



# AIR TRAINING COMMAND

COMPUTER SYSTEMS DEPARTMENT

AN/FSQ-7 DISPLAY SYSTEM SCHEMATICS  
VOLUME 2

## CIRCUITS AND DIAGRAMS

Course Nr. ABR30533-1

**KEESLER AFB, MISS**

FOR ATC INSTRUCTIONAL PURPOSES ONLY

This Schematics and Logic Diagrams Book provides student study material in support of Type II and Type III computer maintenance courses relating to WS416L.

**SCHEMATICS**  
**FOR**  
**DISPLAY SYSTEM**  
**OF**  
**AN/FSQ-7**  
**COMBAT DIRECTION CENTRAL**

**VOLUME II**

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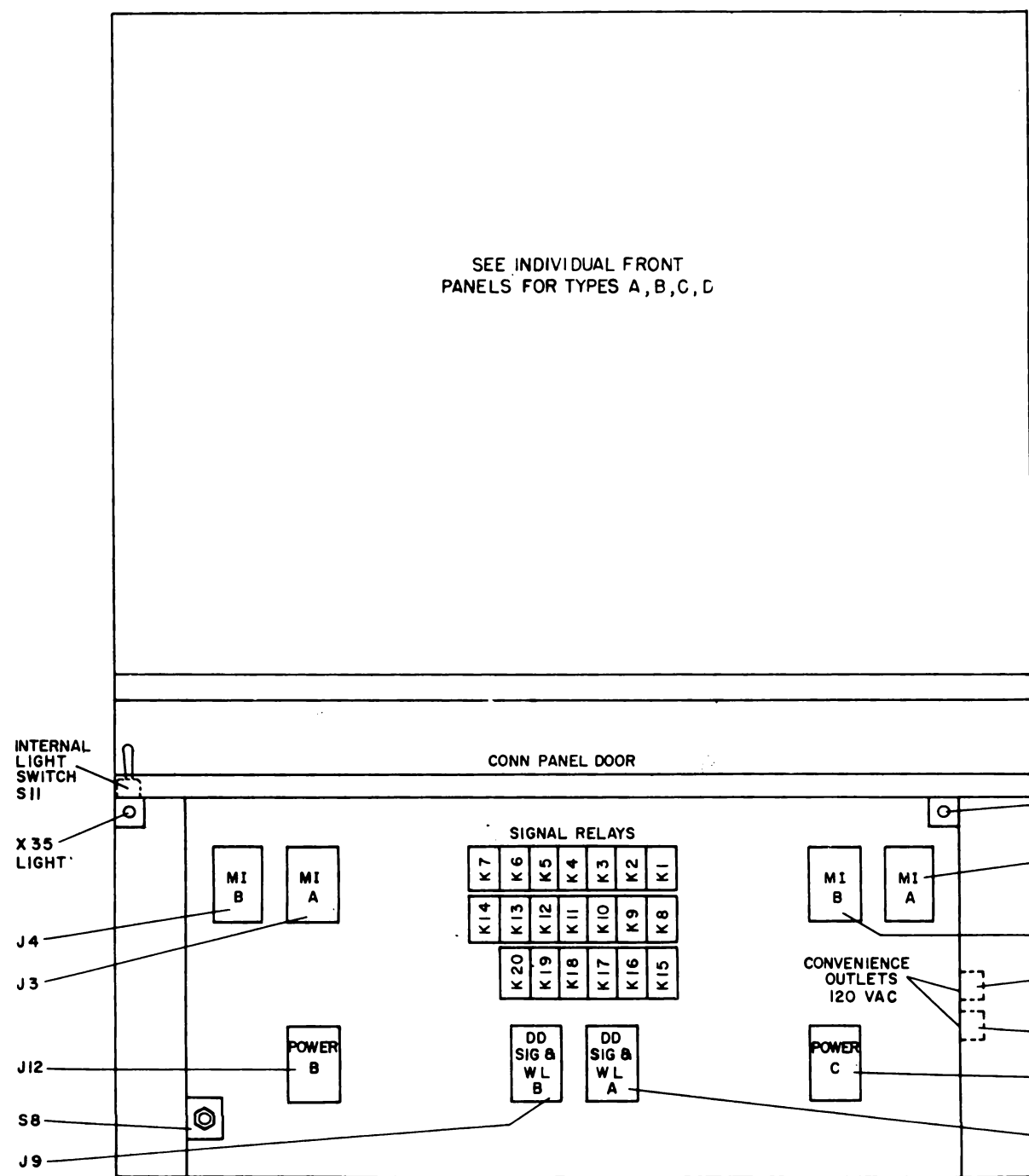
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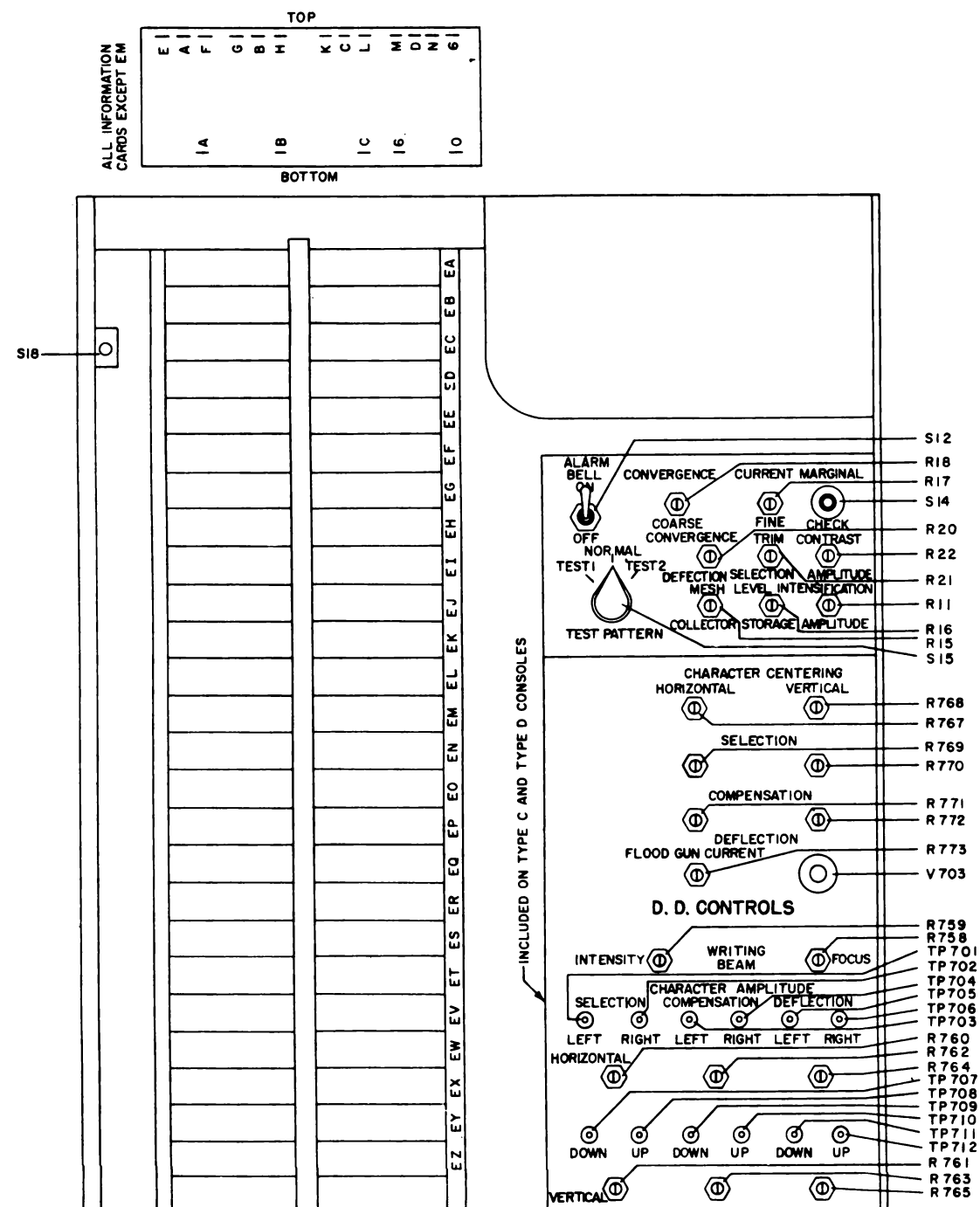
L I S T O F C O N T E N T S

LOGIC	DESCRIPTION
NONE	AUXILIARY CONSOLE COMPONENT LOCATION DIAGRAM
S4. 2	SD CONSOLE BLOCK DIAGRAM
S4. 2. 1	SD CONSOLE SIGNAL CIRCUIT
S4. 2. 2	EXPANSION CIRCUIT SD CONSOLE
S4. 2. 2-2	SD CONSOLE EXPANSION CIRCUITS ROTARY S W
S4. 2. 3	SD CONSOLE INTENSIFICATION CIRCUITS
4. 2. 4	SD CONSOLE DEFLECTION CIRCUITS
4. 2. 5	SD CONSOLE DIGITAL DISPLAY
4. 2. 6	SD CONSOLE POWER DISTRIBUTION
NONE	J 37 S D CONSOLE TEST POINTS 2 SHEETS
4. 3. 1	DD INPUT SWITCH
4. 3. 2	DD TIMING & CONTROL
4. 3. 3	DD INDICATOR SELECTION CONTROL
4. 3. 4	DD CHARACTER SELECTION
4. 3. 5	DD CHARACTER POSITIONING
NONE	UNIT SUPPLEMENT CHART F R 25 MODULE A&B
NONE	UNIT SUPPLEMENT CHART F R 25 MODULE C&D
NONE	UNIT SUPPLEMENT CHART F R 25 MODULE E
4C	AUXILIARY CONSOLE BLOCK DIAGRAM
4. 4. 1	AUXILIARY CONSOLE DIGITAL DISPLAY
4. 4. 2	AUXILIARY CONSOLE POWER DISTRIBUTION
NONE	J 24 AUXILIARY CONSOLE TEST POINTS 2 SHEETS
4. 5. 1	DISPLAY TESTER TEST CONTROL & WORD SEQUENCER
4. 5. 1- 2	DISPLAY TESTER
4. 5. 1- 3	DISPLAY TESTER LEFT WD OUTPUT
4. 5. 1- 4	DISPLAY TESTER RIGHT WD OUTPUT
4. 6. 1	SD CAMERA CONTROL
4. 8	PROJECTION SYSTEM BLOCK DIAGRAM
4. 8. 1	PROJECTION SYSTEM CATAGORY SELECTION
4. 8. 2	PROJECTION SYSTEM EXPANSION & OFF CENTERING
4. 8. 3	PROJECTION SYSTEM INTENSIFICATION CIRCUIT
4. 8. 4	PROJECTION SYSTEM DEFLECTION CIRCUITS
4. 8. 5	PROJECTION SYSTEM CONTROL CIRCUITS SCHEMATIC DIAGRAM
4. 8. 6	PROJECTION SYSTEM POWER DISTRIBUTION
6. 2. 1	WARNING LIGHT STORAGE LS THRU L3
S6. 3. 1	WARNING LIGHT INTERCONNECTION ASSIGNMENTS, PANEL A
NONE	S D COMPONENT LOCATION DIAGRAM

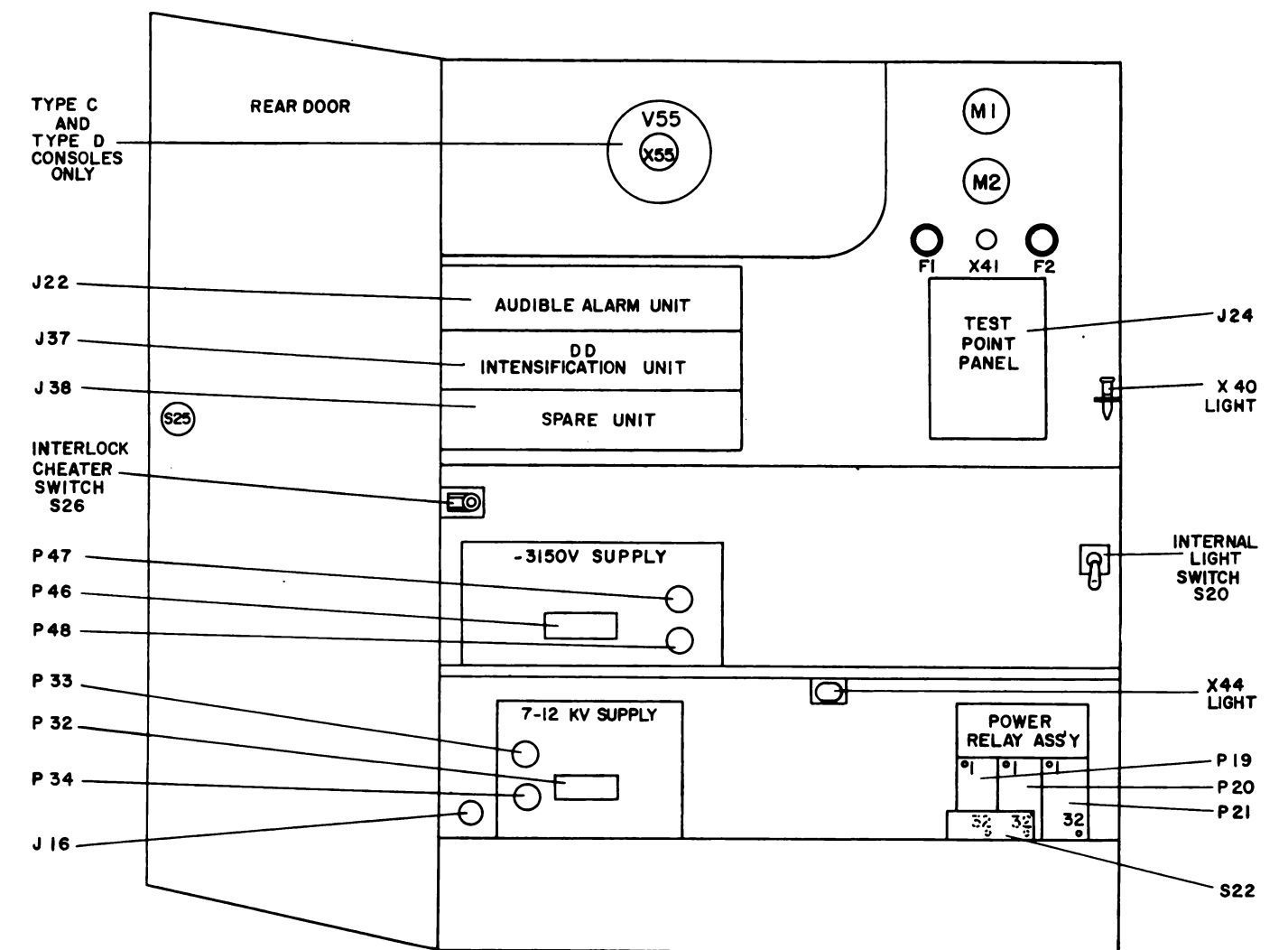




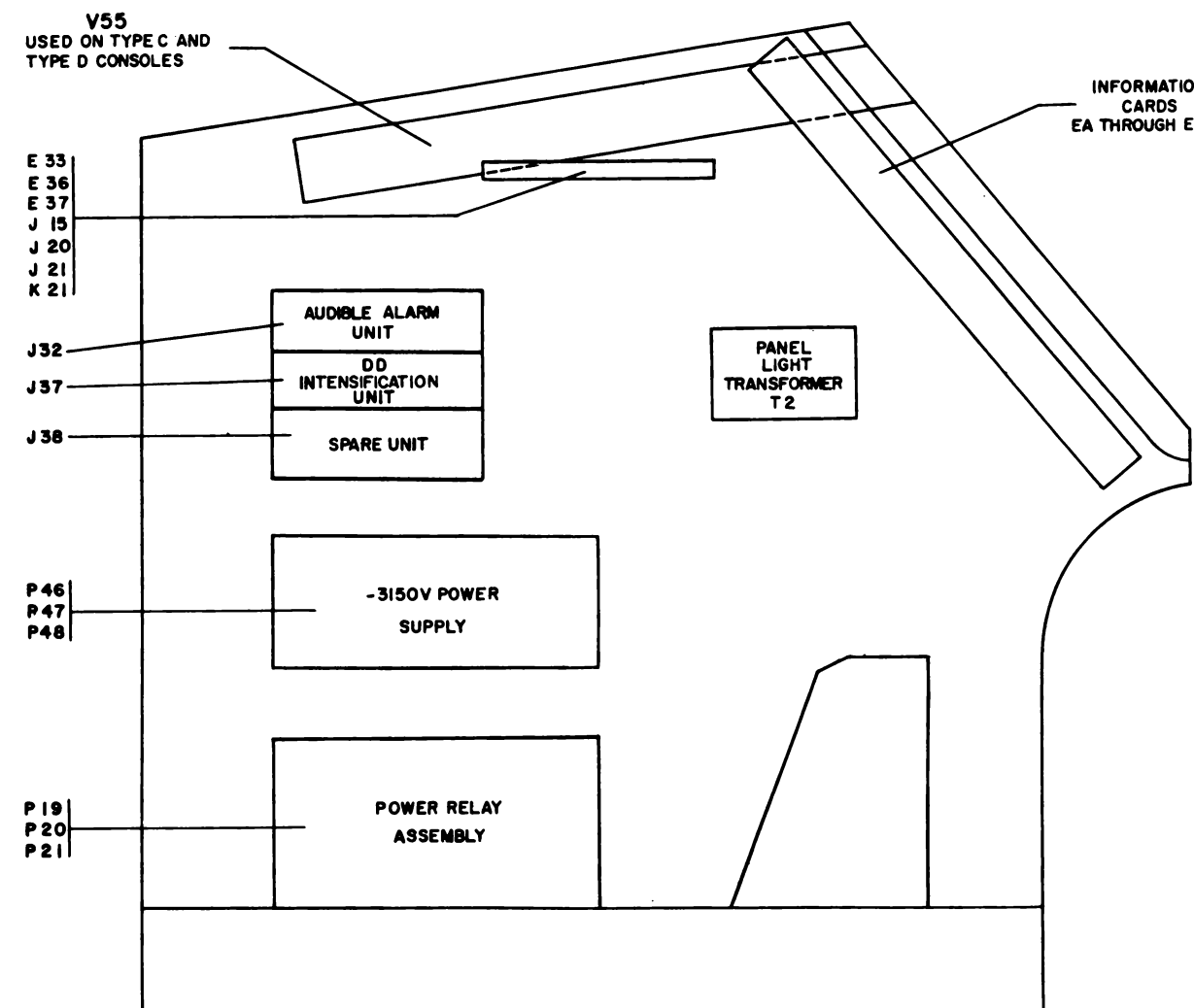
Auxiliary Console Component Location Diagram (Sheet 1 of 5)



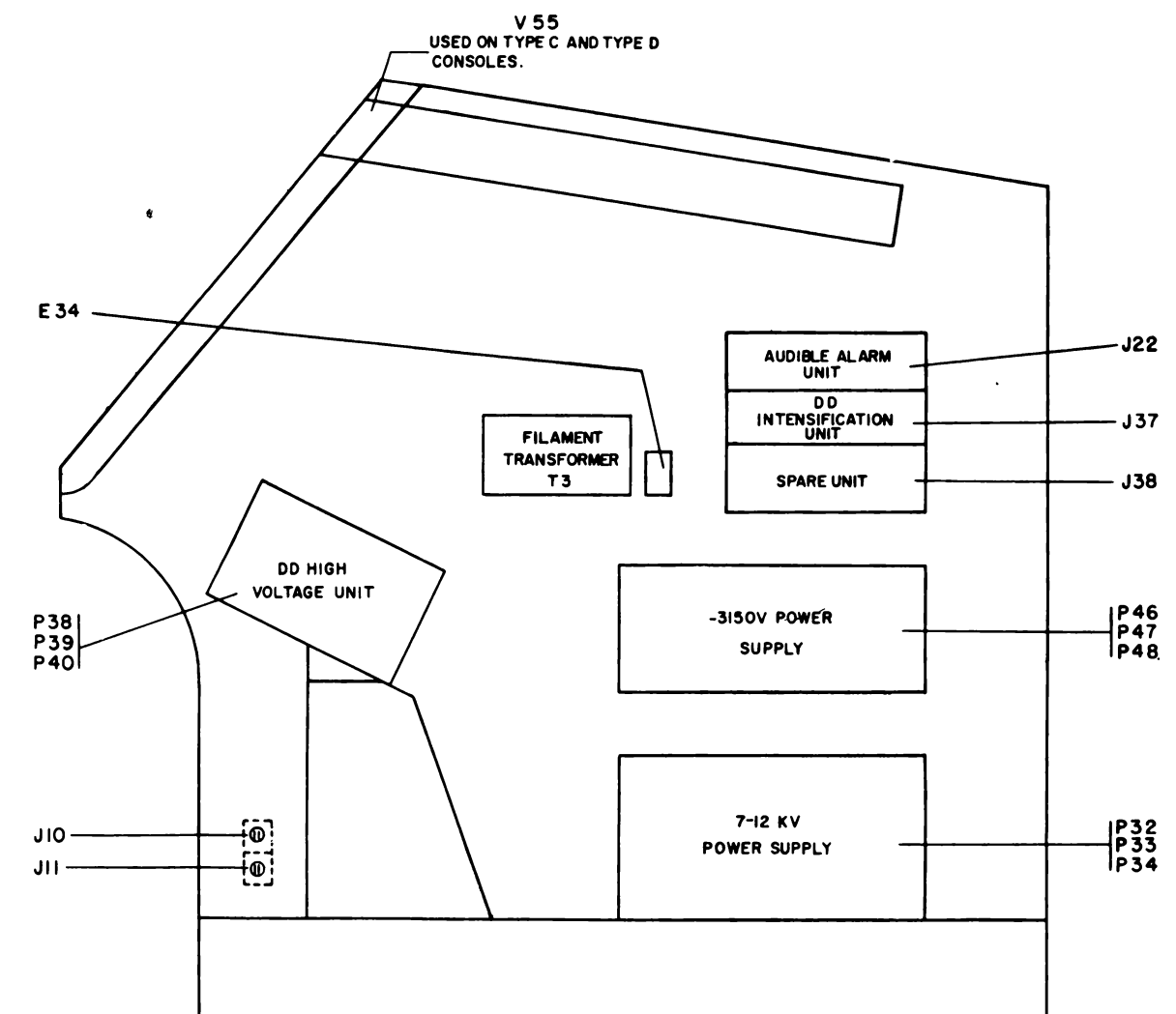
Auxiliary Console Component Location Diagram (Sheet 2 of 5)



Auxiliary Console Component Location Diagram (Sheet 3 of 5)

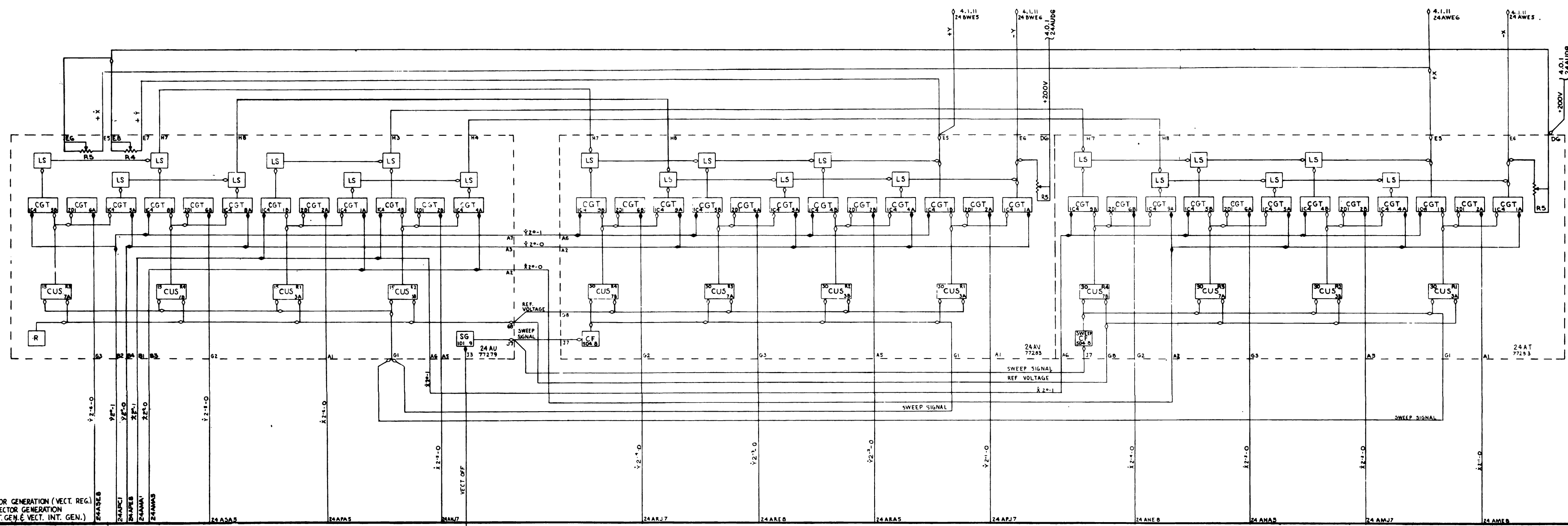


Auxiliary Console Component Location Diagram (Sheet 4 of 5)



Auxiliary Console Component Location Diagram (Sheet 5 of 5)

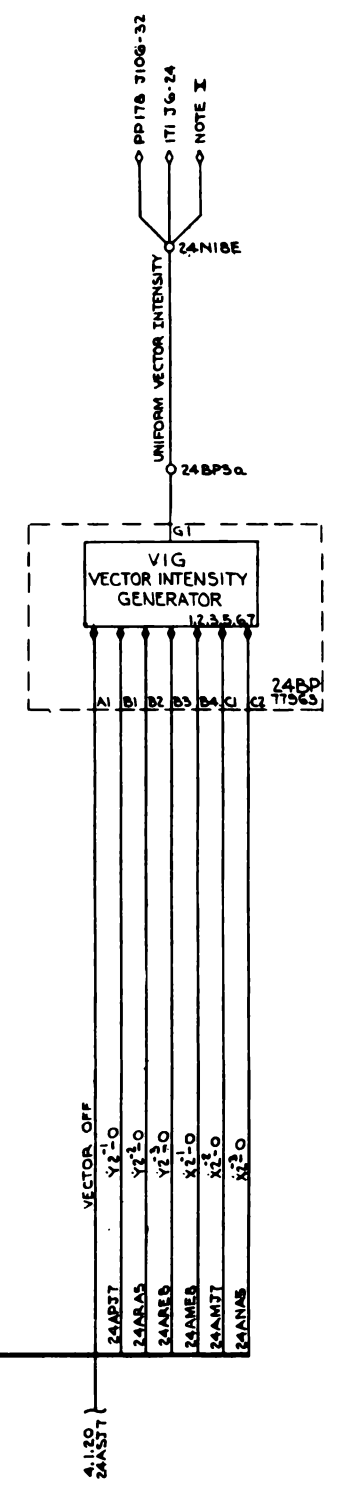


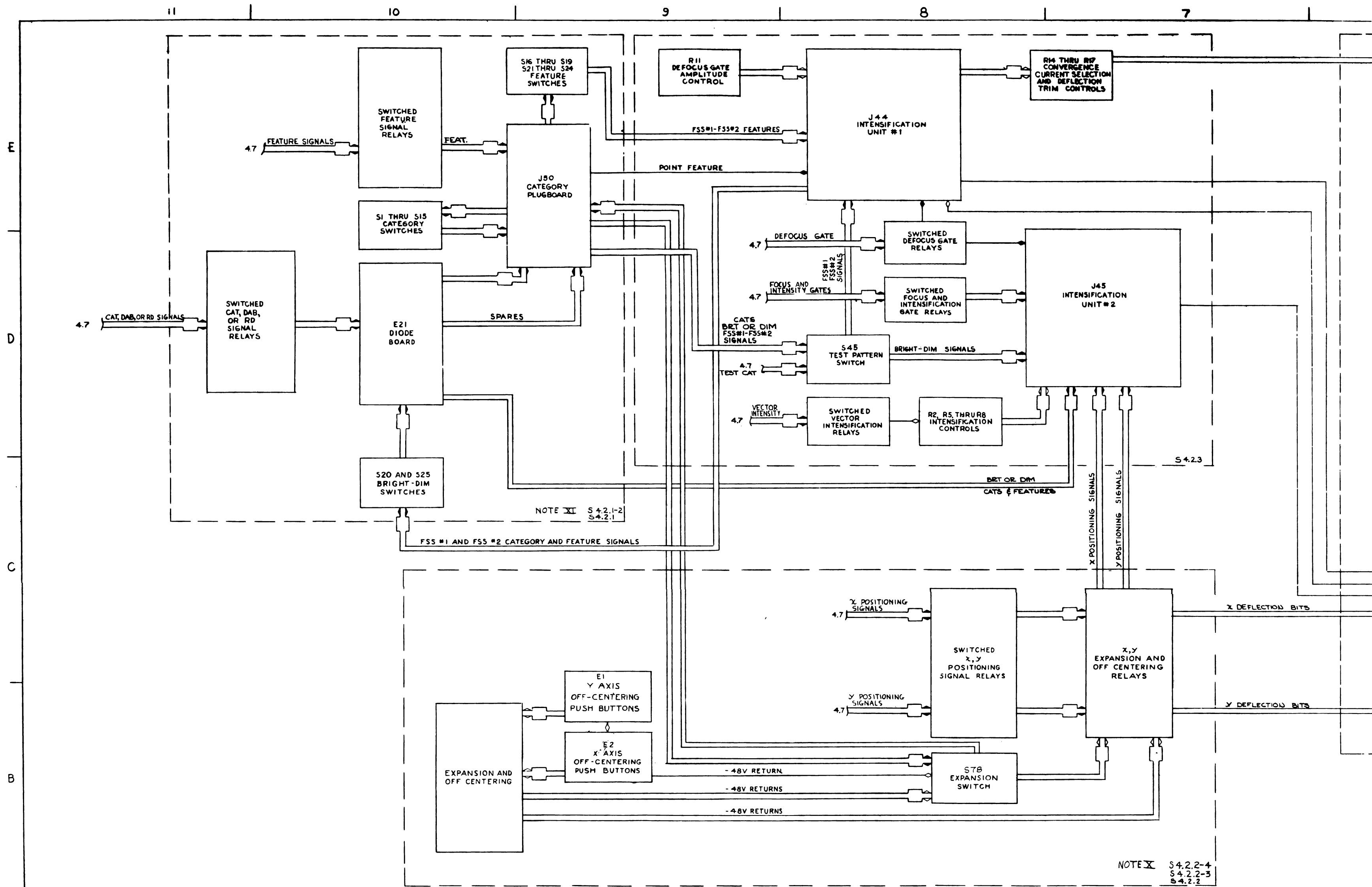


VECTOR GENERATION (VECT. REG.)  
TO VECTOR GENERATION  
(VECT. GEN. & VECT. INT. GEN.)

✕ FOR DISTRIBUTION BOX INFORMATION SEE MANUAL INDICATED.

