

ROBOTRON:

2034

DRAWING SET

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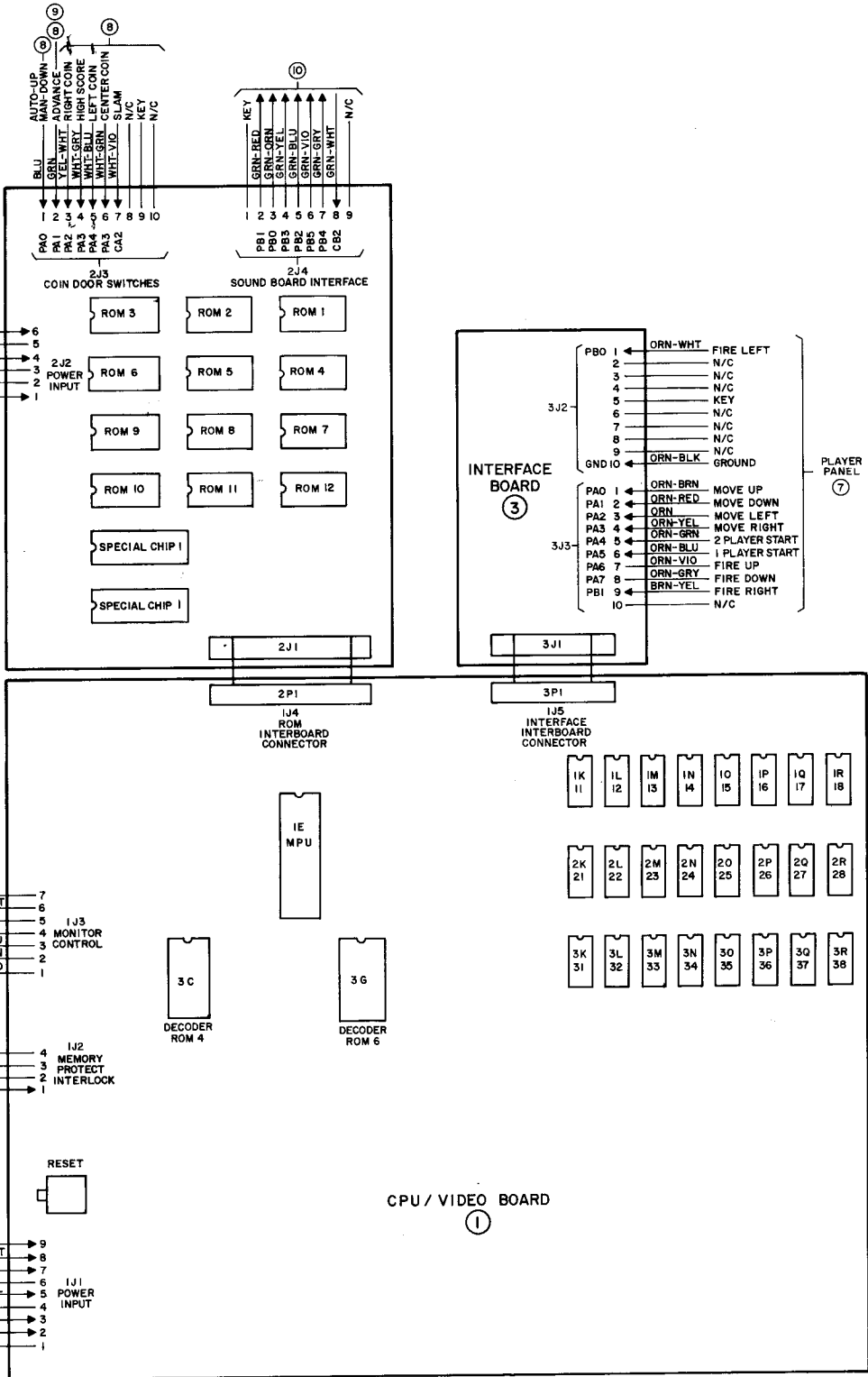
Williams® 
ELECTRONICS, INC.

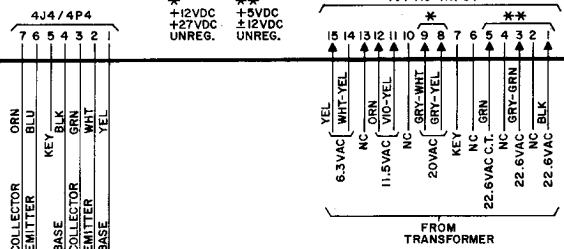
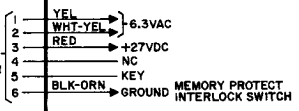
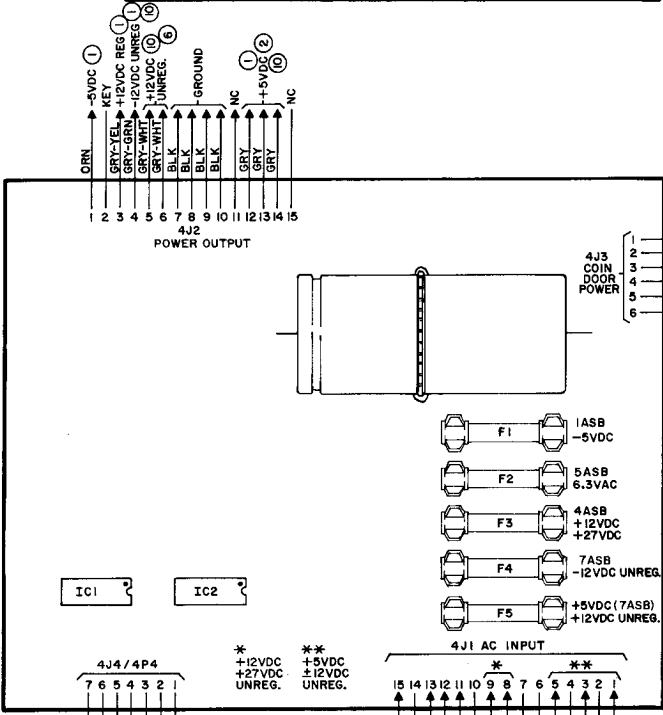
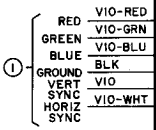
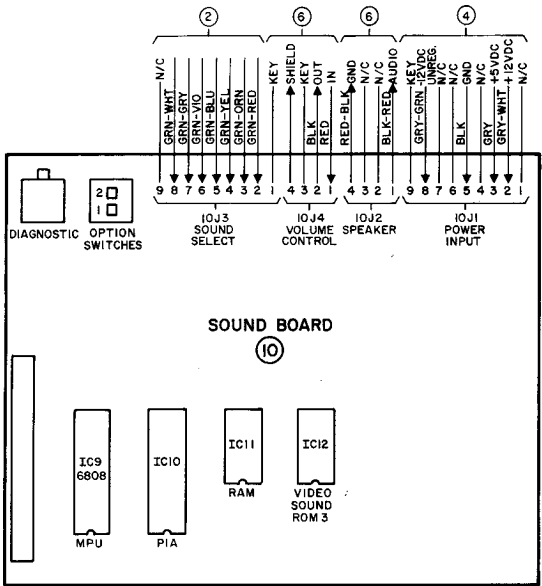
3401 N. California Av.
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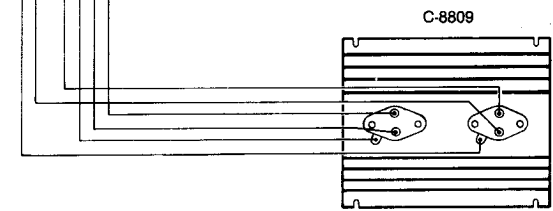
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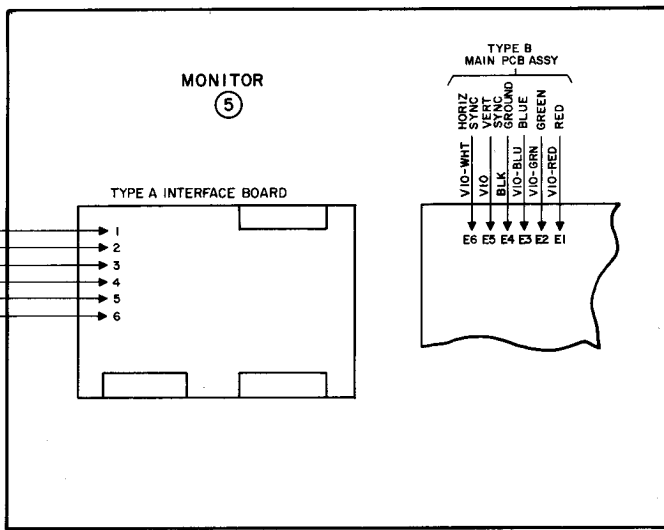
COMPONENT DOOR





- ① CPU / VIDEO BOARD
- ② ROM BOARD
- ③ INTERFACE BOARD
- ④ POWER SUPPLY
- ⑤ MONITOR
- ⑥ CABINET
- ⑦ PLAYER PANEL
- ⑧ COIN DOOR
- ⑨ CASH BOX
- ⑩ SOUND BOARD





MEMORY PROTECT
INTERLOCK SWITCH

C-8809 heat sink assembly

Part No.	Description
5162-09425	2N6057, Transistor, NPN
5161-09552	2N3055, Transistor, NPN
5705-09684	Heat Sink
5700-09445	Socket, TO3
5701-09562	Thermal Pad
4006-01003-10	Machine Screw 6-32x5/8"

