



AIR TRAINING COMMAND

C699-416L-CD

COMPUTER SYSTEMS DEPARTMENT

CIRCUITS & DIAGRAMS

AN/FSQ-7 POWER SUPPLY AND MARGINAL CHECKING

ABR30533-1

KEESLER AFB, MISS

FOR ATC INSTRUCTIONAL PURPOSES ONLY

SCHEMATICS
FOR
POWER
SYSTEM
AN/FSQ-7
COMBAT DIRECTION CENTRAL

TRAINING MANUAL

1, September 1961

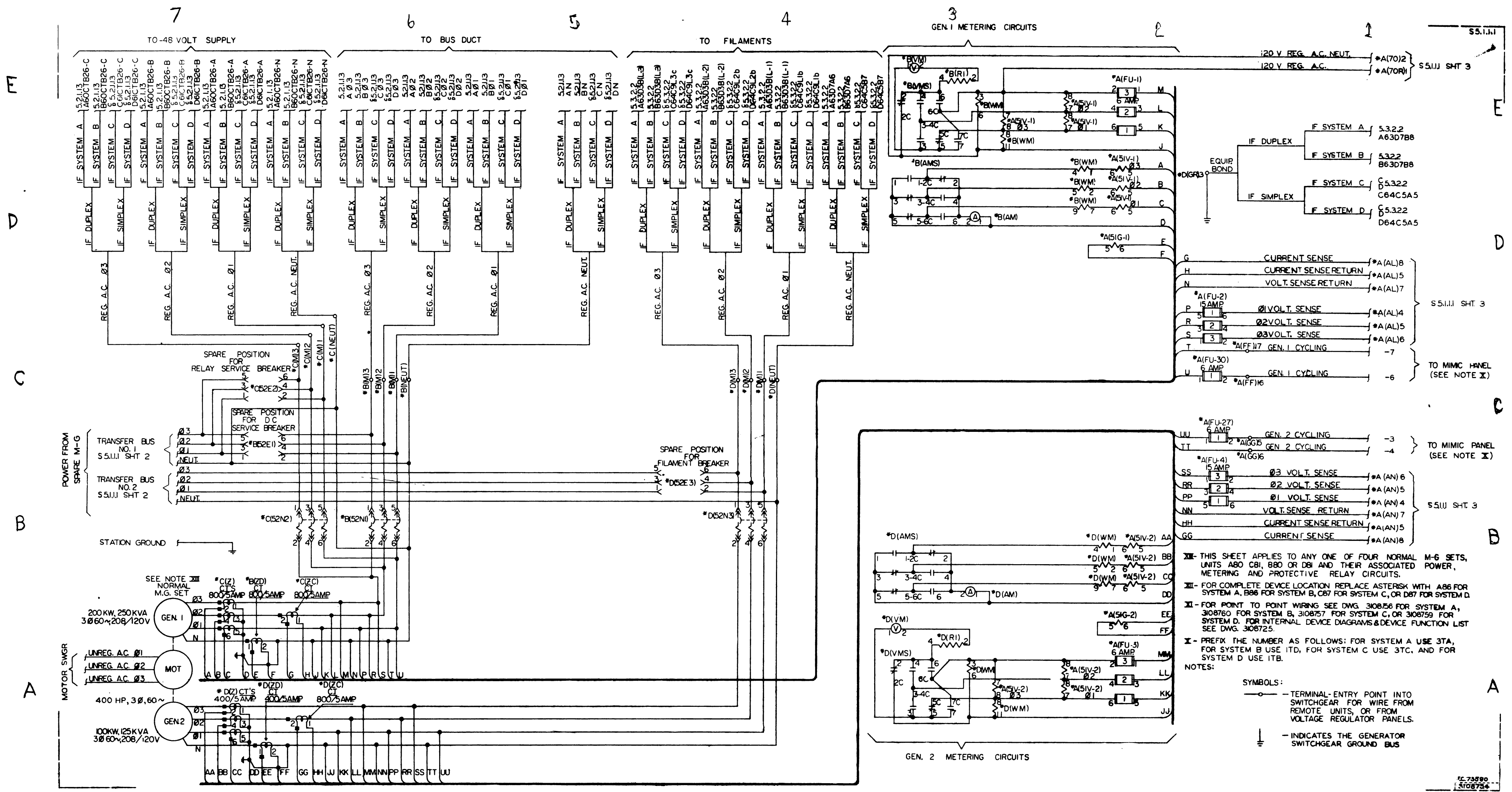
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MILITARY PRODUCTS DIVISION
INTERNATIONAL BUSINESS MACHINES CORPORATION
KINGSTON, NEW YORK

92-1879

LOGIC	DESCRIPTION
5. 1. 1. 1	GEN. SWITCHGEAR POWER CIRCUIT
5. 2. 1. 2	PLUS 150 V MODULE C, UNIT 60
5. 2. 1.12	DUPLEX HIGH FREQUENCY ALTERNATOR, UNIT 60
5. 3. 2. 1	DC POWER DISTRIBUTION, UNIT 63
5. 3. 2. 2	AC POWER DISTRIBUTION, UNIT 63
5. 3. 3. 2	POWER DISTRIBUTION, MCD 19 & UNIT 2, 2 SHEETS
CD5. 3. 9. 2	SIMPLEX DISPLAY SYSTEM, DC DISTRIBUTION, 5 SHEETS
5. 4. 1. 1	GENERATOR SWGR CONTROL CIRCUIT, 7 SHEETS
5. 4. 2. 1	NORMAL ON & OFF, UNIT 63
CD5. 4. 2. 1	NORMAL ON & OFF, UNIT 64
5. 4. 2. 2	ABNORMAL OFF, UNIT 63
CD5. 4. 2. 2	ABNORMAL OFF, UNIT 64
5. 4. 2. 3	INDICATION, UNIT 63
CD5. 4. 2. 3	INDICATION, UNIT 64
5. 4. 2. 4	METERING, UNIT 63
CD5. 4. 2. 4	METERING, UNIT 64
5. 4. 3. 1	COMMON CONTROL & INDICATION, MCD 19
5. 4. 3. 2	CONTROL & INDICATION, MCD 19, FOR UNIT 2, 2 SHEETS
CD5. 4. 9. 1	SIMPLEX DISPLAY SYSTEM CIRCUIT BREAKER, UNIT CONTROL, 2 SHEETS
CD5. 4.10. 1	SIMPLEX INPUT SYSTEM, UNIT 56 CONTROL