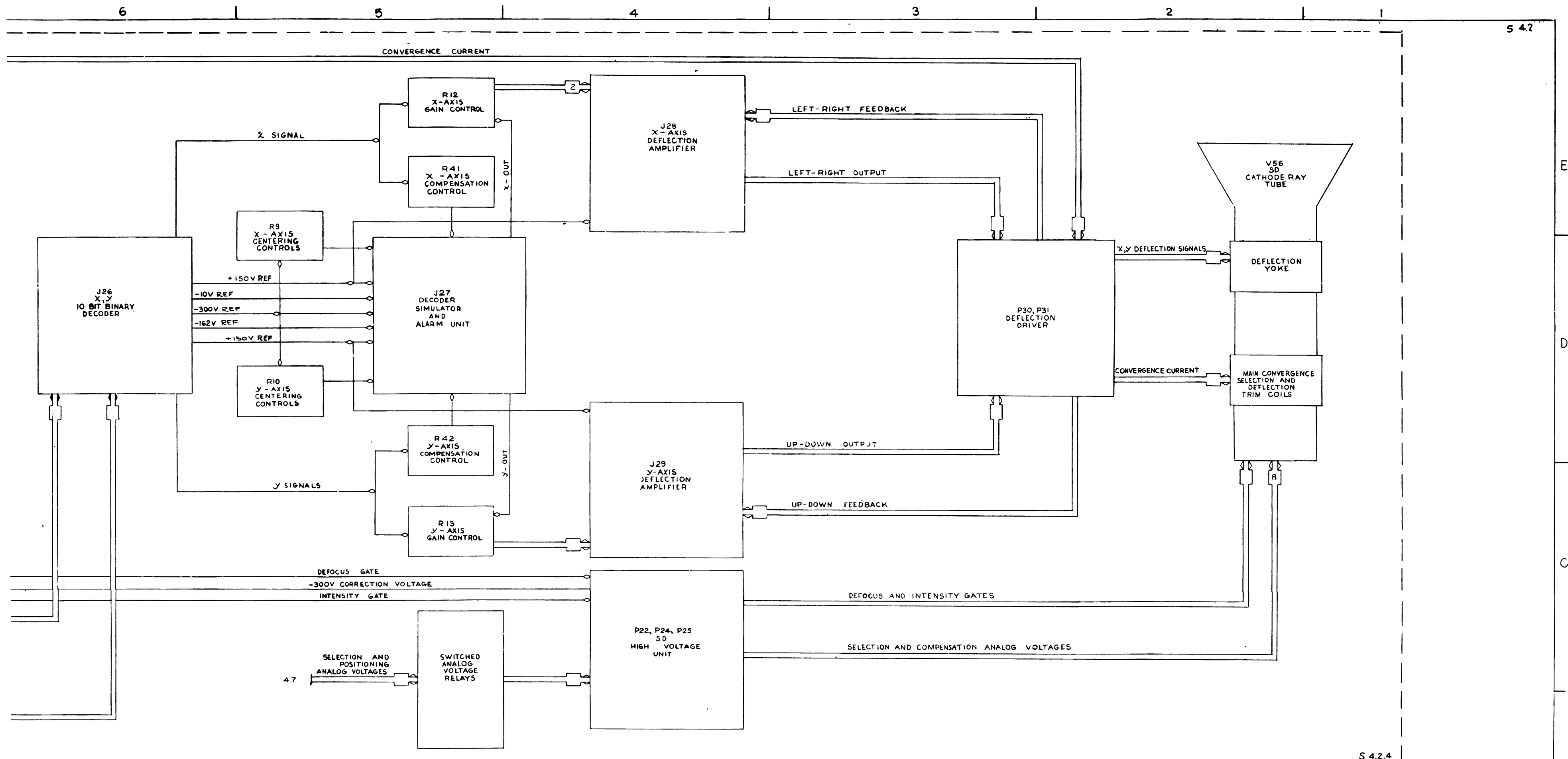
MANUAL NO.	SYSTEM
3-183	DC-23
3-183-1	DC-13 THRU DC-22
3-184-0	PG-1
3-184-1	DC-1 THRU DC-12 CC-1, CC-2, & CC-3



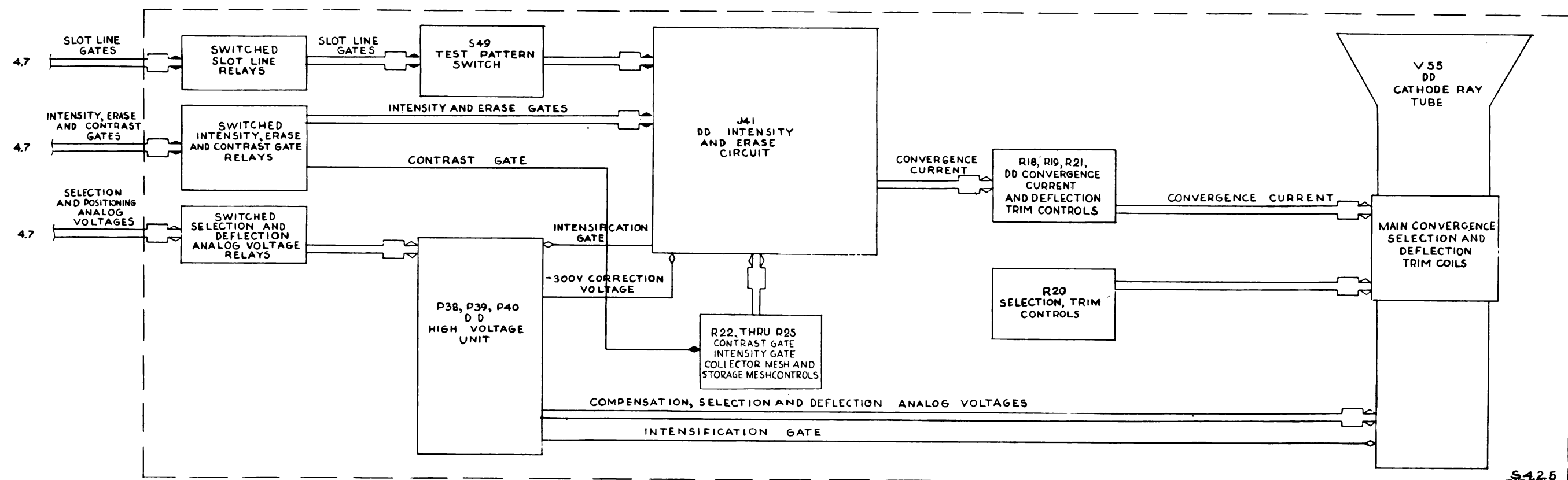


- NOTES:
- XI S4.2.1-2 NAA REWORKED CONSOLES
  - S4.2.1 ALL CONSOLES EXCEPT THOSE REWORKED FOR NAA
  - X S4.2.2-3 NAA REWORKED PLUG BOARD CONSOLES
  - S4.2.2-4 NAA REWORKED ROTARY SWITCH CONSOLES
  - S4.2.2 ALL CONSOLES EXCEPT THOSE REWORKED FOR NAA

66-61743  
31357671

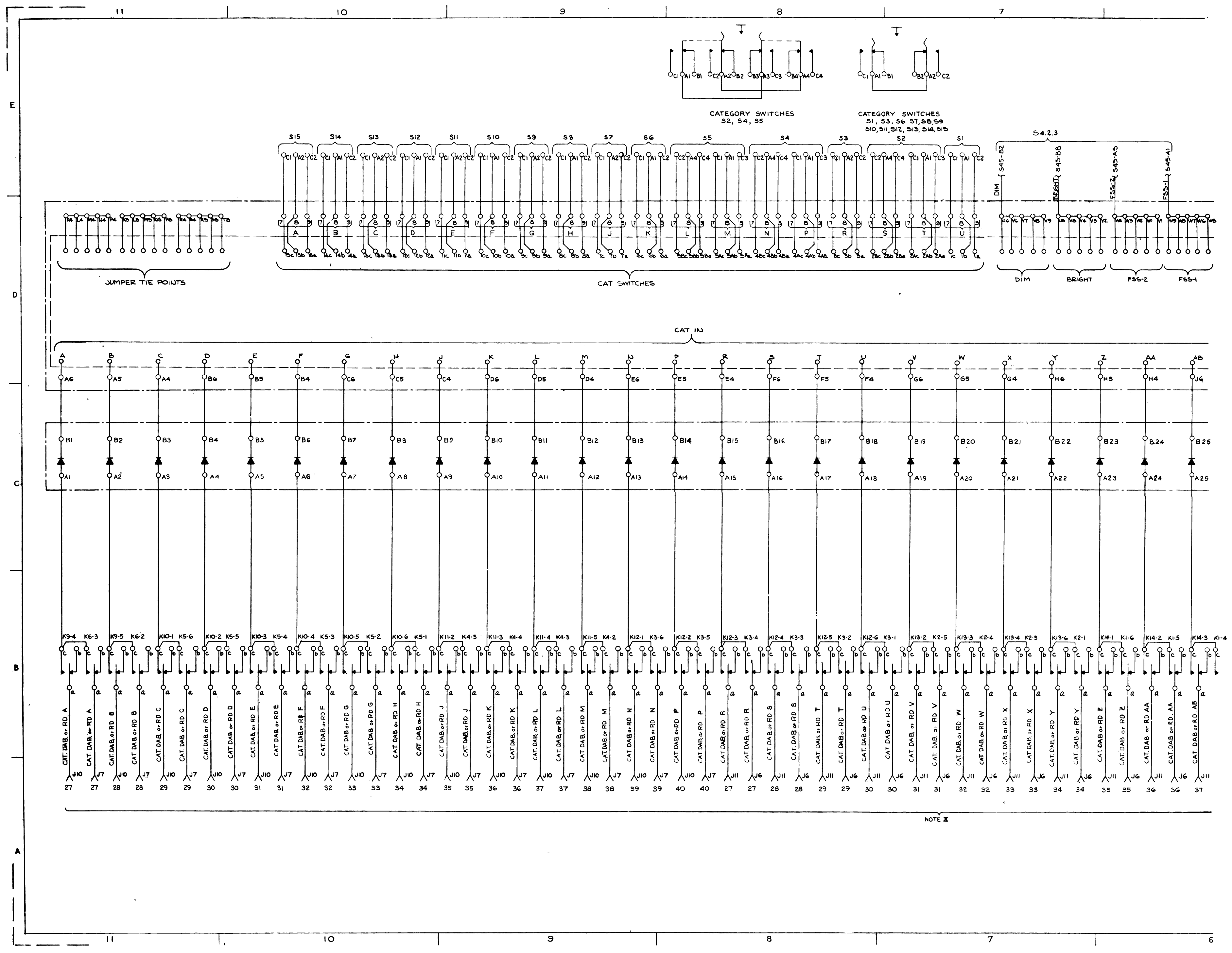


S 4.2.4

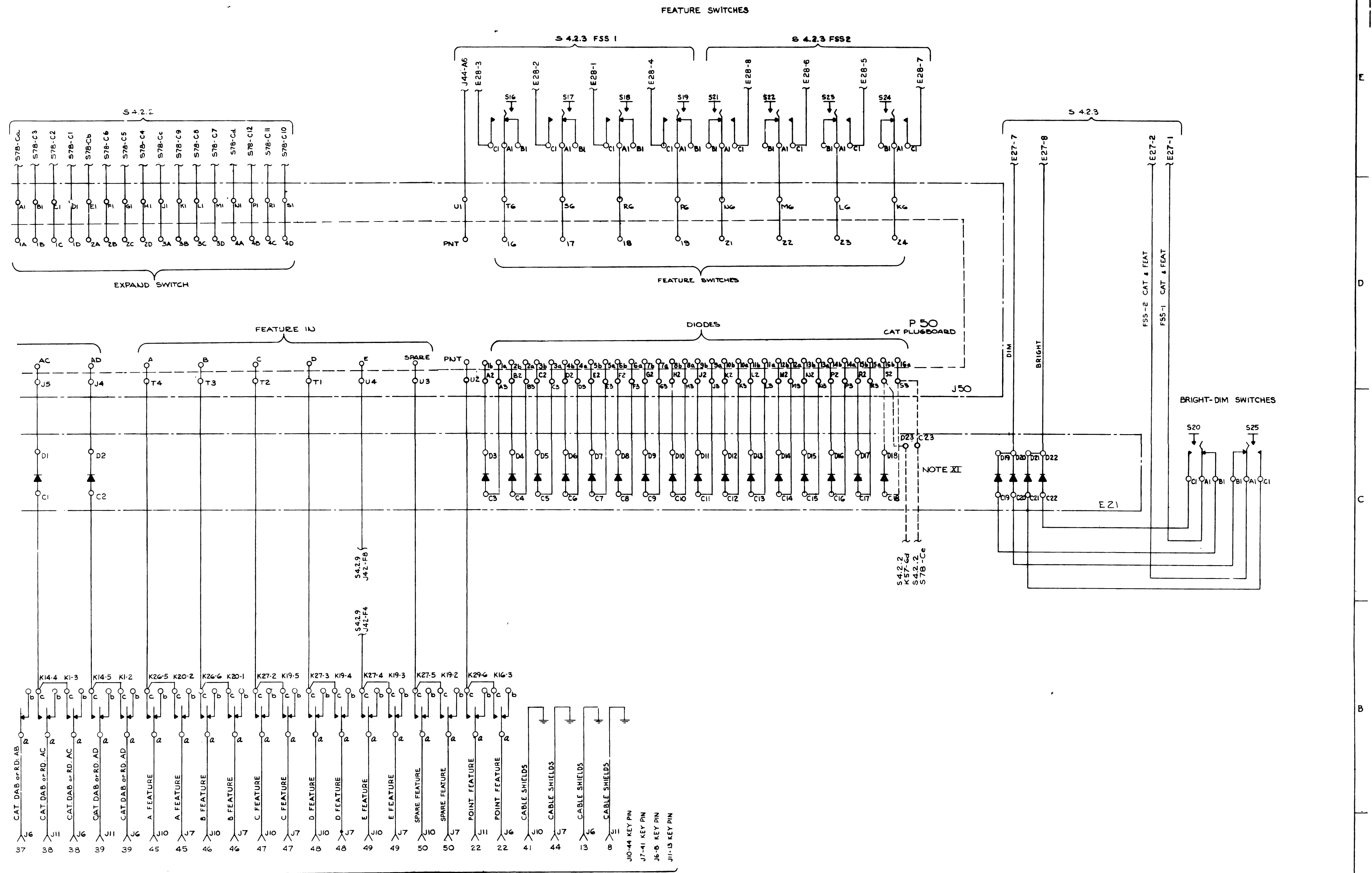


S 4.2.5

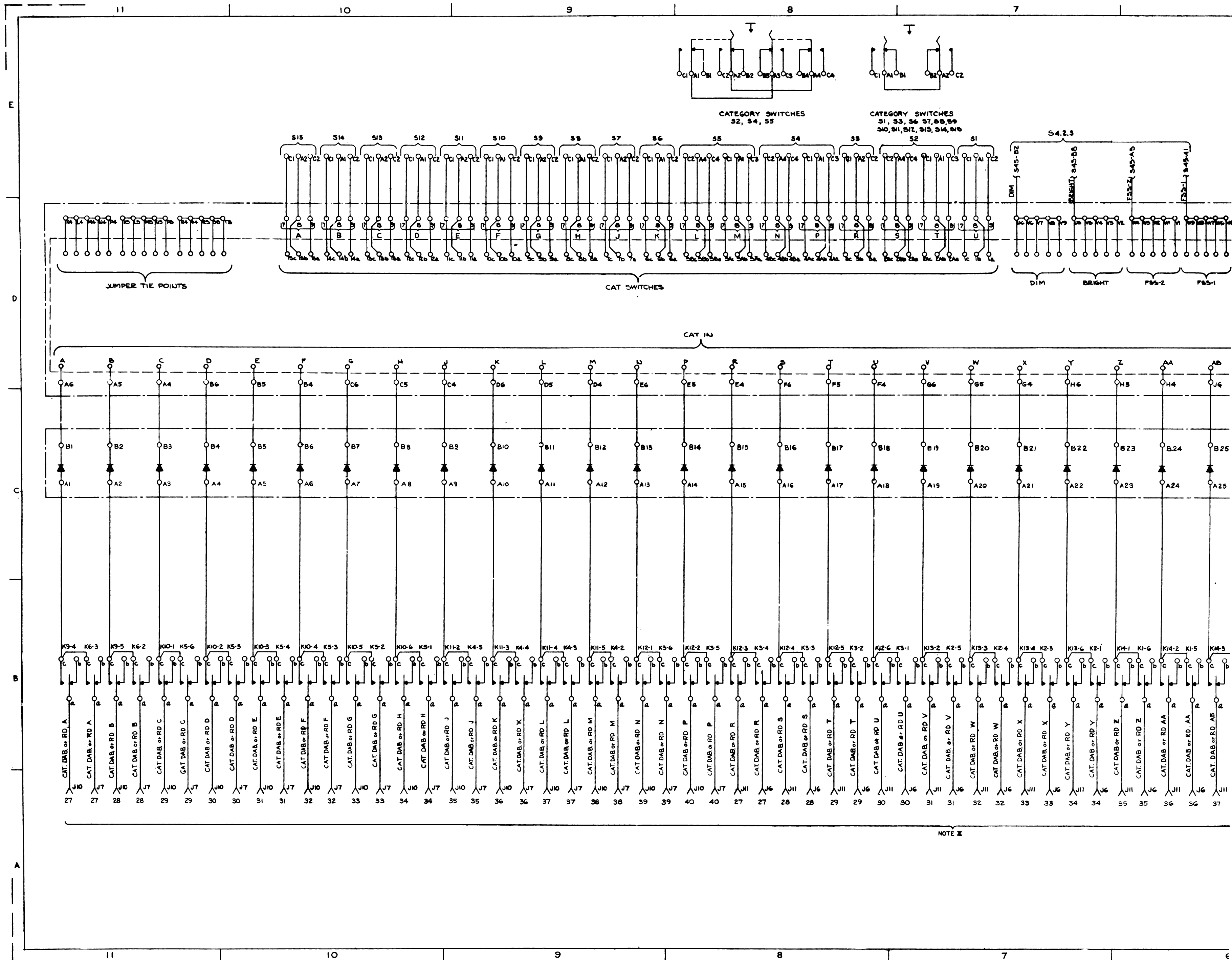
SD Console Block Diagram

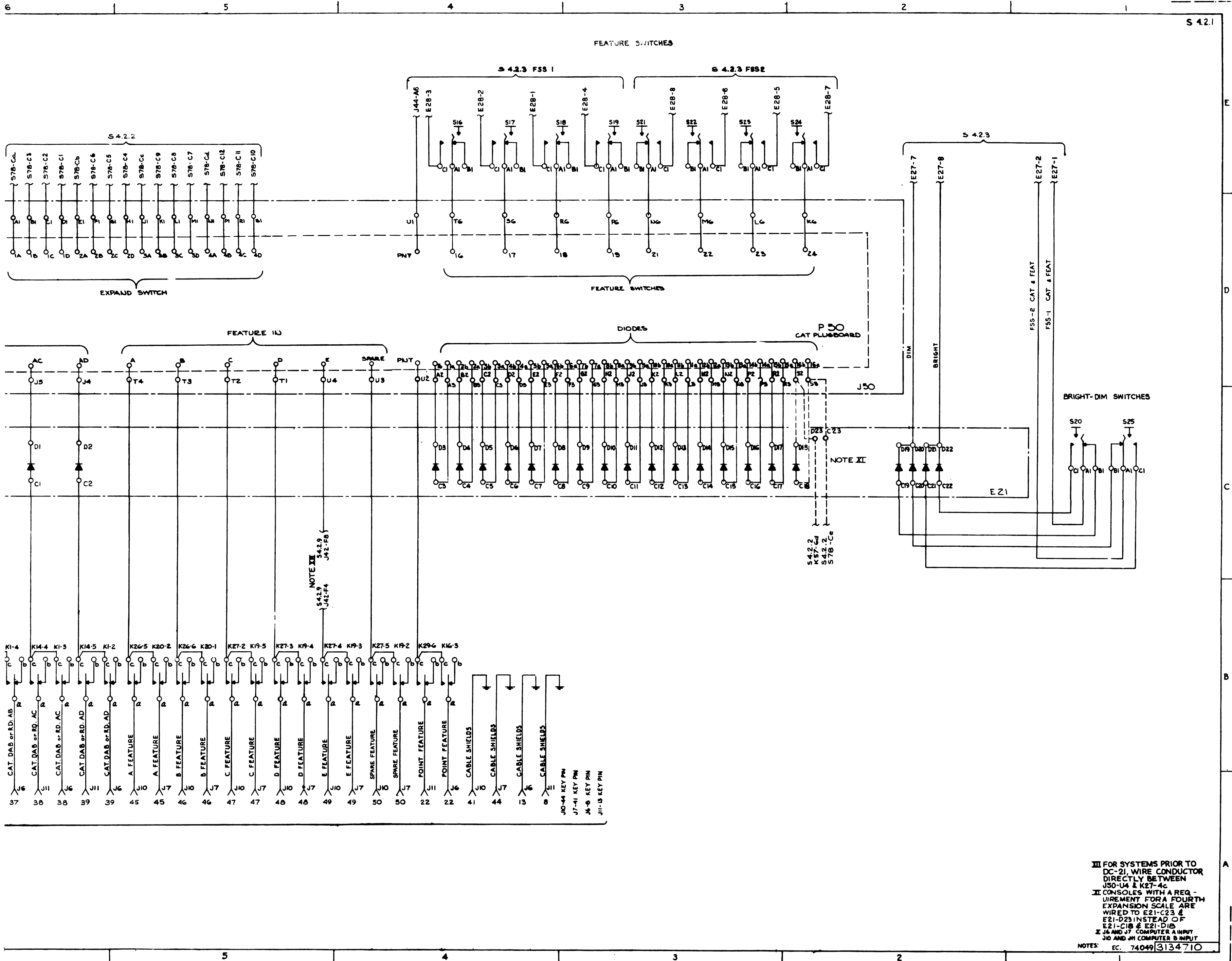


NOTE X



XI CONSOLES WITH A REQ -  
 UIREMENT FOR A FOURTH  
 EXPANSION SCALE ARE  
 WIRED TO E21-C23 &  
 E21-D23 INSTEAD OF  
 E21-C18 & E21-D18  
 X J16 AND J7 COMPUTER A INPUT  
 J10 AND J11 COMPUTER B INPUT  
 NOTES: EC-R-73705 3134710

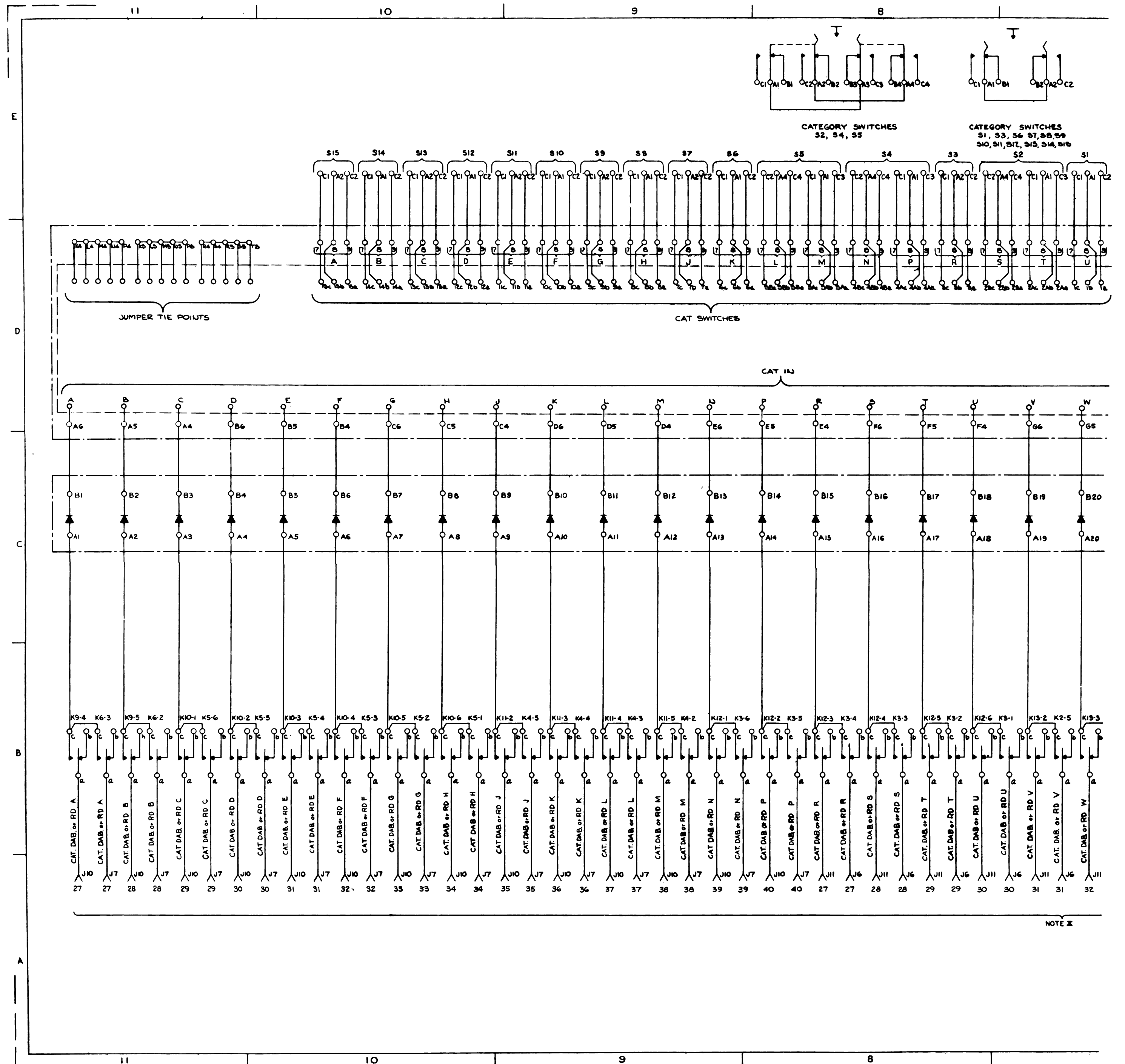




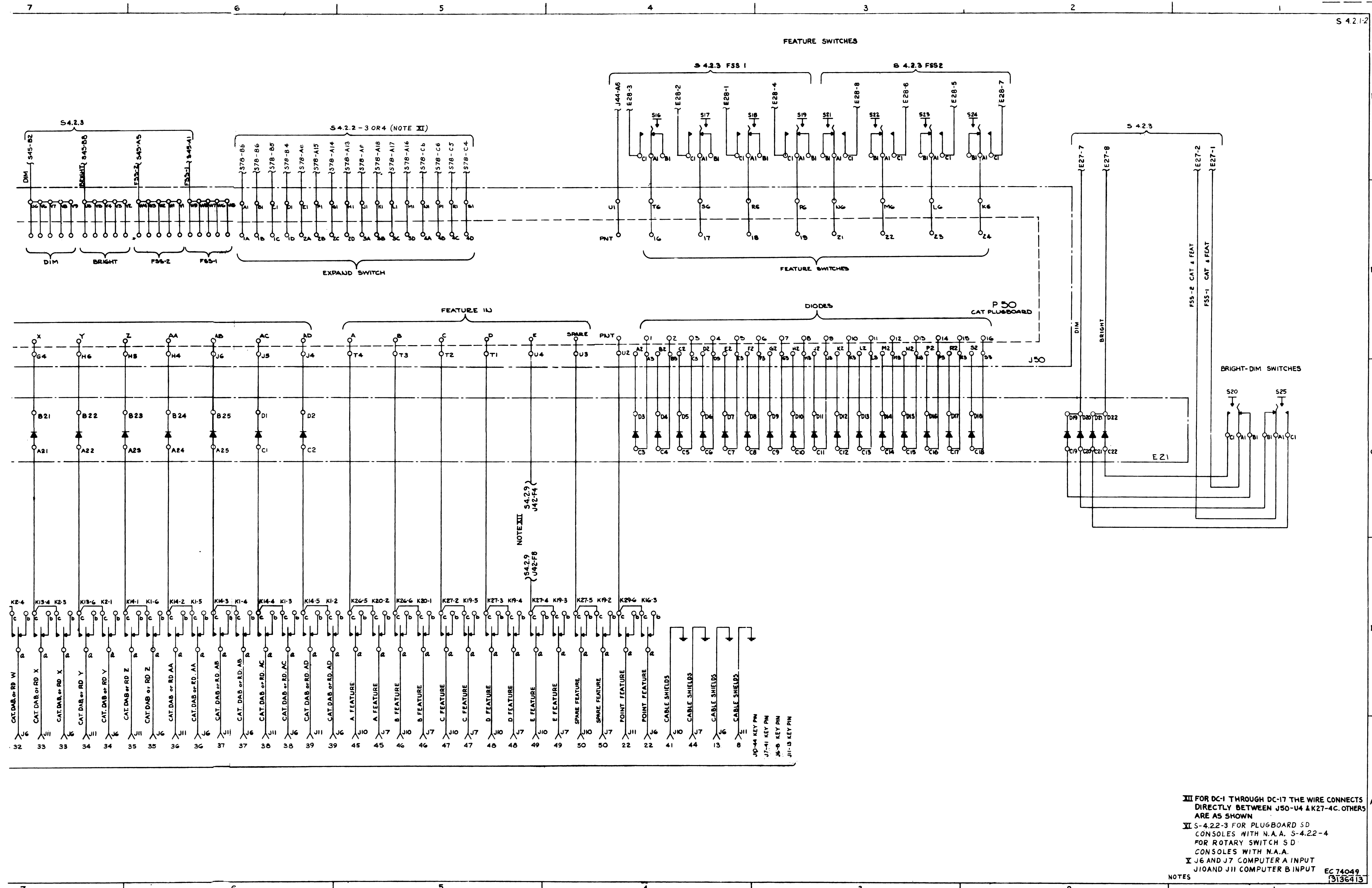
NOTE XI  
S 4.2.2  
K 47-4d  
J 42-F4

NOTE XI  
S 4.2.2  
K 47-4d  
J 42-F4

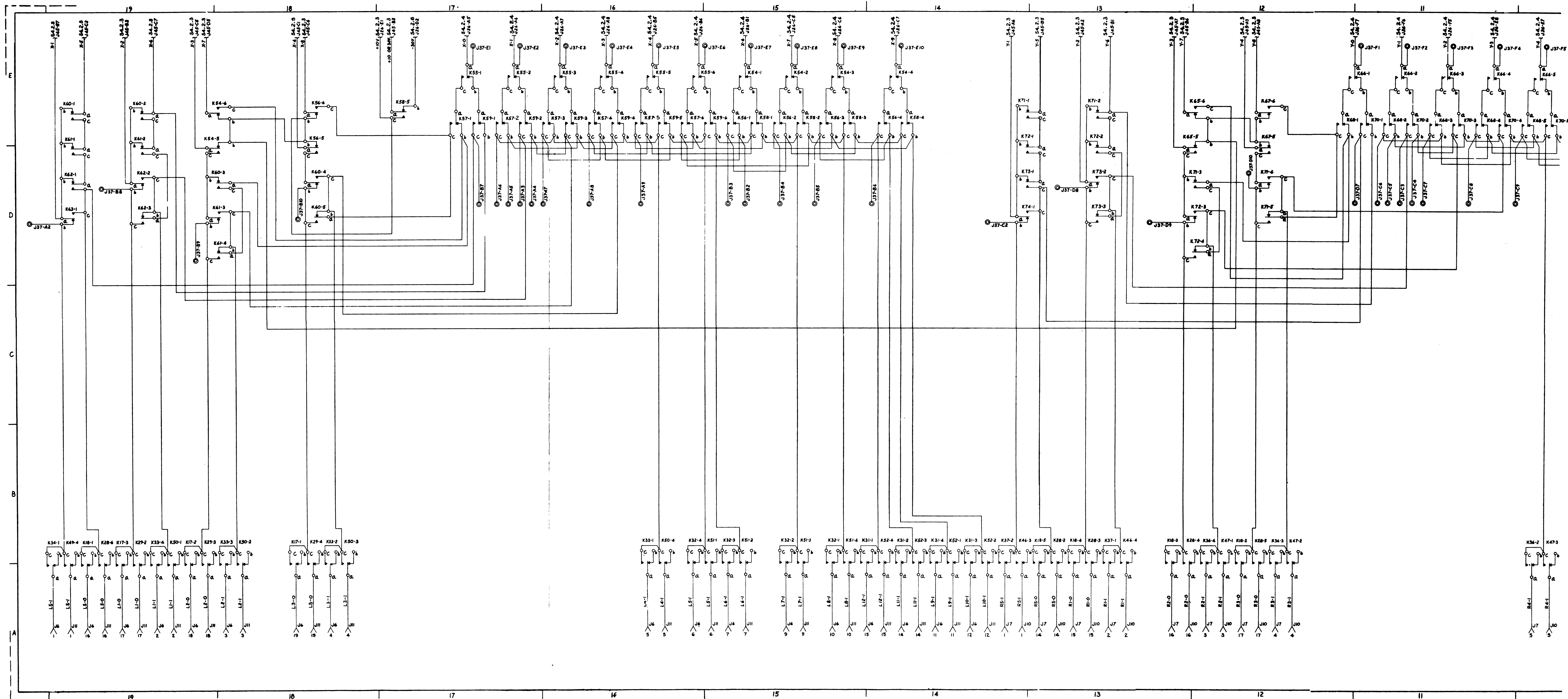
III FOR SYSTEMS PRIOR TO DC-21, WIRE CONDUCTOR DIRECTLY BETWEEN J50-U4 & K27-4c  
II CONSOLES WITH A REQ. WIREMENT FOR A FOURTH EXPANSION SCALE ARE WIRED TO E21-C23 & E21-D23 INSTEAD OF E21-C19 & E21-D19  
X J10 AND J11 COMPUTER B INPUT  
NOTES: EC. 74049 3134710