VIDEO BOARD
BOARD
FACE BOARD
SUPPLY
OR
CT
R PANEL
OOR
IOX
BOARD

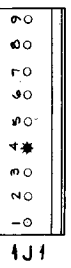
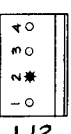
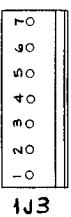
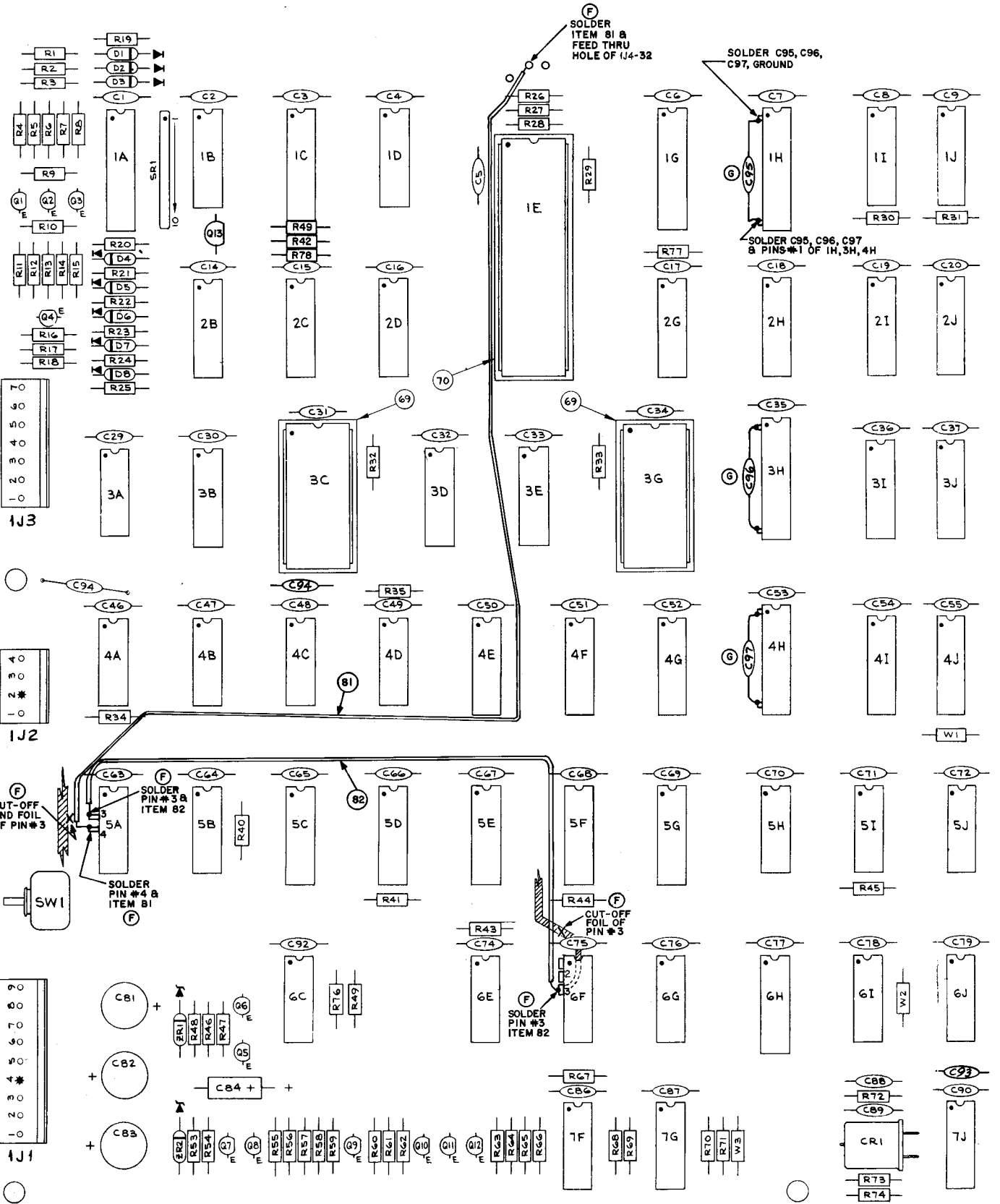
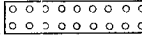
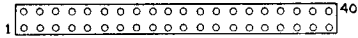
ITEM NO.	PART NO.	PART DESIGNATION	DESCRIPTION	REQ'D. NO.
47	5010-09359-00	R64	RESISTOR, C.F. 47K OHM 5% 1/4W.	1
48				
49	5010-09001-00	R2, R21, R24	RESISTOR, C.F. 330 OHM 5% 1/4 W.	3
50	5010-09039-00	R56	RESISTOR, C.F. 10 OHM 5% 1/4 W.	1
51	5043-09491-00	C89, C93	CAPACITOR, AXIAL 22 PFD. 1K V. ±10%	2
52	5043-09492-00	C88	CAPACITOR, AXIAL 100 PFD. 50 V. ±10%	1
53	5040-09545-00	C54	CAPACITOR, AXIAL 22 MFD. 10 V. ±20%	1
54	5043-09065-00	C94 THRU C97	CAPACITOR, AXIAL 470 PFD. 50 V. XTR ±20%	4
55	5043-08996-00	SEE NOTE #3	CAPACITOR, AXIAL 1 MFD. 50 V. ±20%	85
56	5040-09421-00	C81, C82, C83	CAPACITOR, RADIAL 100 MFD. 25 V. +50-10%	3
57	5075-09059-00	ZR2	IN5990A 3.9 V. ZENER DIODE	1
58	5075-09018-00	ZR1	IN5996A 6.8 V. ZENER DIODE	1
59	5070-08919-00	D1, D2, D3, D4, D5, D6, D7, D8	1N4148 DIODE, SILICON	8
60	5070-09266-00	D9	1N5817 DIODE, SILICON	1
61	5160-08938-00	Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q13	2N4401, TO-92 TRANSISTOR, NPN	7
62	5190-09016-00	Q1, Q2, Q3, Q4, Q12	2N4403, TO-92 TRANSISTOR, PNP	5
63	5520-09495-00	CR1	12 MHZ CRYSTAL	1
64				
65	5880-09022-00	B1, B2, B3	BATTERY ALKALINE 1.5V. (AA)	3
66	5881-09021-00	—	BATTERY HOLDER #171	1
67	5700-09628-00	—	14-PIN IC SOCKET	0
68	5700-09006-00	—	16-PIN IC SOCKET	24
69	5700-09004-00	—	24-PIN IC SOCKET	2
70	5700-08985-00	—	40-PIN IC SOCKET	1
71	5791-09437-00	1J5	20 PIN RIBBON CABLE HEADER	1
72	5791-09349-00	1J4	40 PIN RIBBON CABLE HEADER	1
73	5791-09028-00	1J2	4 PIN HEADER 09-65-1041	1

74	5791-09497-00	1J3	7 PIN HEADER 09-65-1071	1
75	5791-09027-00	1J1	9 PIN HEADER 09-65-1091	1
76	5019-09669-00	SR1	RESISTOR, 1K OHM 10 PIN 51P	1
77	5010-09534-00	W1, W2, W3	RESISTOR, C.F. 0 OHM 1/4 WATT	3
78	5340-09689-00	1C	5114 1K X 4 CMOS STATIC RAM	1
	5340-09667-00		6514 1K X 4 CMOS STATIC RAM	0
79	5281-09483-00 5280-09625-00 5282-09716-00 5281-09715-00 5282-09717-00	1B; 2B	74LS189 16 X 4 RAM	0
			7489 16 X 4 RAM	0
			74S189 16 X 4 RAM	0
			74LS289 16 X 4 RAM	2
			74S289 16 X 4 RAM	0
80	5641-09371-00 5641-09312-00	SW1	PUSH BUTTON SW. SPST	0
			PUSH BUTTON SW. DPDT MOM.	1
81	HW00030-9		WIRE, 30 AWG WHITE	
82	HW00030-2		WIRE, 30 AWG RED	
83				
84	5700-09813-00		14 PIN IC SOCKET	1

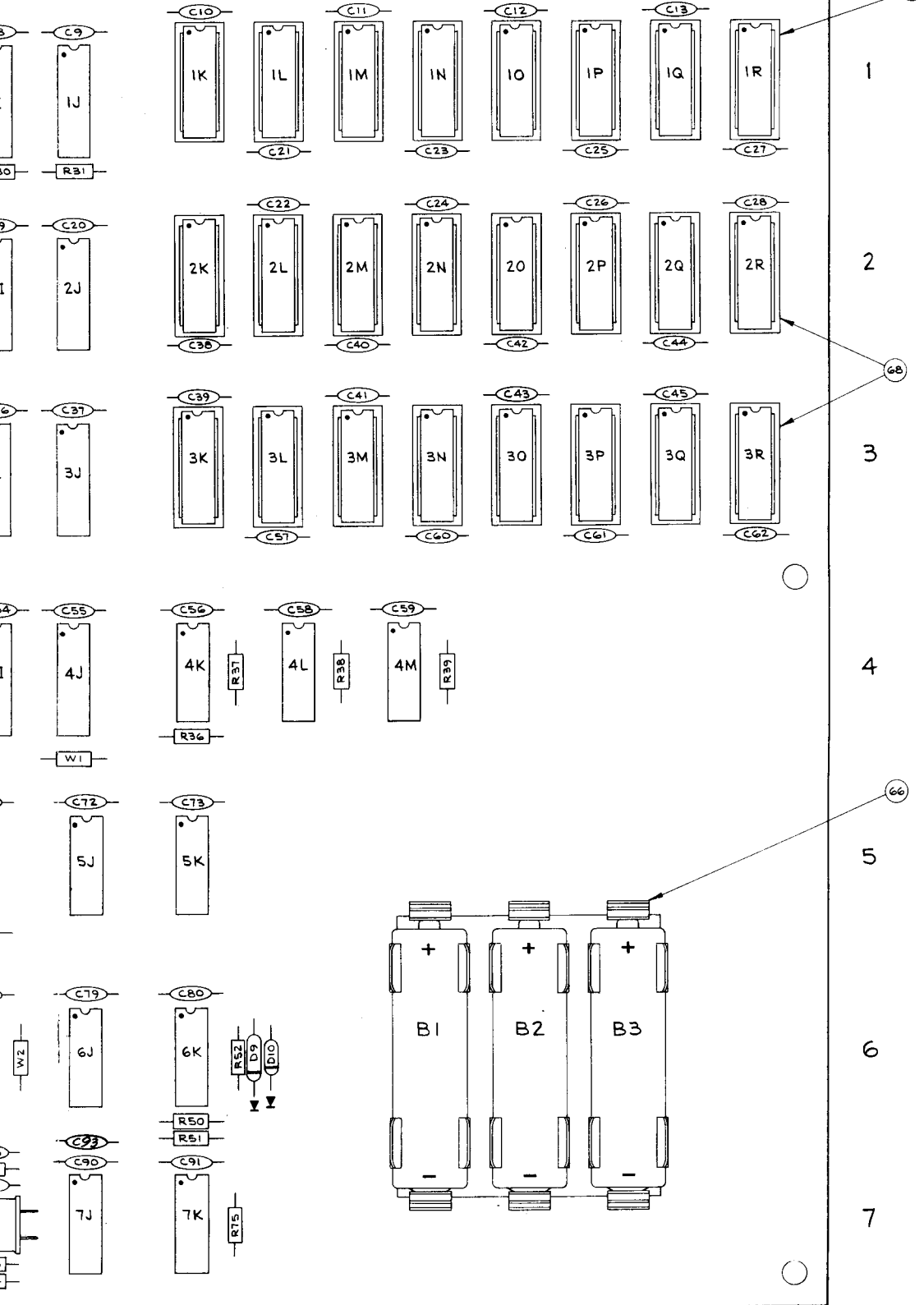
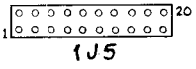
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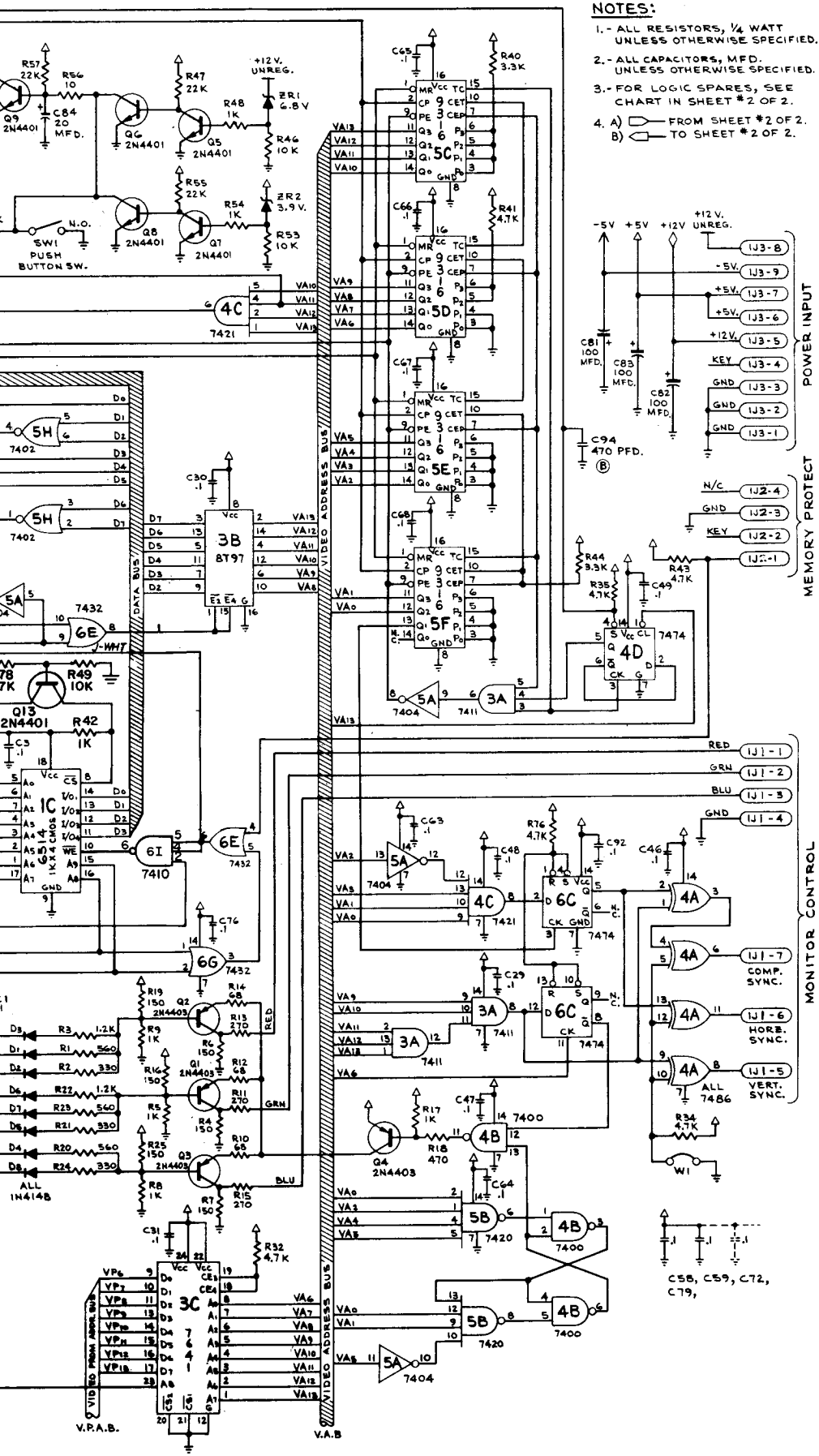
- 411G: 1K, 1L, 1M, 1N, 1O, 1P, 1Q, 1R, 2K, 2L, 2M, 2N, 2O, 2P, 2Q, 2R, 3K, 3L, 3M, 3N, 3O, 3P, 3Q, 3R
- 4.7K A RESISTOR:
R26, R27, R28, R29, R32, R33, R35, R36, R37, R38, R39, R41, R43, R45, R50, R51, R52, R66, R67, R68, R69, R70, R71, R75, R84, R76, R77
- 1 MFD. CAPACITORS:
C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15, C16, C17, C18, C19, C20, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C85, C86, C87, C90, C91, C92
- FOR SCHEMATIC REFER TO 16-8B09