GEN SWGR POWER CIRCUIT SHT. 1 OF 3

- III- THIS SHEET APPLIES TO ANY ONE OF FOUR NORMAL M-6 SETS, UNITS A80, C81, B80 OR D81 AND THEIR ASSOCIATED POWER, METERING AND PROTECTIVE RELAY CIRCUITS.
- II- FOR COMPLETE DEVICE LOCATION REPLACE ASTERISK WITH A86 FOR SYSTEM A, B86 FOR SYSTEM B, C87 FOR SYSTEM C, OR D87 FOR SYSTEM D.
- I- FOR POINT TO POINT WIRING SEE DWG. 310856 FOR SYSTEM A, 3108760 FOR SYSTEM B, 3108757 FOR SYSTEM C, OR 3108759 FOR SYSTEM D. FOR INTERNAL DEVICE DIAGRAMS & DEVICE FUNCTION LIST SEE DWG. 3108725.
- I- PREFIX THE NUMBER AS FOLLOWS: FOR SYSTEM A USE 3TA, FOR SYSTEM B USE 1TD, FOR SYSTEM C USE 3TC, AND FOR SYSTEM D USE 1TB.

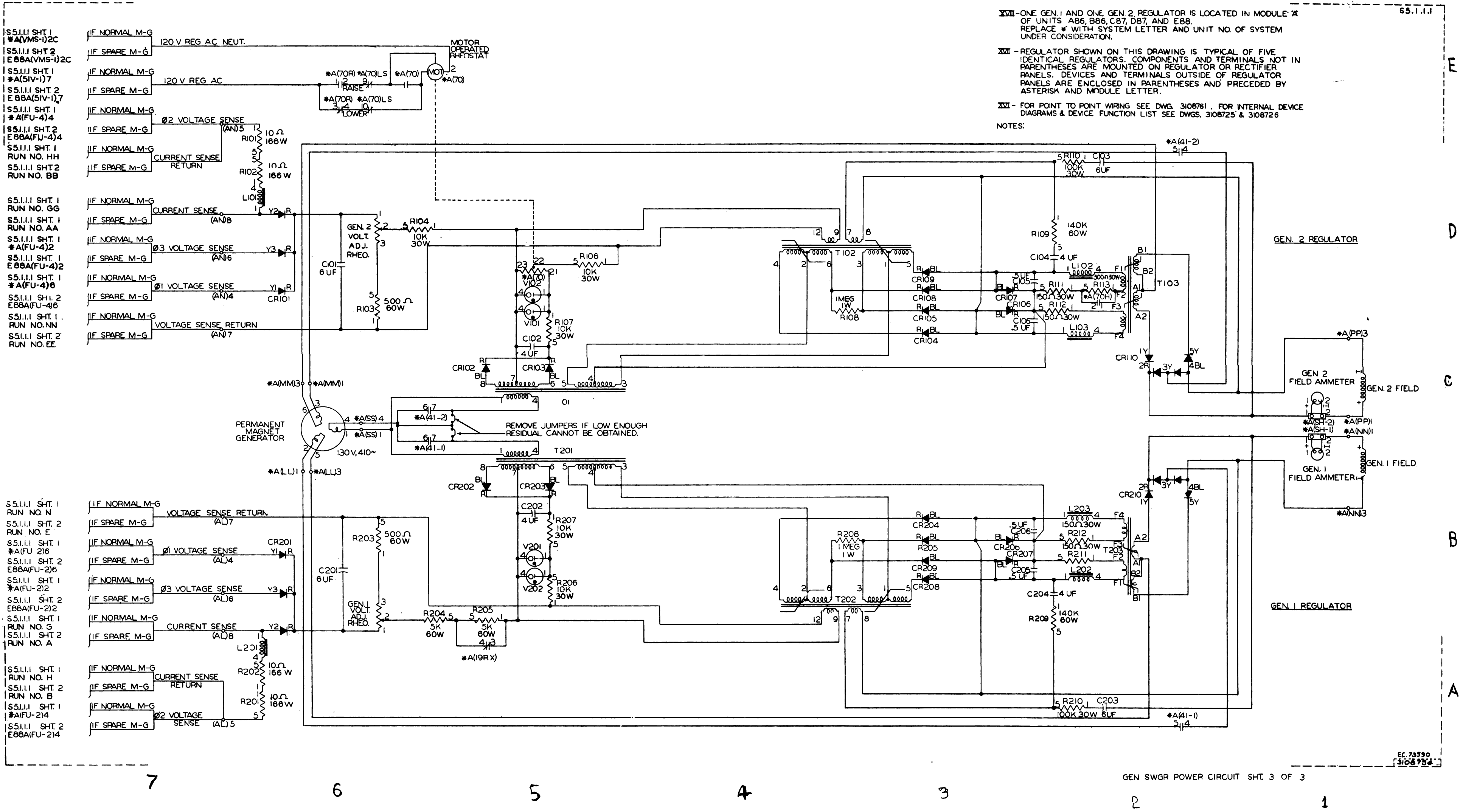
NOTES:

SYMBOLS:

—○— TERMINAL ENTRY POINT INTO SWITCHGEAR FOR WIRE FROM REMOTE UNITS, OR FROM VOLTAGE REGULATOR PANELS.