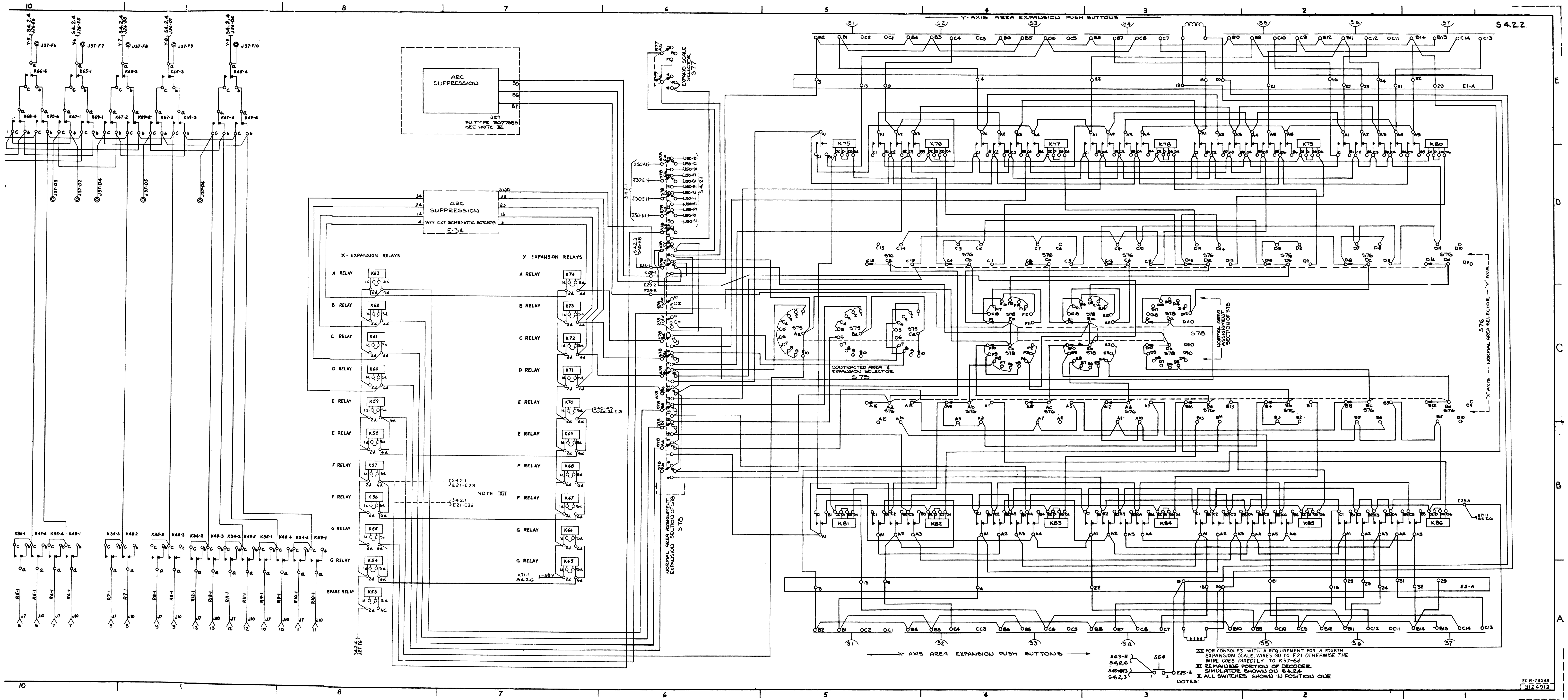




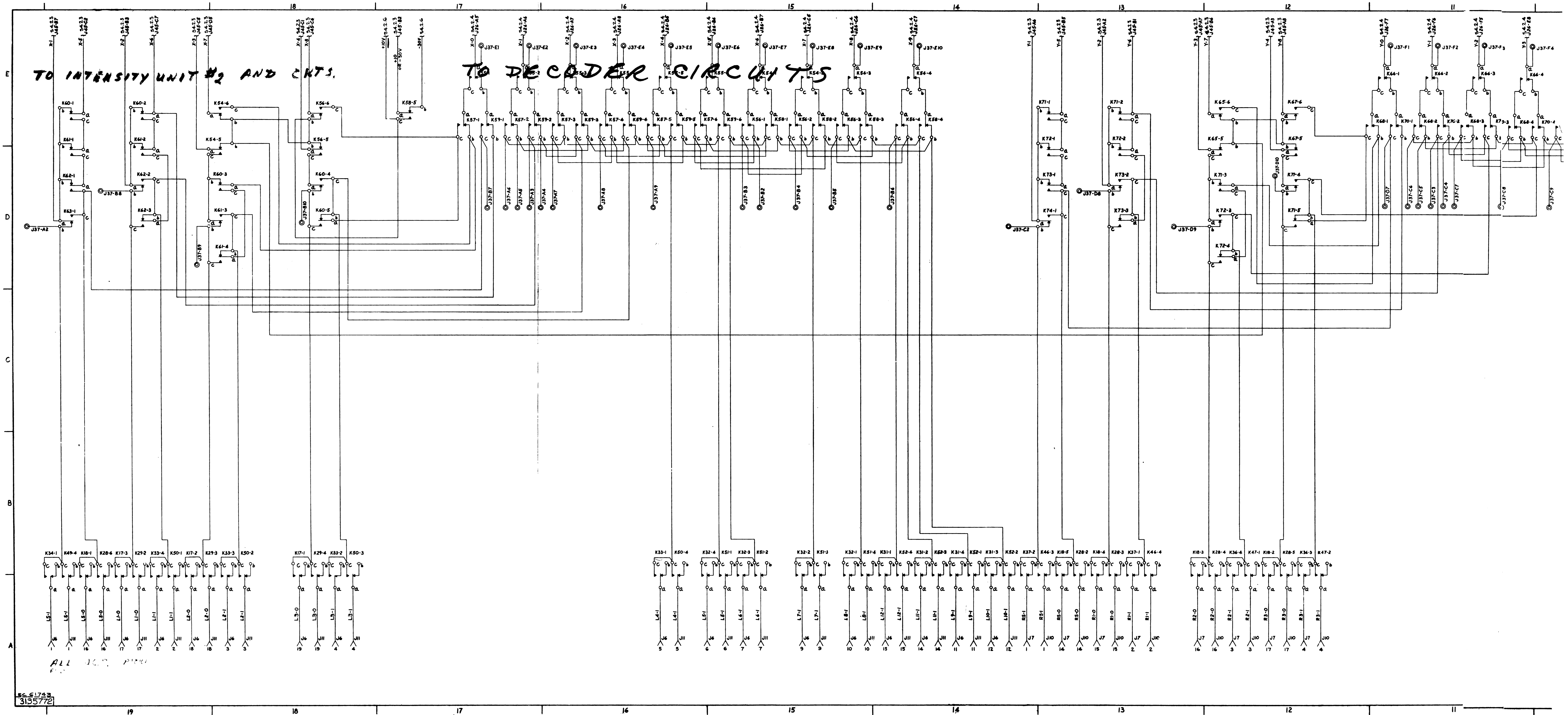


XII FOR DC-1 THROUGH DC-17 THE WIRE CONNECTS DIRECTLY BETWEEN J50-U4 & K27-4C. OTHERS ARE AS SHOWN  
 XI S-4.2.2-3 FOR PLUGBOARD SD CONSOLES WITH N.A.A. S-4.2.2-4 FOR ROTARY SWITCH SD CONSOLES WITH N.A.A.  
 X J6 AND J7 COMPUTER A INPUT J10 AND J11 COMPUTER B INPUT  
 NOTES EC 74049 13136413

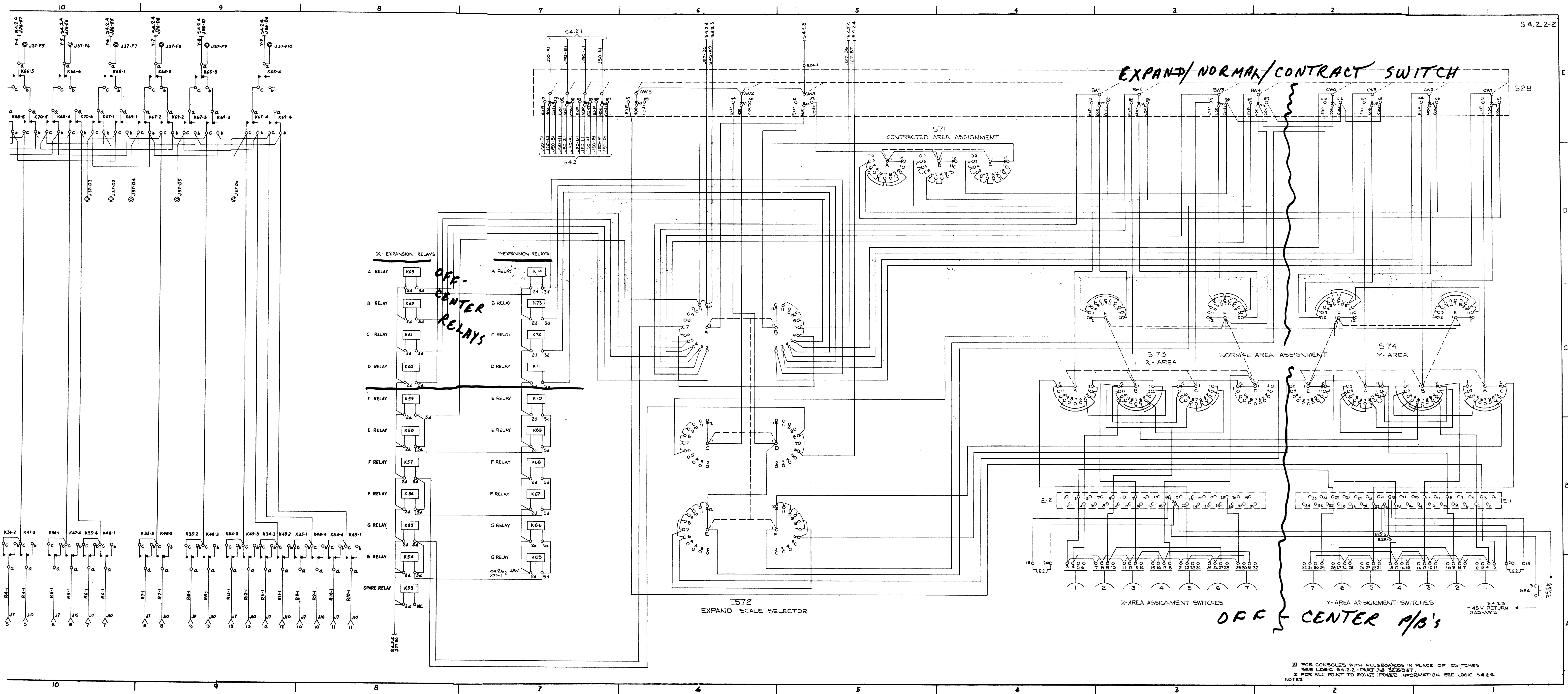




Expansion Circuit SD Console

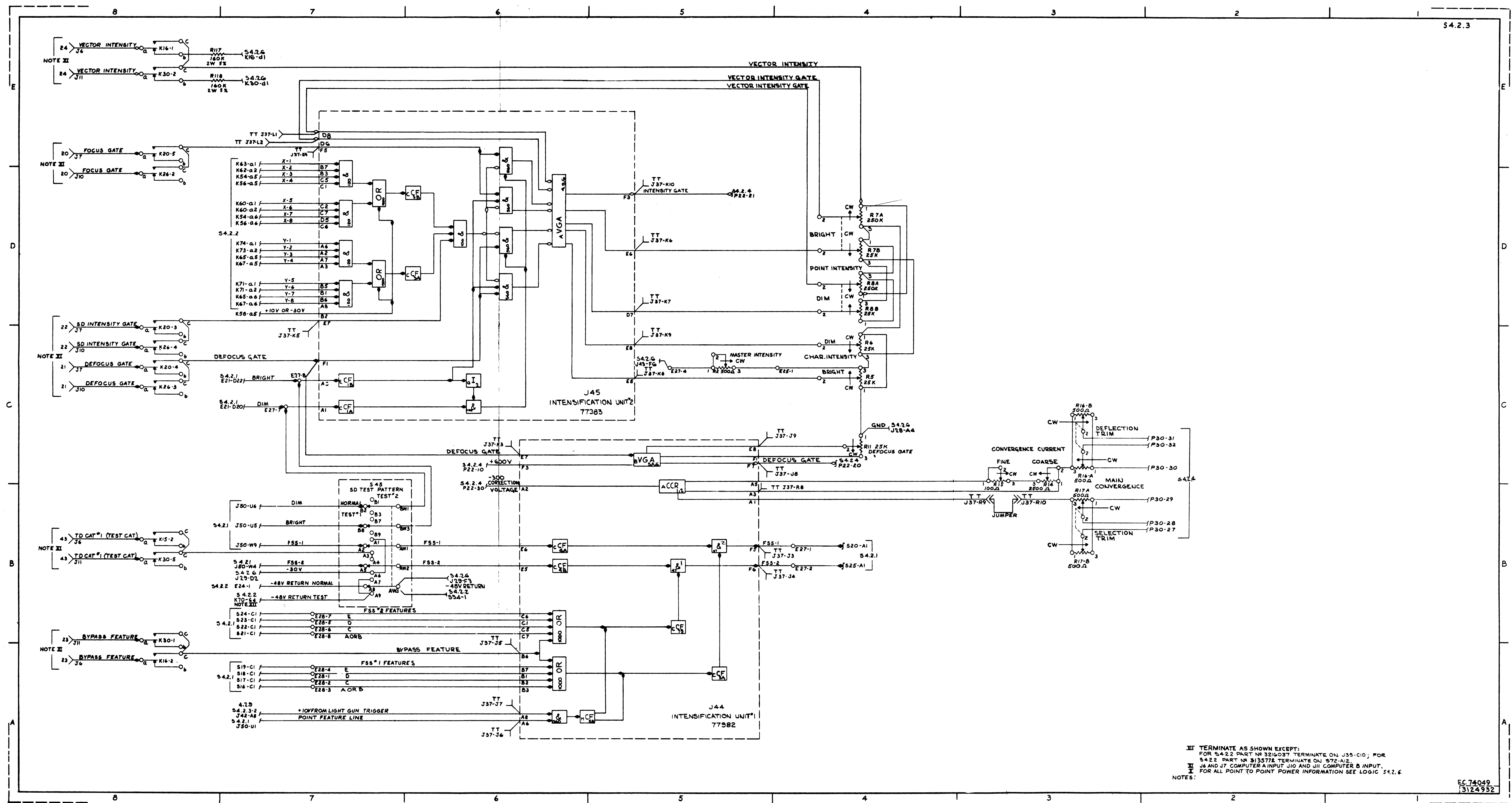






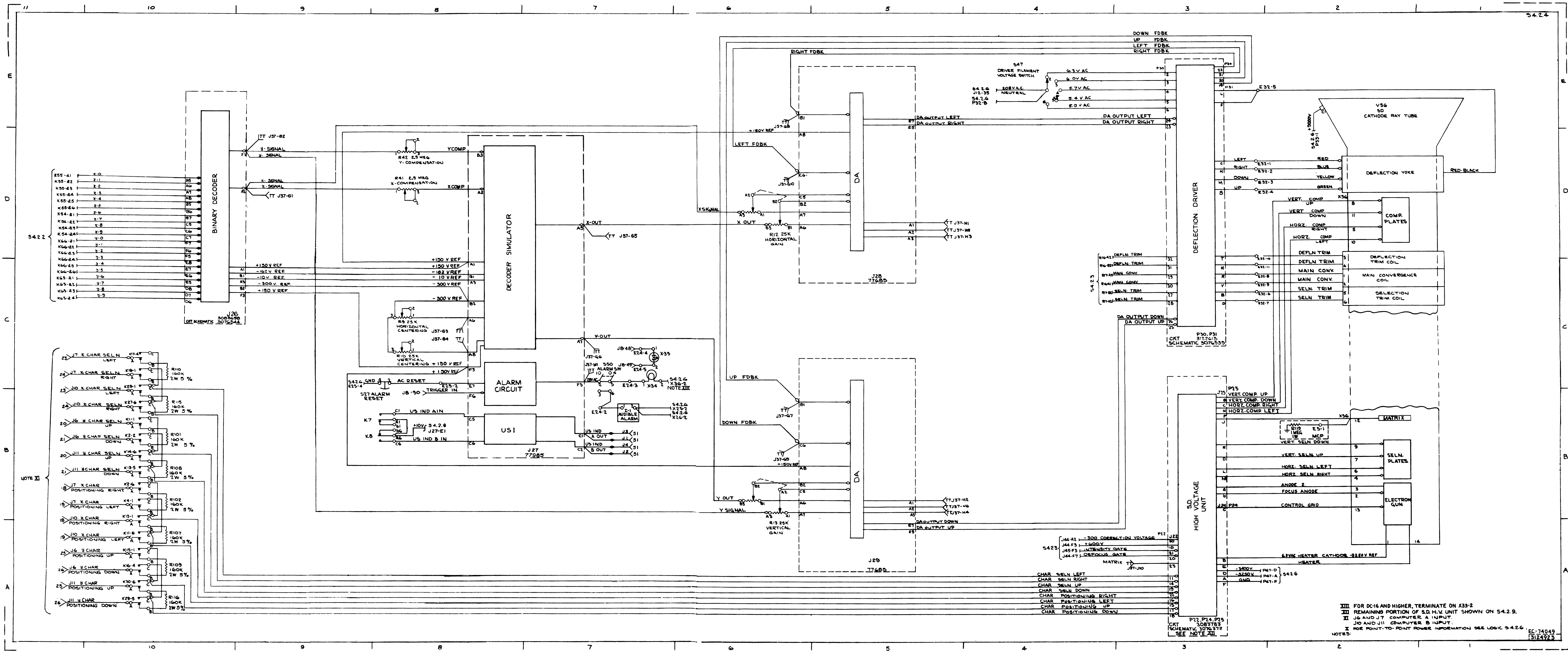
S 4.2.2-2

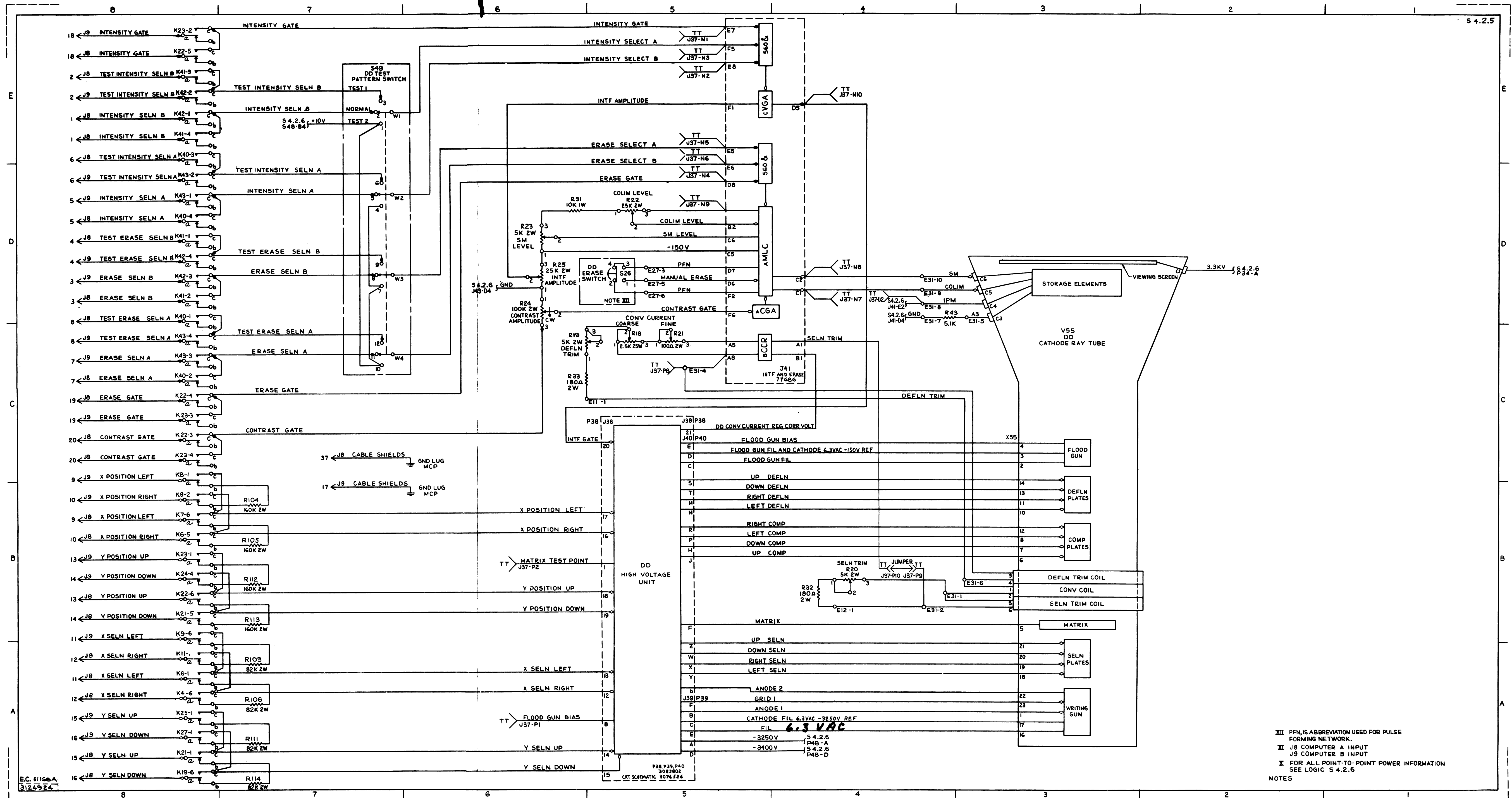
II FOR CONSOLES WITH PLUGBOARDS IN PLACE OF SWITCHES  
 SEE LOGIC S 4.2.2-PART NE 3216037.  
 X FOR ALL POINT TO POINT POWER INFORMATION SEE LOGIC S 4.2.6.  
 NOTES



III TERMINATE AS SHOWN EXCEPT:  
 FOR 54.2.2 PART NO 3216037 TERMINATE ON J35-C10; FOR  
 54.2.2 PART NO 3135772 TERMINATE ON 572-A12;  
 J6 AND J7 COMPUTER INPUT J10 AND J11 COMPUTER B INPUT.  
 II FOR ALL POINT TO POINT POWER INFORMATION SEE LOGIC 54.2.6

SD Console Intensification Circuits





S 4.2.5

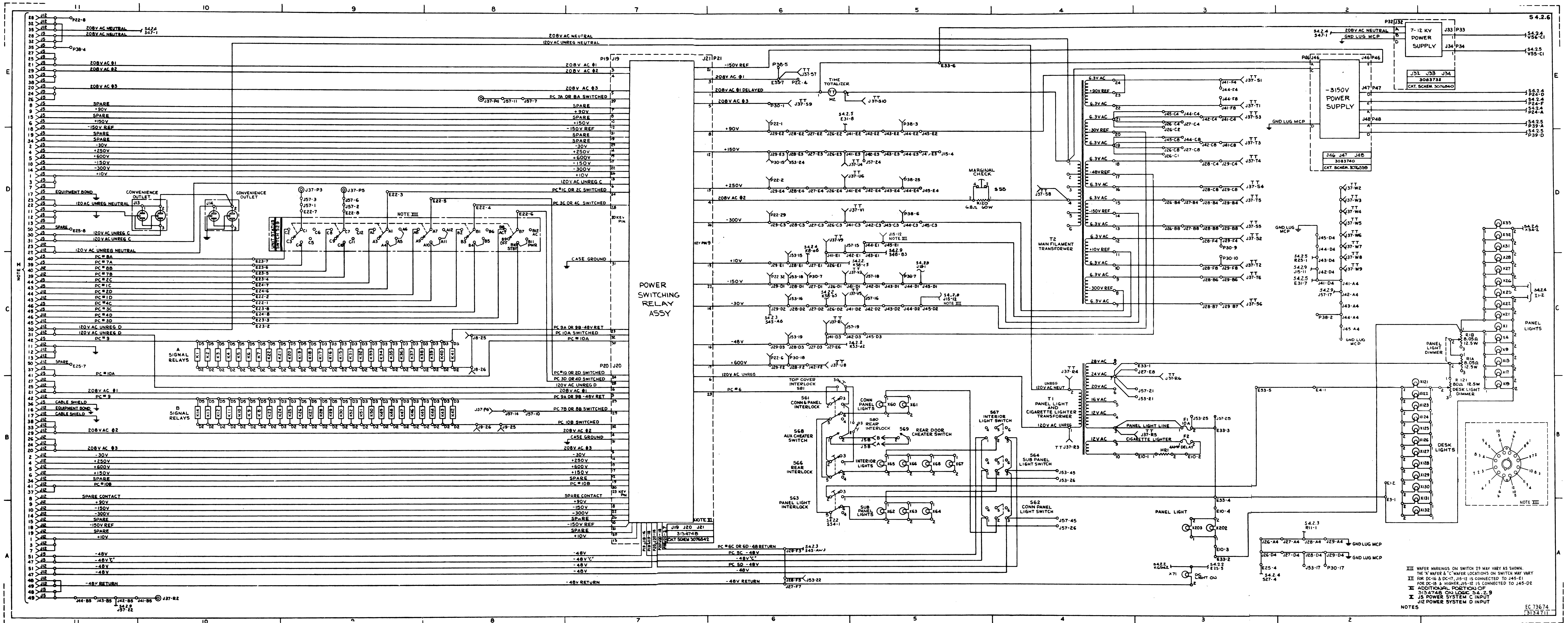
EC 6116A  
3124924

P38, P39, P40  
3083802  
CIT SCHEMATIC 3076526

- NOTES
- XIII PFN, IS ABBREVIATION USED FOR PULSE FORMING NETWORK.
  - XII J8 COMPUTER A INPUT
  - J9 COMPUTER B INPUT
  - X FOR ALL POINT-TO-POINT POWER INFORMATION SEE LOGIC S 4.2.6

Situation Display Console Digital Display

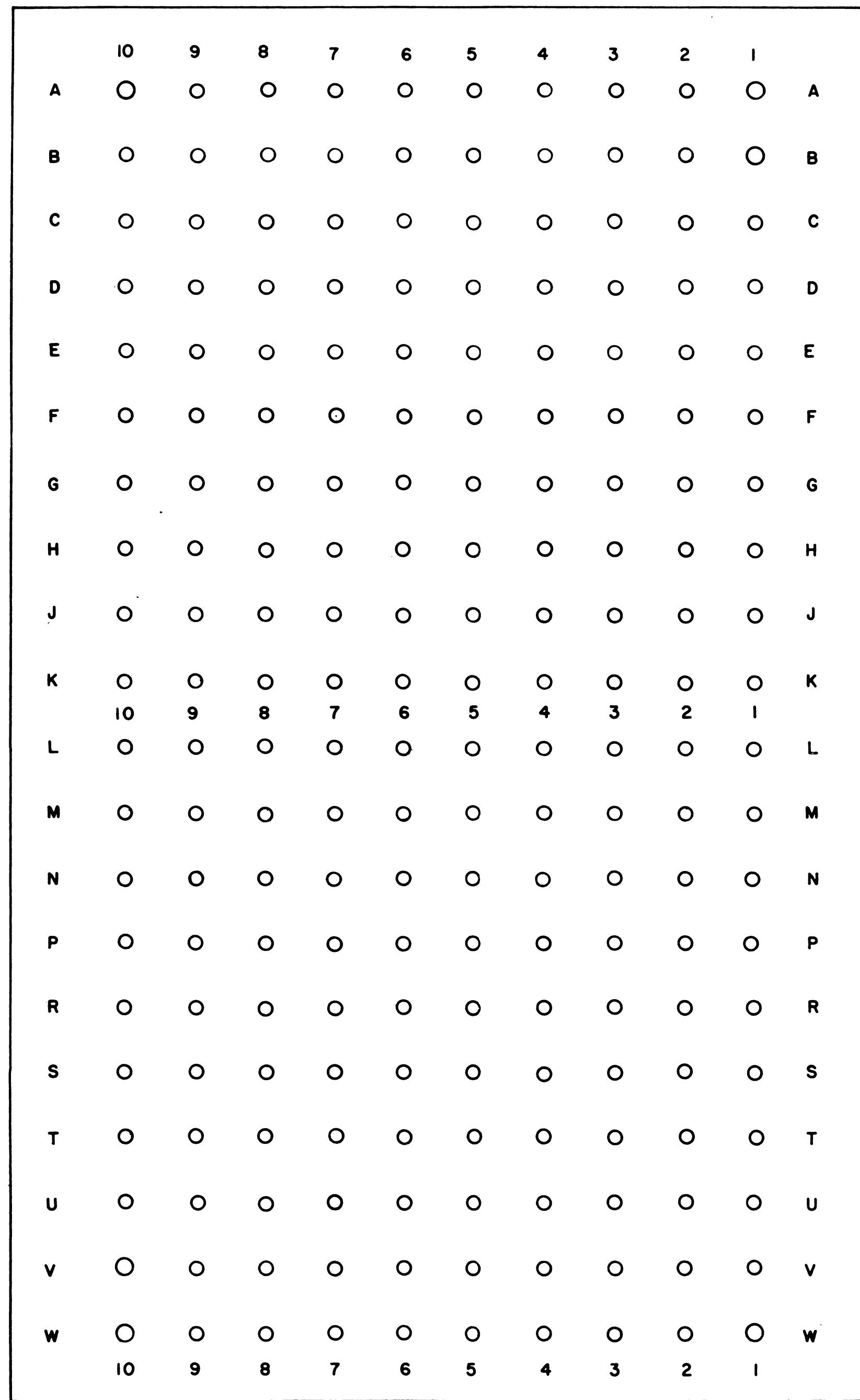




III WAFER MARKINGS ON SWITCH 29 MAY VARY AS SHOWN.  
 THE 'A' WAFER & 'C' WAFER LOCATIONS ON SWITCH MAY VARY  
 FOR DC-16 & DC-17, J15-12 IS CONNECTED TO J45-E1  
 FOR DC-18 & HIGHER, J15-12 IS CONNECTED TO J45-D2  
 II ADDITIONAL POSITION OF  
 3154748 ON LOGIC 54.2.9  
 I IS POWER SYSTEM D INPUT

