
DL356 4mS
1mS
DELAYED BUF STR 1(H)
BUF STR 1(H)
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.
INIT(H)
R250E
J375
U250B
10H131
R148
U265A
10H102
DL355
4mS
3mS
.5mS
R470A
J255
J174
*DL
NO QUAL(H)
STR QUAL(H)
R465C
R346
WIRE
R335E
QUAL CLK1(H)
U350C
10H104
ACQ RUN(L)
R640F
U645A
10H131
U450B
10H102
R640B
TRIG RUN(H)
R645
1K
TP653
TP357
2mS
U460A
10H131
R655E
U665B
10H102
R640E
R652
100
STR IRB(L)
U650B
10H105
R545C
STR 1(H)
A41
R640C
U645B
10H131
B47 Q1(H)
TRIG RUN(L)
A47 T1(H)
TP544
TP646
TP648
TP645
J550
U650A
10H105
R545B
J554
U545D
10H103
DL456
4mS
WIRE
DL364
4mS
R458
200
R456
100
R635E
U555A
10H131
R555E
J460
U450A
10H102
R555A
R555F
U555B
10H131
ST1(H)
GT1(H)
TPG T1 CLK(H)
*DL - INDICATES A DELAY LINE THAT IS AN ETCHED RUN ON THE CIRCUIT BOARD.
Static Sensitive Devices
See Maintenance Section
P/O A14 TRIGGER BD.


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).
P/O A14 TRIGGER BD.