BILL OF MATERIAL				
ITEM NO.	PART NO.	PART DESIGNATION	DESCRIPTION	REQ'D. NO.
1	5710-09656-00		BARE P.C. BOARD REV. A	1
2	5280-09073-00	4B	7400 QUAD 2-INPUT NAND	1
3	5280-08948-00	5H	7402 QUAD 2-INPUT NOR	1
4	5281-09215-00	TJ	74LS04 HEX. INVERTER	1
5	5280-09013-00	5A, 5K	7404 HEX. INVERTER	2
6	5280-08973-00	6F	7408 QUAD AND	1
7	5280-09011-00	4L, 4M, 6I	7410 TRIPLE 3-INPUT NAND	3
8	5280-09415-00	3A, 6J	7411 TRIPLE 3-INPUT AND	2
9	5280-09530-00	5B	7420 DUAL 4-INPUT NAND	1
10	5280-09476-00	4C	7421 DUAL 4-INPUT AND	1
11	5280-09477-00	6E, 6G	7432 QUAD 2-INPUT OR	2
12	5280-09478-00	4D, 4K, 6K, 6C, 7F, 7G	7474 DUAL D-TYPE FLIP-FLOP	6
13	5280-09479-00	4A, 5J	7486 QUAD 2-INPUT EX-OR	2
14	5281-09480-00	7K	74LS107 DUAL J-K FLIP-FLOP	1
15	5281-09532-00	5G	74LS133 13-INPUT NAND	1
16	5281-09246-00	4G, 6H	74LS139 DUAL 2 to 4 LINE DECODER	2
17	5280-09481-00	3D, 3E, 4E, 4F	74153 DUAL 4 to 1 DATA INVERT	4
18	5280-09668-00	1I, 1J, 2I, 2J, 3I, 3J, 4I, 4J	74166 8-BIT SHIFT REGISTER	8
19				
20	5281-09308-00	1G	74LS245 OCTAL BUS TRANSCEIVER	1
21	5281-09485-00	2C, 2H	74LS257 QUAD DATA MUX.	2
22	5370-08989-00 5281-09385-00	1D, 2D, 2G, 3B	8T97 HEX. TS BUFFER 74LS367 HEX BUS DRIVER	0 4
23	5281-09486-00		1A, 1H, 3H, 4H	74LS374 OCTAL D-TYPE FLIP-FLOP
24	A-5342-09695	3C	UNIVERSAL VERT. DECODER ROM 5	1
25	A-5342-09694	3G	UNIVERSAL HORIZ. DECODER ROM 4	1
26	B-9072	6D	CMOS MOD. 866Y BOARD	1
27	5281-09533-00	5I	74LS393 DUAL 4-BIT BIN. COUNTER	1
28	5340-09488-00	SEE NOTE #1	411G (450 ns ACCESS) 16K X 1 DYNAMIC RAM	24
29	5070-09258-00	D10	1N4001 DIODE	1
30	5280-09489-00	5C, 5D, 5E, 5F	9316 4-BIT BIN. COUNTER	4
31	5400-09490-00	1E	6809E MICROPROCESSOR	1
32	5010-09548-00	R10, R12, R14	RESISTOR, C.F. 68 OHM 2% 1/4 W.	3
33	5010-09036-00	R65	RESISTOR, C.F. 100 OHM 5% 1/4 W.	1
34	5010-09187-00	R4, R6, R7, R16, R19, R25	RESISTOR, C.F. 150 OHM 5% 1/4 W.	6
35	5010-09508-00	R11, R13, R15	RESISTOR, C.F. 270 OHM 2% 1/4 W.	3
36	5010-09416-00	R18	RESISTOR, C.F. 470 OHM 5% 1/4 W.	1
37	5010-08992-00	R1, R20, R23	RESISTOR, C.F. 560 OHM 5% 1/4 W.	3
38	5010-09358-00	R42, R52, R17, R8, R48, R54, R74	RESISTOR, C.F. 1K OHM 5% 1/4 W	8
39	5010-09314-00	R3, R22	RESISTOR, C.F. 1.2 K OHM 5% 1/4 W.	2
40	5010-08998-00	R59, R72, R73	RESISTOR, C.F. 2.2 K OHM 5% 1/4 W.	3
41	5010-08997-00	R60, R63	RESISTOR, C.F. 2.7 K OHM 5% 1/4 W.	2
42	5010-08983-00	R30, R31, R40, R44, R58	RESISTOR, C.F. 3.3 K OHM 5% 1/4 W.	5
43	5010-08991-00	SEE NOTE #2	RESISTOR, C.F. 4.7 K OHM 5% 1/4 W.	28
44	5010-09034-00	R49, R46, R53	RESISTOR, C.F. 10 K OHM 5% 1/4 W.	3
45	5010-08774-00	R47, R55, R57, R62	RESISTOR, C.F. 22 K OHM 5% 1/4 W.	4
46	5010-09113-00	R61	RESISTOR, C.F. 33K OHM 5% 1/4 W.	1



J K L M N O P Q R

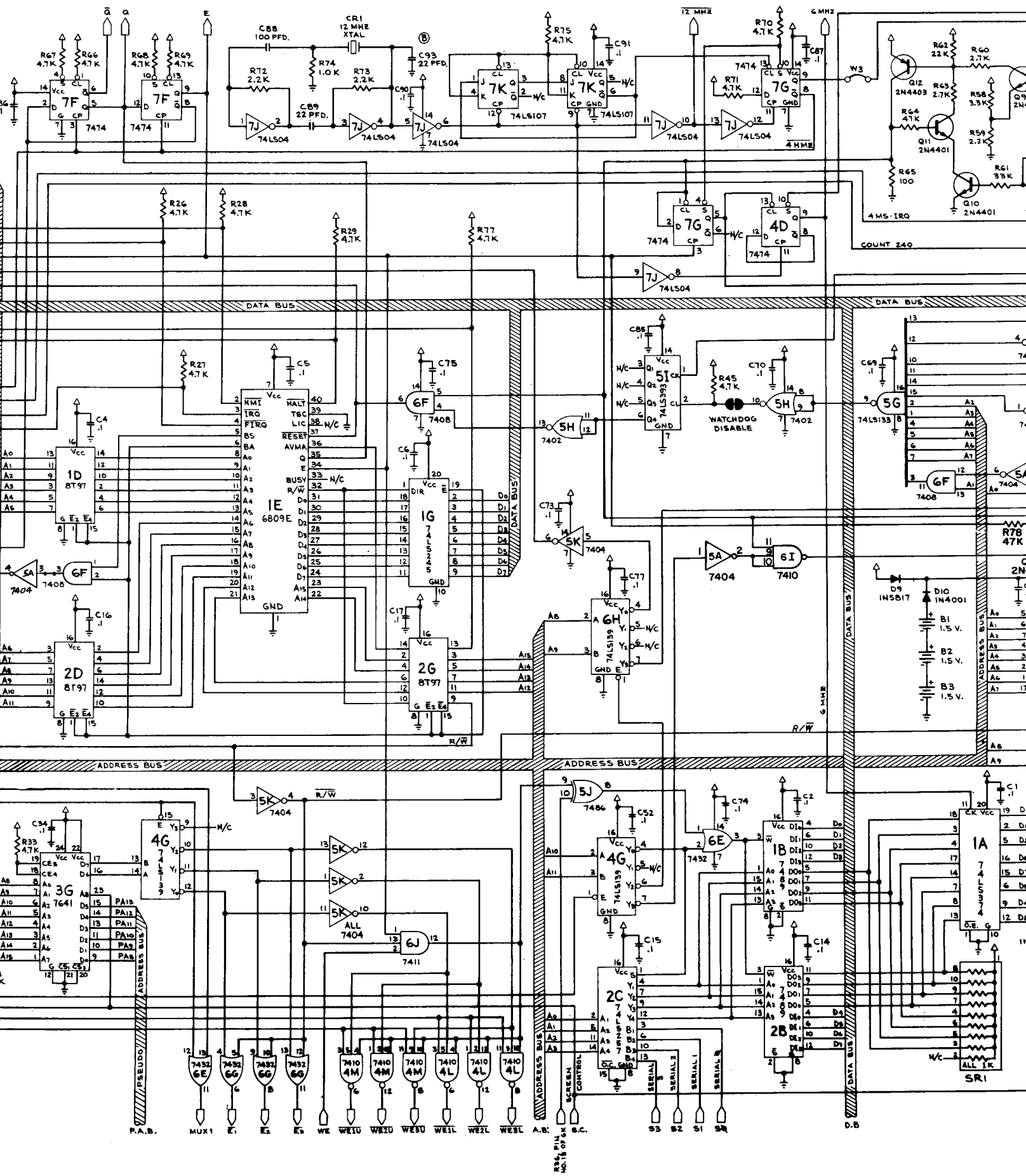




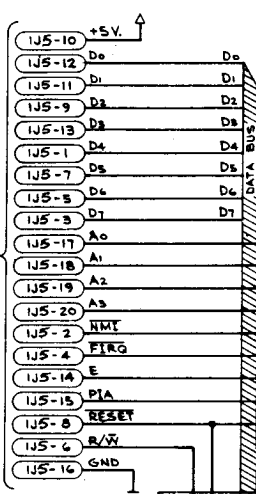
NOTES:

- 1.- ALL RESISTORS, 1/4 WATT UNLESS OTHERWISE SPECIFIED.
- 2.- ALL CAPACITORS, MFD. UNLESS OTHERWISE SPECIFIED.
- 3.- FOR LOGIC SPARES, SEE CHART IN SHEET # 2 OF 2.
4. A) FROM SHEET # 2 OF 2.
B) TO SHEET # 2 OF 2.

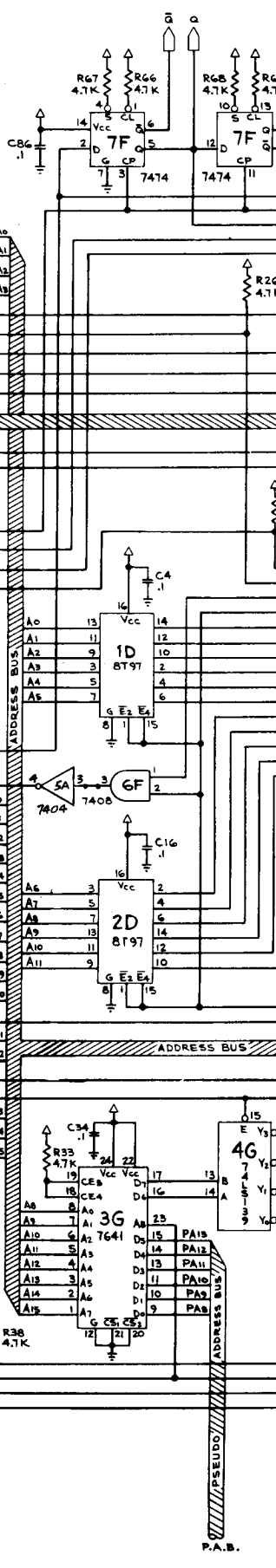
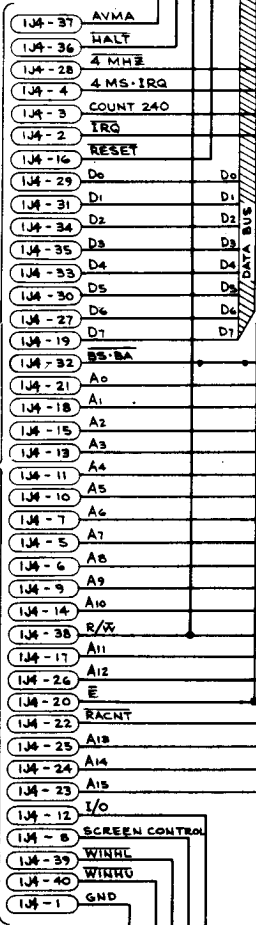
R-8731 CPU Board Logic Diagram (Sheet 1 of 2)