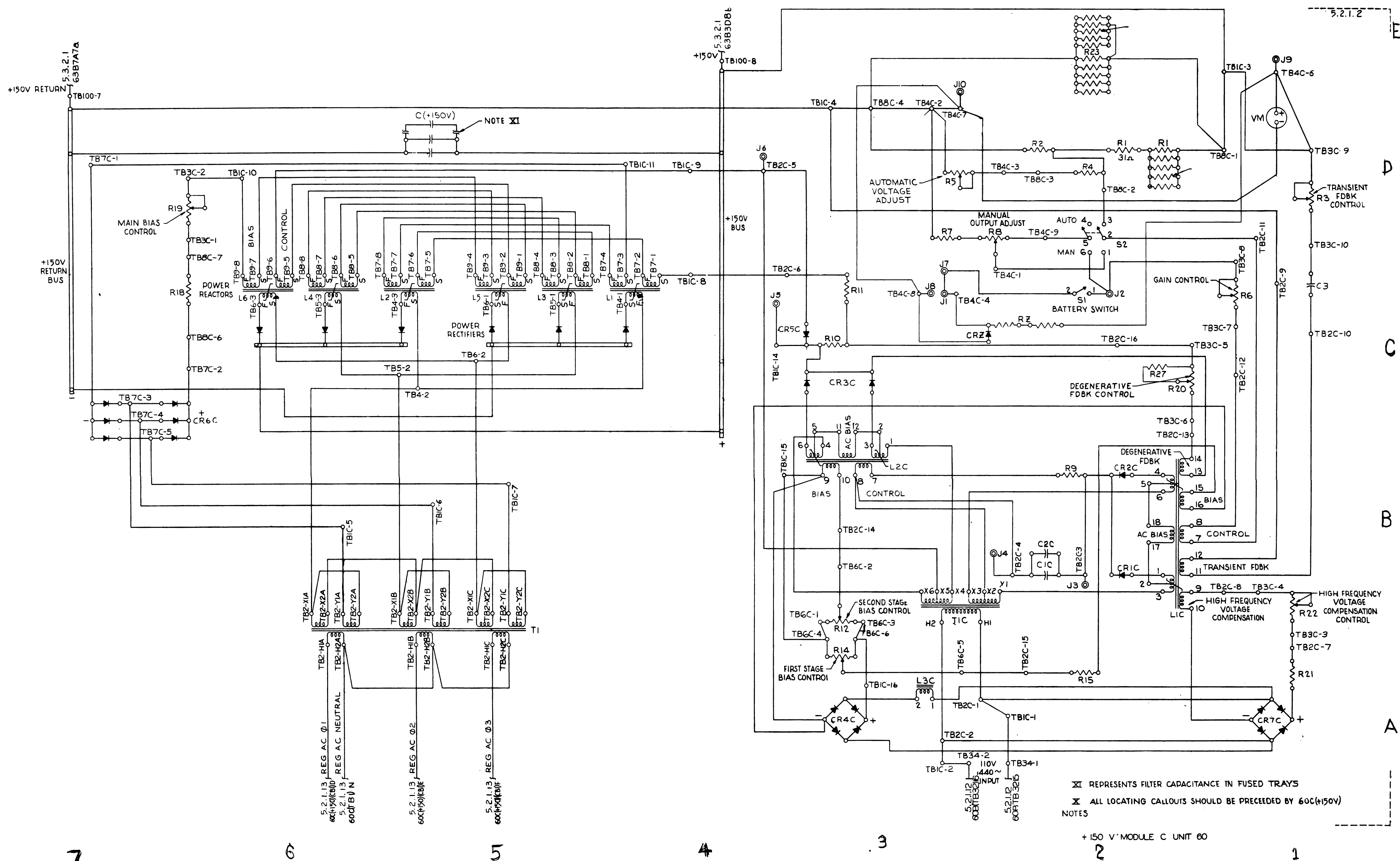
⊥ INDICATES THE GENERATOR SWITCHGEAR GROUND BUS

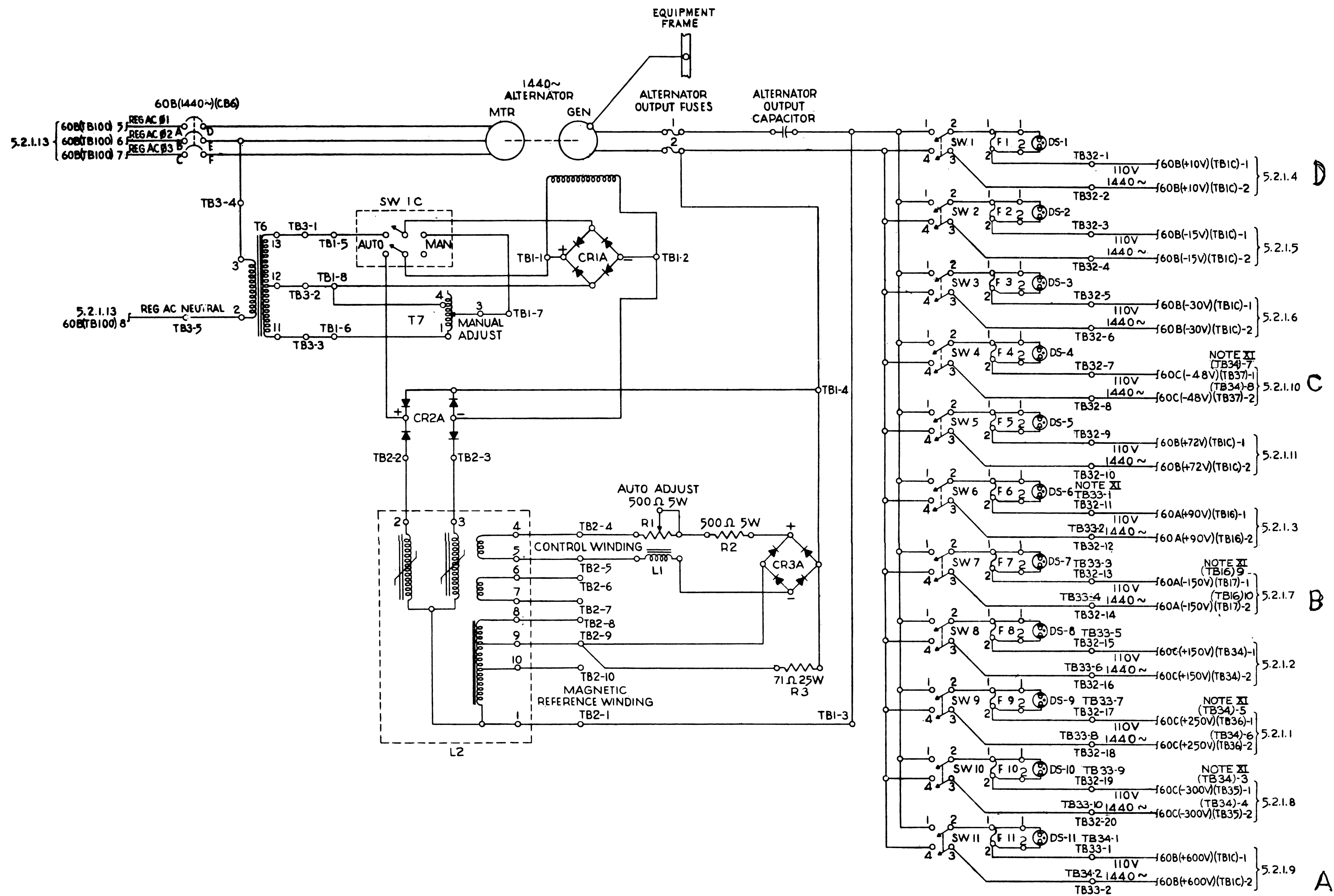
7-35890
5108754



EC 73590
3108754

GEN SWGR POWER CIRCUIT SHT 3 OF 3

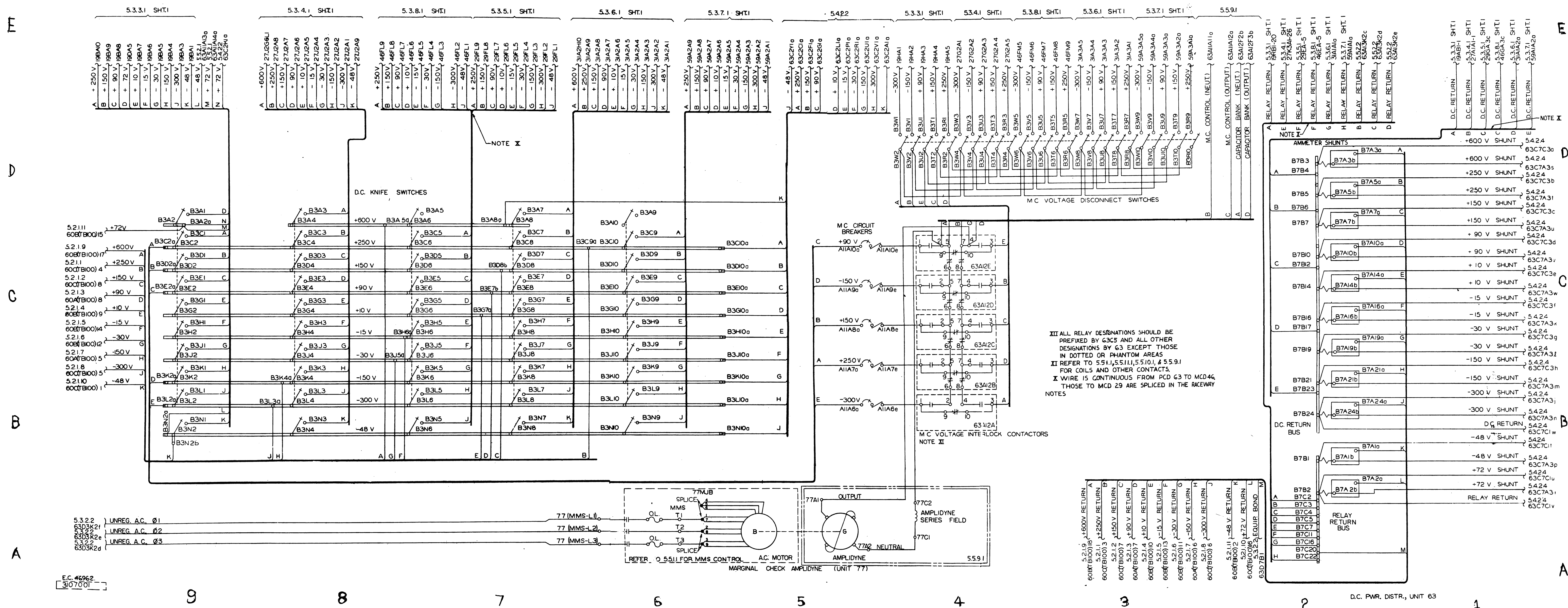


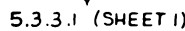


XI UPPER DESIGNATIONS APPLY TO SYSTEMS 17 AND HIGHER
X ALL LOCATING CALLOUTS SHOULD BE PRECEDED BY 60B(1440~)

NOTES

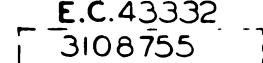
DUPLEX HIGH FREQUENCY ALTERNATOR - UNIT 60