NOTES

SD Console Power Distribution

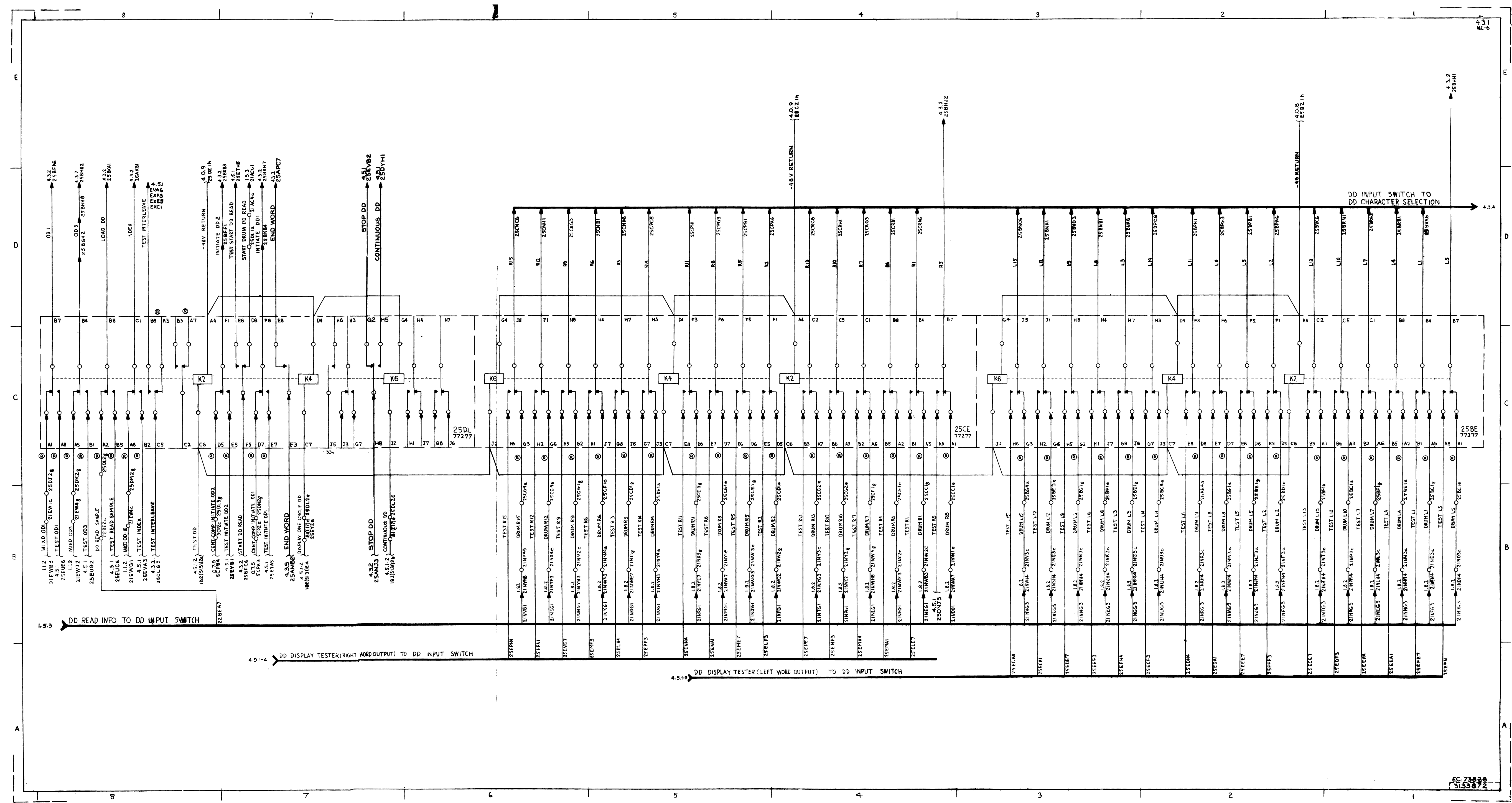


J37 TEST POINTS, SD CONSOLE

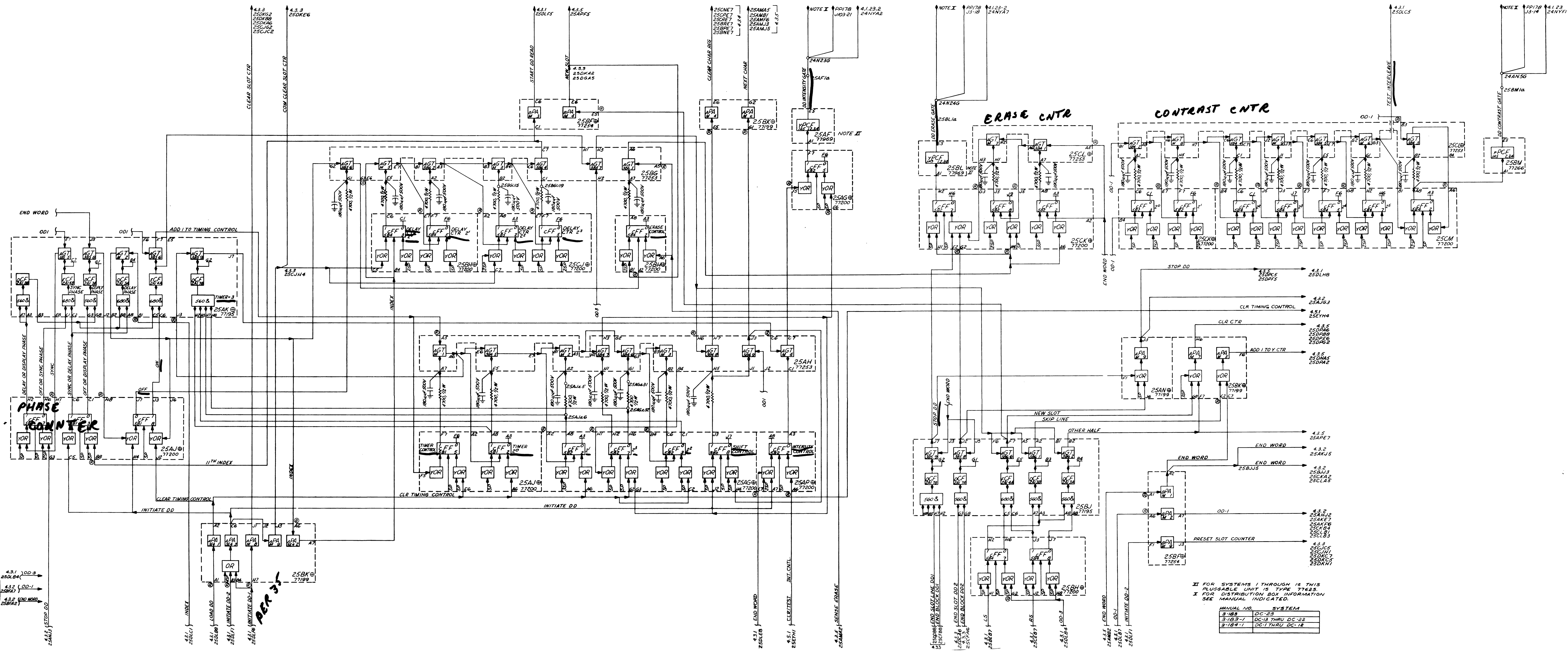
Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic
A1		-	-	C8	R6-1	K68-C4	4.2.2	F5	Y-4	K66-A5	4.2.2
A2	LS-1	K63-B1	4.2.2	C9	R7-1	K68-C5	4.2.2	F6	Y-5	K66-A6	4.2.2
A3	L1-1	K59-C2	4.2.2	C10		-	-	F7	Y-6	K65-A1	4.2.2
A4	L2-1	K59-B2	4.2.2	D1		-	-	F8	Y-7	K65-A2	4.2.2
A5	LS-1	K59-B2	4.2.2	D2	R8-1	K67-B1	4.2.2	F9	Y-8	K65-A3	4.2.2
A6	L4-1	K57-C2	4.2.2	D3	R9-1	K67-C1	4.2.2	F10	Y-9	K65-A4	4.2.2
A7	L5-1	K57-C3	4.2.2	D4	R10-1	K67-C2	4.2.2	G1	X-OUT SIGNAL	J26-A2	4.2.4
A8	L6-1	K57-C4	4.2.2	D5	R11-1	K67-C3	4.2.2	G2	Y-OUT SIGNAL	J26-F1	4.2.4
A9	L7-1	K57-C5	4.2.2	D6	R12-1	K67-C4	4.2.2	G3	HORIZONTAL CENTER	J27-A6	4.2.4
A10		-	-	D7	RS-0	K70-C1	4.2.2	G4	VERTICAL CENTER	J27-A8	4.2.4
B1		-	-	D8	R1-0	K73-B2	4.2.2	G5	X-AXIS OUTPUT	J27-A5	4.2.4
B2	L8-1	K56-B1	4.2.2	D9	R2-0	K72-B3	4.2.2	G6	Y-AXIS OUTPUT	J27-A7	4.2.4
B3	L9-1	K56-C1	4.2.2	D10	RS-0	K71-B4	4.2.2	G7	DOWN FEEDBACK	J29-B1	4.2.4
B4	L10-1	K56-C2	4.2.2	E1	X-0	K55-A1	4.2.2	G8	LEFT FEEDBACK	J28-B1	4.2.4
B5	L11-1	K56-C3	4.2.2	E2	X-1	K55-A2	4.2.2	G9	UP FEEDBACK	J29-C6	4.2.4
B6	L12-1	K56-C4	4.2.2	E3	X-2	K55-A3	4.2.2	G10	RIGHT FEEDBACK	J28-C6	4.2.4
B7	LS-0	K59-C1	4.2.2	E4	X-3	K55-A4	4.2.2	H1	VIA CATHODE "X"	J28-A1	4.2.4
B8	L1-0	K62-B3	4.2.2	E5	X-4	K55-A5	4.2.2	H2	VIA CATHODE "Y"	J29-A1	4.2.4
B9	L2-0	K61-B3	4.2.2	E6	X-5	K55-A6	4.2.2	H3	VIB CATHODE "X"	J28-A3	4.2.4
B10	L3-0	K60-B4	4.2.2	E7	X-6	K54-A2	4.2.2	H4	VIB CATHODE "Y"	J29-A3	4.2.4
C1		-	-	E8	X-7	K54-A2	4.2.2	H5	VIGRIDS "X" AMP	J28-A2	4.2.4
C2	RS-1	K74-B1	4.2.2	E9	X-8	K54-A3	4.2.2	H6	VIGRIDS "Y" AMP	J29-A2	4.2.4
C3	R1-1	K70-B1	4.2.2	E10	X-9	K54-A4	4.2.2	H7		-	-
C4	R2-1	K70-B2	4.2.2	F1	Y-0	K66-A1	4.2.2	H8		-	-
C5	R3-1	K68-B2	4.2.2	F2	Y-1	K66-A2	4.2.2	H9		-	-
C6	R4-1	K68-C2	4.2.2	F3	Y-2	K66-A3	4.2.2	H10		-	-
C7	R5-1	K68-C3	4.2.2	F4	Y-3	K66-A4	4.2.2	J1		-	-
								J2		-	-

Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic	
J3	FSS-1 BRIGHT-DIM	J44-F5	4.2.3	M1	28 VAC SWITCHED	J27-F5	4.2.6	P9	SELECTION COIL	E31-2	4.2.5	T7	-	-	-	W5	GROUND	J37-W6	4.2.6	
J4	FSS-2 BRIGHT-DIM	J44-F6	4.2.3	M2	-	-	-	P10	SELECTION COIL	J41-A1	4.2.5	T8	-	-	-	W6	GROUND	J37-W7	4.2.6	
J5	BYPASS	J44-B6	4.2.3	M3	-	-	-	R1	-48 V	J41-D3	4.2.6	T9	-	-	-	W7	GROUND	J37-W8	4.2.6	
J6	POINT INPUT	J44-A6	4.2.3	M4	-	-	-	R2	-48 V RETURN	J41-B5	4.2.6	T10	-	-	-	W8	GROUND	J37-W9	4.2.6	
J7	POINT INTENSITY	J44-A8	4.2.3	M5	-	-	-	R3	120 VAC	T1-1	4.2.6	U1	-	-	-	W9	GROUND	J41-A4	4.2.6	
J8	SD DEFOCUS TO HV UNIT	J44-F7	4.2.3	M6	-	-	-	R4	120 VAC NEUTRAL	T1-2	4.2.6	U2	+90 V	E31-8	4.2.6	W10	-	-	-	
J9	SD DEFOCUS AMP	J44-E8	4.2.3	M7	-	-	-	R5	PANEL LIGHT LINE	T1-3	4.2.6	U3	-	-	-	-	-	-	-	
J10	SD MATRIX	P22-23	4.2.4	M8	-	-	-	R6	PANEL LIGHT LINE	T1-8	4.2.6	U4	+150 V	J41-E3	4.2.6	-	-	-	-	
K1	-	-	-	M9	-	-	-	R7	-	-	-	U5	-	-	-	-	-	-	-	
K2	-	-	-	M10	-	-	-	R8	CONVERGENCE CURRENT COARSE	J44-A3	4.2.3	U6	+250 V	J41-E4	4.2.6	-	-	-	-	
K3	DEFOCUS IN	J44-E7	4.2.3	N1	DD INTENSITY GATE	J41-E7	4.2.5	R9	SELECTION TRIM	J44-A1	4.2.3	U7	-	-	-	-	XV	6.3 VAC BETWEEN S1 AND T1, +90 V TO GND W2		
K4	FOCUS IN	J45-F5	4.2.3	N2	DD INTENSITY SEL 2	J41-E8	4.2.5	R10	SD CONVERGENCE CURRENT	R17-A3	4.2.3	U8	+600 V	J42-F2	4.2.6	-	-	XIV	6.3 VAC BETWEEN S2 AND T2, +10 V TO GND W2	
K5	INTENSITY IN	J45-E7	4.2.3	N3	DD INTENSITY SEL 1	F41-F5	4.2.5	S1	6.3 VAC/+90 V REF	NOTE XV	J41-F4	4.2.6	U9	-	-	-	-	XIII	6.3 VAC BETWEEN S3 AND T3, -30 V TO GND W2	
K6	BRIGHT POINT INTENSITY	J45-E6	4.2.3	N4	DD ERASE GATE	J41-D8	4.2.5	S2	6.3 VAC/+10 V REF	NOTE XIV	J29-F4	4.2.6	U10	-	-	-	-	XII	6.3 VAC BETWEEN S4 AND T4, -48 V TO GND W2	
K7	DIM POINT INTENSITY	J45-D7	4.2.3	N5	DD ERASE SEL 1	J41-E5	4.2.5	S3	6.3 VAC/-30 V REF	NOTE XIII	J41-C4	4.2.6	V1	-300 V	J41-C3	4.2.6	-	-	XI	6.3 VAC BETWEEN S5 AND T5, -150 V TO GND W2
K8	BRIGHT CHARACTER INTENSITY	J45-E5	4.2.3	N6	DD ERASE SEL 2	J41-E6	4.2.5	S4	6.3 VAC/-48 V REF	NOTE XII	J29-C8	4.2.6	V2	-	-	-	-	-	X	6.3 VAC BETWEEN S6 AND T6, -300 V TO GND W2
K9	DIM CHARACTER INTENSITY	J45-E8	4.2.3	N7	COLLECTOR MESH	J41-C1	4.2.5	S5	6.3 VAC/-150 V REF	NOTE XI	J29-B8	4.2.6	V3	-150 V	J41-D1	4.2.6	-	-	NOTES:	
K10	INTENSITY OUT	J45-F3	4.2.3	N8	STORAGE MESH	J41-C2	4.2.5	S6	6.3 VAC/-300 V REF	NOTE X	J29-B7	4.2.6	V4	-	-	-	-	-	-	
L1	BRIGHT VECTOR INTENSITY	J45-D8	4.2.3	N9	COLLECTOR MESH LEVEL	J41-B3	4.2.5	S7	208 VAC #1	P21-3	4.2.6	V5	-30 V	J41-D2	4.2.6	-	-	-	-	
L2	DIM VECTOR INTENSITY	J45-D6	4.2.3	N10	DD INTENSITY GATE	J41-D5	4.2.5	S8	208 VAC #2	M1-1	4.2.6	V6	-	-	-	-	-	-	-	
L3	LIGHT GUN GATE	J42-A5	4.2.3-2	P1	DD FLOOD GUN BIAS	P38-8	4.2.5	S9	208 VAC #3	P30-1	4.2.6	V7	-	-	-	-	-	-	-	
L4	PASS LIGHT GUN GATE	J42-B1	4.2.3-2	P2	DD MATRIX	P38-1	4.2.5	S10	208 VAC NEUTRAL	M2-2	4.2.6	V8	-	-	-	-	-	-	-	
L5	LIGHT GUN TRIGGER	J42-F6	4.2.3-2	P3	PC #7A OR #8A SWITCHED	J57-3	4.2.6	T1	6.3 VAC/+90 V REF	NOTE XV	J41-F8	4.2.6	V9	+10 V	J41-E1	4.2.6	-	-	-	
L6	LIGHT GUN AMP COUTPUT	J42-C2	4.2.3-2	P4	PC #7A OR #8A SWITCHED	J57-11	4.2.6	T2	6.3 VAC/+10 V REF	NOTE XIV	J29-F8	4.2.6	V10	-	-	-	-	-	-	
L7	+600V	J42-C7	4.2.3-2	P5	PC #7B OR #8B SWITCHED	J57-6	4.2.6	T3	6.3 VAC/-30 V REF	NOTE XIII	J41-C8	4.2.6	W1	-	-	-	-	-	-	
L8	6.3 VAC LIGHT GUN LAMP	J42-E6	4.2.3-2	P6	PC #7B OR #8B SWITCHED	J57-14	4.2.6	T4	6.3 VAC/-48 V REF	NOTE XII	J29-C4	4.2.6	W2	GROUND	J37-W3	4.2.6	-	-	-	
L9	6.3 VAC LIGHT GUN LAMP	J42-B7	4.2.3-2	P7	-	-	-	T5	6.3 VAC/-150 V REF	NOTE XI	J29-B4	4.2.6	W3	GROUND	J37-W4	4.2.6	-	-	-	
L10	-	-	-	P8	DEFLECTION COIL	E31-4	4.2.5	T6	6.3 VAC/-300 V REF	NOTE X	J29-B6	4.2.6	W4	GROUND	J37-W5	4.2.6	-	-	-	

J37 SD Console Test Points (Sheet 2 of 2)



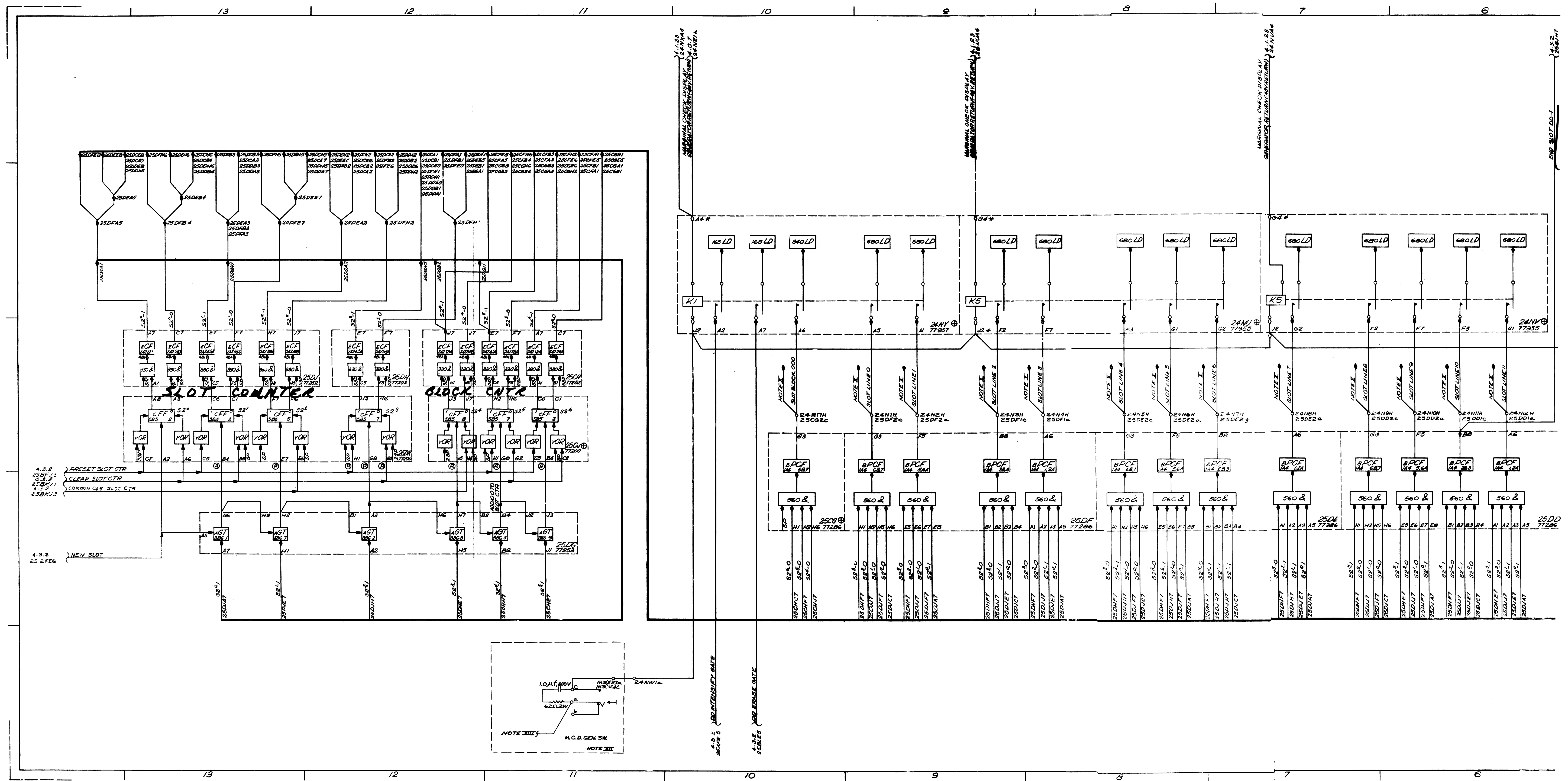
DD Input Switch

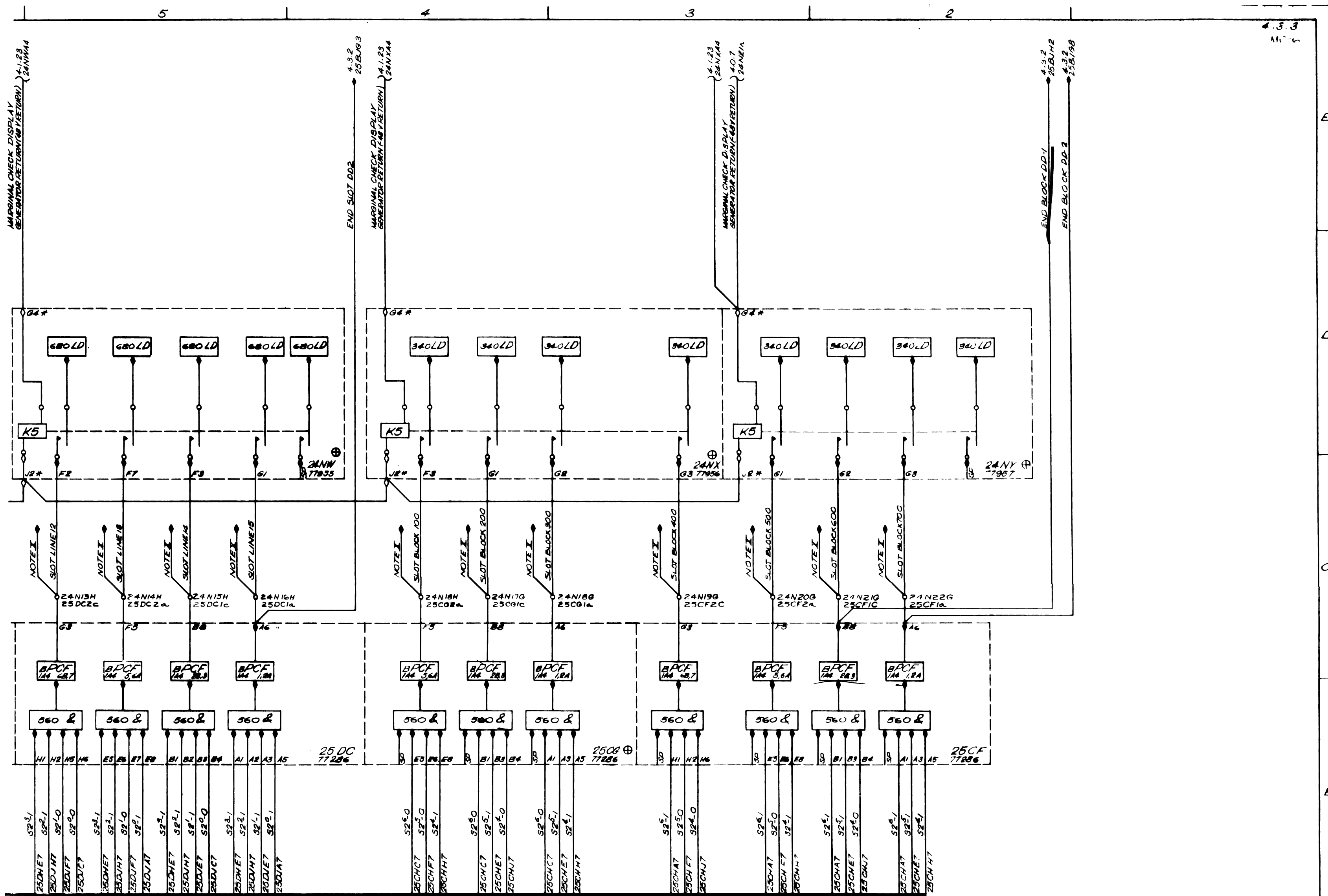


DD Timing & Control

MANUAL NO.	SYSTEM
3-183	DC-23
3-183-1	DC-13 THRU DC-22
3-184-1	DC-1 THRU DC-12





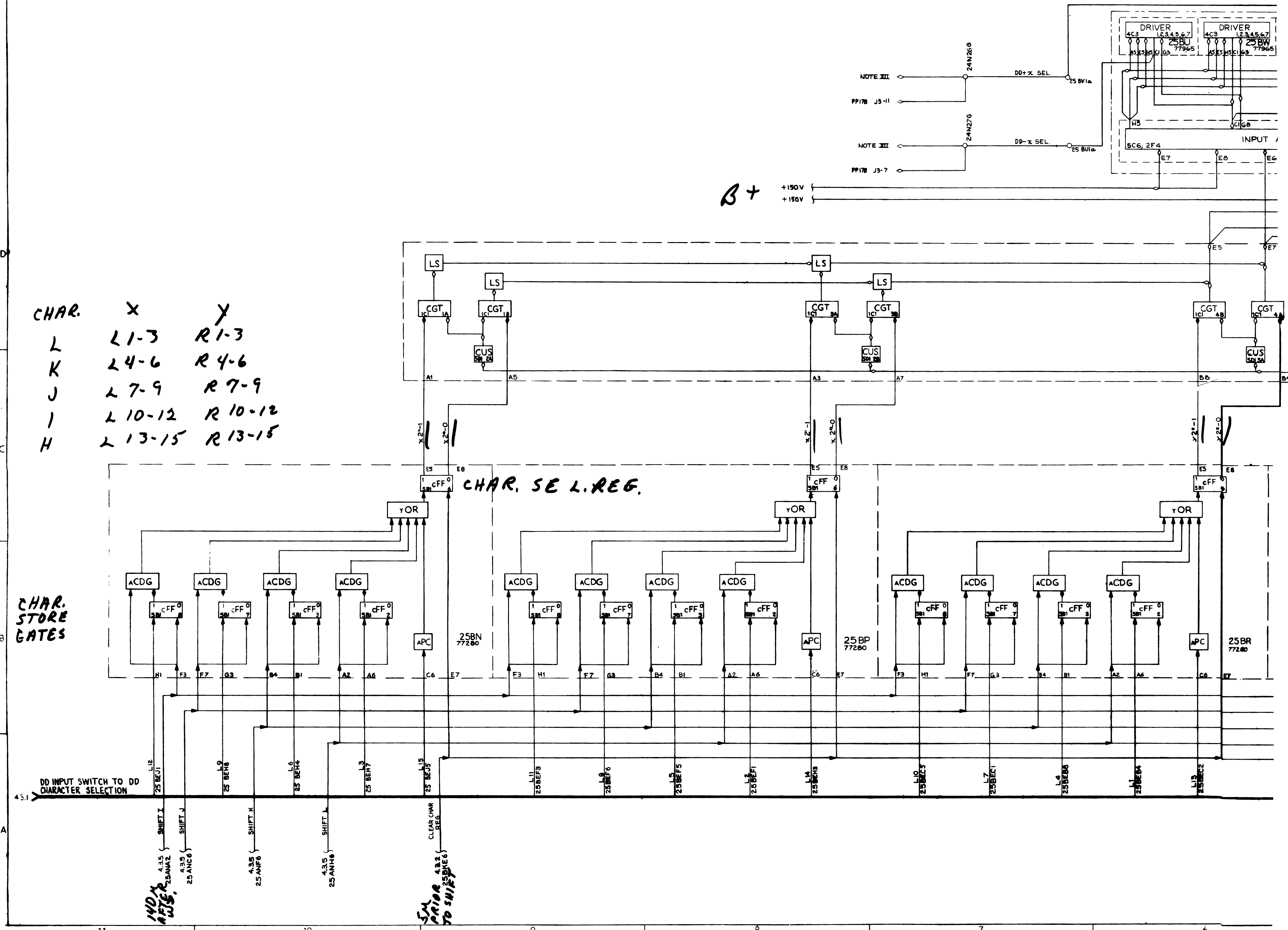


- XIII FOR - 48V POINT TO POINT WIRING SEE LOGIC 7.1.4
- XII CIRCUITRY PHYSICALLY LOCATED IN DUPLEX MAINTENANCE CONSOLE
- XI \* INDICATES PIN NUMBERS CALLED OUT ON MORE THAN ONE DRAWING
- X FOR DISTRIBUTION BOX INFORMATION SEE MANUAL INDICATED

MANUAL	SYSTEM

NOTES:

EC-73828  
3133874



CHAR. X Y

L	L1-3	R1-3
K	L4-6	R4-6
J	L7-9	R7-9
I	L10-12	R10-12
H	L13-15	R13-15

CHAR. STORE GATES

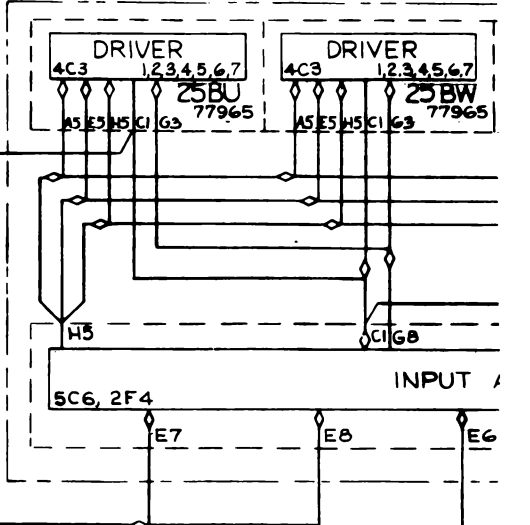
CHAR. SEL. REG.