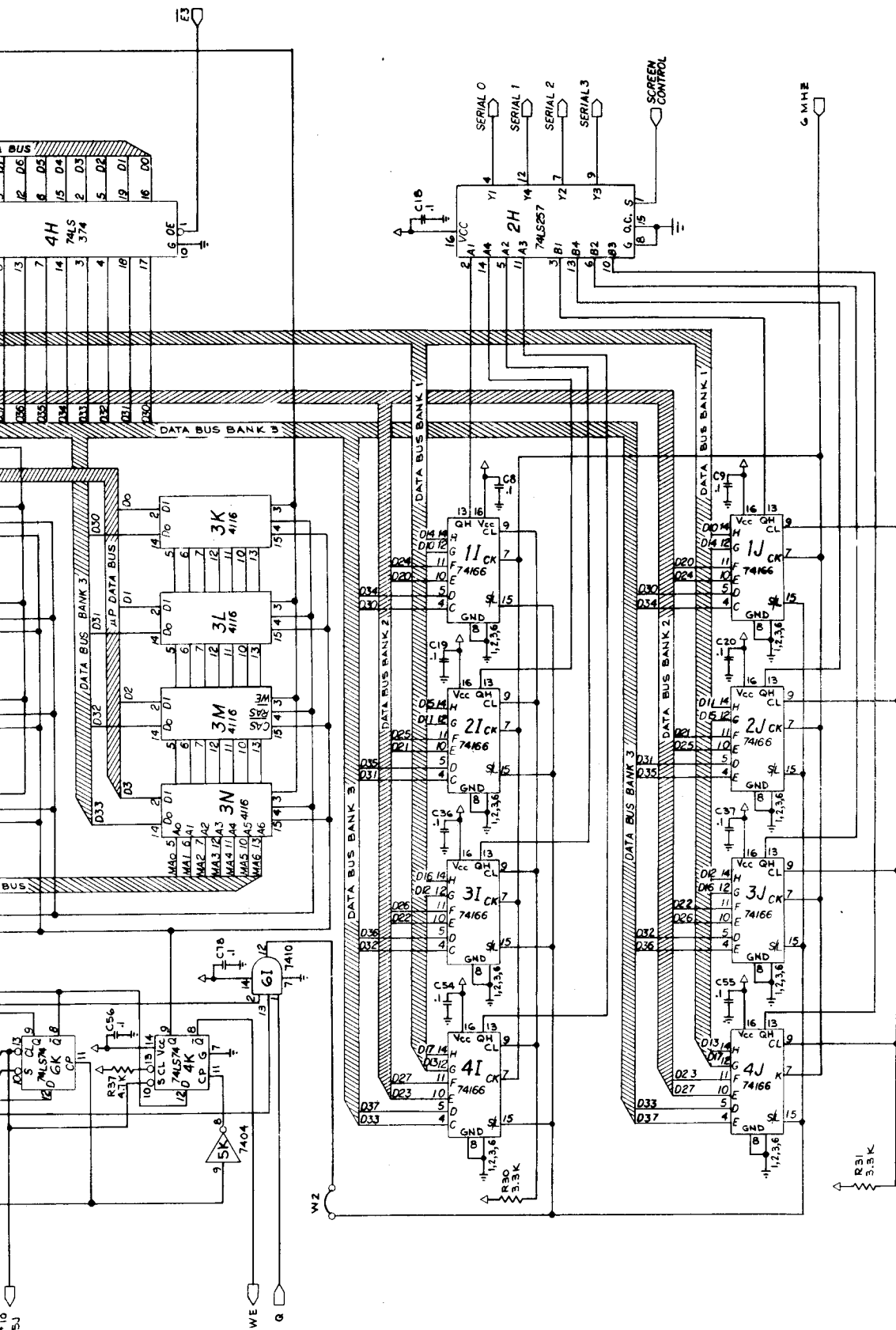
WIDGET INTERBOARD

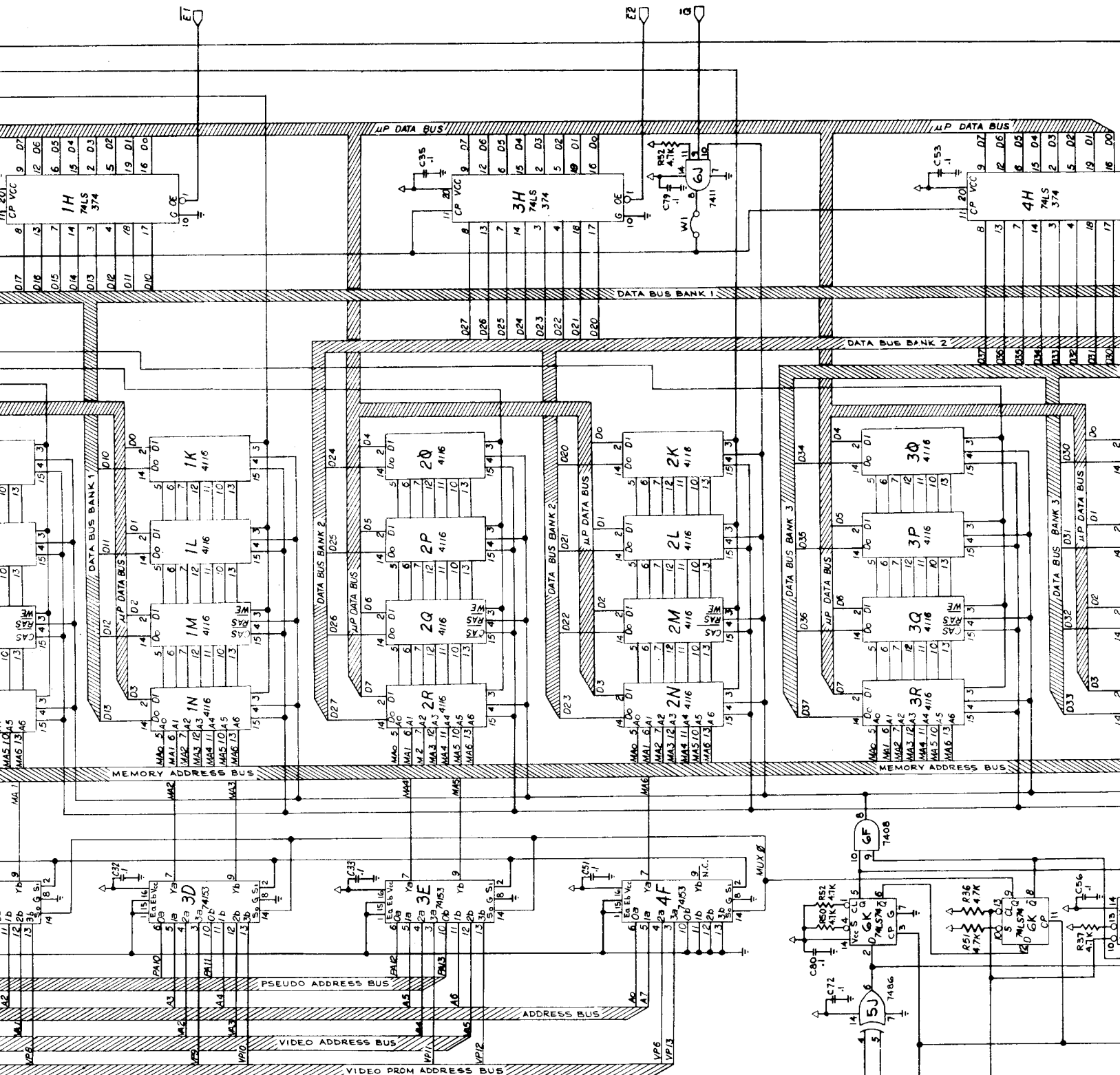


ROM/PIA INTERBOARD



P.A.B.