XIII SEE LOGIC O.C.1 THRU O.O.7 FOR DESTINATIONS
 XII SEE 5.5.7.17 FOR MC RELAY COIL CONNECTIONS
 XI CHART ON RIGHT SHOWS NUMBER OF CONNECTIONS MADE ON EACH VOLTAGE
 X MC RELAY AND ASSOCIATED CIRCUIT IS SHOWN ON LEFT OF THIS SHEET (+250 VOLTS)

NOTES



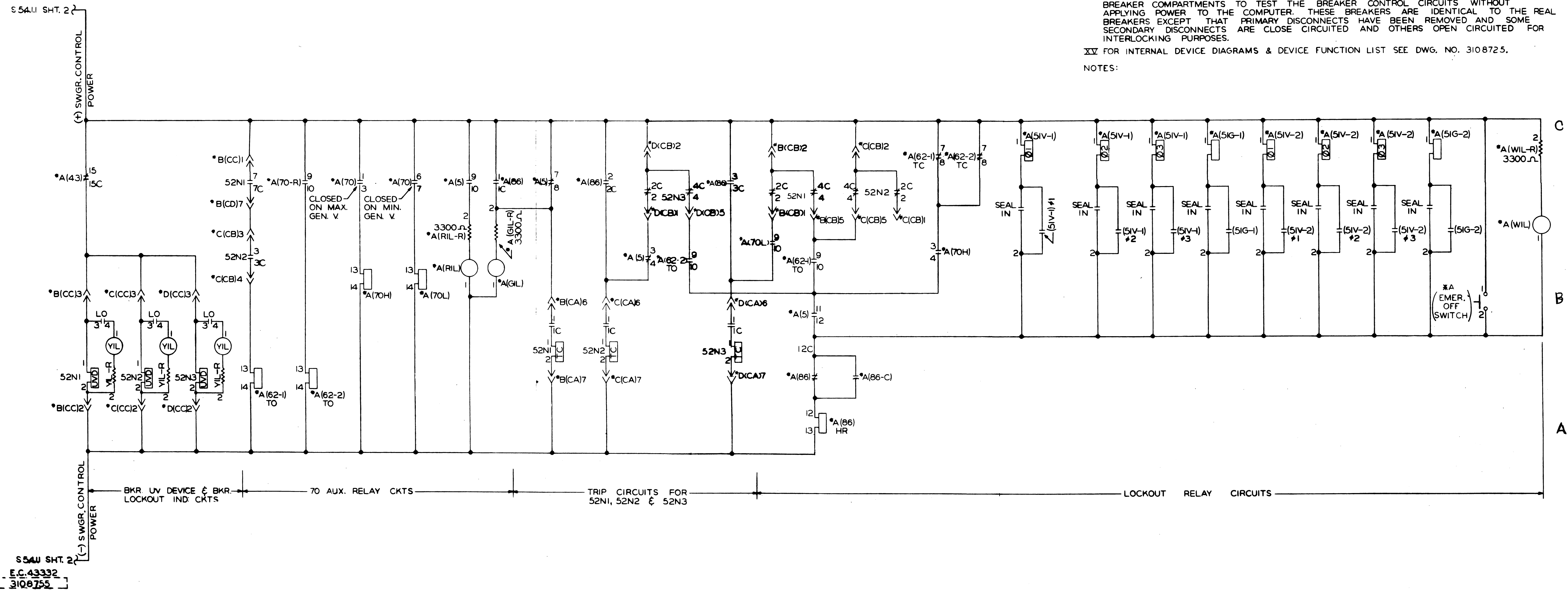
XVII *ASTERISK-THIS SHEET APPLIES TO NORMAL SWITCHGEAR SYSTEM A,B,C, OR D. FOR PHYSICAL LOCATION OF ANY DEVICE REPLACE THE ASTERISK PRECEDING THE DEVICE DESIGNATION WITH THE SYSTEM LETTER AND UNIT NO. OF THE SWITCHGEAR SYSTEM BEING ANALYZED.