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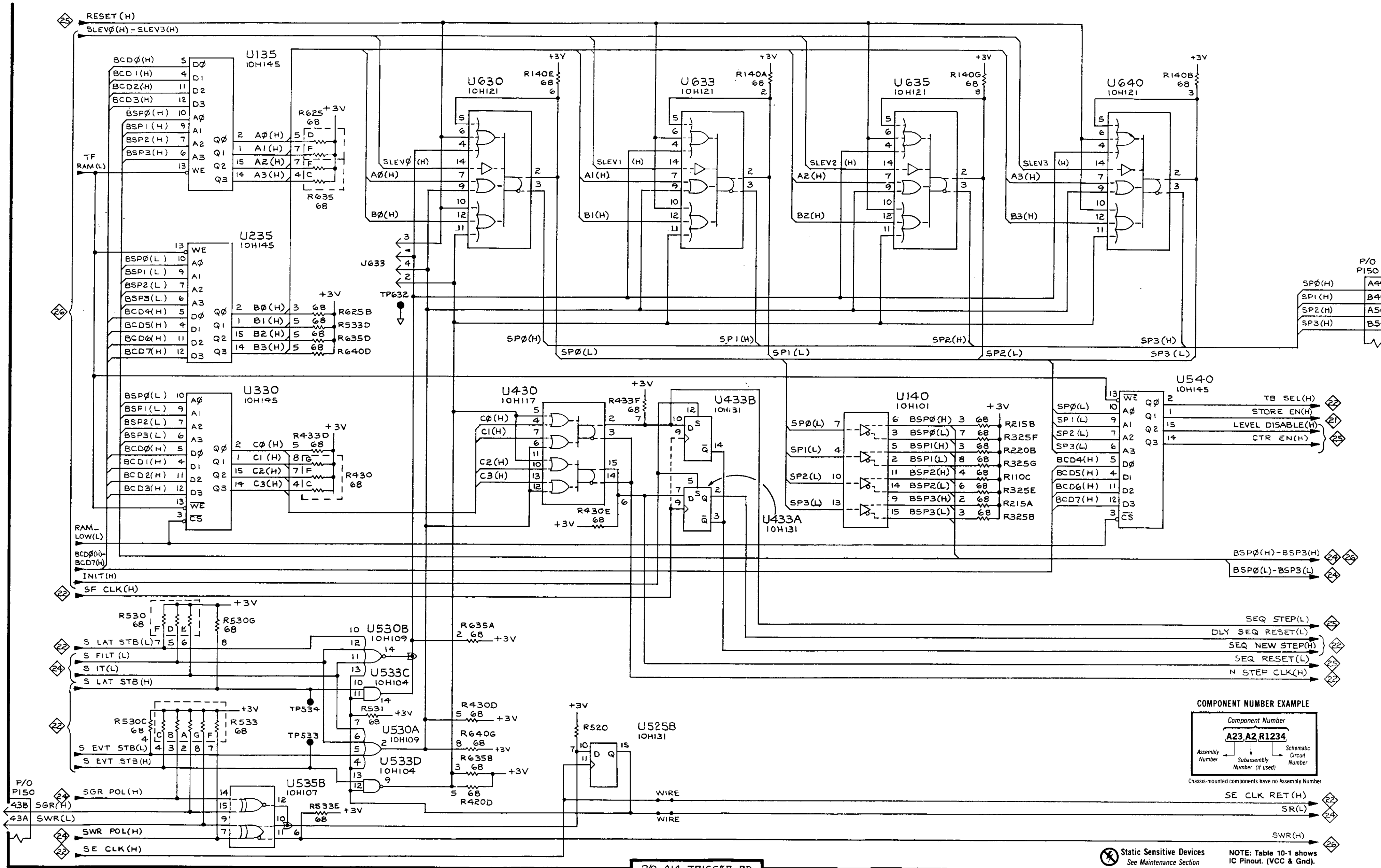
SEQUENTIAL TIMING AND CORRELATE 22



RESET (H)
SLEVØ(H) - SLEV3(H)
U135
10H145
U235
10H145
U330
10H145
U630
10H121
U633
10H121
U635
10H121
U640
10H121
U430
10H117
U433B
10H131
U433A
10H131
U140
10H101
U540
10H145
U530B
10H109
U533C
10H104
U530A
10H109
U533D
10H104
U535B
10H107
U525B
10H131
TB SEL(H)
STORE EN(H)
LEVEL DISABLE(H)
CTR EN(H)
BSPØ(H)-BSP3(H)
BSPØ(L)-BSP3(L)
SF CLK(H)
INIT(H)
SEQ STEP(L)
DLY SEQ RESET(L)
SEQ NEW STEP(H)
SEQ RESET(L)
N STEP CLK(H)
S LAT STB(L)
S FILT (L)
S IT(L)
S LAT STB (H)
S EVT STB(L)
S EVT STB(H)
SGR POL(H)
SGR(H)
SWR(L)
SWR POL(H)
SE CLK(H)
SE CLK RET(H)
SR(L)
SWR(H)
WIRE
TP632
TP534
TP533
J633
P/O P150
COMPONENT NUMBER EXAMPLE
Component Number
A23 A2 R1234
Assembly Number
Subassembly Number (if used)
Schematic Circuit Number
Chassis-mounted components have no Assembly Number
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A14 TRIGGER BD.