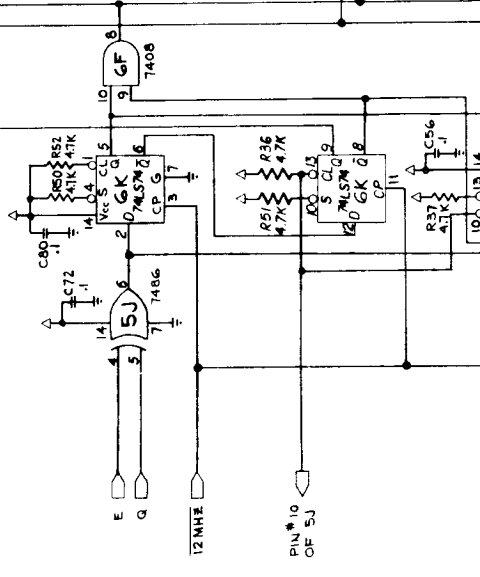


SPARE

LOC.	LOGIC	QTY.
4B	7400	1
4K	74LS74	1
5I	74LS993	1
5J	74LS6	2
6D	4011	2
6H	74LS139	1

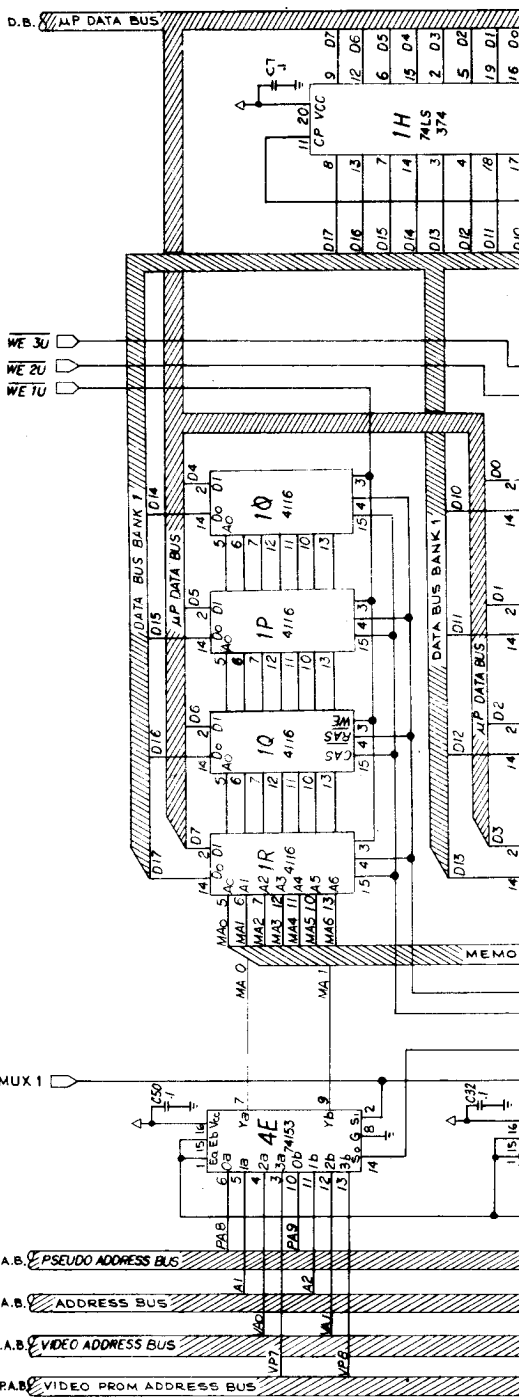
+5V
 +5V
 -5V +12V
 GND

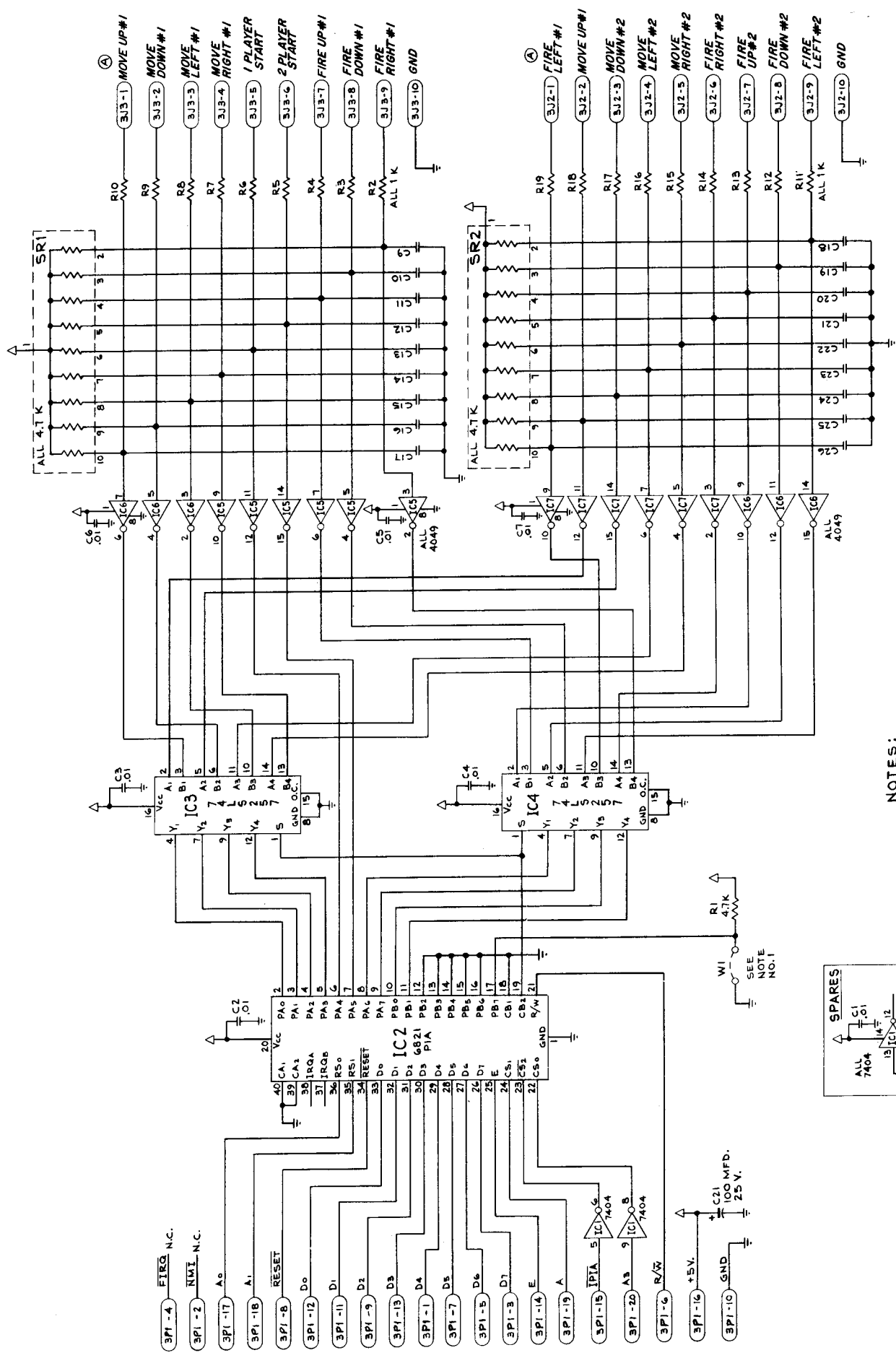
C0, C11, C12, C18, C21, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C32, C33, C34, C35, C36, C37, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58, C59, C60, C61, C62, C63, C64, C65, C66, C67, C68, C69, C70, C71, C72, C73, C74, C75, C76, C77, C78, C79, C80, C81, C82, C83, C84, C85, C86, C87, C88, C89, C90, C91, C92, C93, C94, C95, C96, C97, C98, C99, C100, C101, C102, C103, C104, C105, C106, C107, C108, C109, C110, C111, C112, C113, C114, C115, C116, C117, C118, C119, C120, C121, C122, C123, C124, C125, C126, C127, C128, C129, C130, C131, C132, C133, C134, C135, C136, C137, C138, C139, C140, C141, C142, C143, C144, C145, C146, C147, C148, C149, C150, C151, C152, C153, C154, C155, C156, C157, C158, C159, C160, C161, C162, C163, C164, C165, C166, C167, C168, C169, C170, C171, C172, C173, C174, C175, C176, C177, C178, C179, C180, C181, C182, C183, C184, C185, C186, C187, C188, C189, C190, C191, C192, C193, C194, C195, C196, 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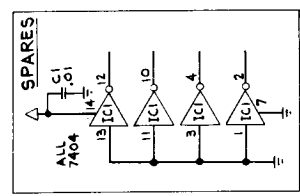
(B)

WE 3L
WE 2L
WE 1L





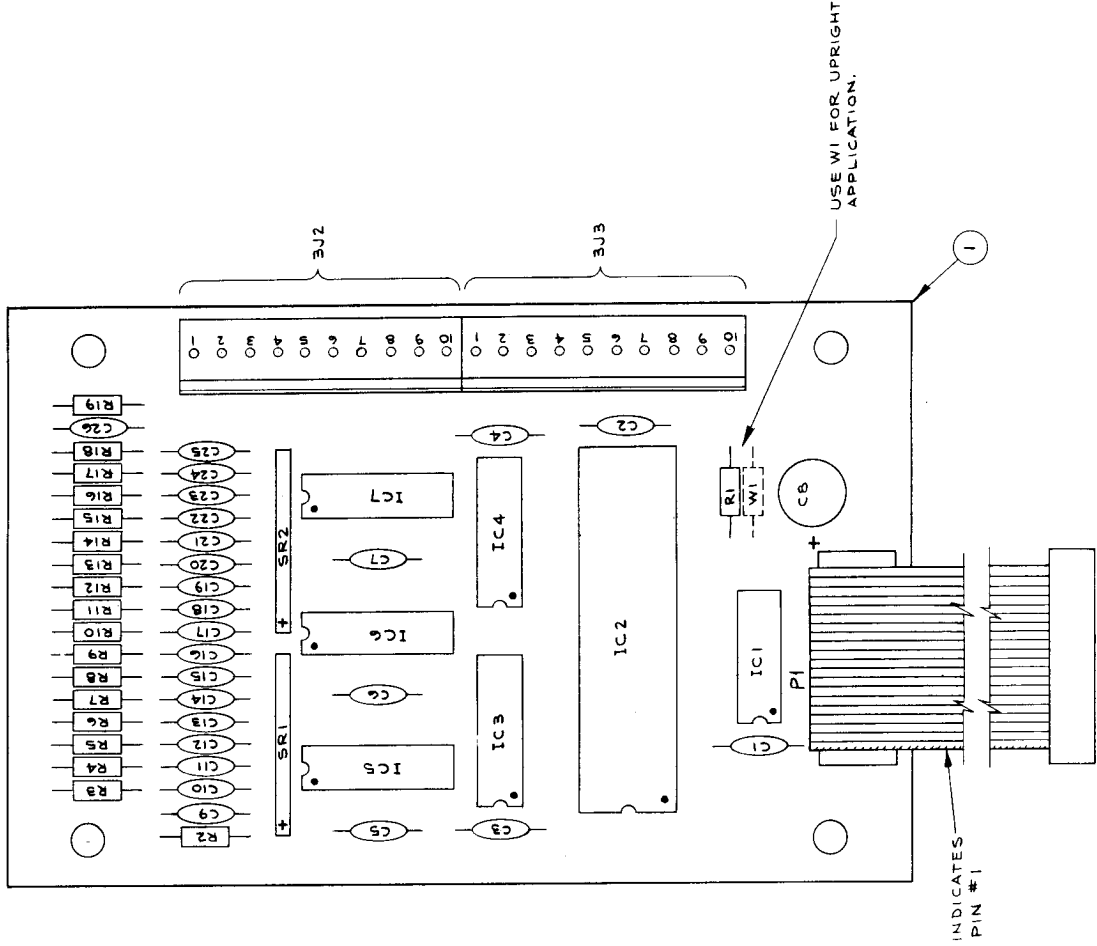
NOTES:
 1. USE W1 FOR UPRIGHT APPLICATION.
 2. FOR ASSEMBLY DWG REFER TO C-8783



C-8783 Interface Board Assembly and Logic Diagram

BILL OF MATERIAL

ITEM NO.	PART NO.	PART DESIGNATION	DESCRIPTION	NO. REQ'D.
1	5172-09680-00		PC BOARD	1
2	5430-08972-00	IC2	6821 PIA	1
3	5310-08975-00	IC5, IC6, IC7	4049 CMOS HEX INVERTOR	3
4	5280-09013-00	IC1	7404 HEX INVERTER	1
5	5281-09485-00	IC3, IC4	74LS257 QUAD DATA MULTIPLEXER	2
6	5019-09362-00	SR1, SR2	4.7K OHM 9 RES. 10 PIN SIP	2
7	5010-09358-00	R2 THRU R19	RESISTOR, C.F. 1K OHM 5% 1/4 WATT	18
8	5010-08991-00	R1	RESISTOR, C.F. 4.7K OHM 5% 1/4 WATT	1
9	5010-09534-00	W1	RESISTOR, C.F. 0 OHM 1/4 WATT	1
10	5043-09065-00	C9 THRU C26	CAPACITOR, CERAMIC DISC. 470 PFD. 50 V. XTR 120%	18
11	5040-09421-00	CB	CAPACITOR, ELECT. RADIAL 100 MFD. 25 VOLT, +50-10%	1
12	5043-08980-00	C1 THRU C7	CAPACITOR, CERAMIC DISC. 0.1 MFD. 50 V. +80-20%	7
13	5195-09540-00	P1	20 PIN RIBBON CABLE ASSY.	1
14	5191-09444-00	3J2, 3J3	10 PIN HEADER 09-65-1101	2