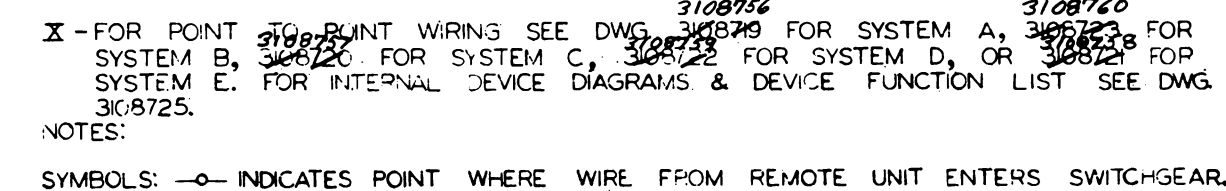
FOR SYSTEM A REPLACE * WITH A86 (FOR POINT-TO-POINT WIRING SEE DWG. NO. 3108756)
 FOR SYSTEM B REPLACE * WITH B86 (FOR POINT-TO-POINT WIRING SEE DWG. NO. 3108760)
 FOR SYSTEM C REPLACE * WITH C87 (FOR POINT-TO-POINT WIRING SEE DWG. NO. 3108757)
 FOR SYSTEM D REPLACE * WITH D87 (FOR POINT-TO-POINT WIRING SEE DWG. NO. 3108759)

XVI SPECIAL "TEST BREAKERS" MAY BE INSERTED INTO THE THREE NORMAL OR THREE SPARE BREAKER COMPARTMENTS TO TEST THE BREAKER CONTROL CIRCUITS WITHOUT APPLYING POWER TO THE COMPUTER. THESE BREAKERS ARE IDENTICAL TO THE REAL BREAKERS EXCEPT THAT PRIMARY DISCONNECTS HAVE BEEN REMOVED AND SOME SECONDARY DISCONNECTS ARE CLOSE CIRCUITED AND OTHERS OPEN CIRCUITED FOR INTERLOCKING PURPOSES.

XV FOR INTERNAL DEVICE DIAGRAMS & DEVICE FUNCTION LIST SEE DWG. NO. 3108725.

NOTES:





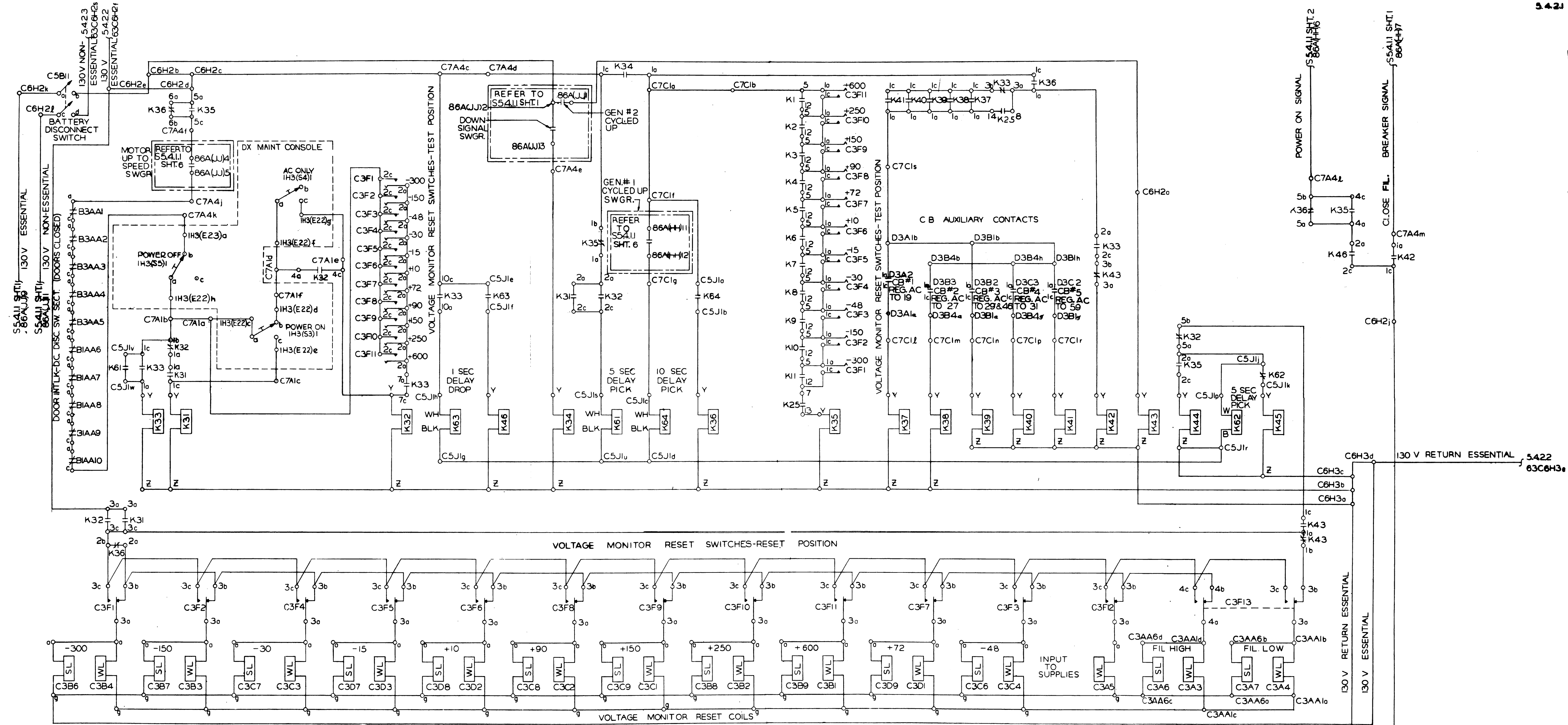
107

D

C

B

A

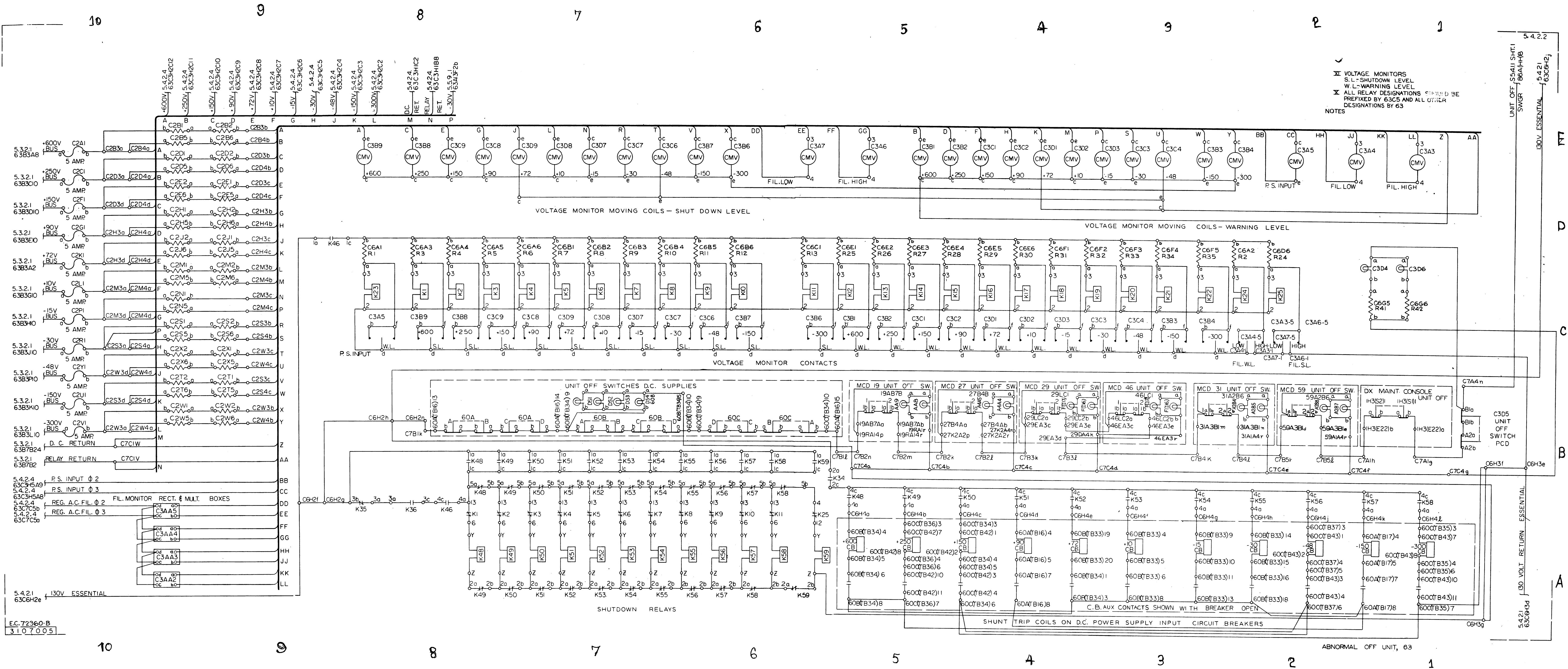


E.C. 37624
3107004

NOTES:
II VOLTAGE MONITORS
S.L.-SHUTDOWN LEVEL
W.L.-WARNING LEVEL
X ALL RELAY DESIGNATIONS SHOULD BE
PREFIXED BY 63C5 AND ALL OTHER
DESIGNATIONS BY 63 EXCEPT THOSE
IN DOTTED OR PHANTOM AREAS