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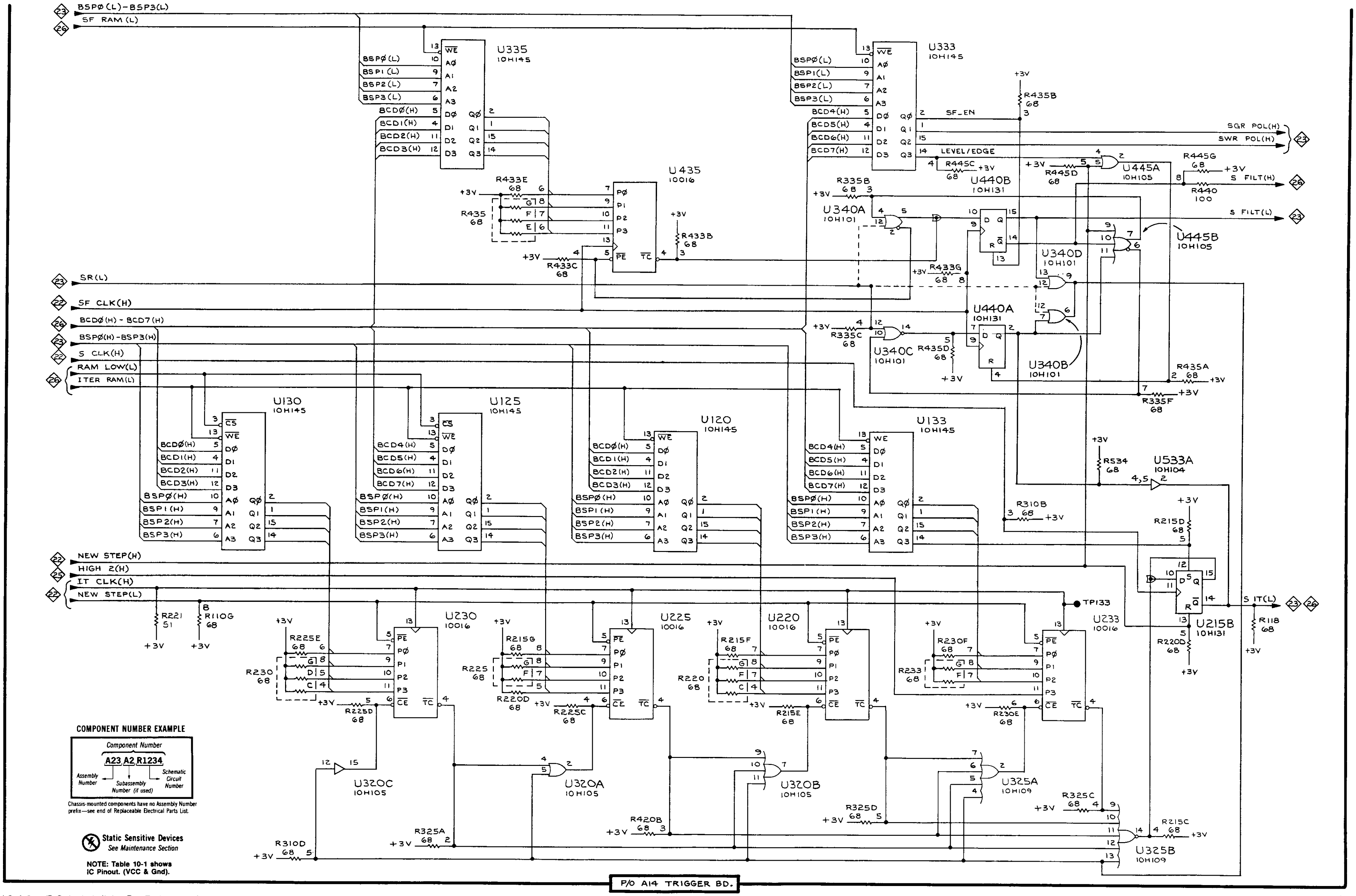
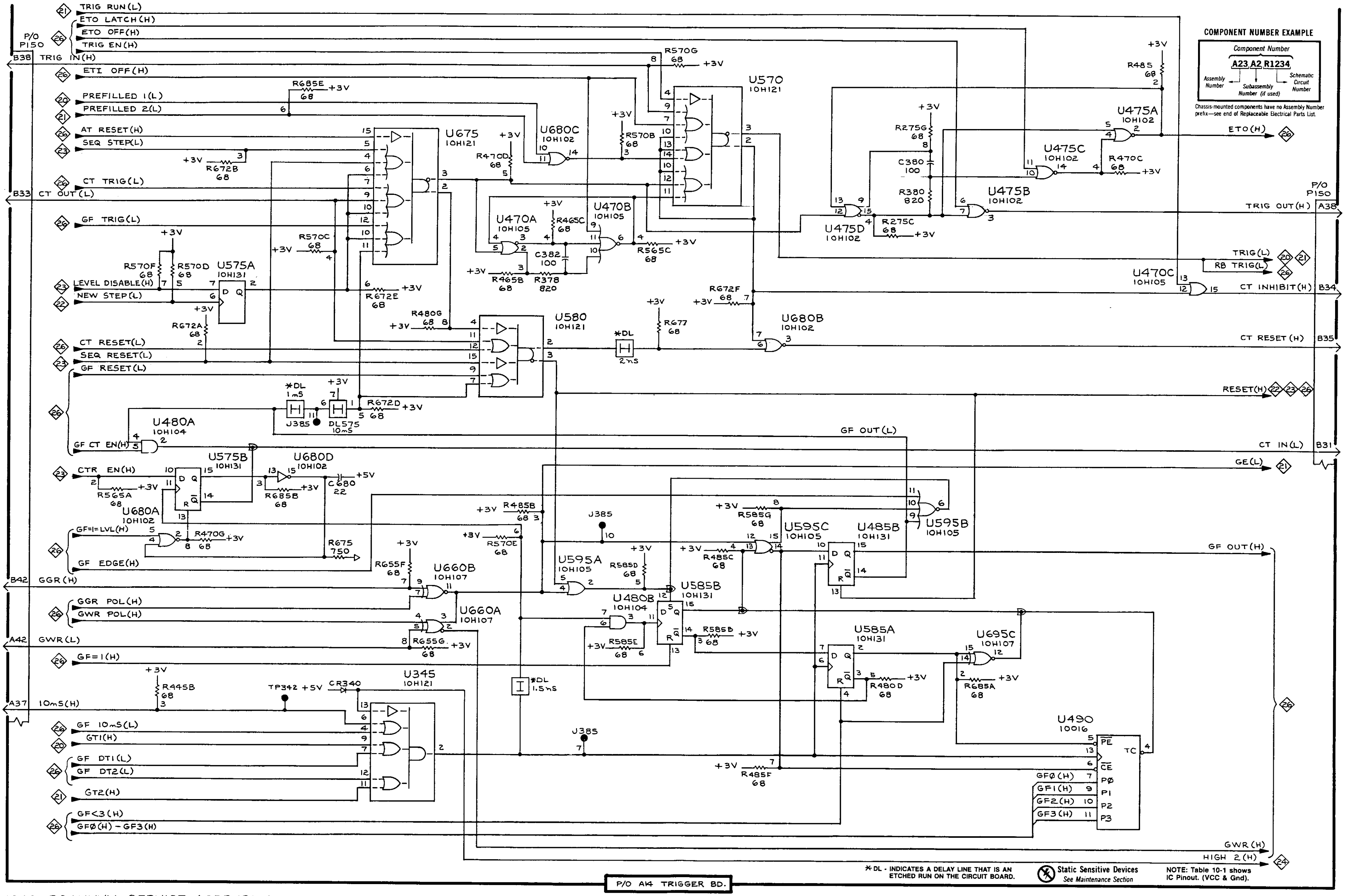

BSPØ(L)-BSP3(L)
SF RAM(L)
U335
10H145
U333
10H145
U435
10016
U440B
10H131
U340A
10H101
U340D
10H101
U440A
10H131
U340C
10H101
U340B
10H101
U445A
10H105
U445B
10H105
SF_EN
LEVEL/EDGE
SGR POL(H)
SWR POL(H)
S FILT(H)
S FILT(L)
SR(L)
SF CLK(H)
BCDØ(H)-BCD7(H)
BSPØ(H)-BSP3(H)
S CLK(H)
RAM LOW(L)
ITER RAM(L)
U130
10H145
U125
10H145
U120
10H145
U133
10H145
U533A
10H104
NEW STEP(H)
HIGH 2(H)
IT CLK(H)
NEW STEP(L)
U230
10016
U225
10016
U220
10016
U233
10016
U215B
10H131
S IT(L)
TP133
U320C
10H105
U320A
10H105
U320B
10H105
U325A
10H109
U325B
10H109
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.