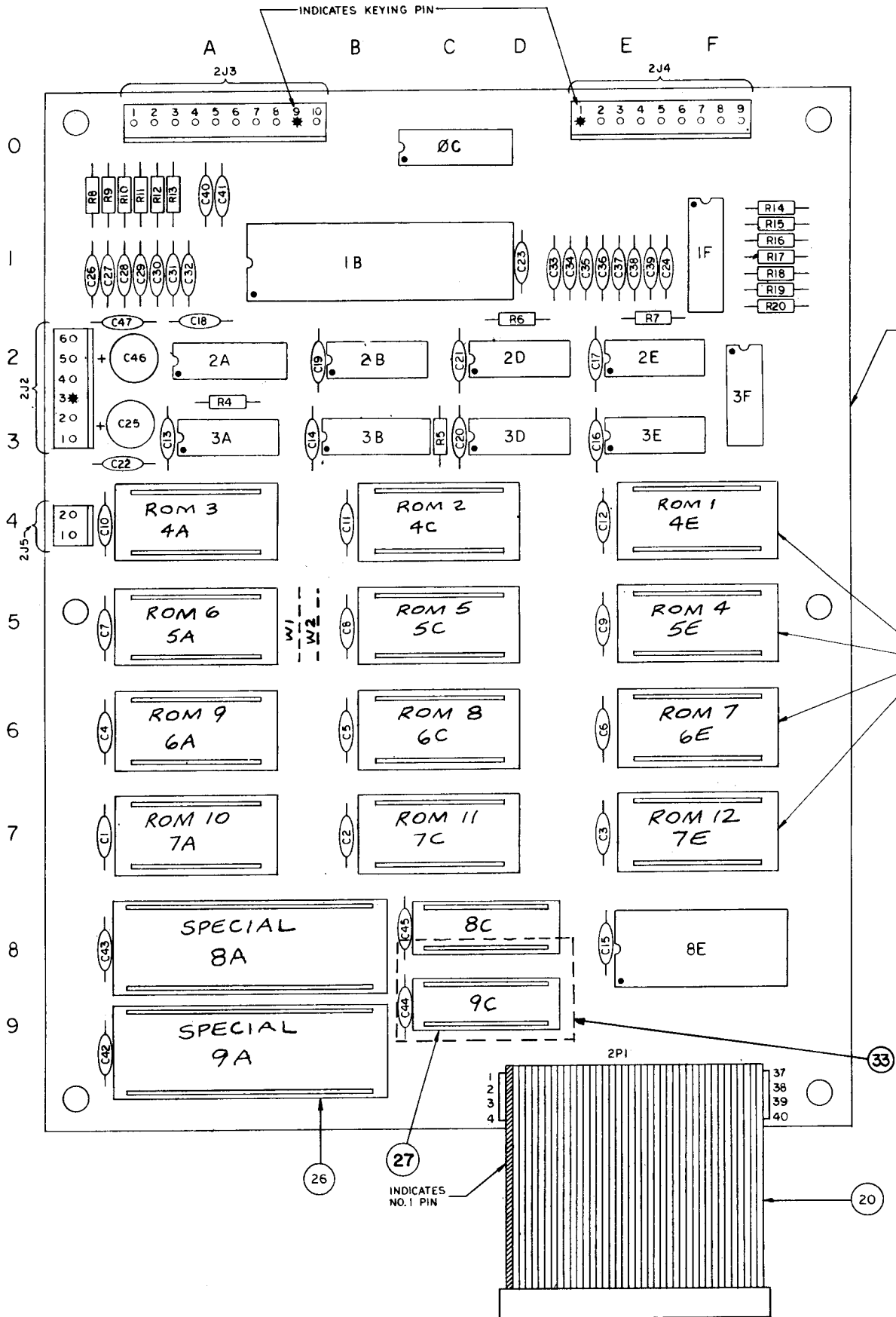


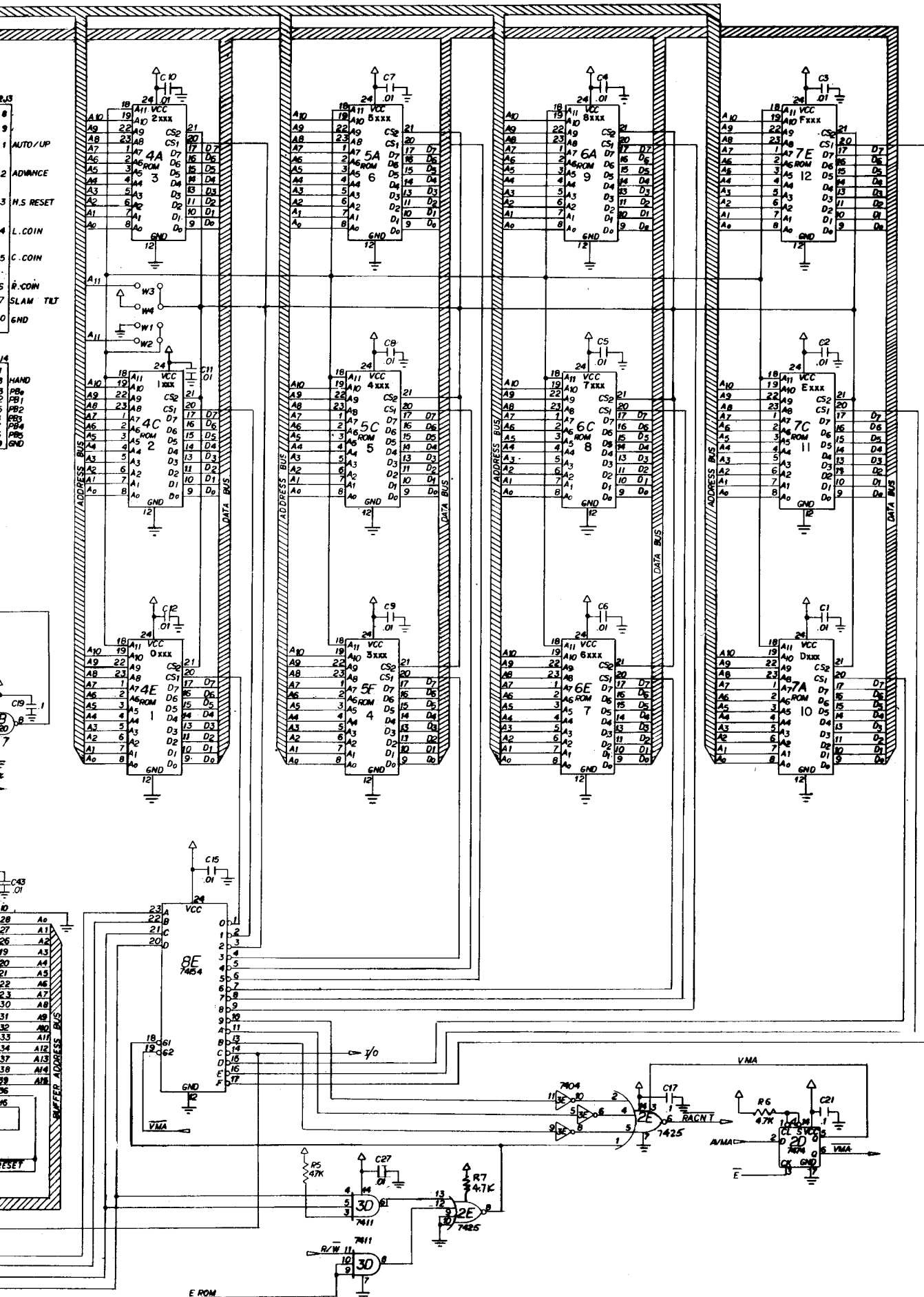
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19

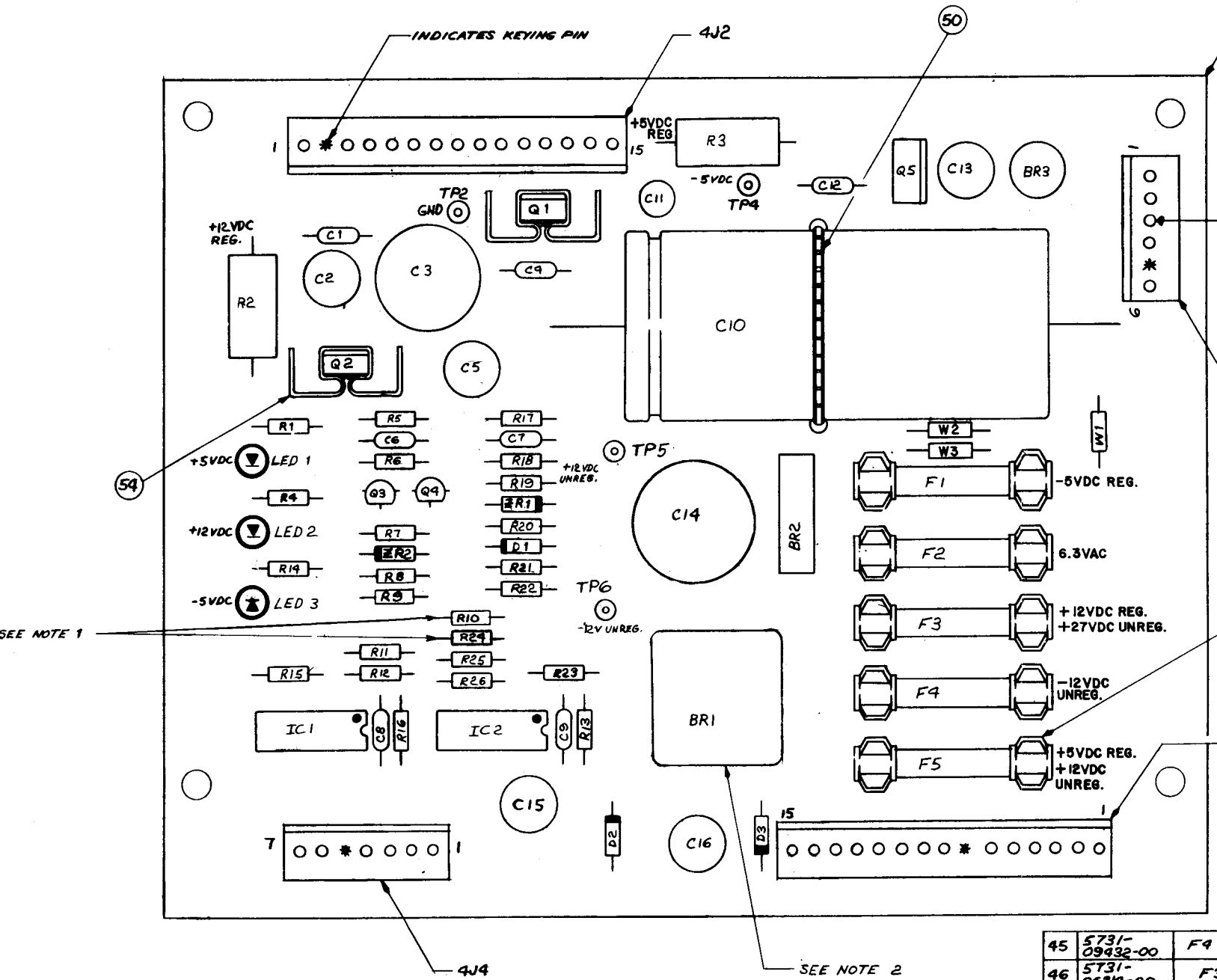
GAME NAME	ROBOTRON
ASSEM. NO.	
4E	A-5343-09898
4C	A-5343-09899
4A	A-5343-09900
5E	A-5343-09901
5C	A-5343-09902
5A	A-5343-09903
6E	A-5343-09904
6C	A-5343-09905
6A	A-5343-09906
7A	A-5343-09907
7C	A-5343-09908
7E	A-5343-09909
JUMPER	W1, W3

BILL OF MATERIALS				
ITEM NO.	PART NO.	PART DESIGNATION	DESCRIPTION	REQ'D NO.
1	5771 - 09840-00		BARE P.C. BOARD	1
2	5280 - 09407-00	1F	7447BCD TO 7SEG LED DISPLAY	1
3	5280 - 09478-00	2D, 3A	7474 DUAL -D TYPE FLIP-FLOP	2
4	5281 - 09246-00	3B	74LS139 DUAL 2 TO 4 LINE DECODER	1
5	5280 - 09530-00	2B	7420 DUAL 4-INPUT NAND	1
6	5280 - 09475-00	3D	7411 TRIPLE 3 INPUT AND	1
7	5280 - 09013-00	3E	7404 HEX INVERTERS	1
8	5280 - 09551-00	2E	DUAL 4 INPUT 7425 NOR GATE WITH STROBE	1
9	5280 - 09010-00	8E	74154 4 TO 16 LINE DEC. / DEMULT.	1
10	5430 - 08972-00	1B	MC 6821 PIA	1
11	5019 - 09239-00	ØC	4.7K 15 RES 16 PIN DIP PACK	1
12	5010 - 09187-00	R14 THRU R20	RESISTOR C.F. 150 OHM 5% 1/4 W	7
13	5010 - 08991-00	R4 THRU R7	RESISTOR C.F. 4.7K OHM 5% 1/4W	4
14	5671 - 09411-00	3F	MAN 72A 7SEG LED DISPLAY	1
15	5043 - 08980-00	C1-C21, C23, C24, C42-45	CAP. CERAMIC .01 MFD 50V +80-20%	27
16	5040 - 09421-00	C25, C46	CAP ELEC 100 MFD. 25V RAD +50% -10%	2
17	5043 - 08996-00	C22, C47	CAP CERAMIC .1 MFD. 50V ± 20%	2
18	5043 - 09065-00	C26 THRU C41	CAP CERAMIC 470 PFD. 50V AXIAL +/- 20%	16
19	5700 - 09004-00		24-PIN IC. SOCKET	12
20	5795 - 09611-00	2P1	40 PIN RIBBON CABLE ASS'Y 5"	1
21	5791 - 09038-00	2J2	HEADER, 6 PIN, 09-65-1061	1
22	5791 - 09444-00	2J3	10 PIN MALE CONN 09-65-1101	1
23	5791 - 09027-00	2J4	9 PIN CONN 09-65-1091	1
24	5310 - 08975	2A	4049 INVERTING HEX BUF.	1
25	5010 - 09358-00	R8 THRU R13	RESISTOR C.F. 1K OHM 5% 1/4 W	6
26	5700 - 08985-00		40-PIN IC. SOCKET	2
27	5700 - 09498-00		20-PIN IC SOCKET	2
28	D-9192		ROM/PIA BD. SUB-ASSEMBLY	1
29	SEE CHART	4A THRU 7E SEE CHART	GAME ROM ASSEMBLY	AS REQ'D
30	5010 - 09534-00	W1 THRU W4 SEE CHART	RESISTOR C.F. 0 OHM 1/4 WATT	AS REQ'D
31	5410 - 09866-00	8A, 9A	FULL CUSTOM I.C.	2
32	5281 - 09308-00	8C	I.C., 74LS245 OCTAL BUS / LINE DR / LINE RCVR	1
33	A-9231	9C	BUFFER BOARD ASSEM.	1





D-9144 ROM Board Logic Diagram



NOTES:

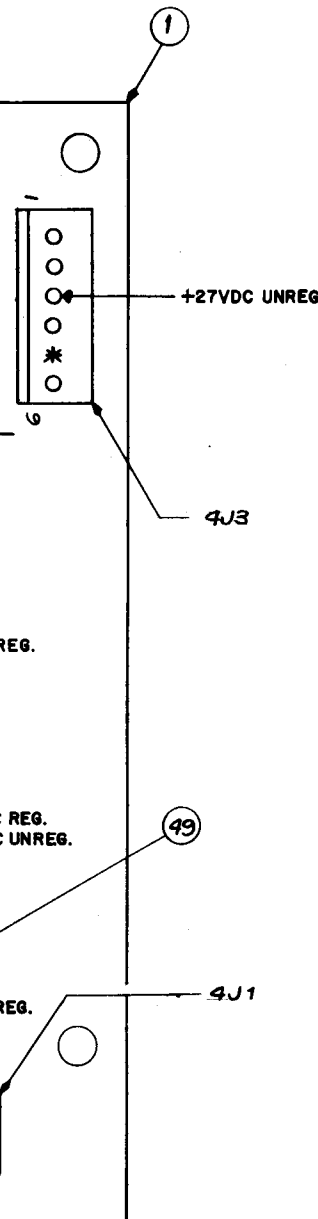
1. REMOVE R24 IF +5VDC IS GREATER THEN 5.25 VDC, REMOVE R10 IF +5VDC IS LESS THAN 4.75 VDC.
2. BR1 MUST BE MOUNTED 1/8" ABOVE SURFACE OF BOARD.
3. FOR SCHEMATIC REFER TO 16-8911.