DD INPUT SWITCH TO DD CHARACTER SELECTION

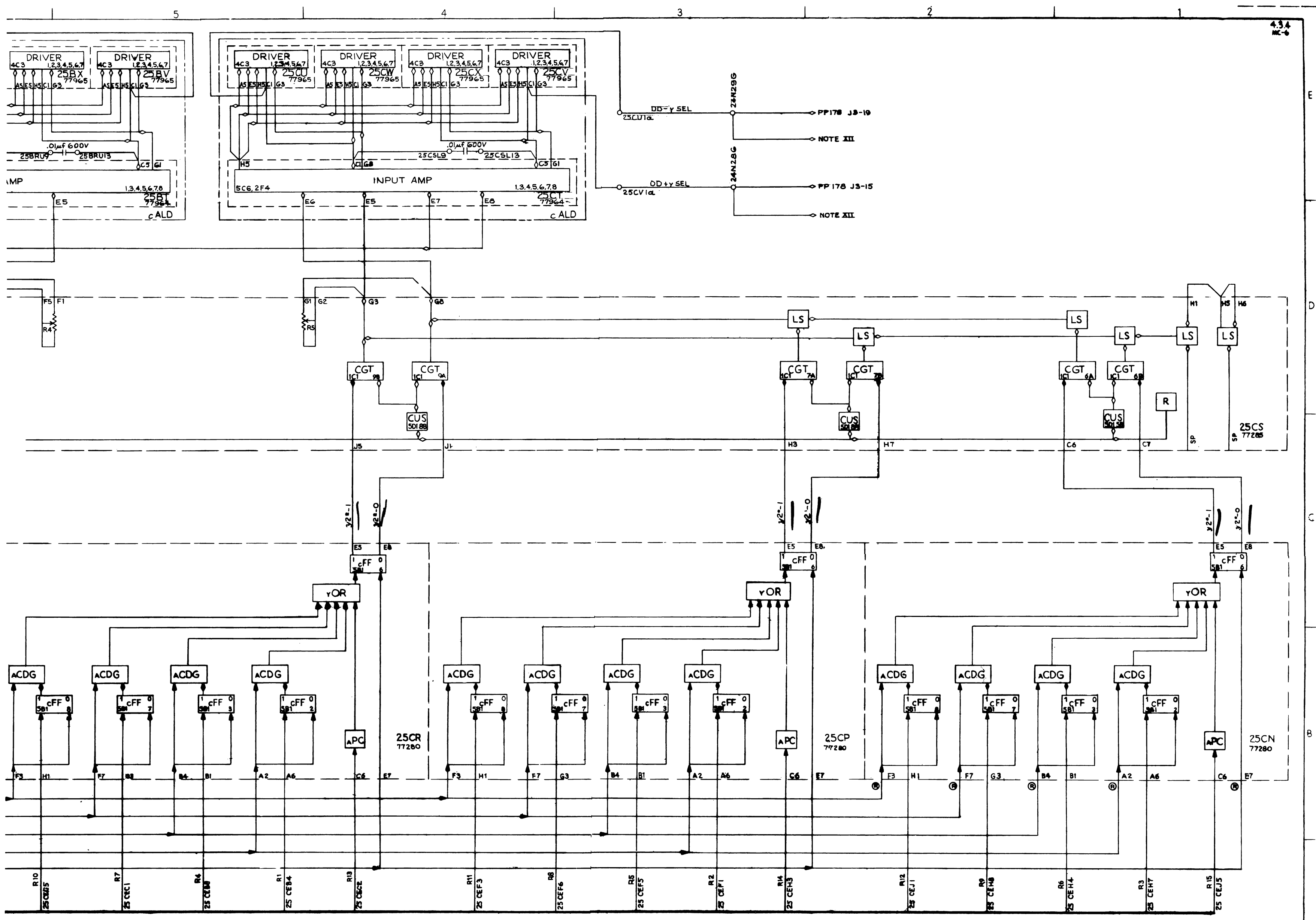
NOV AFTER 25ANAZ 25ANC6

SM PRIOR 4.3.2 CLEAR CHAR REG TO SHIF

B+ +150V +150V







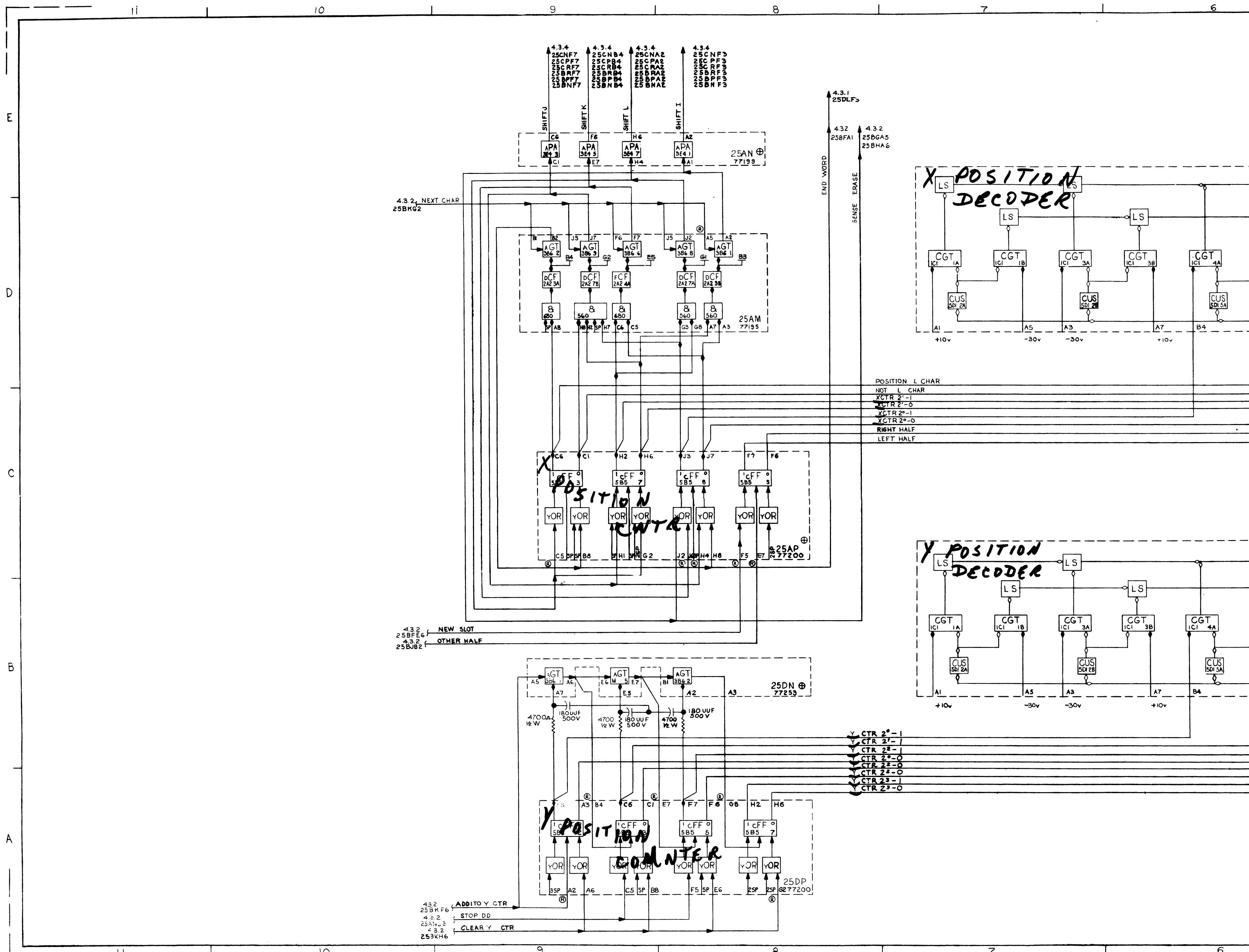
XII FOR DISTRIBUTING BOX INFORMATION  
SEE MANUAL INDICATED  
MANUAL NO. SYSTEM

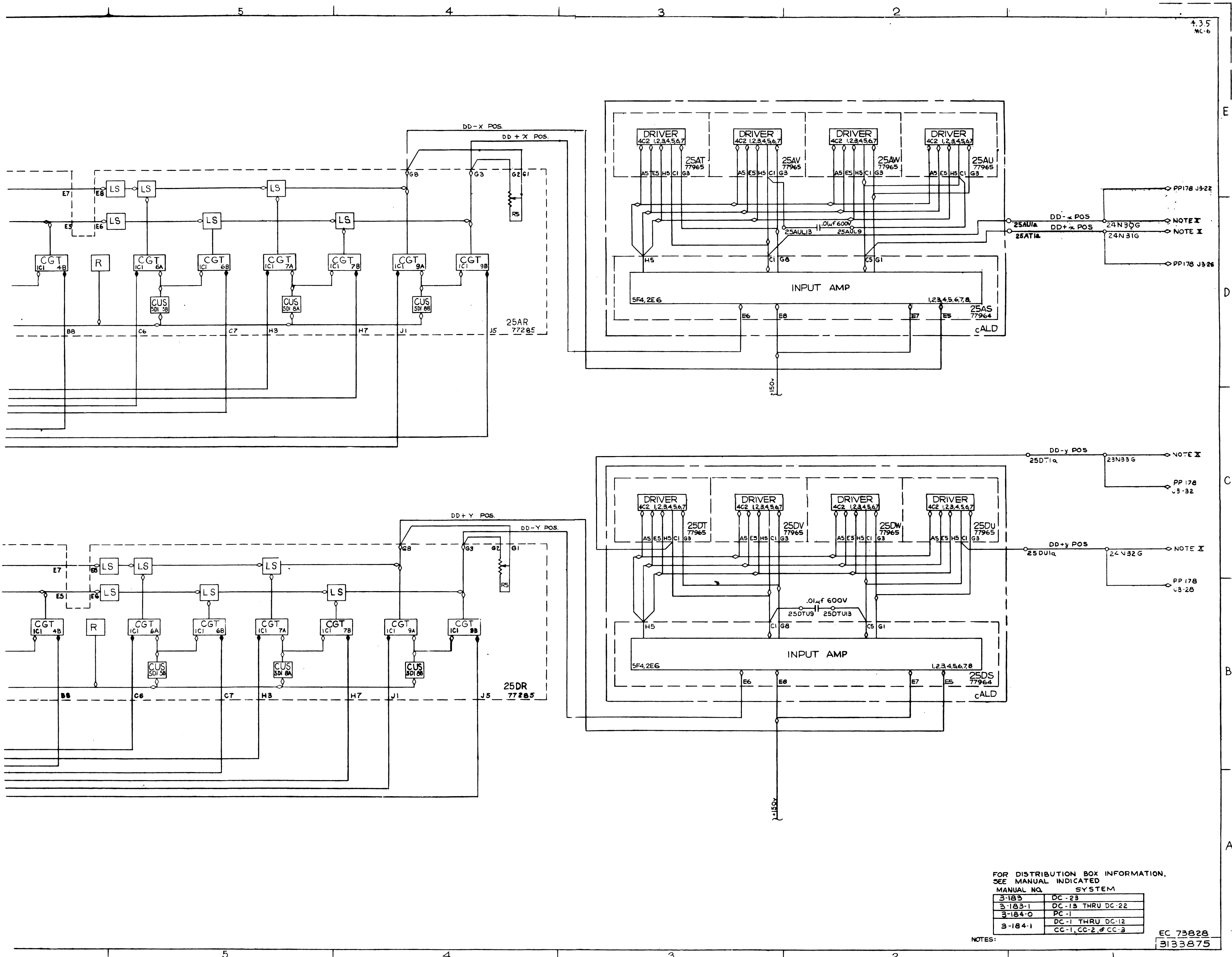
3-183	DC-23
3-183-1	DC-13 THRU DC-22
3-184-0	PC-1
3-184-1	DC-1 THRU DC-12
	CC-1, CC-2 & CC-3

XI COMPUTER "B" DESTINATION 171 (J4) 16  
X COMPUTER "B" DESTINATION 171 (J4) 15

NOTES

E.C. 73828  
3216031





FOR DISTRIBUTION BOX INFORMATION,  
SEE MANUAL INDICATED  
MANUAL NO. SYSTEM

3-183	DC-23
3-183-1	DC-13 THRU DC-22
3-184-0	PC-1
3-184-1	DC-1 THRU DC-12
	CC-1, CC-2, & CC-3

NOTES: EC 73828  
3133875

UNIT# 25 MODULE A		(BB)	(AA)	SPARE Y	SPARE X	77959 W	77960 V	77282 U	77282 T	77281 S	77285 R
2a+150 VRD N5	6D5							1 DRIVER 4.3.5(2E)	1 DRIVER 4.3.5(2E)		1 CGT 4.3.5(7D)
5a+250 CGT R1	6C1							2 DRIVER 4.3.5(2E)	2 DRIVER 4.3.5(3E)		2 CGT 4.3.5(7D)
5b+250 PCF PI	6A5							3 DRIVER 4.3.5(2E)	3 DRIVER 4.3.5(3E)		3 CGT 4.3.5(6D)
5c+150 CF N4	6A1							4 DRIVER 4.3.5(2E)	4 DRIVER 4.3.5(3E)		4 CGT 4.3.5(5D)
5d+150 CF P4	6A2							5 DRIVER 4.3.5(2E)	5 DRIVER 4.3.5(3E)		5 CGT 4.3.5(5D)
5f+90 GT R9	6B4							6 DRIVER 4.3.5(2E)	6 DRIVER 4.3.5(3E)		6 CGT 4.3.5(5D)
5g+90 GT S9	6B5							7 DRIVER 4.3.5(2E)	7 DRIVER 4.3.5(3E)		7 CGT 4.3.5(5D)
5h+90 GT N10	6B6										8 CUS 4.3.5(7D)
5j+90 PA S10	6E4										9 CUS 4.3.5(7D)
6a-300 DRIVER N20	6E3							D8 D8 D8 D8 D8 D8 D8	D8 D8 D8 D8 D8 D8 D8		10 CUS 4.3.5(7D)
6a-300 AMP S19	6E2										11 CUS 4.3.5(7D)
6f-300 AMP R19	6E1										12 CUS 4.3.5(7D)
6g-300 CUS S19	6D1										13 CUS 4.3.5(7D)
6h-300 FF S18	6B5										14 CUS 4.3.5(7D)
6j-300 FF P18	6B2										15 CUS 4.3.5(7D)
6k-300 FF N18	6B1										16 CUS 4.3.5(7D)
6a+90 RELAYS N11	6F5				66		66				17 CUS 4.3.5(7D)
2g -150											18 CUS 4.3.5(7D)
5a +90											19 CUS 4.3.5(7D)
2W1,3W1,4W1 GND			A4, D4, G4		A4, D4, G4		.D4, G4		.D4, G4	A4, D4, G4	A4, D4, G4
-300											
-150											
3j -30	FOR STD SERVICE										D2 A5 A3
-15											E1 A7 A1
+10	WIRING SEE CHART #1										
4d,4e +90											E3 E7 E8
+150	ON DWG #3109735										
+250											
								F8 C8, F4 C4, J8, J4	F8 C8, F4 C4, J8, J4	C8, C4, J8, J4	C8, C4, J8, J4
											F4
											F8

UNIT# 25 MODULE B		(BB)	(AA)	SPARE Y	SPARE X	SPARE W	77282 V	77282 U	77281 T	SPARE S	77280 R
2a+150 VRD N5	6D5						1 DRIVER 4.3.4(5E)	1 DRIVER 4.3.4(6E)			8 CFF 4.3.4(7B)
2b+150 SS P5	6E4						2 DRIVER 4.3.4(5E)	2 DRIVER 4.3.4(6E)			7 CFF 4.3.4(7B)
2a-150 PG S15	6E4						3 DRIVER 4.3.4(5E)	3 DRIVER 4.3.4(6E)			3 CFF 4.3.4(7B)
2f-150 SS S15	6E4						4 DRIVER 4.3.4(5E)	4 DRIVER 4.3.4(6E)			2 CFF 4.3.4(6B)
5a+250 PCF PI	6A5						5 DRIVER 4.3.4(5E)	5 DRIVER 4.3.4(6E)			6 CFF 4.3.4(6C)
5b+90 GT N10	6B6						6 DRIVER 4.3.4(5E)	6 DRIVER 4.3.4(6E)			
5c+90 GT S9	6B5						7 DRIVER 4.3.4(5E)	7 DRIVER 4.3.4(6E)			
5d+150 CF N4	6A1										
5f-300 FF R18	6B4										
5g-300 FF N18	6B1										
5h-300 AMP R19	6E1								D7 D7		D8 D8 D8 D8 D8
5j-300 AMP S19	6E2								D8 D8 D8 D8		
6k-300 DRIVER N20	6E3						D8 D8 D8 D8 D8 D8 D8	D8 D8 D8 D8 D8 D8 D8			
6a+90 PA S10	6E4										
5a -150											
2W1,3W1,4W1 GND			A4, D4, G4		A4, D4, G4	A4, D4, J4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4
-300											
-150											
3j -30	FOR STD SERVICE										
-15											
+10	WIRING SEE CHART #1										
4d,4e +90											
+150	ON DWG # 3109735										
+250											
							F8 C8, F4 C4, J8, J4	F8 C8, F4 C4, J8, J4	C8, C4, J8, J4		F8 C8, F4 C4, J8, J4
											F4
											F8





UNIT# MODULE C	(BB)	(AA)	SPARE Y	SPARE X	SPARE W	77282 V	77282 U	77281 T	77285 S	77280 R	77280
2k-150 CF N15 6B1 5a+250 PCF NI 6A4 5b+250 CGT RI 6C1						1 DRIVER 4.3.4(4E) 2 DRIVER 4.3.4(4E) 3 DRIVER 4.3.4(4E) 4 DRIVER 4.3.4(4E) 5 DRIVER 4.3.4(4E) 6 DRIVER 4.3.4(4E) 7 DRIVER 4.3.4(4E)	1 DRIVER 4.3.4(4E) 2 DRIVER 4.3.4(4E) 3 DRIVER 4.3.4(4E) 4 DRIVER 4.3.4(4E) 5 DRIVER 4.3.4(4E) 6 DRIVER 4.3.4(4E) 7 DRIVER 4.3.4(4E)	5 AMP 4.3.4(4E) 6 AMP 4.3.4(4E) 1 AMP 4.3.4(4E) 2 CUS 4.3.4(4E) 3 CF 4.3.4(4E) 4 CUS 4.3.4(4E) 7 CF 4.3.4(4E) 8 CF 4.3.4(4E)	1 CGT 4.3.4(4E) 3 CGT 4.3.4(4E) 4 CGT 4.3.4(4E) 6 CGT 4.3.4(4E) 7 CGT 4.3.4(4E) 8 CUS 4.3.4(4E) 9 CUS 4.3.4(4E) 10 CUS 4.3.4(4E) 11 CUS 4.3.4(4E) 12 CUS 4.3.4(4E)	2 CFF 4.3.4(4E) 3 CFF 4.3.4(4E) 6 CFF 4.3.4(4E) 7 CFF 4.3.4(4E) 8 CFF 4.3.4(4E)	2 CFF 4.3.4(4E) 3 CFF 4.3.4(4E) 6 CFF 4.3.4(4E) 7 CFF 4.3.4(4E) 8 CFF 4.3.4(4E)
5c+150 CF P4 6A2 5d+90 GT R9 6B4 6B1 5g-300 FF N18 6B1 5b-300 FF P18 6B2 5j-300 FF S18 6B5 5k-300 CUS P19 6D1										D8 D8 D8 D8 D8	D8 D8 D8 D8 D8
6a-300 FF R18 6B4 6h-300 AMP R19 6E1 6j-300 AMP S19 6E2								D7 D7 D8 D8 D8 D8			
6k-300 DRIVER P20 6E3 2g-150						D8 D8 D8 D8 D8 D8 D8	D8 D8 D8 D8 D8 D8 D8	B7 B7			
2W, 3W, 4W GND -300 -150 -30 -15 +10 +90 +150 +250 +15			A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4
3j								E3 E7 E8			
						C8, C4, F8, F4	C8, C4	C8, C4	F8, F4 C8, C4, J8, J4	C8, C4	C8, C4, F8, F4
						J8, J4	J8 F8, J4 F4	J8, J4 F8 F4		J8 F8, J4 F4	J8, J4

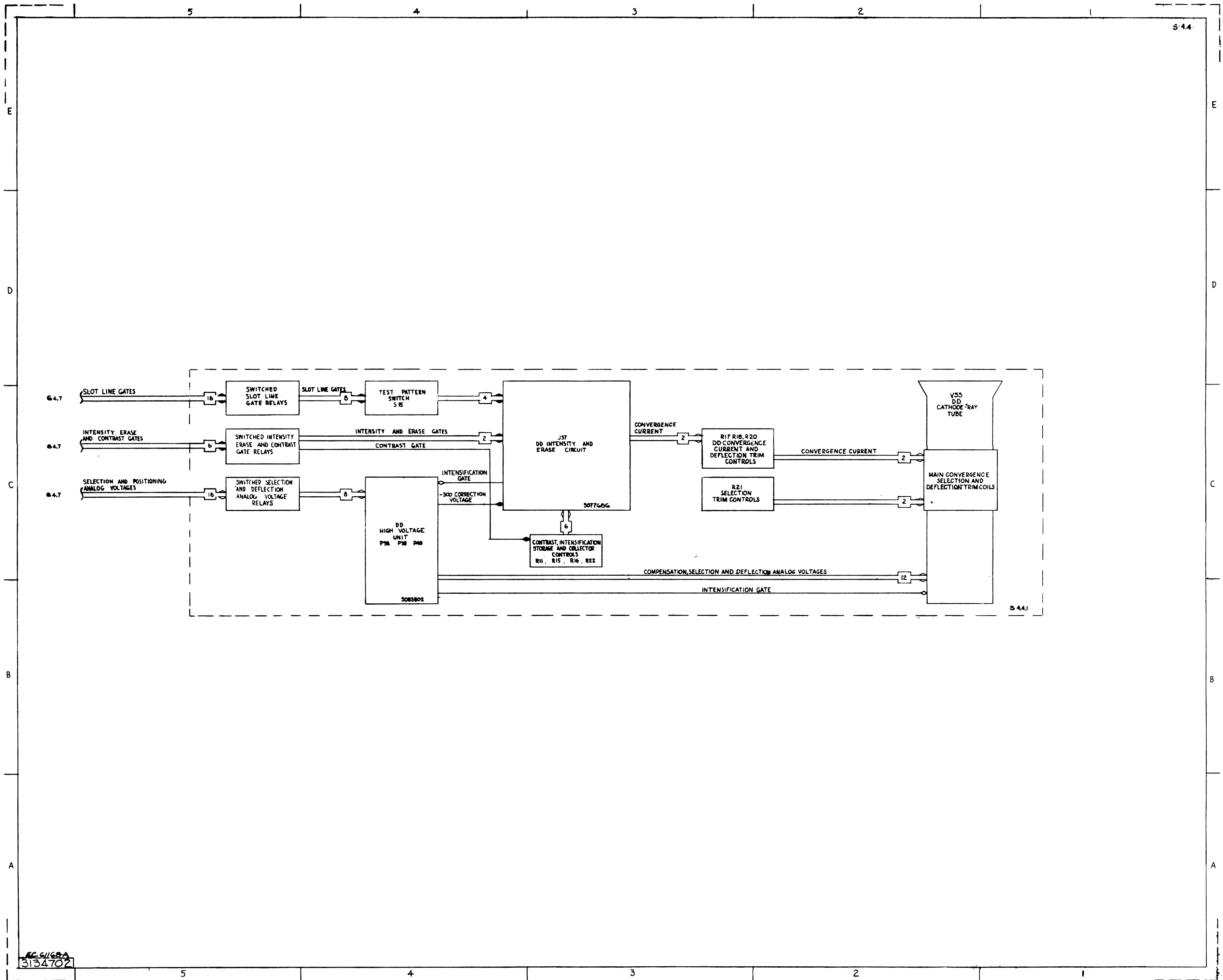
UNIT# MODULE D	(BB)	(AA)	77958 Y	SPARE X	SPARE W	SPARE V	77282 U	77282 T	77281 S	77285 R	77200	
2k-150 CF N15 6B1 5a+250 PCF NI 6A4 5b+250 CGT RI 6C1			5 EPS 4.3.1(9E) 3 EPS 4.3.1(9E) 2 EOSC 4.3.1(9D) 7 B PA 4.3.1(9E) 8 ALG 4.3.1(9D) 4 EPS 4.3.1(9E) 6 EPS 4.3.1(9E)				1 DRIVER 4.3.5(2C) 2 DRIVER 4.3.5(2C) 3 DRIVER 4.3.5(2C) 4 DRIVER 4.3.5(2C) 5 DRIVER 4.3.5(2C) 6 DRIVER 4.3.5(2C) 7 DRIVER 4.3.5(2C)	1 DRIVER 4.3.5(3C) 2 DRIVER 4.3.5(3C) 3 DRIVER 4.3.5(3C) 4 DRIVER 4.3.5(3C) 5 DRIVER 4.3.5(3C) 6 DRIVER 4.3.5(3C) 7 DRIVER 4.3.5(3C)	5 AMP 4.3.5(2B) 6 AMP 4.3.5(2B) 1 AMP 4.3.5(2B) 2 CUS 4.3.5(2B) 3 CF 4.3.5(2B) 4 CUS 4.3.5(2B) 7 CF 4.3.5(2B) 8 CF 4.3.5(2B)	1 CGT 4.3.5(7B) 3 CGT 4.3.5(7B) 4 CGT 4.3.5(6B) 6 CGT 4.3.5(6B) 7 CGT 4.3.5(6B) 9 CGT 4.3.5(4B) 2 CUS 4.3.5(7B) 3 CUS 4.3.5(7B) 4 CUS 4.3.5(7B) 5 CUS 4.3.5(7B)	2 CFF 4.3.5(9A) 3 CFF 4.3.5(9A) 5 CFF 4.3.5(8A) 7 CFF 4.3.5(8A)	2 CFF SPARE 3 CFF SPARE 5 CFF SPARE 7 CFF SPARE 8 CFF SPARE
5c+150 CF P4 6A2 5d+90 GT N10 6B6 5f-300 FF S18 6B5										D8 D8 D8 D8 D8	D8 D8 D8 D8 D8	
5g-300 CUS P19 6D1 5h-300 AMP R19 6E1 5j-300 AMP S19 6E2								D7 D7 D8 D8 D8 D8				
5k-300 DRIVER P20 6E3 6a+90 OSC P9 6B2 2g-150			G6 D5 B6 B5 D7			D8 D8 D8 D8 D8 D8 D8	D8 D8 D8 D8 D8 D8 D8	B7 B7 B7				
2W, 3W, 4W GND -300 -150 -30 -15 +10 +90 +150 +250			A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	A4, D4, G4	
3j										D2 A5 A		
								E3, E7, E8		E1 A1 A7		
						C8, C4	F8 C8, F4 C4, J8, J4	F8 C8, F4 C4, J8, J4	C8, C4, J4, J8	C8, C4 F8, F4 J8, J4	F8 C8, F4 C4, J8, J4	