Static Sensitive Devices
See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A14 TRIGGER BD.


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.
P/O P150
TRIG RUN(L)
ETO LATCH(H)
ETO OFF(H)
TRIG EN(H)
B38 TRIG IN(H)
ETI OFF(H)
PREFILLED 1(L)
PREFILLED 2(L)
AT RESET(H)
SEQ STEP(L)
CT TRIG(L)
B33 CT OUT(L)
GF TRIG(L)
LEVEL DISABLE(H)
NEW STEP(L)
CT RESET(L)
SEQ RESET(L)
GF RESET(L)
GF CT EN(H)
CTR EN(H)
GF=1=LVL(H)
GF EDGE(H)
B42 GGR(H)
GGR POL(H)
GWR POL(H)
A42 GWR(L)
GF=1(H)
A37 10mS(H)
GF 10mS(L)
GT1(H)
GF DT1(L)
GF DT2(L)
GT2(H)
GF<3(H)
GFØ(H)-GF3(H)
U570 10H121
U675 10H121
U680C 10H102
U470A 10H105
U470B 10H105
U575A 10H131
U580 10H121
U480A 10H104
U575B 10H131
U680D 10H102
U680A 10H102
U660B 10H107
U660A 10H107
U345 10H121
U595A 10H105
U480B 10H104
U585B 10H131
U595C 10H105
U485B 10H131
U595B 10H105
U585A 10H131
U695C 10H107
U490 10016
U475A 10H102
U475C 10H102
U475B 10H102
U475D 10H102
U470C 10H105
U680B 10H102
ETO(H)
TRIG OUT(H) A38
TRIG(L)
RB TRIG(L)