45	5731-09432-00	F4
46	5731-06314-00	F3
47	5731-06569-00	F1
48	5731-02651-00	F2
49	5732-03178-00	
50	03-7520	
51	5791-09074-00	4J1
52	5791-09038-00	4
53	5791-09497-00	4J2
54	5705-02663-00	
	5706-09688-00	

ITEM NO.	PART NO.	PART DESIGNATION	DESCRIPTION	REQ'D NO.
55	5010-02682-00	R10	RESISTOR C.F. 51K 3 5% 1/4 W	1
56	5705-02663-00	R24	RESISTOR C.F. 57K 3 5% 1/4 W	1

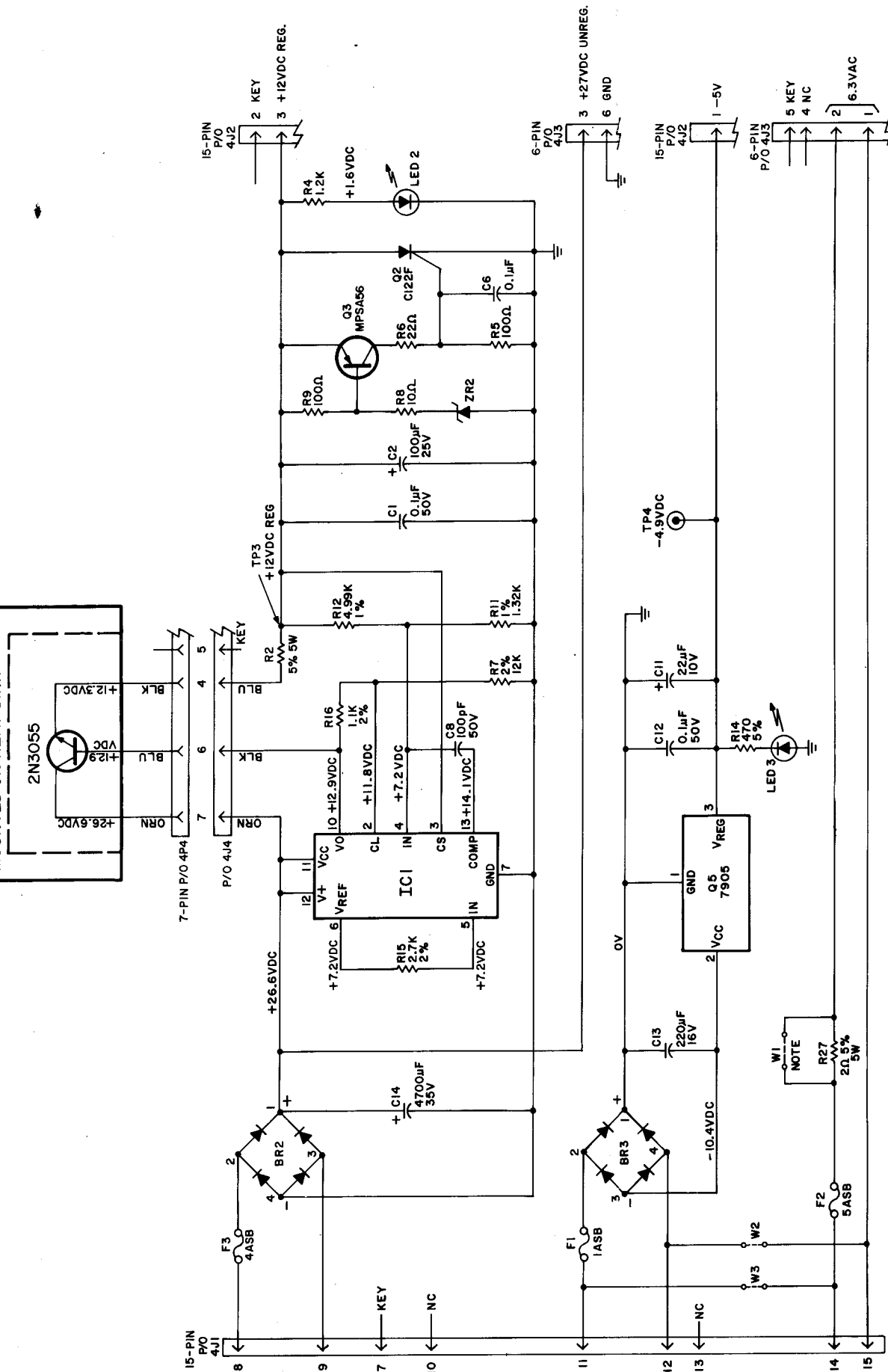
BILL OF MATERIAL

ITEM NO.	PART NO.	PART DESIGNATION	DESCRIPTION	REQ'D NO.
1	5773-09679-00		BARE P.C. BOARD	1
2	5010-09085-00	R23	RESISTOR, 1.5K 5%, 1/4W	1
3	5010-09341-00	R13, R15	RESISTOR, 2.7K 2%, 1/4W	2
4	5010-09508-00	R21	RESISTOR, 370.Ω 2%, 1/4W	1
5	5010-09428-00	R20	RESISTOR, 1.5K 2%, 1/4W	1
6	5010-09509-00	R16	RESISTOR, 1.1K 2%, 1/4W	1
7	5010-09510-00	R7	RESISTOR, 12K 2%, 1/4W	1
8	5010-09319-00	R4	RESISTOR, 1.2K 5%, 1/4W	1
9	5010-09416-00	R1, R14	RESISTOR, 470.Ω 5%, 1/4W	2
10	5013-09542-00	R11	RESISTOR, 7.32K 1%, 1/4W	1
11	5013-09427-00	R12	RESISTOR, 4.99K 1%, 1/4W	1
12	5013-09426-00	R25	RESISTOR, 2.15K 1%, 1/4W	1
13	5012-09429-00	R3	RESISTOR, .12.Ω 5%, 5W	1
14	5012-09512-00	R2	RESISTOR, .27.Ω 5%, 5W	1
15				
16	5013-09665-00	R26	RESISTOR, 5.11K 1%, 1/4W	1
17	5010-09434-00	RG, R18	RESISTOR, C.F. 22.Ω ± 5% 1/4W	2
18	5010-09036-00	R5, R9, R17 & R22	RESISTOR, C.F. 100.Ω ± 5% 1/4W	4
19	5010-09039-00	R8, R19	RESISTOR, C.F. 10.Ω ± 5% 1/4W	2
20	5010-09534-00	W1	RESISTOR, 0.Ω	1
21	5043-08996-00	C6, C7	CAPACITOR, 0.1.μF CERAMIC +80% -20% 50V	2
22	5040-09421-00	C2, C16	CAPACITOR, 100MFD, 25V RADIAL +50% -10%	2
23	5040-09422-00	C15	CAPACITOR, 47 MFD, 50V RADIAL +50% -10%	1
24	5040-09420-00	C3	CAPACITOR, 1000MFD, 25V RADIAL +75% -10%	1
25	5040-09419-00	C10	CAPACITOR, 18,000MFD 20V AXIAL +75% -10%	1
26	5040-09423-00	C5	CAPACITOR, 330 MFD 10V RADIAL +50% -10%	1
27	5040-09504-00	C14	CAPACITOR, 4700MFD 35V RADIAL +50% -10%	1
28	5043-09446-00	C1, C4 & C12	CAPACITOR, .1MFD, 50V AXIAL 25V -20 +80%	3
29	5043-08065-00	C9	CAPACITOR, 470PFD 50V AXIAL XTR ± 10%	1
30	5043-09492-00	C8	CAPACITOR, 100PFD 50V AXIAL S2L ± 5%	1
31	5040-09506-00	C13	CAPACITOR, 220MFD 16V RADIAL +50% -10%	1
32	5040-09493-00	C11	CAPACITOR, 22MFD 10V RADIAL +50% -10%	1
33	5070-06258-00	D1, D2 & D3	DIODE, 1N4001	3
34	5075-09406-00	ZR1	ZENER, 1N5234 ± 5% (6.2V)	1
35	5075-09662-00	ZR2	ZENER, 1N5234 ± 5% (3.0V)	1
36	5190-09430-00	Q3, Q4	TRANSISTOR, MPS 455	2
37	5130-09661-00	Q1, Q2	SCR 8 AMP, 100V	2
38	5250-09515-00	Q5	VOLTAGE REGULATOR, 7905	1
39	5460-09424-00	IC1, IC2	VOLTAGE REGULATOR, 723	2
40	5100-09490-00	BR1	BRIDGE RECTIFIER, 35 AMP, 200V	1
41	5100-09513-00	BR2	BRIDGE RECTIFIER, 4.0A, 50V	1
42	5100-09514-00	BR3	BRIDGE RECTIFIER, 1.0A, 50V	1
43	5671-09019-00	LED1, LED2, LED3	LED, RED	3
44	5824-09298-00	TP1 - TP6	TERMINAL * 1502-1 (TEST POINT)	4

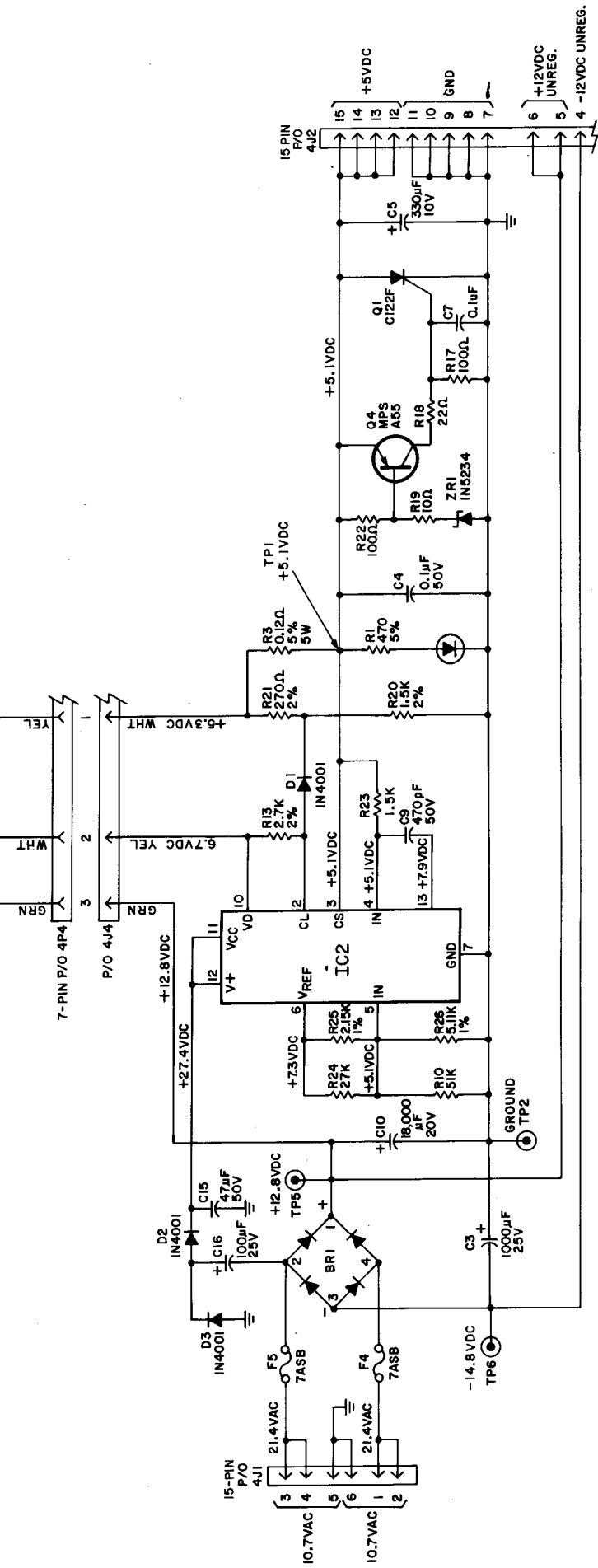
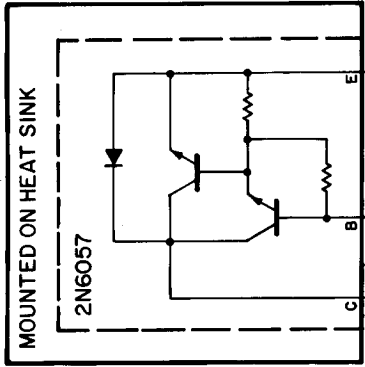