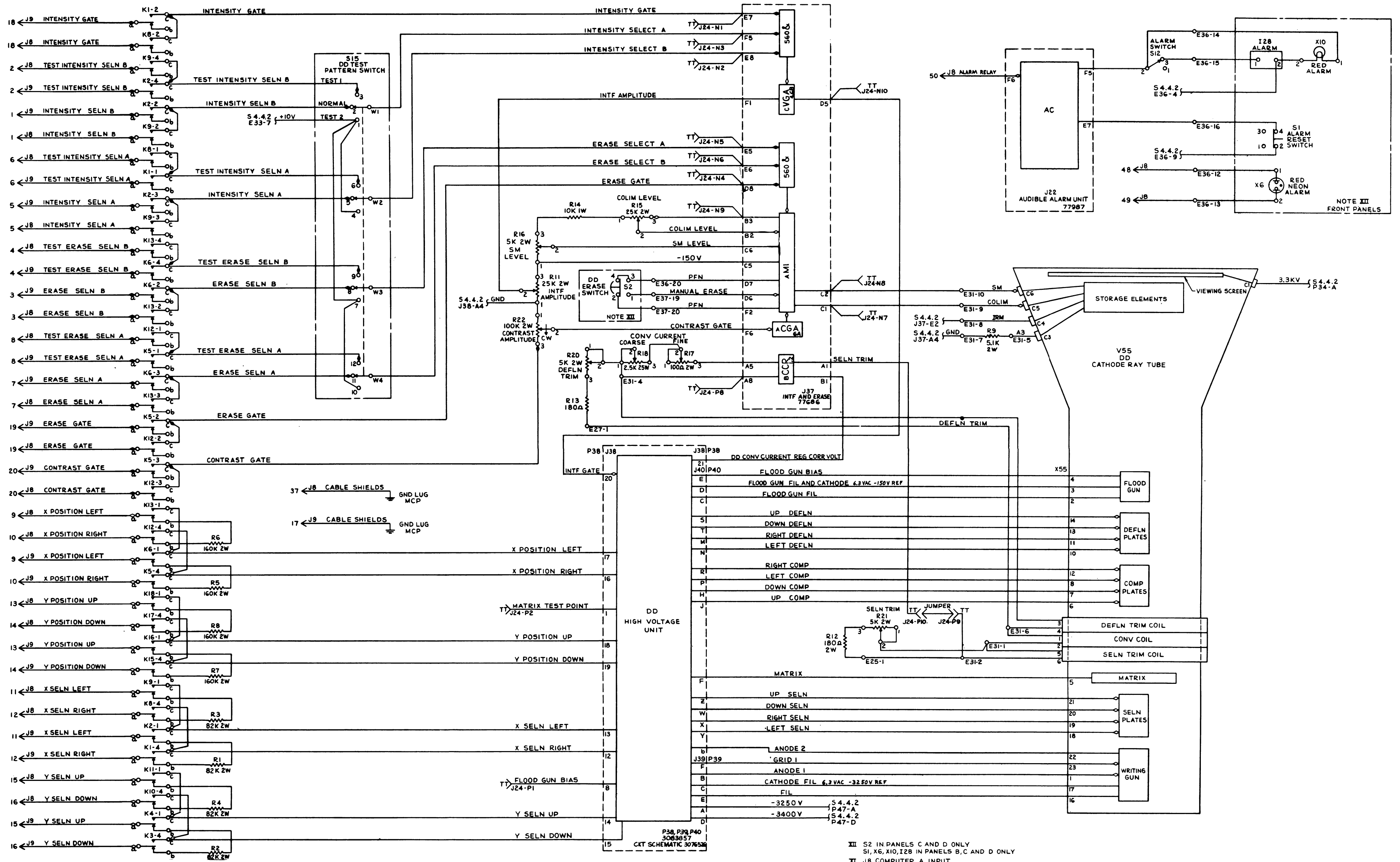




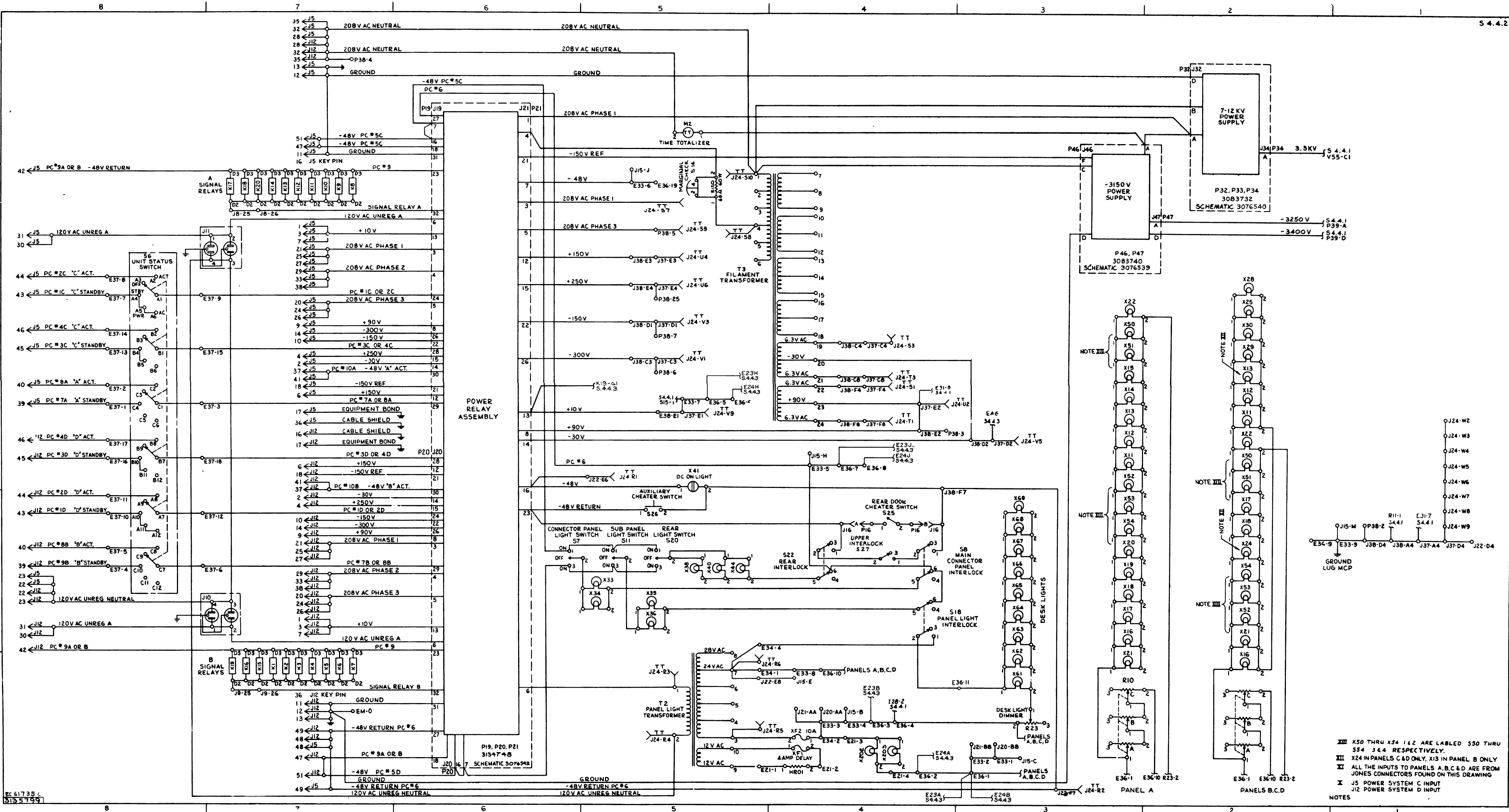


RC-51168A  
3134702

Auxiliary Console Block Diagram



Auxiliary Console Digital Display



III X50 THRU X54 I & 2 ARE LABELED 550 THRU 554 J 4.4 RESPECTIVELY.  
 XII X24 IN PANELS C & D ONLY, X13 IN PANEL B ONLY  
 XI ALL THE INPUTS TO PANELS A, B, C & D ARE FROM JONES CONNECTORS FOUND ON THIS DRAWING  
 X J5 POWER SYSTEM C INPUT  
 J2 POWER SYSTEM D INPUT  
 NOTES

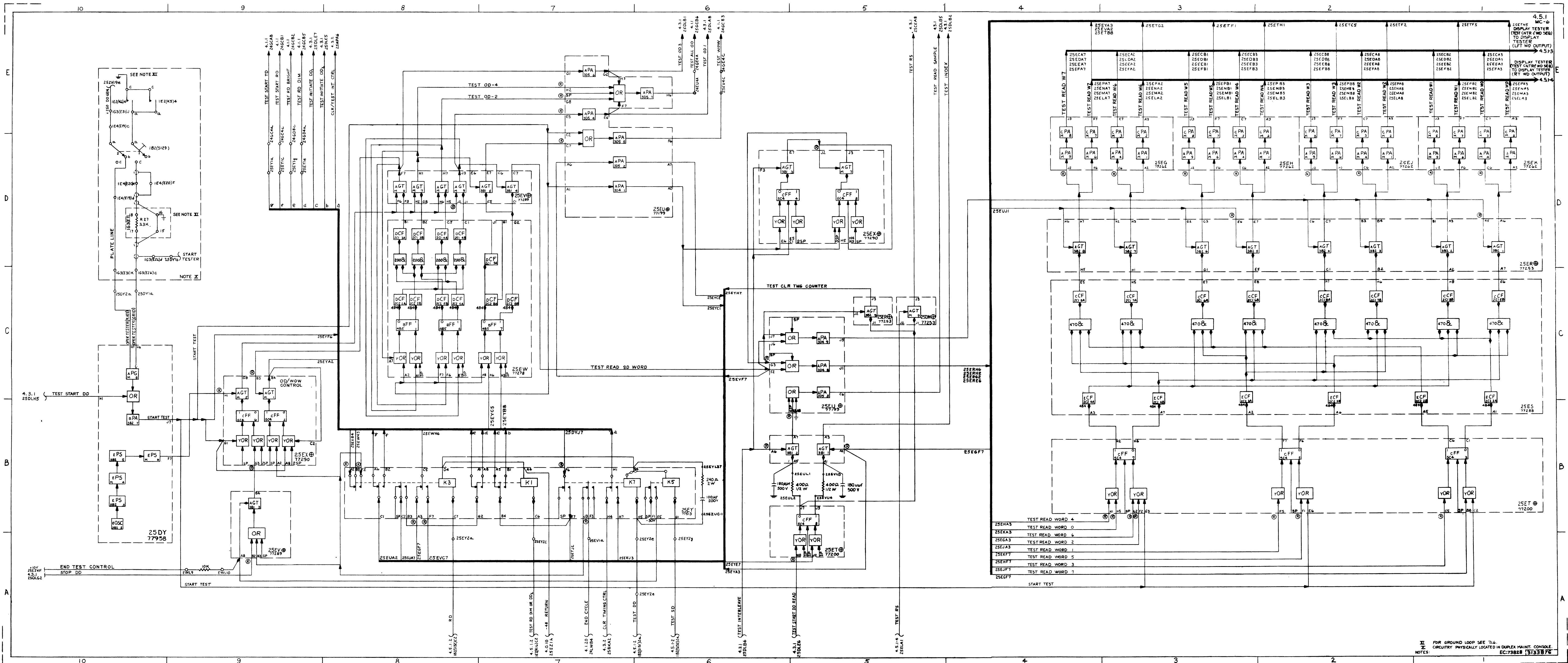
Auxiliary Console Power Distribution

	10	9	8	7	6	5	4	3	2	1	
A	○	○	○	○	○	○	○	○	○	○	A
B	○	○	○	○	○	○	○	○	○	○	B
C	○	○	○	○	○	○	○	○	○	○	C
D	○	○	○	○	○	○	○	○	○	○	D
E	○	○	○	○	○	○	○	○	○	○	E
F	○	○	○	○	○	○	○	○	○	○	F
G	○	○	○	○	○	○	○	○	○	○	G
H	○	○	○	○	○	○	○	○	○	○	H
J	○	○	○	○	○	○	○	○	○	○	J
K	○	○	○	○	○	○	○	○	○	○	K
L	○	○	○	○	○	○	○	○	○	○	L
M	○	○	○	○	○	○	○	○	○	○	M
N	○	○	○	○	○	○	○	○	○	○	N
P	○	○	○	○	○	○	○	○	○	○	P
R	○	○	○	○	○	○	○	○	○	○	R
S	○	○	○	○	○	○	○	○	○	○	S
T	○	○	○	○	○	○	○	○	○	○	T
U	○	○	○	○	○	○	○	○	○	○	U
V	○	○	○	○	○	○	○	○	○	○	V
W	○	○	○	○	○	○	○	○	○	○	W
	10	9	8	7	6	5	4	3	2	1	

J24 TEST POINTS, AUX CONSOLE

Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic
A5	-	-	-	D2	-	-	-
A6	-	-	-	D3	-	-	-
A7	-	-	-	D4	-	-	-
A8	-	-	-	D5	-	-	-
A9	-	-	-	D6	-	-	-
A10	-	-	-	D7	-	-	-
B1	-	-	-	D8	-	-	-
B2	-	-	-	D9	-	-	-
B3	-	-	-	D10	-	-	-
B4	-	-	-	E1	-	-	-
B5	-	-	-	E2	-	-	-
B6	-	-	-	E3	-	-	-
B7	-	-	-	E4	-	-	-
B8	-	-	-	E5	-	-	-
B9	-	-	-	E6	-	-	-
B10	-	-	-	E7	-	-	-
C1	-	-	-	E8	-	-	-
C2	-	-	-	E9	-	-	-
C3	-	-	-	E10	-	-	-
C4	-	-	-	F1	-	-	-
C5	-	-	-	F2	-	-	-
C6	-	-	-	F3	-	-	-
C7	-	-	-	F4	-	-	-
C8	-	-	-	F5	-	-	-
C9	-	-	-	F6	-	-	-
C10	-	-	-	F7	-	-	-
D1	-	-	-	F8	-	-	-
				F9	-	-	-
				F10	-	-	-
				G1	-	-	-
				G2	-	-	-
				G3	-	-	-
				G4	-	-	-
				G5	-	-	-
				G6	-	-	-
				G7	-	-	-
				G8	-	-	-
				G9	-	-	-
				G10	-	-	-
				H1	-	-	-
				H2	-	-	-
				H3	-	-	-
				H4	-	-	-
				H4	-	-	-
				H5	-	-	-
				H6	-	-	-
				H7	-	-	-
				H8	-	-	-
				H9	-	-	-
				H10	-	-	-
				J1	-	-	-
				J2	-	-	-
				J3	-	-	-
				J4	-	-	-
				J5	-	-	-
				J6	-	-	-
				J7	-	-	-

Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic	Test Point	Signal/Voltage	Connects	Logic
J8	-	-	-	M6	-	-	-	R4	120V AC NEUTRAL	T2-2	4.4.2	U2	+90V	J37-E2	4.4.2	W9	GROUND	J37-D4	
J9	-	-	-	M7	-	-	-	R5	PANEL LIGHT LINE	T2-3	4.4.2	U3	-	-	-	W10	-	-	-
J10	-	-	-	M8	-	-	-	R6	PANEL LIGHT LINE	T2-7	4.4.2	U4	+150V	J37-E3	4.4.2				XI 6.3V AC between S1 and T1 +90V to ground W2
K1	-	-	-	M9	-	-	-	R7	-	-	-	U5	-	-	-				X 6.3V AC between S3 and T3 -30V to ground W2
K2	-	-	-	M10	-	-	-	R8	-	-	-	U6	+250V	J37-E4	4.4.2				NOTES:
K3	-	-	-	N1	DD INTENSIFY GATE	J37-E7	4.4.1	R9	-	-	-	U7	-	-	-				
K4	-	-	-	N2	DD INTENSIFY SEL 2	J37-E8	4.4.1	R10	-	-	-	U8	-	-	-				
K5	-	-	-	N3	DD INTENSIFY SEL 1	J37-F5	4.4.1	S1	6.3V AC +90V REF NOTE XI	J37-F4 note a	4.4.2	U9	-	-	-				
K6	-	-	-	N4	DD ERASE GATE	J37-D8	4.4.1	S2	-	-	-	U10	-	-	-				
K7	-	-	-	N5	DD ERASE SEL 1	J37-E5	4.4.1	S3	6.3V AC -30V REF NOTE X	J37-C4 note b	4.4.2	V1	-300V	J37-C3	4.4.2				
K8	-	-	-	N6	DD ERASE SEL 1	J37-E6	4.4.1	S4	-	-	-	V2	-	-	-				
K9	-	-	-	N7	COLLECTOR MESH	J37-C1	4.4.1	S5	-	-	-	V3	-150V	J37-D1	4.4.2				
K10	-	-	-	N8	STORAGE MESH	J37-C2	4.4.1	S6	-	-	-	V4	-	-	-				
L1	-	-	-	N9	COLLECTOR MESH LEVEL	J37-B3	4.4.1	S7	208V AC β1	P21-3	4.4.2	V5	-30V	J37-D2	4.4.2				
L2	-	-	-	N10	DD INTENSIFY GATE	J37-D5	4.4.1	S8	208V AC β2	T3-3	4.4.2	V6	-	-	-				
L3	-	-	-	P1	DD FLOOD GUN BIAS	P38-8	4.4.1	S9	208V AC β3	P38-5	4.4.2	V7	-	-	-				
L4	-	-	-	P2	DD MATRIX	P38-1	4.4.1	S10	208V AC NEUTRAL	T3-1	4.4.2	V8	-	-	-				
L5	-	-	-	P3	-	-	-	T1	6.3V AC +90V REF NOTE XI	J37-F8 note a	4.4.2	V9	+10V	J37-E1	4.4.2				
L6	-	-	-	P4	-	-	-	T2	-	-	-	V10	-	-	-				
L7	-	-	-	P5	-	-	-	T3	6.3V AC -30V REF NOTE X	J37-C8 note b	4.4.2	W1	-	-	-				
L8	-	-	-	P6	-	-	-	T4	-	-	-	W2	GROUND	J24-W3	4.4.2				
L9	-	-	-	P7	-	-	-	T5	-	-	-	W3	GROUND	F24-W4	4.4.2				
L10	-	-	-	P8	DD TEST CONV REG	J37-A8	4.4.1	T6	-	-	-	W4	GROUND	F24-W5	4.4.2				
M1	-	-	-	P9	DD CONVERGENCE CURRENT	E31-2	4.4.1	T7	-	-	-	W5	GROUND	J24-W6	4.4.2				
M2	-	-	-	P10	DD CONVERGENCE CURRENT	J37-A1	4.4.1	T8	-	-	-	W6	GROUND	J24-W7	4.4.2				
M3	-	-	-	R1	-48V	J22-E6	4.4.2	T9	-	-	-	W7	GROUND	J24-W8	4.4.2				
M4	-	-	-	R2	-48V RETURN	J22-F7	4.4.2	T10	-	-	-	W8	GROUND	J24-W9	4.4.2				
M5	-	-	-	R3	120V AC	T2-1	4.4.2	U1	-	-	-								



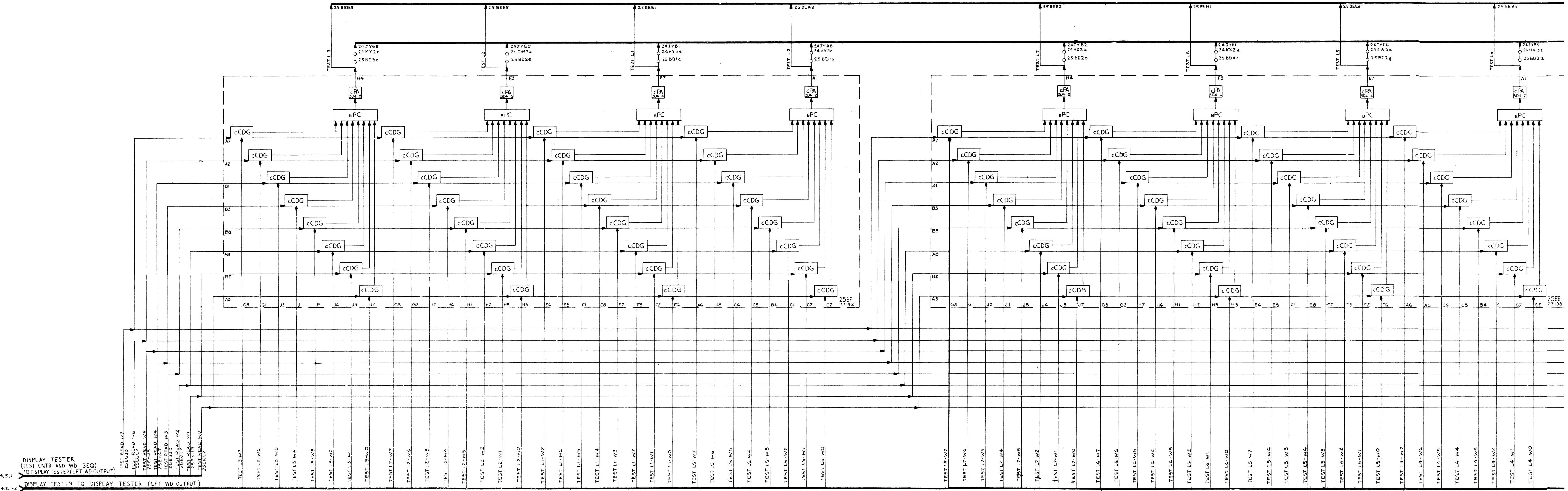
Display Tester (Test Control & Word Sequencer)





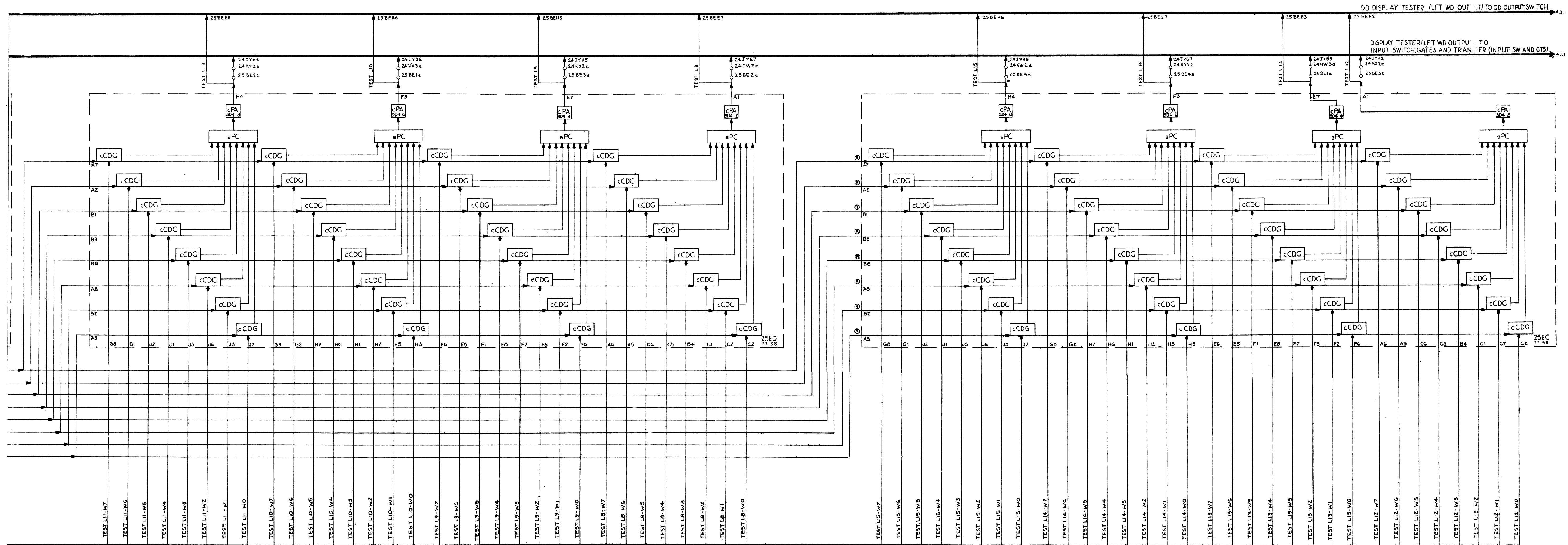






4.5.1 DISPLAY TESTER (TEST CNTR AND WD SEQ)  
 TO DISPLAY TESTER (LFT WD OUTPUT)

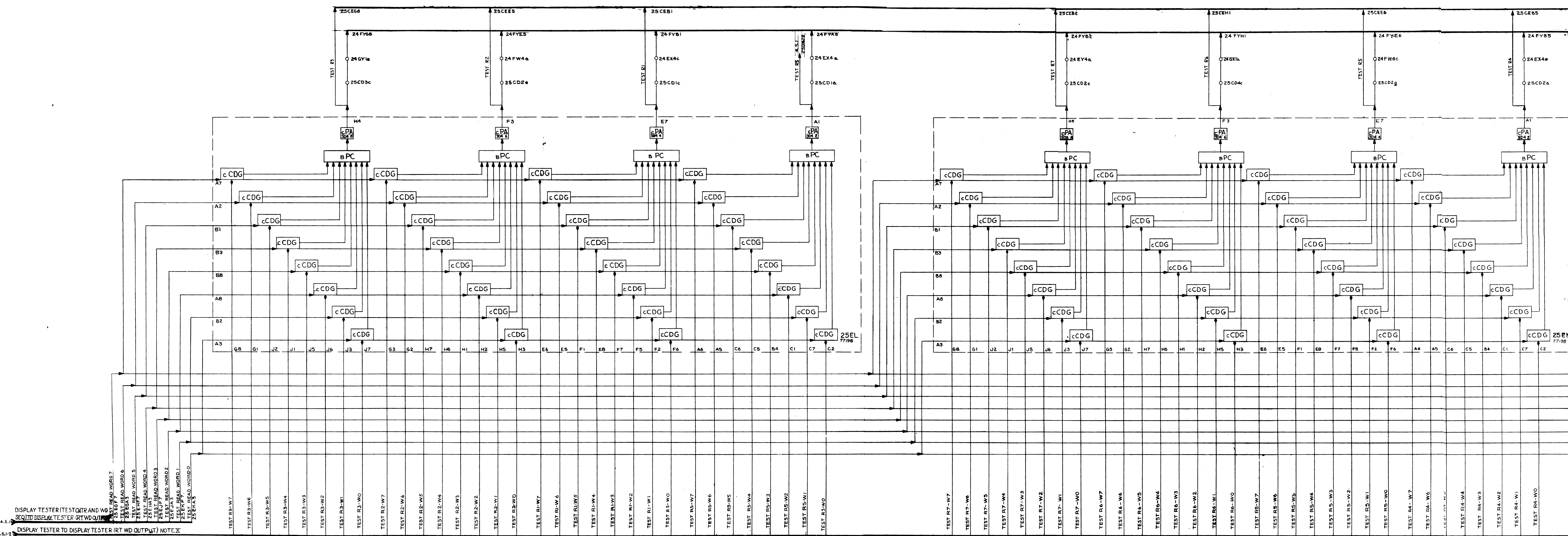
4.5.1-2 DISPLAY TESTER TO DISPLAY TESTER (LFT WD OUTPUT)



FOR SOURCE INFORMATION FOR TEST L-W  
LINES: REFER TO CHART ON 4.5.1-2  
NOTES:

Display Tester (Left WD Output)

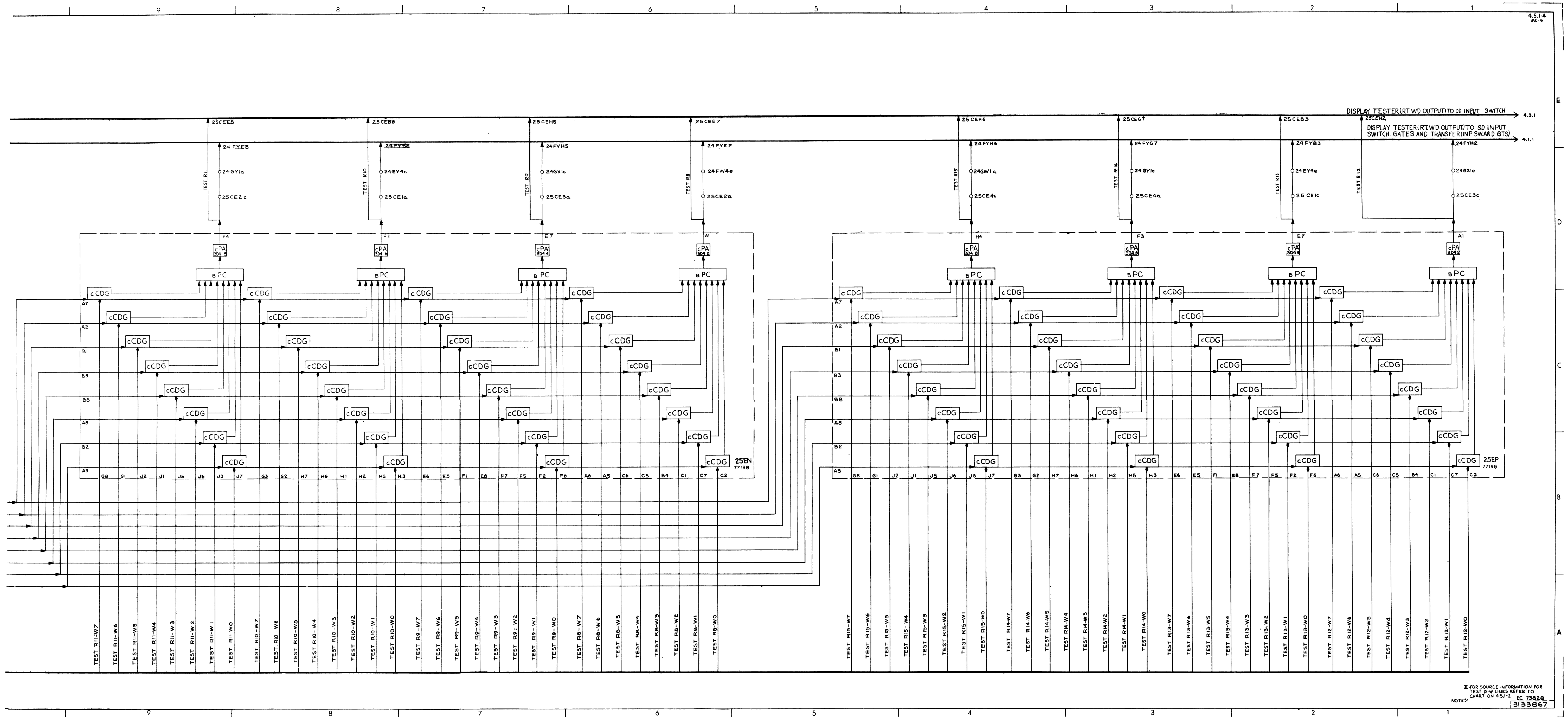




4.5.1-1  
4.5.1-2

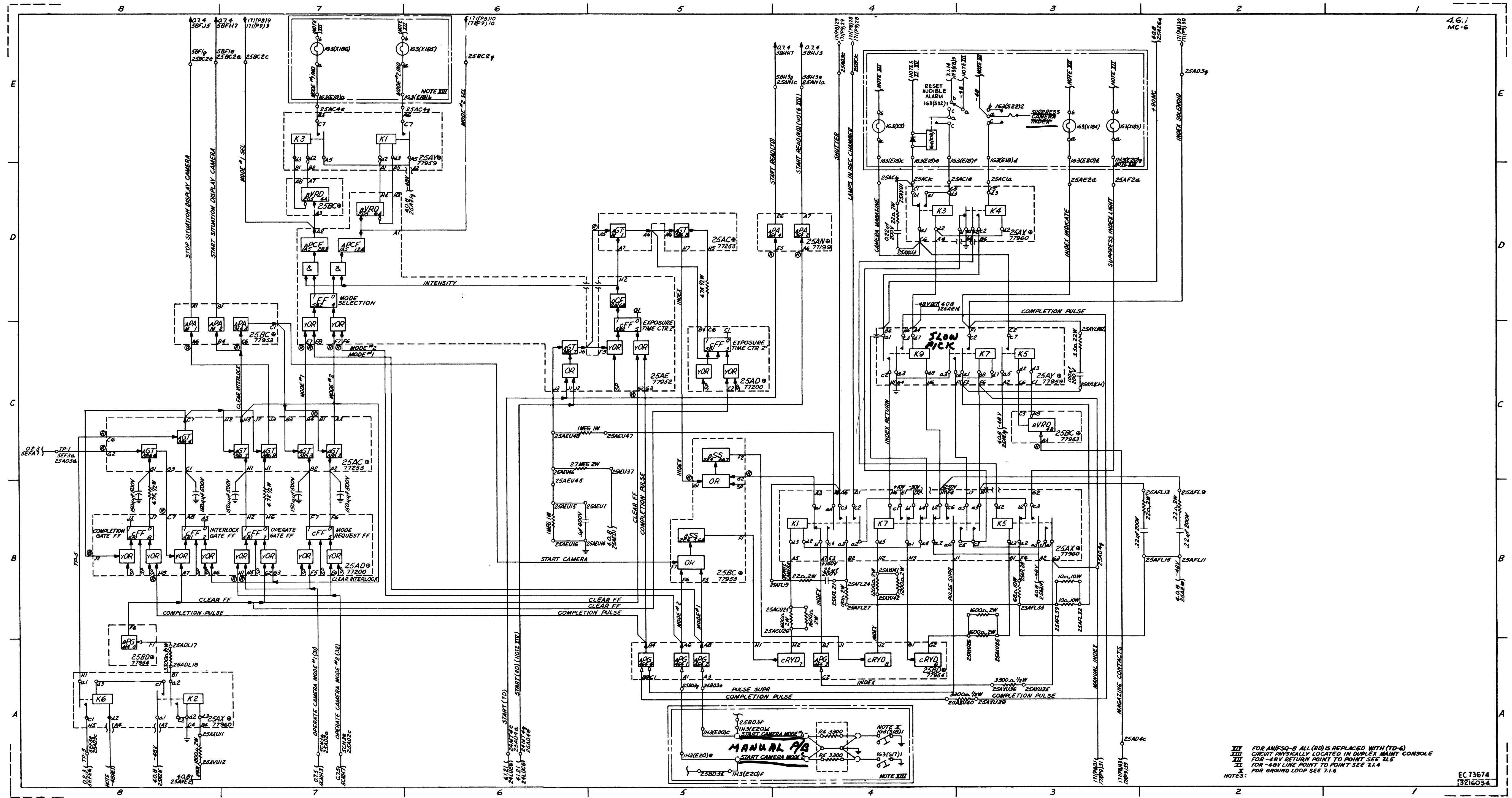
DISPLAY TESTER TEST QTR AND WD  
REQ'D TO DISPLAY TESTER RT WD OUTPUT

DISPLAY TESTER TO DISPLAY TESTER (RT WD OUTPUT) NOTE X



\* FOR SOURCE INFORMATION FOR  
 TEST R-W LINES REFER TO  
 CHART ON 451-2  
 NOTES EC 73428  
 3133667

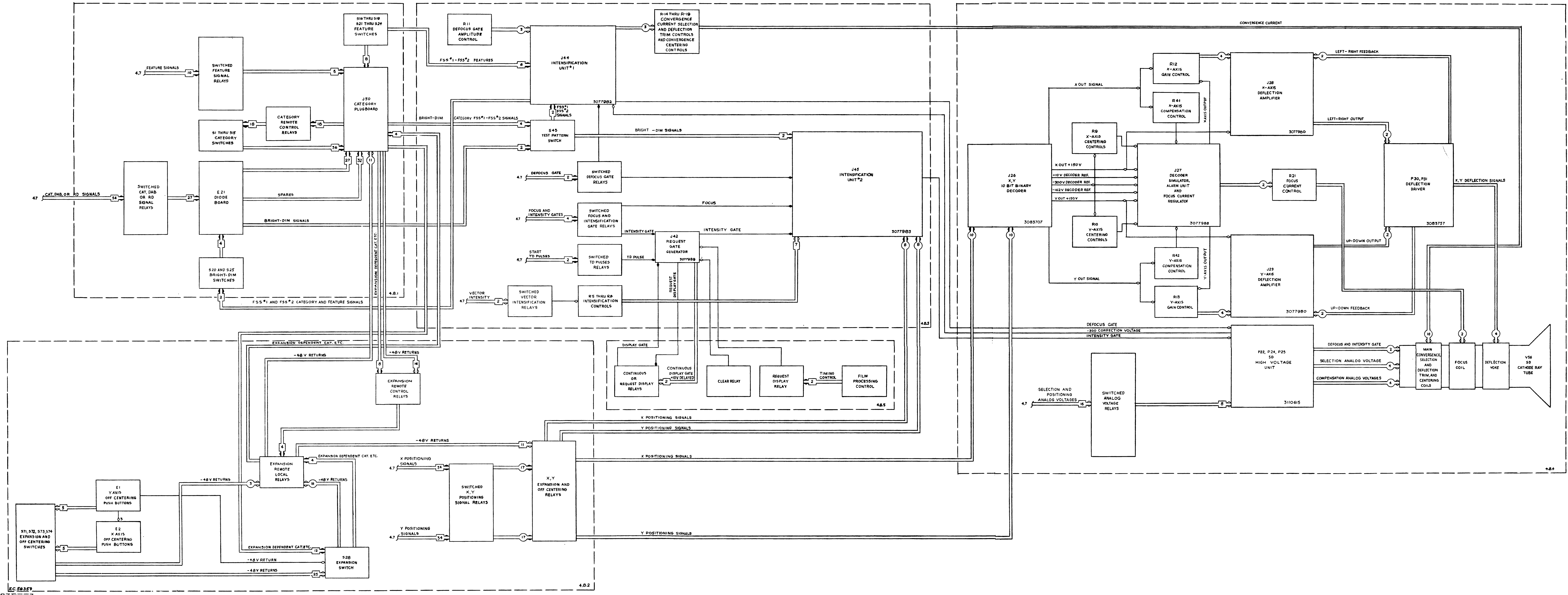
Display Tester (Right WD Output)