NORMAL ON AND OFF, UNIT 63









C

B

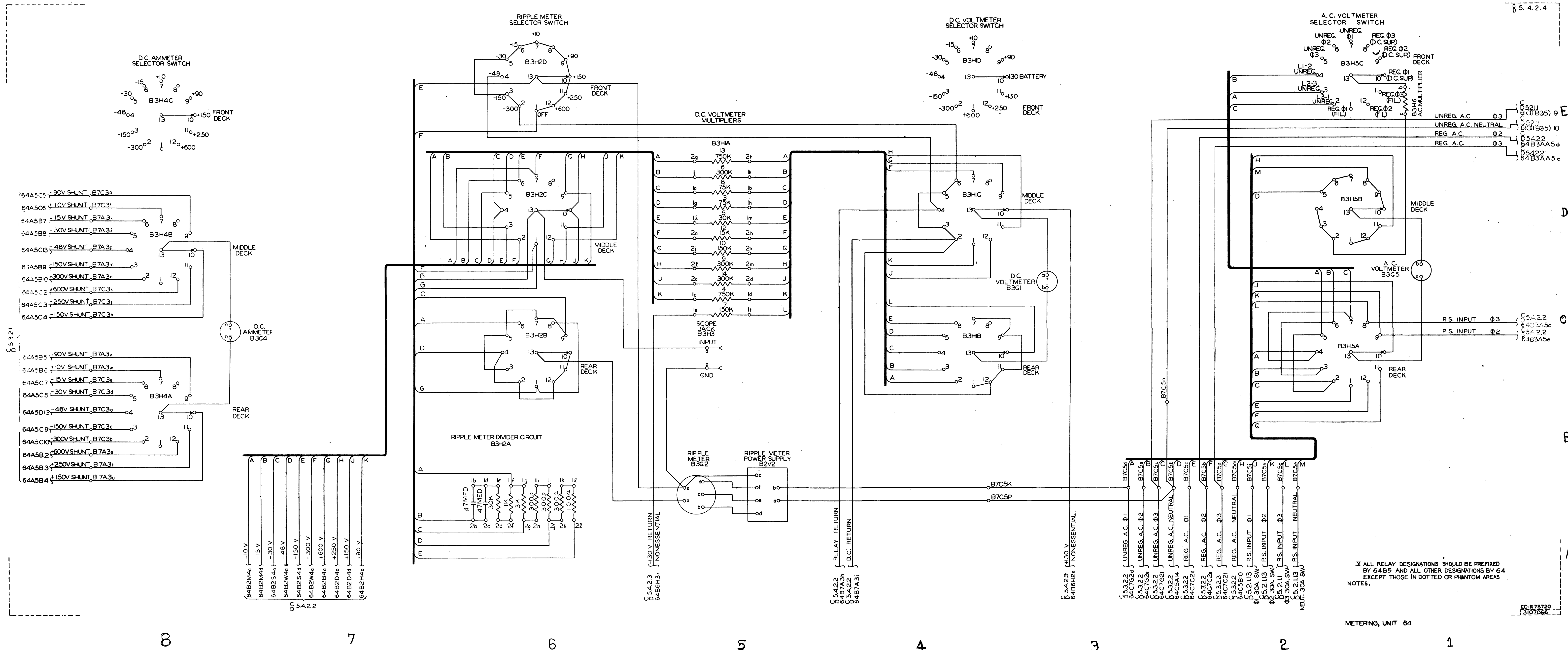
A

EC. R-73470
3107006

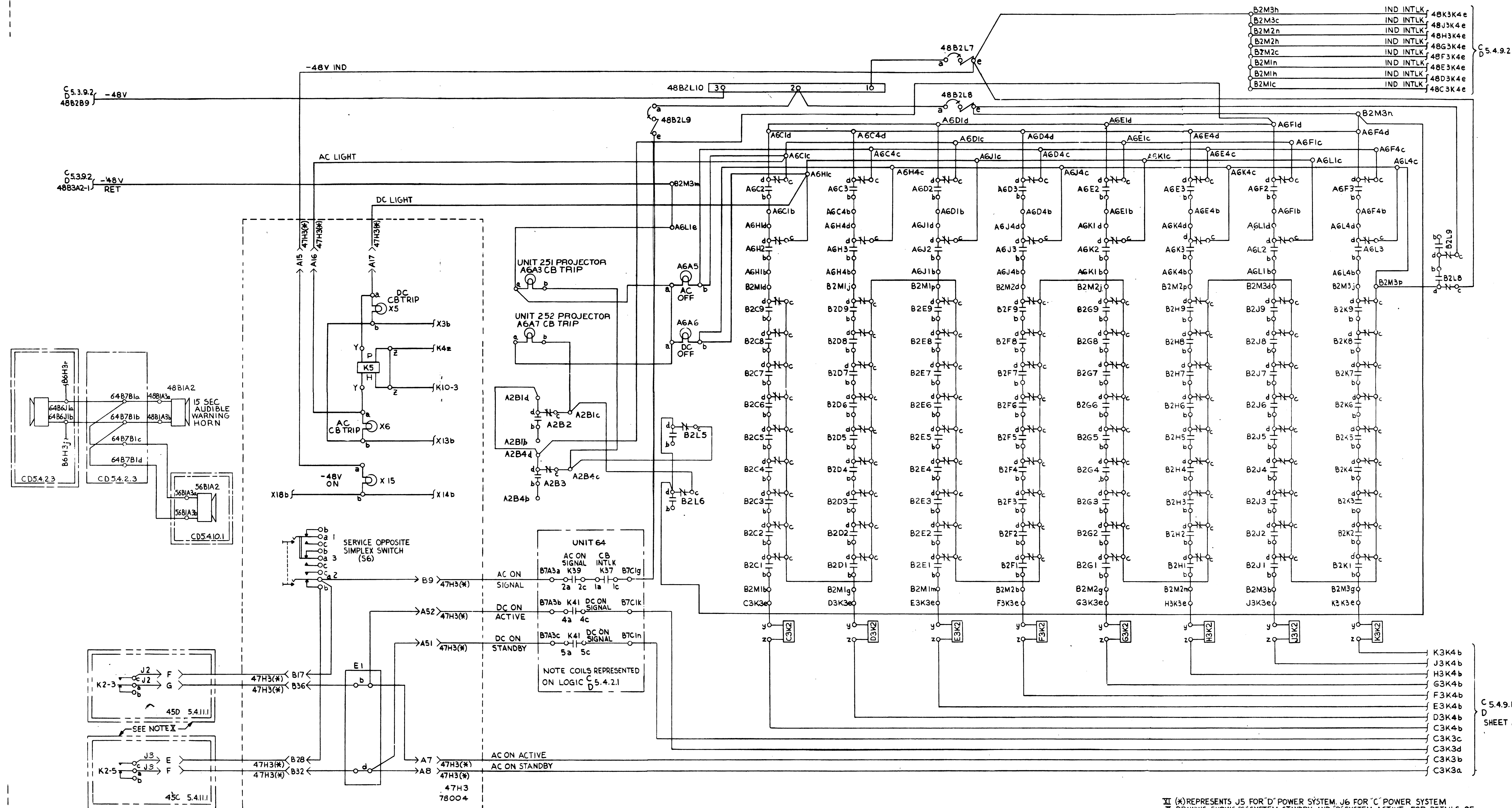


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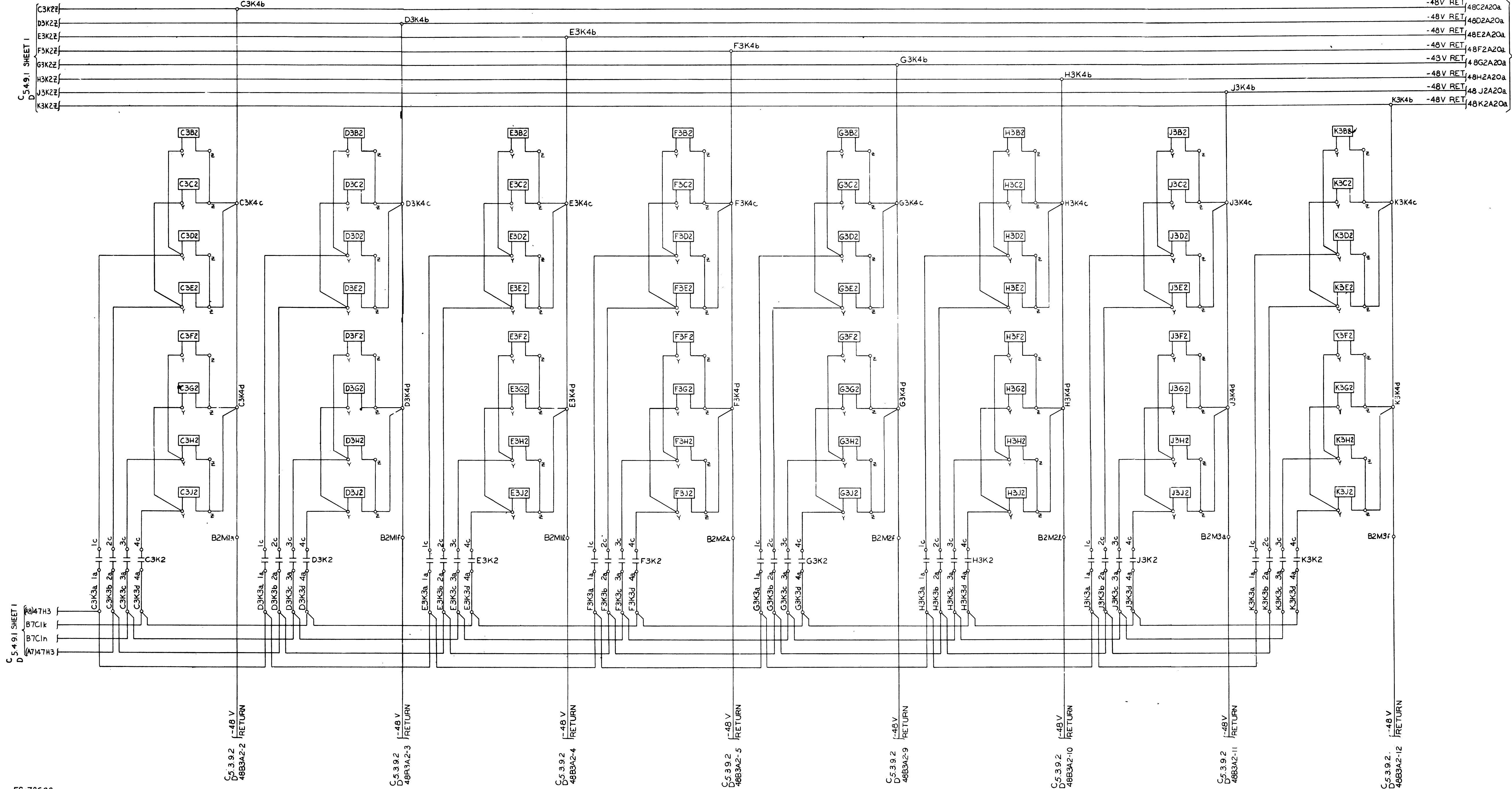