CT INHIBIT(H) B34
CT RESET(H) B35
RESET(H)
GF OUT(L)
CT IN(L) B31
GE(L)
GF OUT(H)
GWR(H)
HIGH 2(H)
*DL 2ns
*DL 1mS
*DL 1.5ns
J385
DL575 10mS
TP342 +5V
CR340
*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).
P/O A14 TRIGGER BD.

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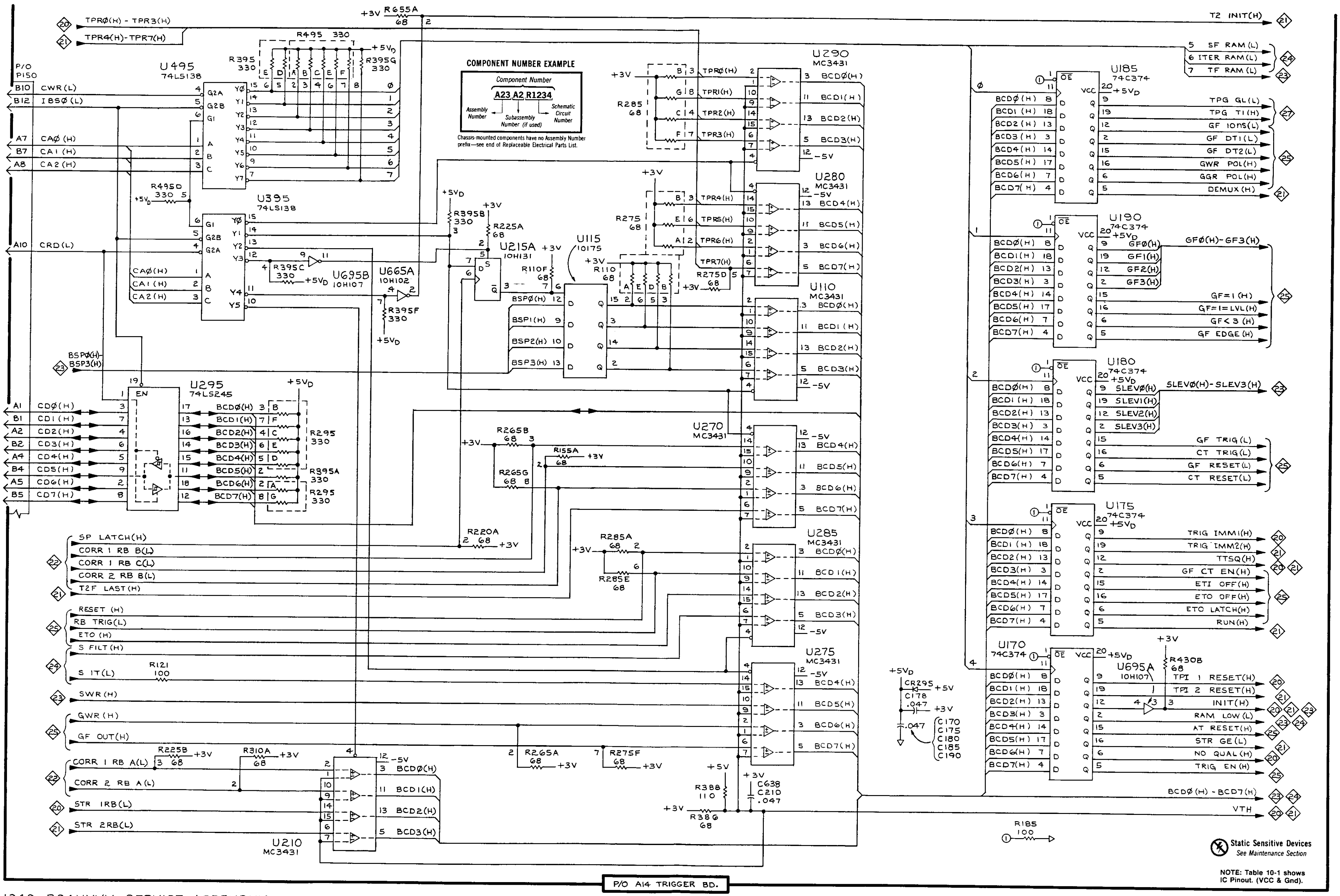
COMPONENT NUMBER EXAMPLE
Component Number
A23 A2 R1234
Assembly Number
Subassembly Number (if used)
Schematic Circuit Number
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.
TPRØ(H) - TPR3(H)
TPR4(H)-TPR7(H)
T2 INIT(H)
P/O P150
U495 74LS138
U395 74LS138
U295 74LS245
U290 MC3431
U280 MC3431
U110 MC3431
U270 MC3431
U285 MC3431
U275 MC3431
U210 MC3431
U115 10175
U215A 10H131
U665A 10H102
U695B 10H107
U695A 10H107
U185 74C374
U190 74C374
U180 74C374
U175 74C374
U170 74C374
GFØ(H)-GF3(H)
SLEVØ(H)-SLEV3(H)
BCDØ(H) - BCD7(H)
VTH
Static Sensitive Devices See Maintenance Section
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A14 TRIGGER BD.