SD Camera Control

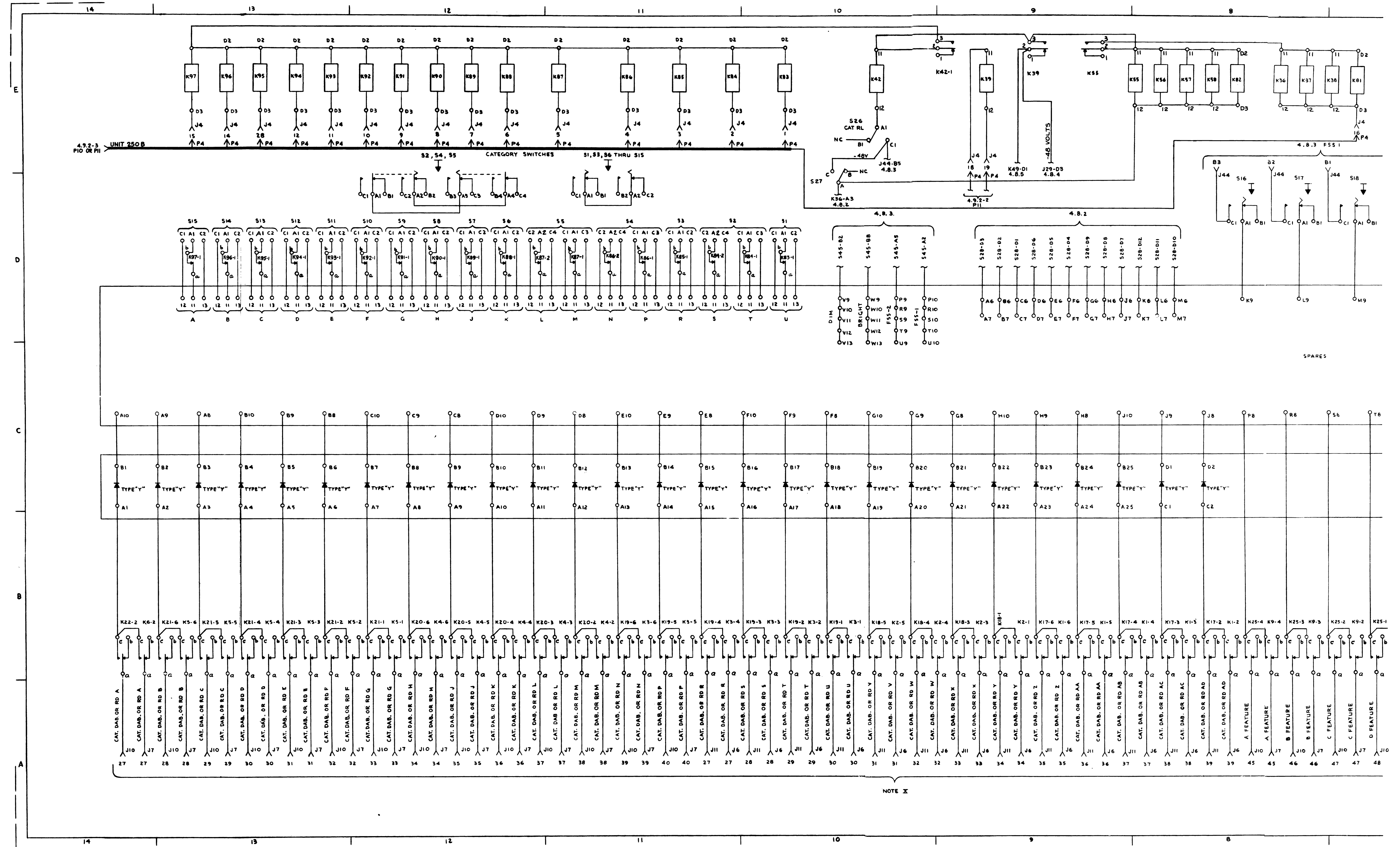
NOTE I: FOR AN150-2 ALL (RD) IS REPLACED WITH (TD-6)  
 NOTE II: CIRCUIT PHYSICALLY LOCATED IN DUPLEX MAINT CONSOLE  
 NOTE III: FOR -48V RETURN POINT TO POINT SEE 7.1.5  
 NOTE IV: FOR -48V LINE POINT TO POINT SEE 7.1.4  
 NOTE V: FOR GROUNDING LOOP SEE 7.1.6

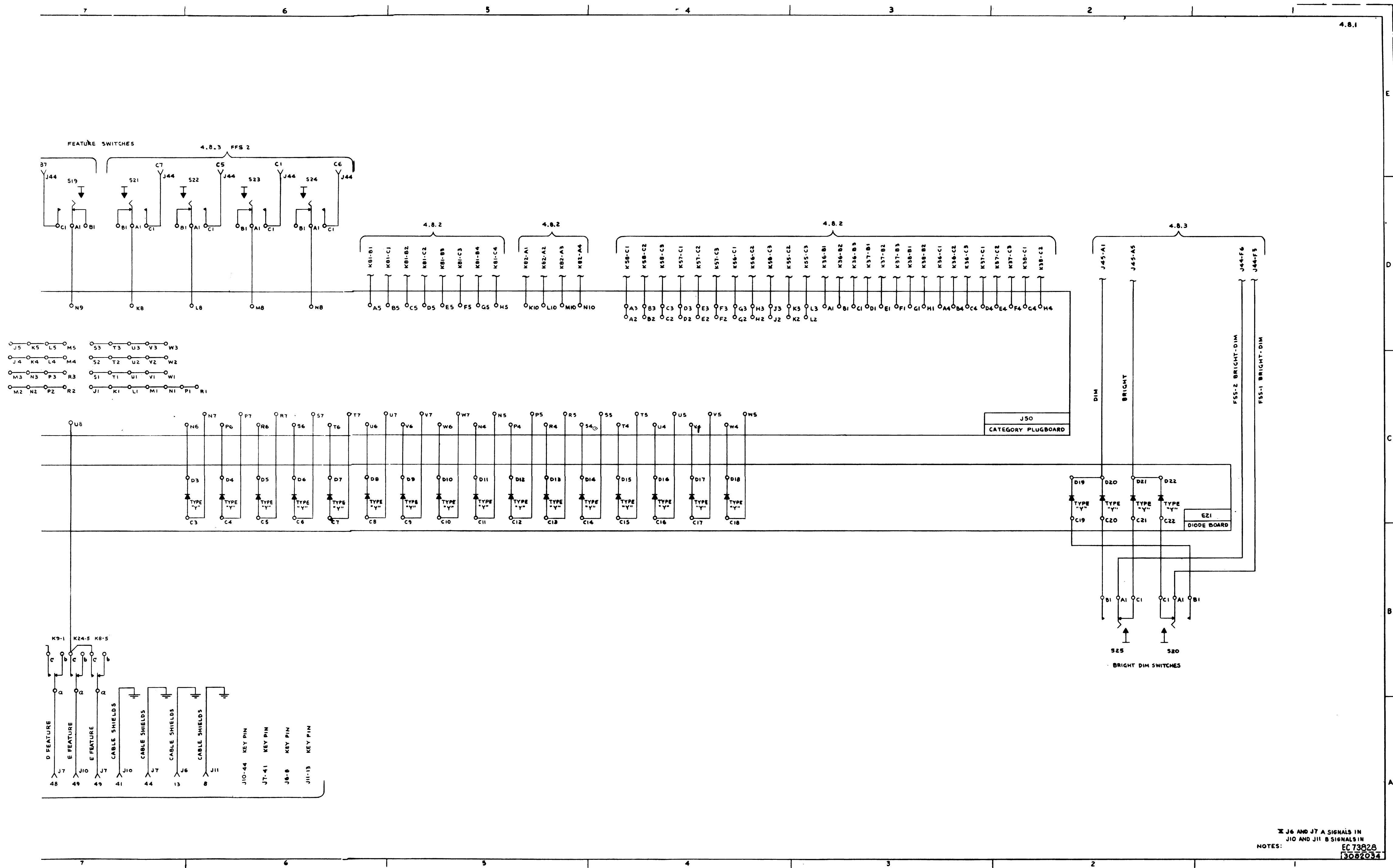


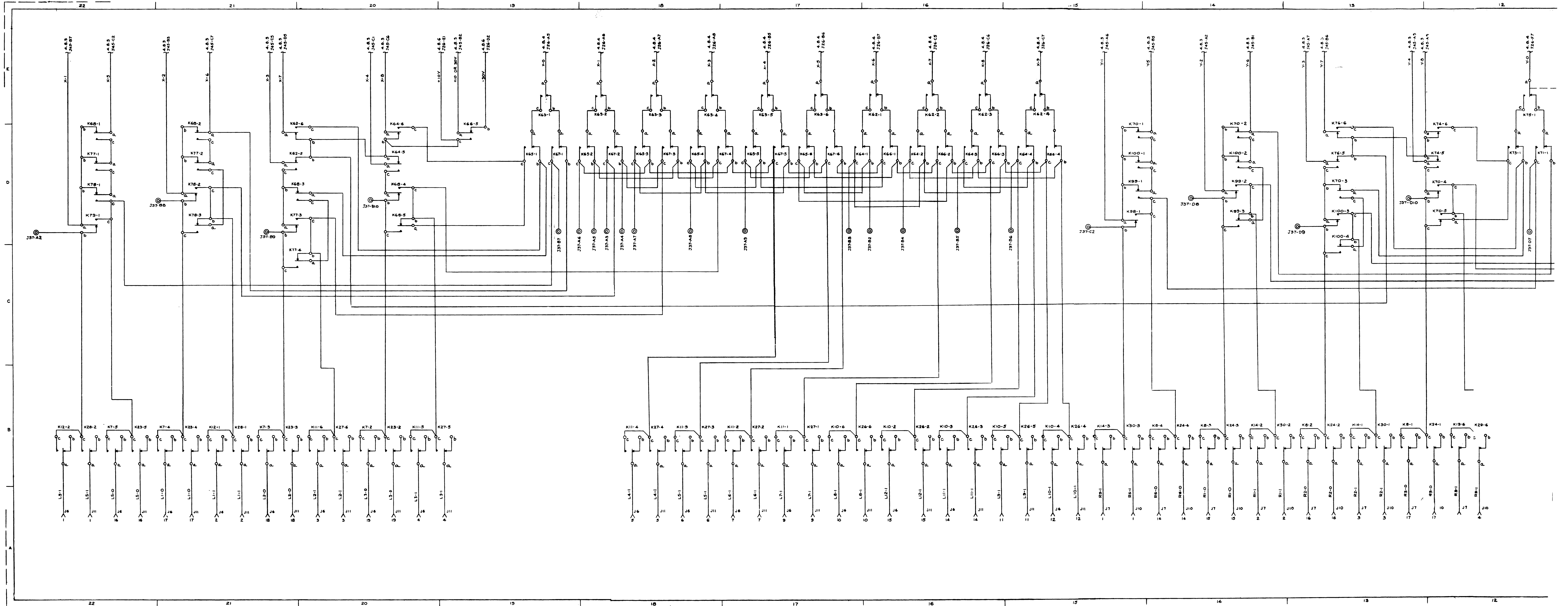


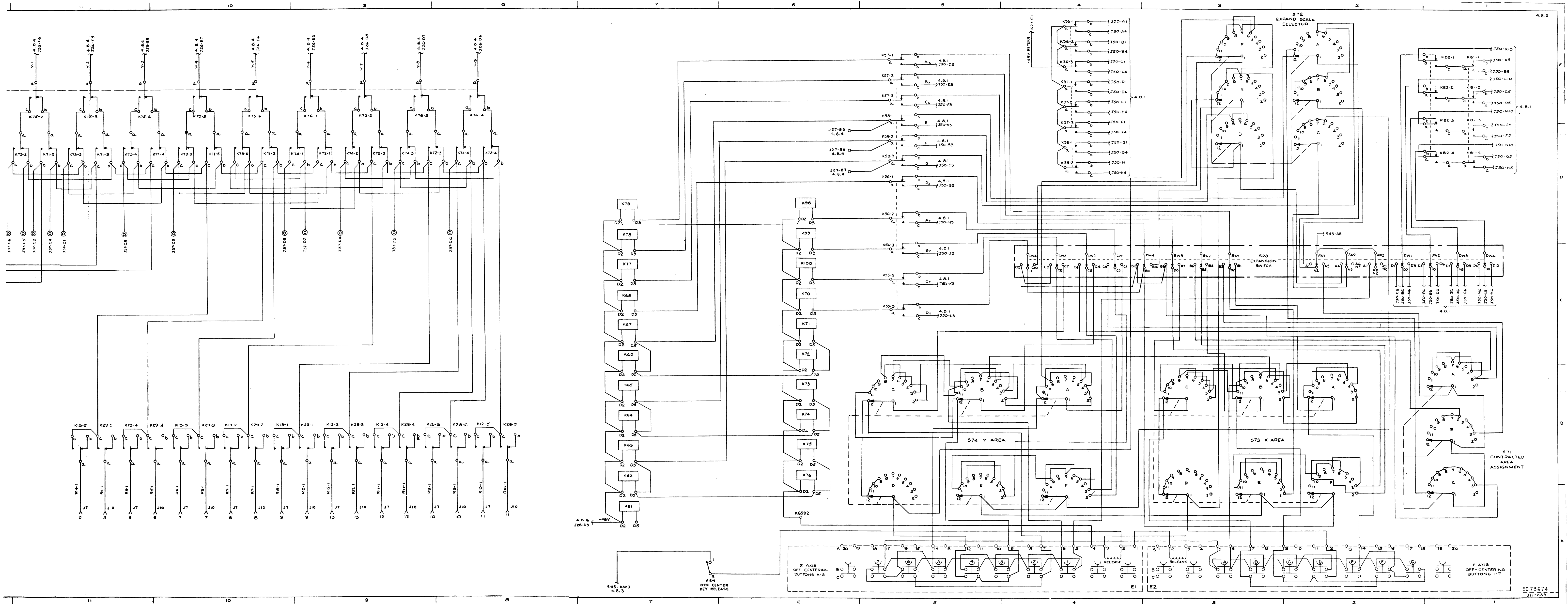
EC 56359  
302033

Projection System Block Diagram

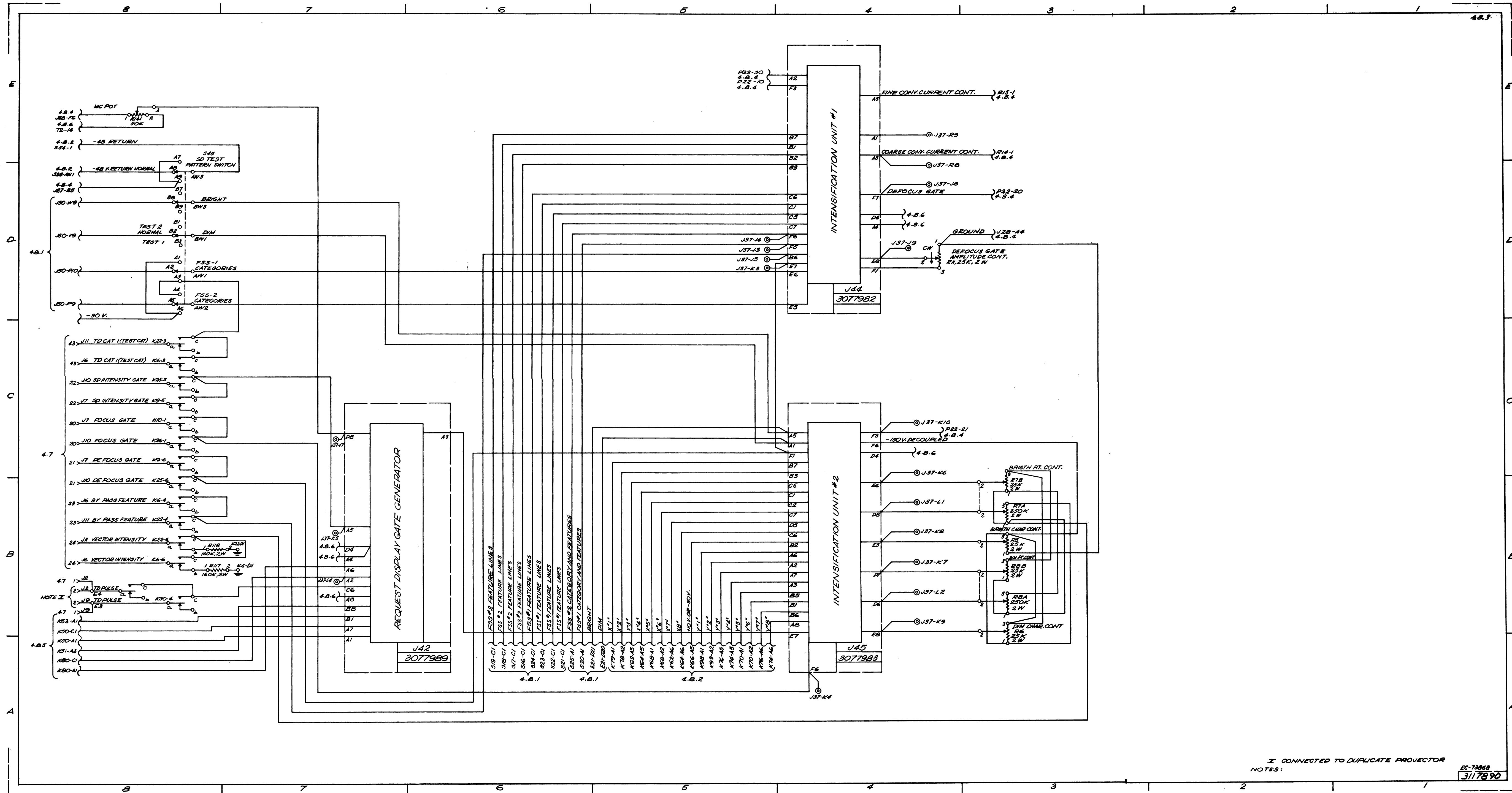








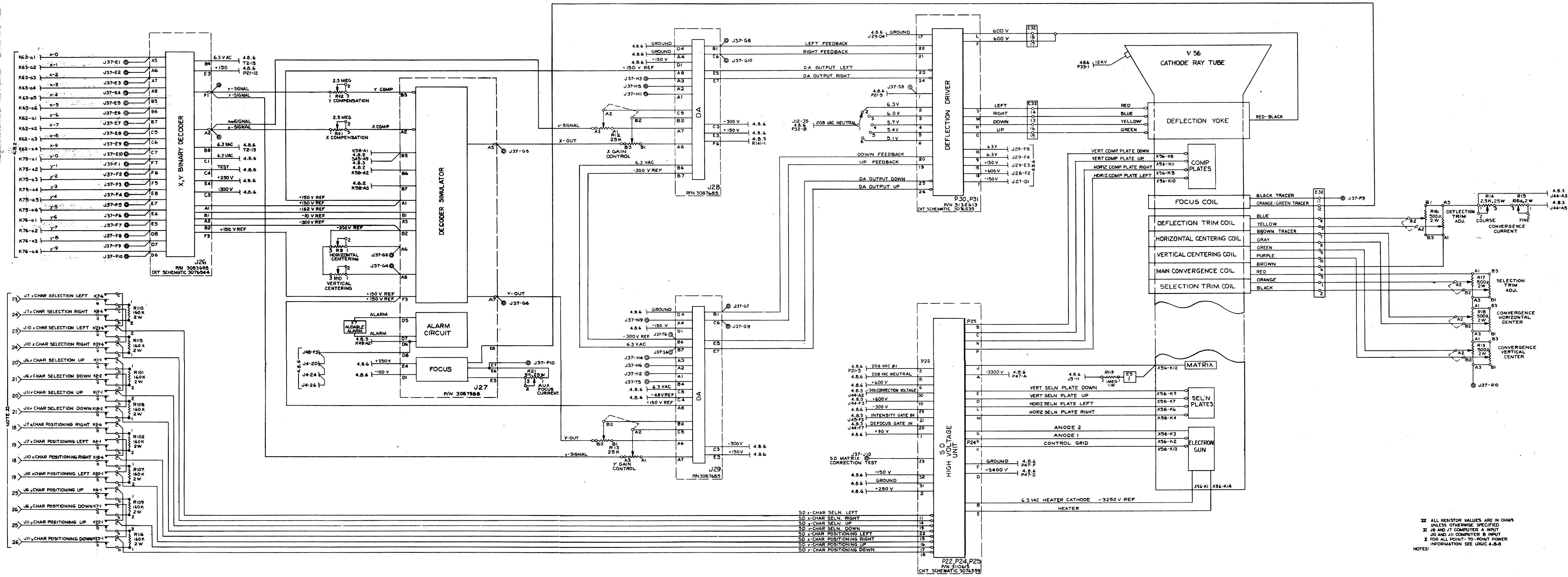
Projection System Expansion & Off Centering



Projection System Intensification Circuit

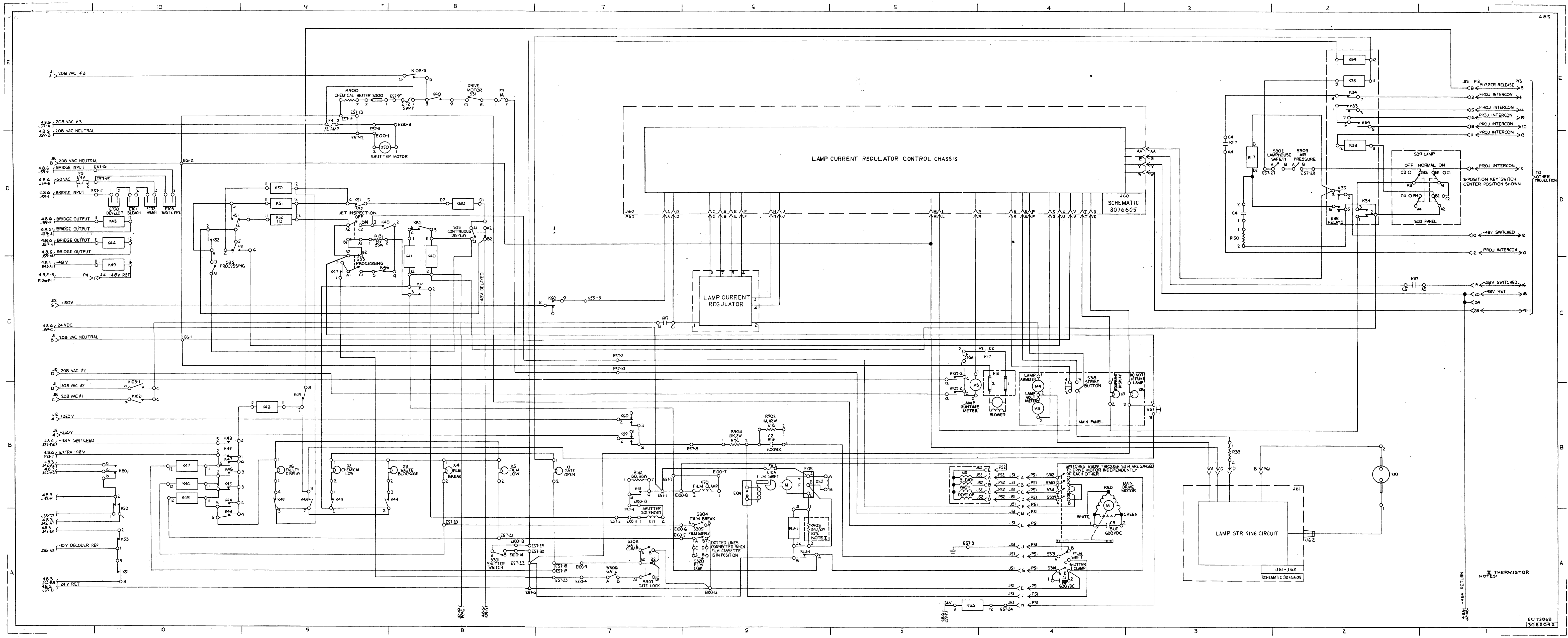
NOTES:  
 X CONNECTED TO DUPLICATE PROJECTOR  
 EC-73068  
 3/17/89



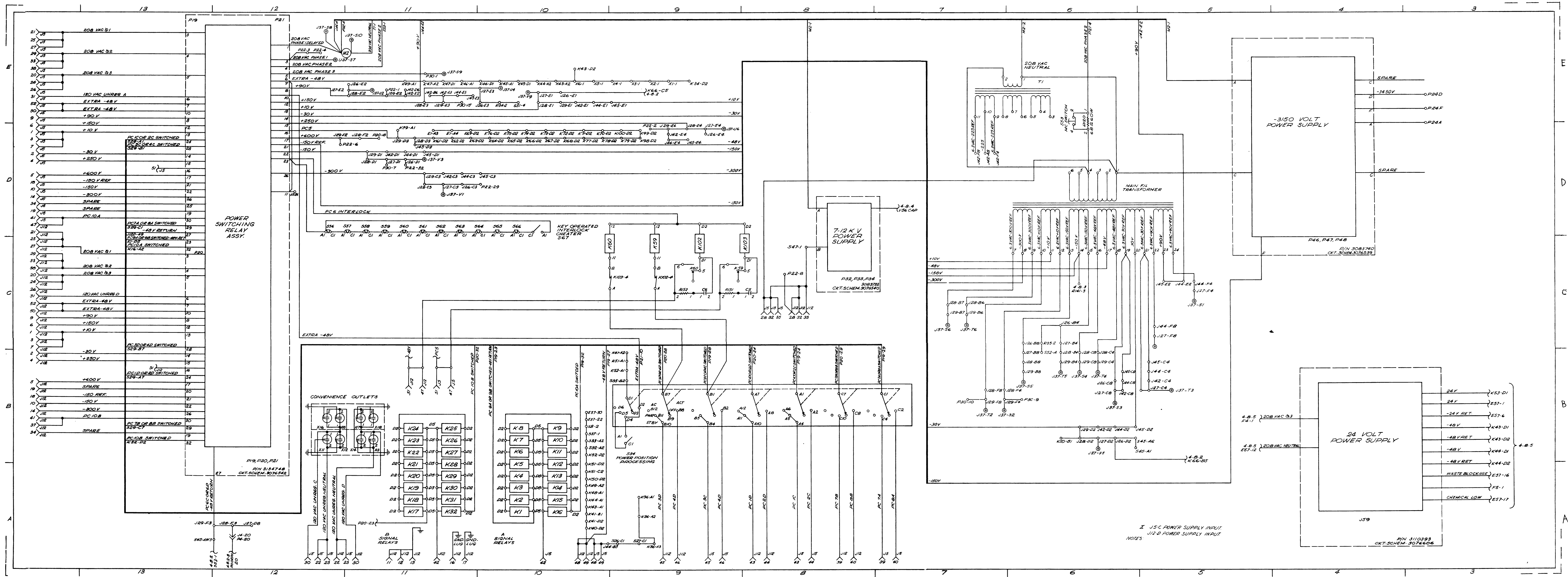


III ALL RESISTOR VALUES ARE IN OHMS  
 UNLESS OTHERWISE SPECIFIED  
 II IS AND J7 COMPUTER A INPUT  
 IIO AND J11 COMPUTER B INPUT  
 I FOR ALL POINT-TO-POINT POWER  
 INFORMATION SEE LOGIC 4.8-0  
 NOTES:

Projection System Deflection Circuits



Projection System Control



I J5-C POWER SUPPLY INPUT.  
 J12-D POWER SUPPLY INPUT.  
 NOTES

Projection System Power Distribution



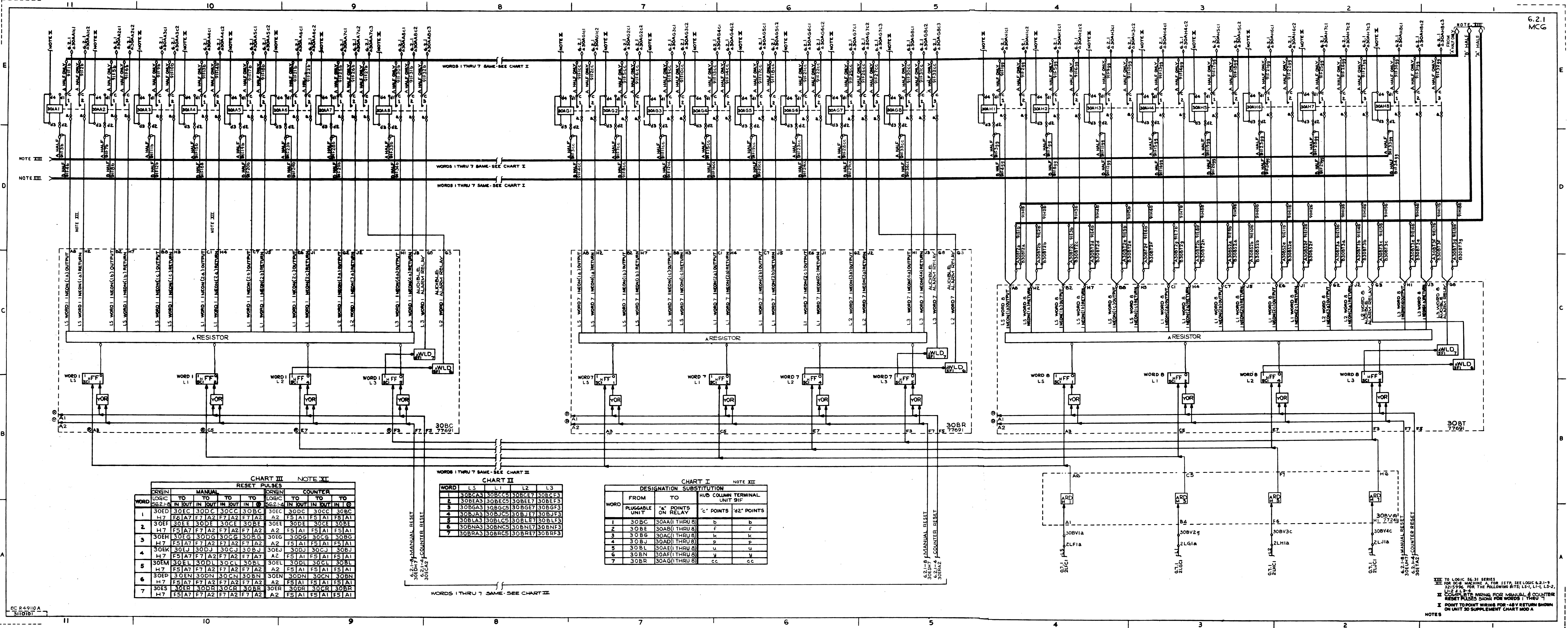


CHART III NOTE XI  
RESET PULSES

WORD	ORIGIN			TO			COUNTER		
	LOGIC	IN	OUT	LOGIC	IN	OUT	LOGIC	IN	OUT
1	30ED	F5	A7	30EC	F7	A2	30CC	F7	A2
2	30EF	F5	A7	30EE	F7	A2	30CE	F7	A2
3	30EH	F5	A7	30EG	F7	A2	30CG	F7	A2
4	30EK	F5	A7	30EJ	F7	A2	30CJ	F7	A2
5	30EM	F5	A7	30EL	F7	A2	30CL	F7	A2
6	30EP	F5	A7	30EN	F7	A2	30CN	F7	A2
7	30ES	F5	A7	30ER	F7	A2	30CR	F7	A2

CHART II  
WORDS 1 THRU 7 SAME - SEE CHART III

WORD	LS	L1	L2	L3
1	30BCA3	30BCC3	30BCE7	30BCE3
2	30BEA3	30BEC3	30BEE7	30BEF3
3	30BGA3	30BGC3	30BGE7	30BGF3
4	30BHA3	30BHC3	30BHE7	30BHF3
5	30BIA3	30BIC3	30BIE7	30BIF3
6	30BNA3	30BNC3	30BNE7	30BNF3
7	30BRA3	30BRCS	30BRE7	30BRF3

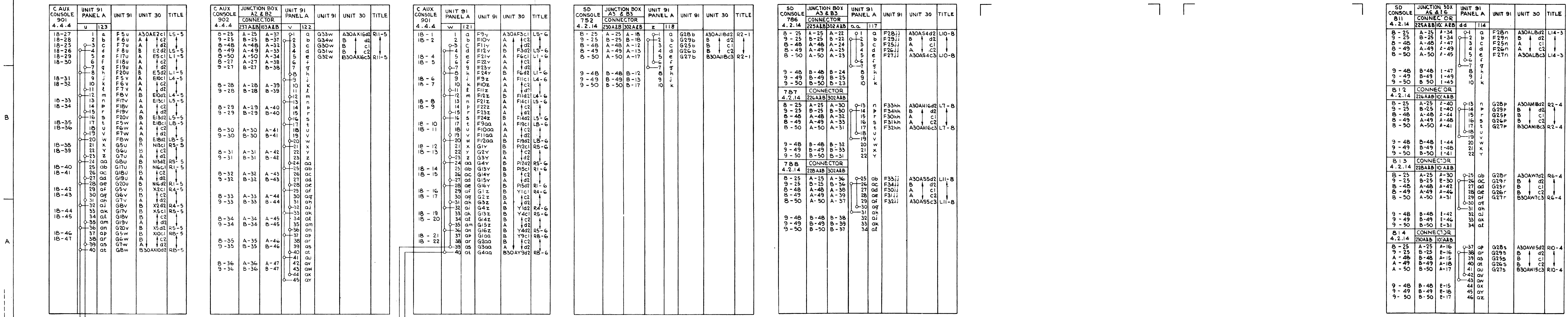
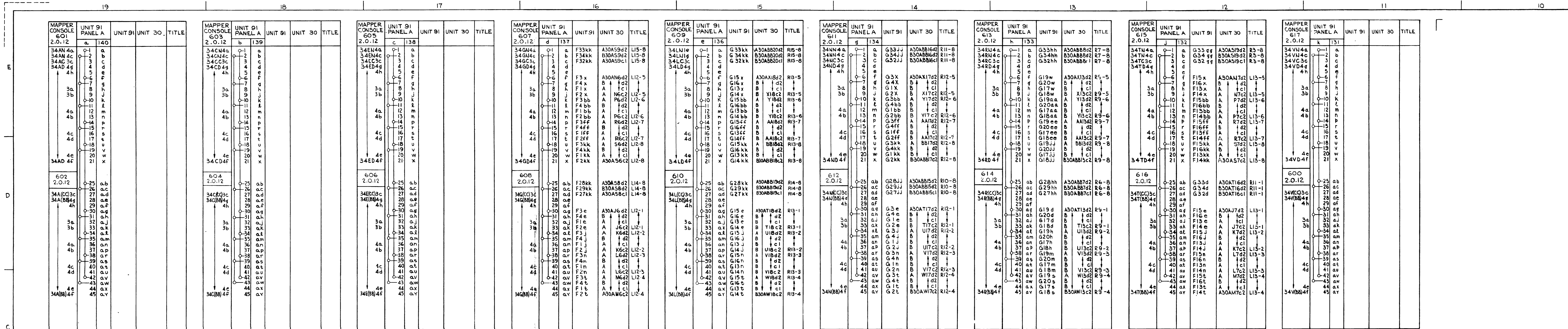
CHART I NOTE XII  
DESIGNATION SUBSTITUTION

WORD	PLUGGABLE UNIT	HUD COLUMN TERMINAL UNIT 91F		
		"A" POINTS ON RELAY	"C" POINTS	"D" POINTS
1	30BC	30AA (1 THRU 8)	b	b
2	30BE	30AB (1 THRU 8)	f	f
3	30BG	30AC (1 THRU 8)	l	k
4	30BH	30AD (1 THRU 8)	p	p
5	30BL	30AE (1 THRU 8)	u	u
6	30BN	30AF (1 THRU 8)	y	y
7	30BR	30AG (1 THRU 8)	cc	cc

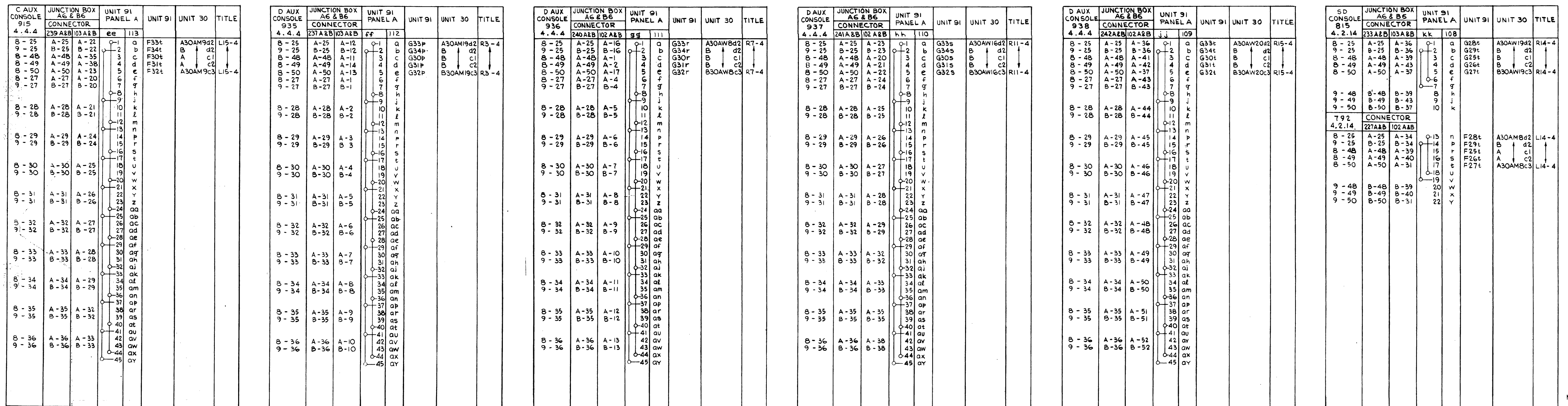
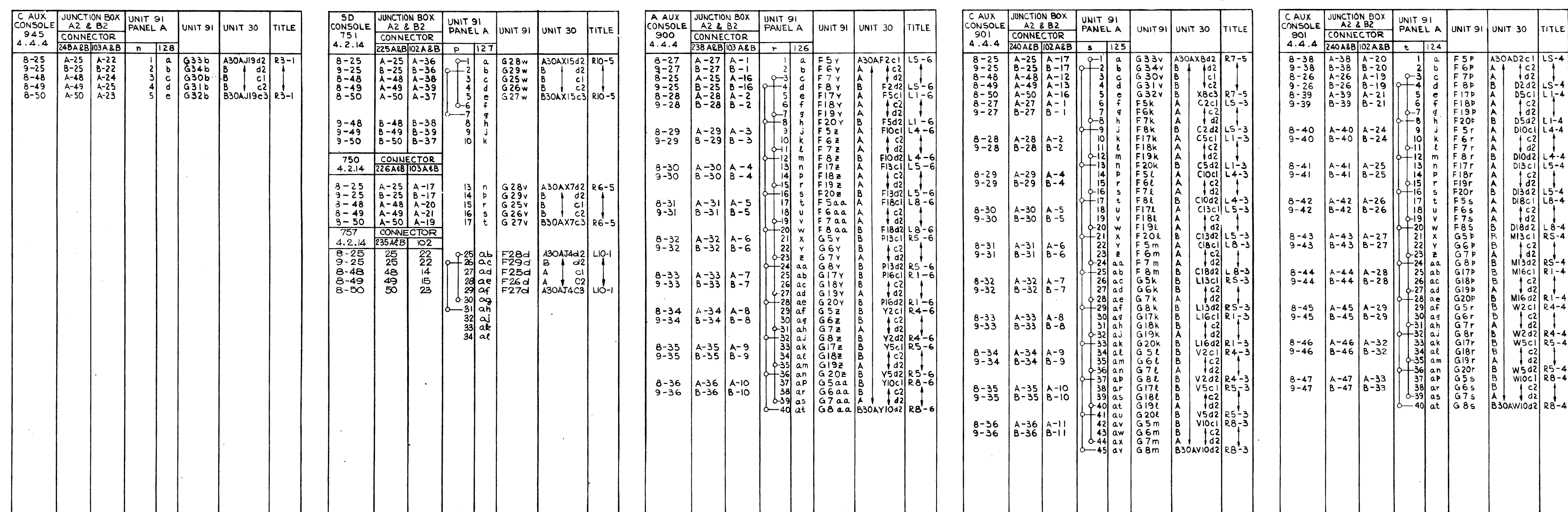
III TO LOGIC 56.31 SERIES FOR SC-8 MACHINE A FOR 157P, SEE LOGIC 6.2.1-9 21596, FOR THE FOLLOWING BITS: LS-1, L1-4, LS-2, L2-2, L3-2  
 II COUNTERS WIRING FOR MANUAL & COUNTER RESET PULSES SHOWN FOR WORDS 1 THRU 7  
 X POINT TO POINT WIRING FOR -48V RETURN SHOWN ON UNIT 30 SUPPLEMENT CHART MOD A

EC R4910A  
310101





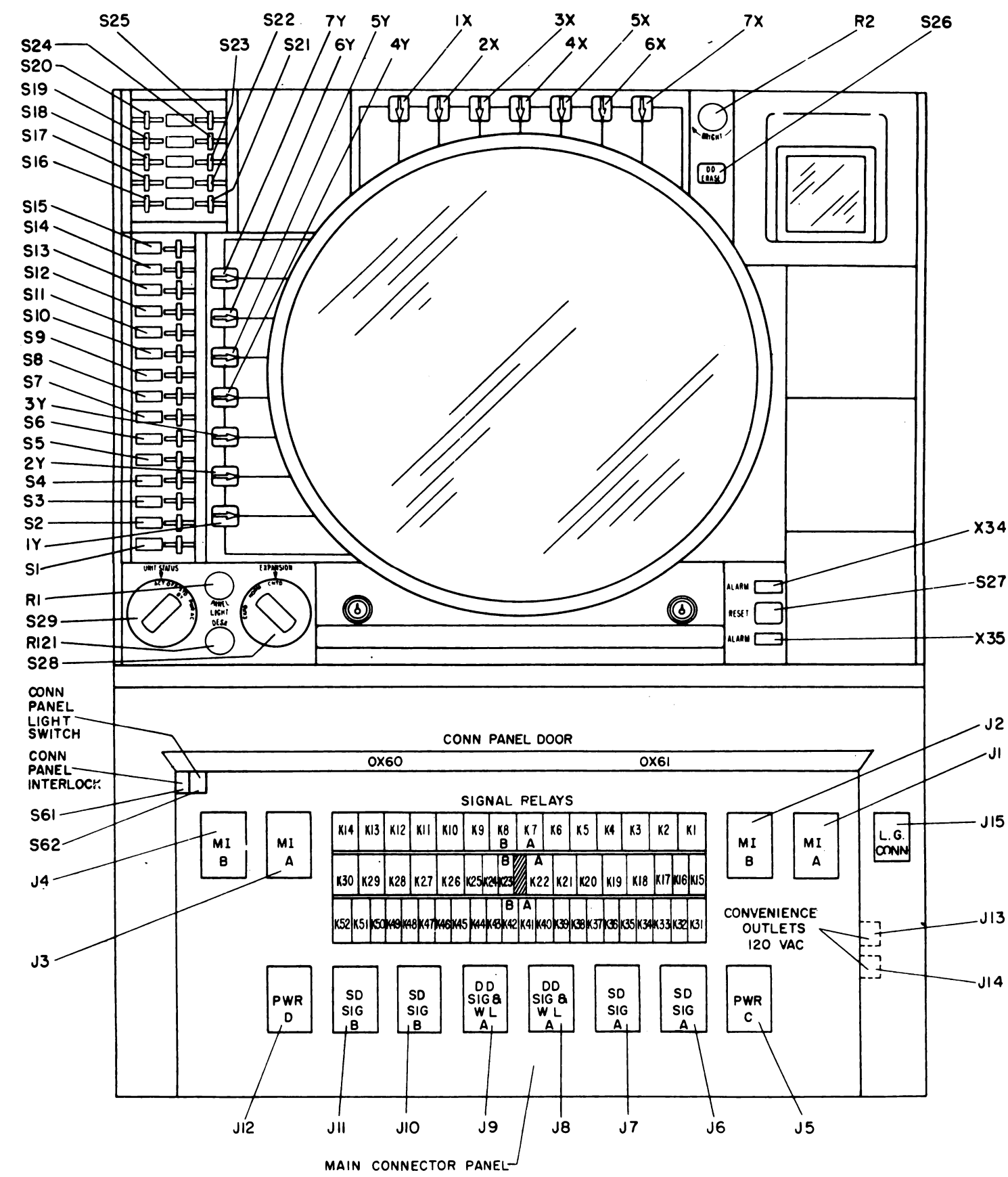




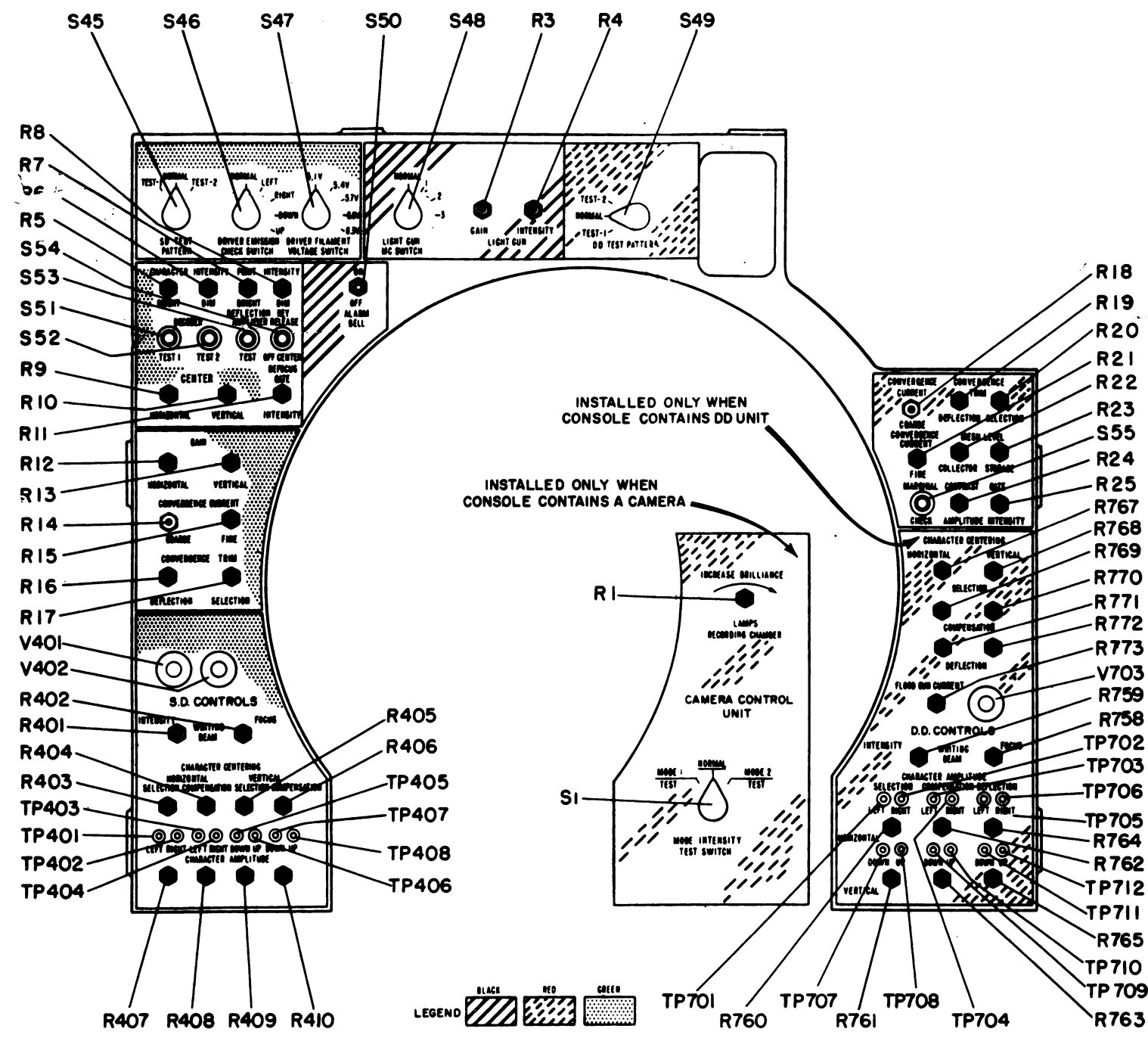
SD CONSOLE	JUNCTION BOX	UNIT 91	UNIT 91	UNIT 30	TITLE
4.2.14	233A&B	103A&B	k k	10B	
25 P	F 25 J 1 36 P				R14-4
B	A				
PLUG B	PLUG OR JACK OR	SYMBOLS -	ASOAW92	MACHINE A	BIT R14
PIN 25	JACK A	PANEL G	UNIT 30	MODULE A	WORD 4
	PIN 36	REPRESENTS	ROW W	RELAY 19	
		A SOLID	CONTACT	d2	
		CONNECTOR			

NOTE 5:

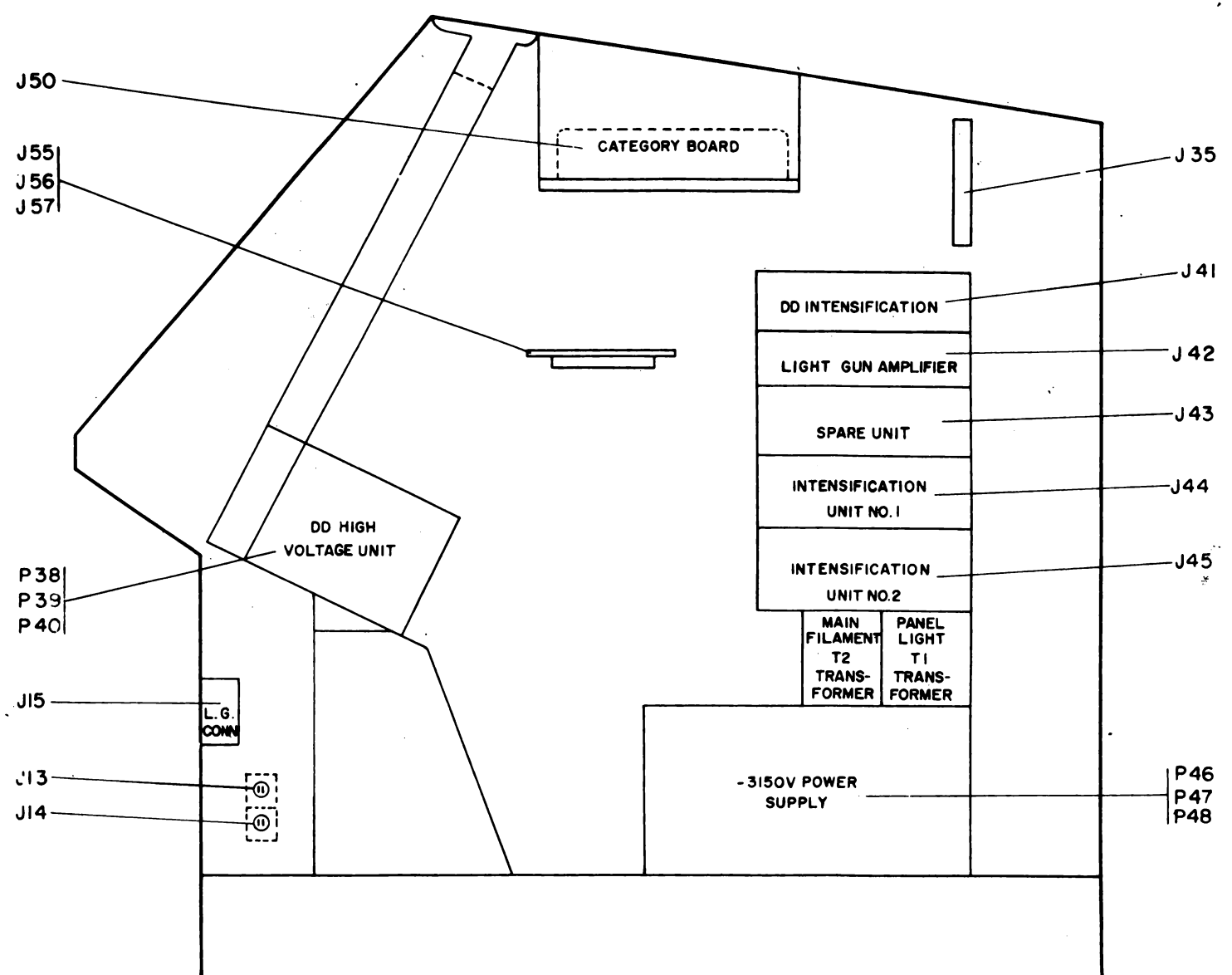
EC R-73596-C  
3132537



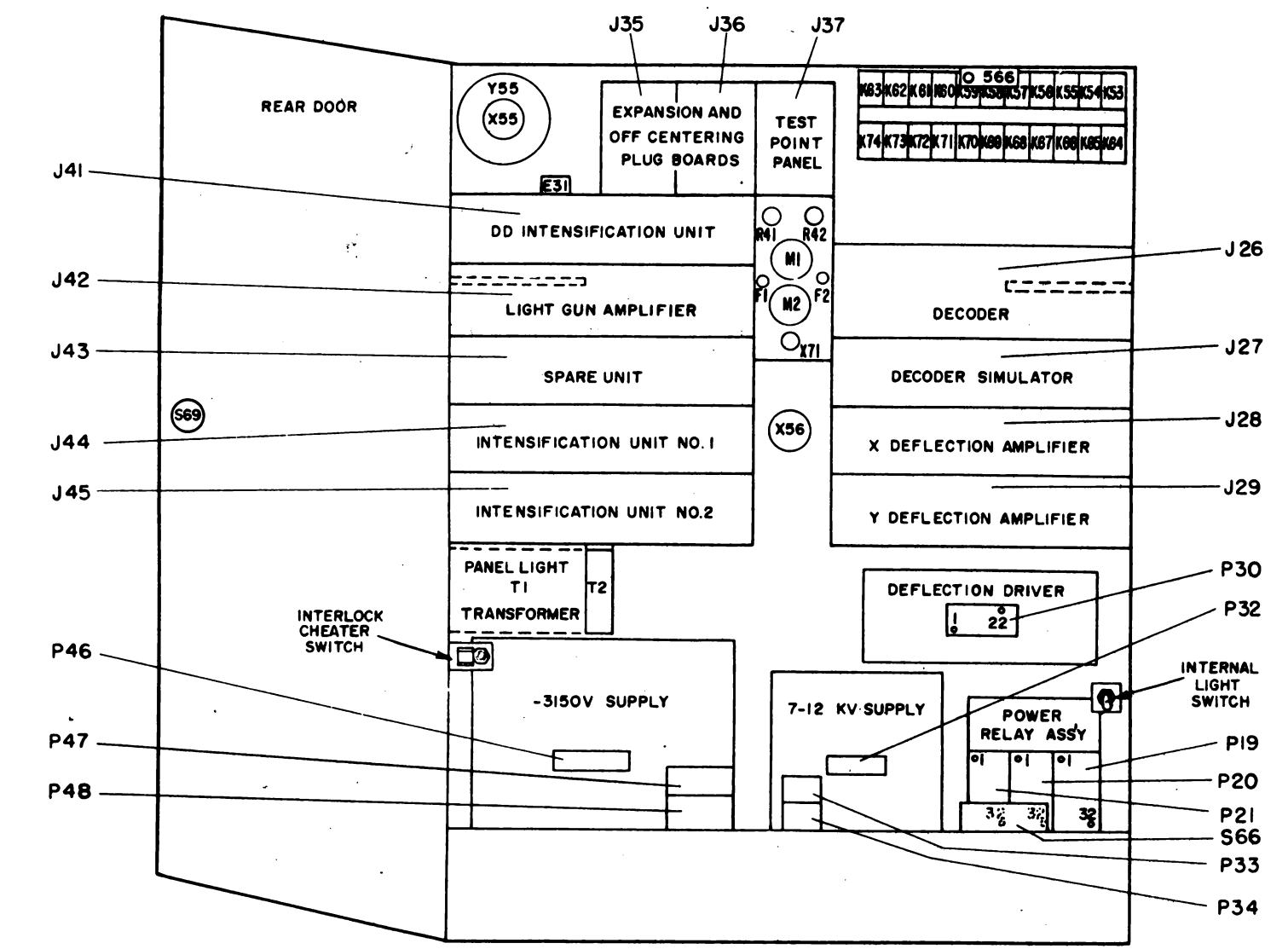
SD Component Location Diagram (Sheet 1 of 5)



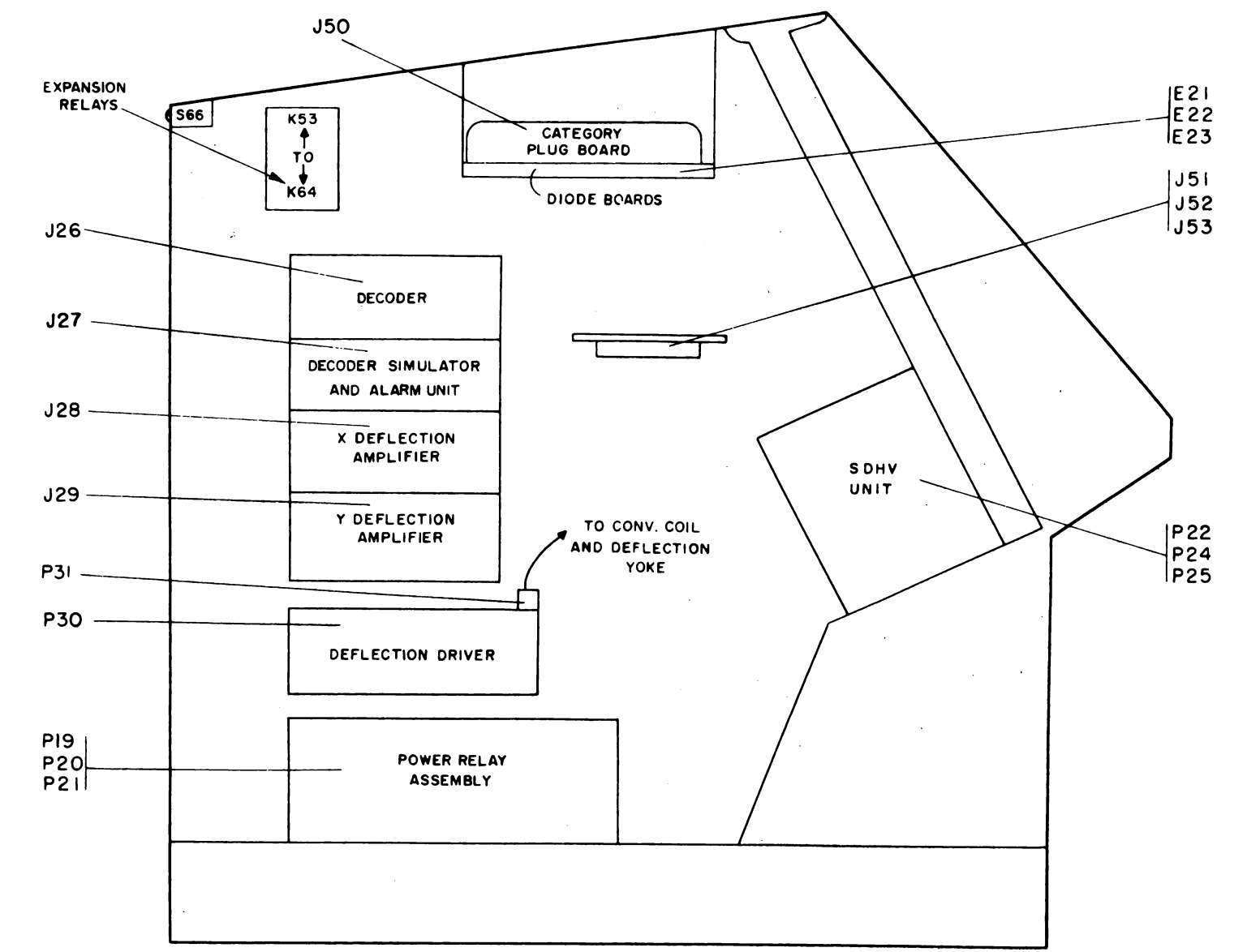
SD Component Location Diagram (Sheet 2 of 5)



SD Component Location Diagram (Sheet 5 of 5)



SD Component Location Diagram (Sheet 3 of 5)



SD Component Location Diagram (Sheet 4 of 5)