EC 72633
3108735

C 5.4.9.1 SHEET 1
D 5.4.9.1 SHEET 1



C 5.4.9.2
D 5.4.9.2

48B3A2-12

-48 V RETURN

B2M3f

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6	5	4	3	2	1	S5.4.10.3
1	LRI*31&32	SPARE	LRI*33&34	SPARE	LRI*35&36	SPARE
2	55M (4)	55M (5)	55M (6)	55M (1)	55M (2)	55M (3)
3	56F2A13		56F2A12		56F2A11	
4	56F3A1g		56F3A1e		56F3A1c	
5	3C3d		3B3n		3B3j	
6	3C3e		3B3p		3B3j	
7	3B2-7c		3B2-5c		3B2-3c	
8	3B2-7a		3B2-5a		3B2-3a	
9	3C2-7a		3C2-5a		3C2-3a	
10	3C2-7c		3C2-5c		3C2-3c	
11	3C3f		3B3r		3B3j	
12	3G3e		3F3p		3F3h	
13	3G3d		3F3n		3F3g	
14	3G2-7a		3G2-5a		3G2-3a	
15	3G2-7c		3G2-5c		3G2-3c	
16	3F2-7c		3F2-5c		3F2-3c	
17	3F2-7a		3F2-5a		3F2-3a	
18	3G3f		3F3r		3F3j	
19	2T2m		2T2k		2T2h	
20	2T2n		2T2l		2T2j	
21	2G14		2G13		2G12	
22	2R14		2R13		2R12	
23	2P14		2P13		2P12	
24	2N14		2N13		2N12	
25	2M14		2M13		2M12	
26	2L14		2L13		2L12	
27	2K14		2K13		2K12	
28	2J14		2J13		2J12	
29	2H14		2H13		2H12	
30	2E14		2E13		2E12	
31	2D14		2D13		2D12	
32	2C14		2C13		2C12	
33	56F2G14		56F2G13		56F2G12	
34	55M6C4g	55M6D4g	55M6E4g	55M3C4g	55M3D4g	55M3E4g
35	6C4p	6D4p	6E4p	3C4p	3D4p	3E4p
36	6C4h	6D4h	6E4h	3C4h	3D4h	3E4h
43	4A2h	4A3h	4A4h	1A2h	1A3h	1A4h
44	4A2g	4A3g	4A4g	1A2g	1A3g	1A4g
45	4A2k	4A3k	4A4k	1A2k	1A3k	1A4k
46	4A2a	4A3a	4A4a	1A2a	1A3a	1A4a
47	4A2b	4A3b	4A4b	1A2b	1A3b	1A4b
48	4A2d	4A3d	4A4d	1A2d	1A3d	1A4d
49	4A2e	4A3e	4A4e	1A2e	1A3e	1A4e
50	4A2r	4A3r	4A4r	1A2r	1A3r	1A4r
51	4A2l	4A3l	4A4l	1A2l	1A3l	1A4l
52	4A2m	4A3m	4A4m	1A2m	1A3m	1A4m
53	4B1n	4C1n	4D1n	1B1n	1C1n	1D1n
54	4B1p	4C1p	4D1p	1B1p	1C1p	1D1p
55	4B1g	4C1g	4D1g	1B1g	1C1g	1D1g
56	6C1l	6C2l	6C3l	3C1l	3C2l	3C3l
57	4A2j	4A3j	4A4j	1A2j	1A3j	1A4j
58	5A3	5A2	5A1	2A3	2A2	2A1
59	4A1a	4A1g	4A1n	1A1a	1A1g	1A1n
60	6C1k	6C2k	6C3k	3C1k	3C2k	3C3k
61	6A1g	6A2g	6A3g	3A1g	3A2g	3A3g
62	4C2n	4C3n	4C4n	1C2n	1C3n	1C4n
63	4C2p	4C3p	4C4p	1C2p	1C3p	1C4p
64	4A2c	4A3c	4A4c	1A2c	1A3c	1A4c
65	6C4r	6D4r	6E4r	3C4r	3D4r	3E4r
66	4B1r	4C1r	4D1r	1B1r	1C1r	1D1r
67						
68						
69						
70						
71						
72	4A1c	4A1j	4A1r	1A1c	1A1j	1A1r
73	5B3	5B2	5B1	2B3	2B2	2B1
74	4A1b	4A1h	4A1p	1A1b	1A1h	1A1p
75	4A2p	4A3p	4A4p	1A2p	1A3p	1A4p
76	55M6C1m	55M6C2m	55M6C3m	55M3C1m	55M3C2m	55M3C3m
77	58D6E4c	58D6E4f	58D6E4j	58D6E4m	58D6E4r	58D6E4c
78	6E4b	6E4e	6E4h	3E4b	3E4e	3E4h
79	6E3-1c	6E3-2c	6E3-3c	6E3-4c	6E3-5c	6E3-6c
80	6E3-1a	6E3-2a	6E3-3a	6E3-4a	6E3-5a	6E3-6a
81	58D6F3-1c	58D6F3-2c	58D6F3-3c	58D6F3-4c	58D6F3-5c	58D6F3-6a