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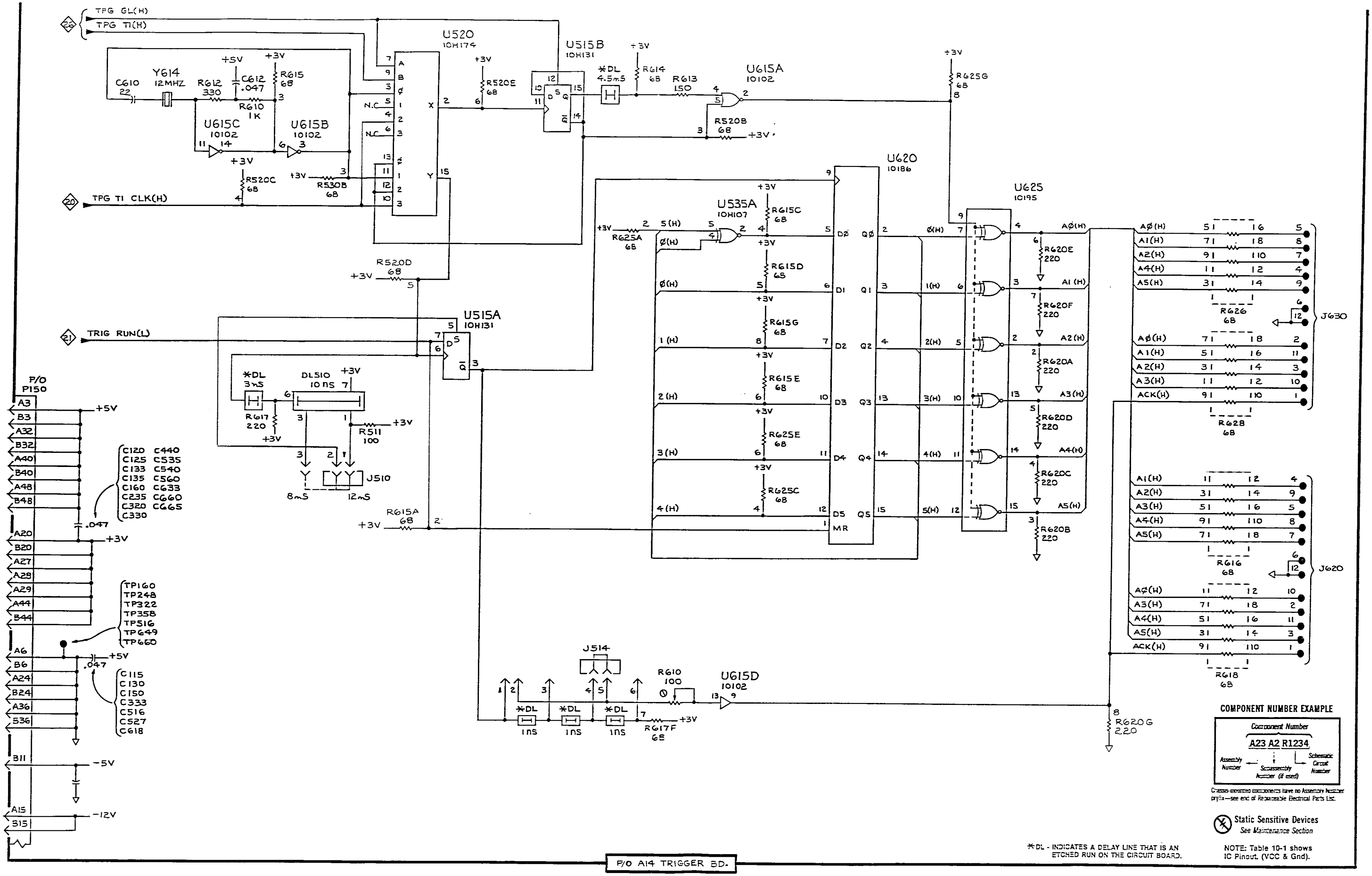
TPG GL(H)
TPG TI(H)
TPG TI CLK(H)
TRIG RUN(L)
U520
10H174
U515B
10H131
U615A
10102
U615B
U615C
U615D
U515A
U535A
10H107
U620
10186
U625
10195
Y614
12MHZ
J510
J514
J620
J630
P/O P150
COMPONENT NUMBER EXAMPLE
Component Number
A23 A2 R1234
Static Sensitive Devices
See Maintenance Section
*DL - INDICATES A DELAY LINE THAT IS AN ETCHED RUN ON THE CIRCUIT BOARD.
NOTE: Table 10-1 shows IC Pinout. (VCC & Gnd).
P/O A14 TRIGGER BD.