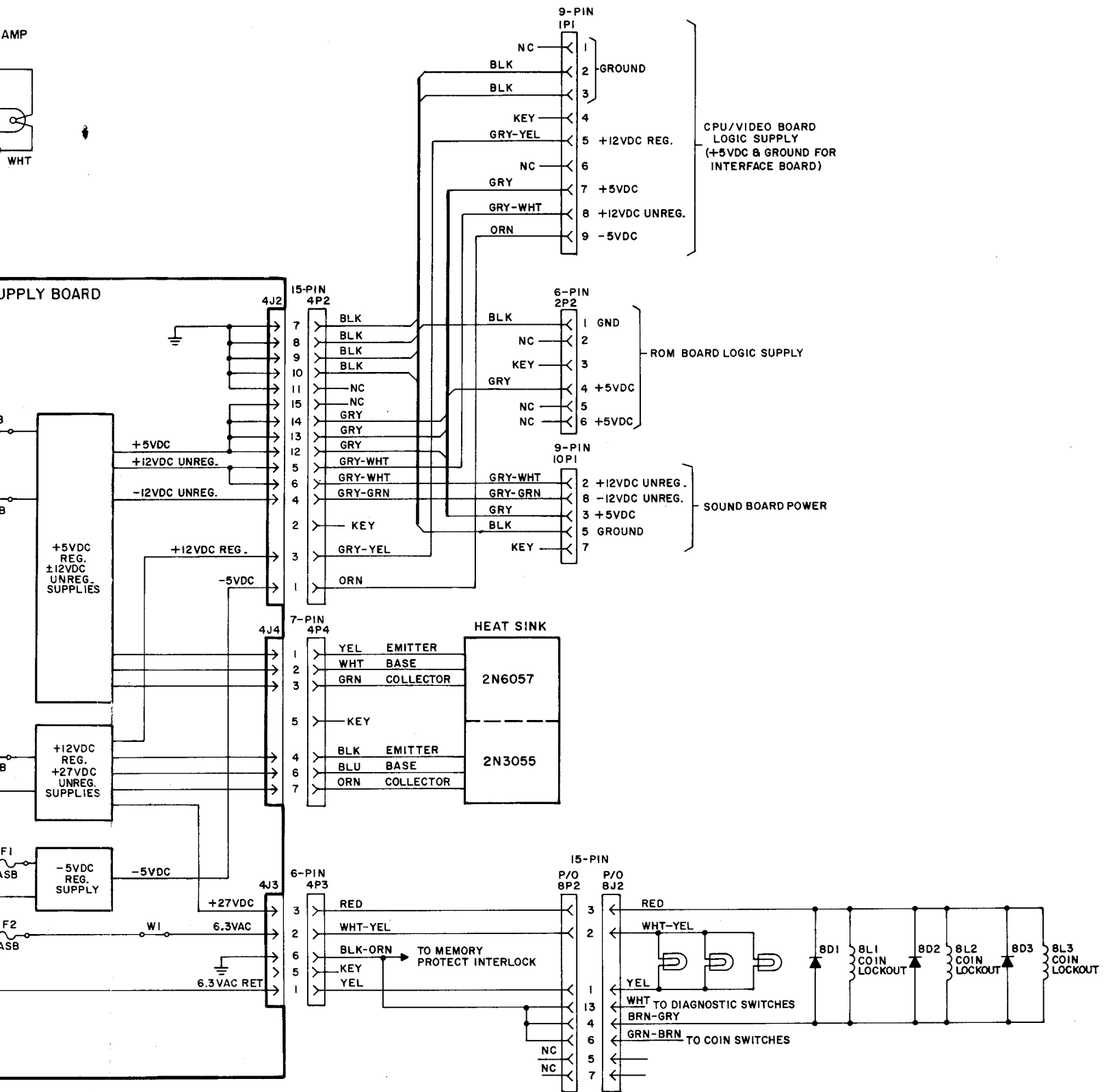
31-32-00	F4 & F5	FUSE, TA.S.B.	2
31-34-00	F3	FUSE, 9A, S.B., 250V	1
31-36-00	F1	FUSE, 1A, S.B., 250V	1
31-35-00	F2	FUSE, 5A, S.B., 250V	1
31-37-00		FUSEHOLDER,	10
31-38-00		TIE WRAP	1
31-39-00	4J1 & 4J2	HEADER, 15 PIN 09-65-1051	2
31-40-00	4J3	HEADER, 6 PIN 09-65-1061	1
31-41-00	4J4	HEADER, 7 PIN 09-65-1071	1
31-42-00		HEAT SINK	2
31-43-00		HEAT SINK	0

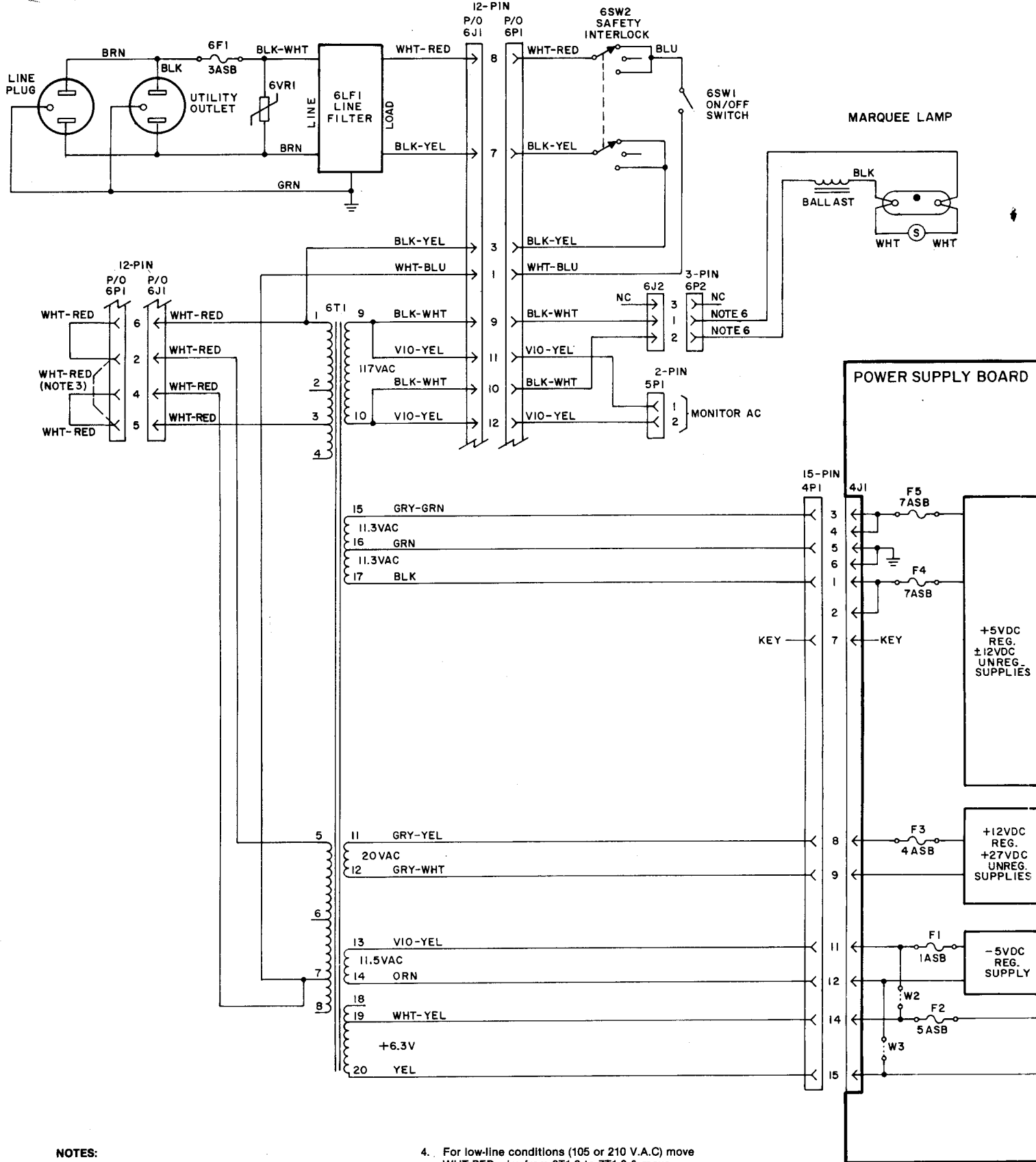
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D-8784 Power Supply Board Schematic Diagram



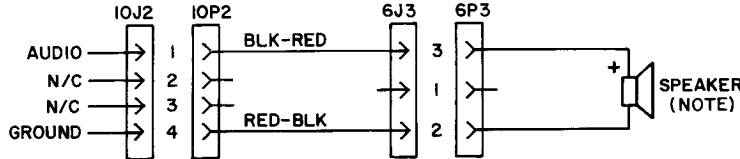
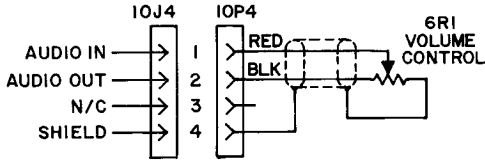




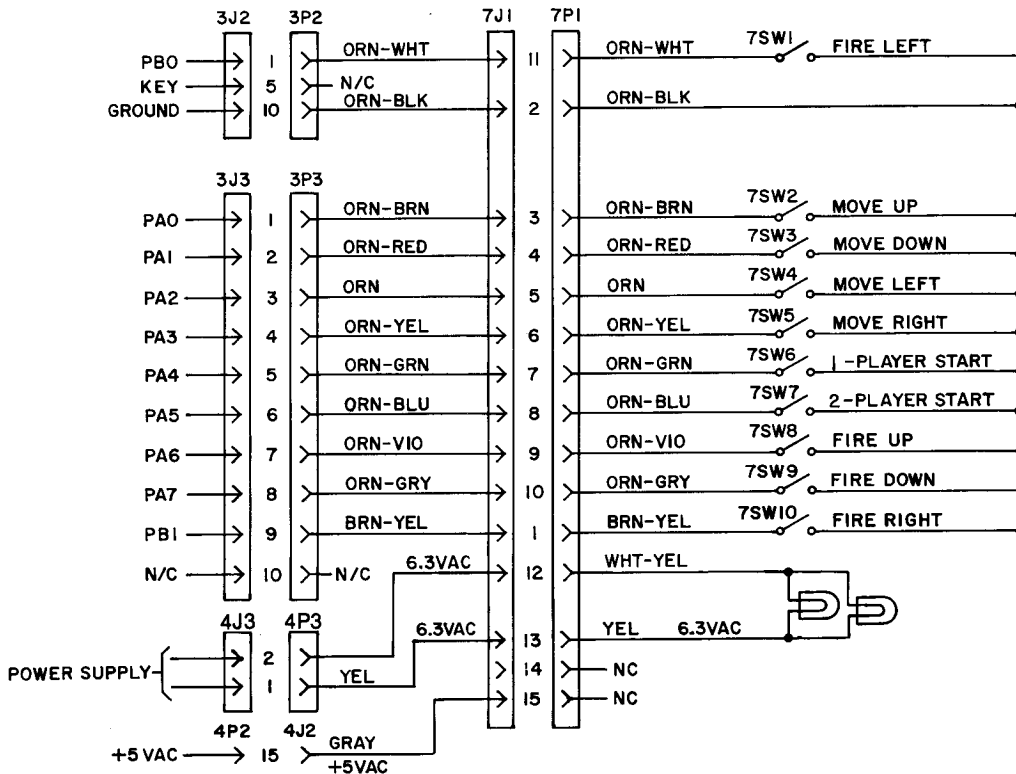
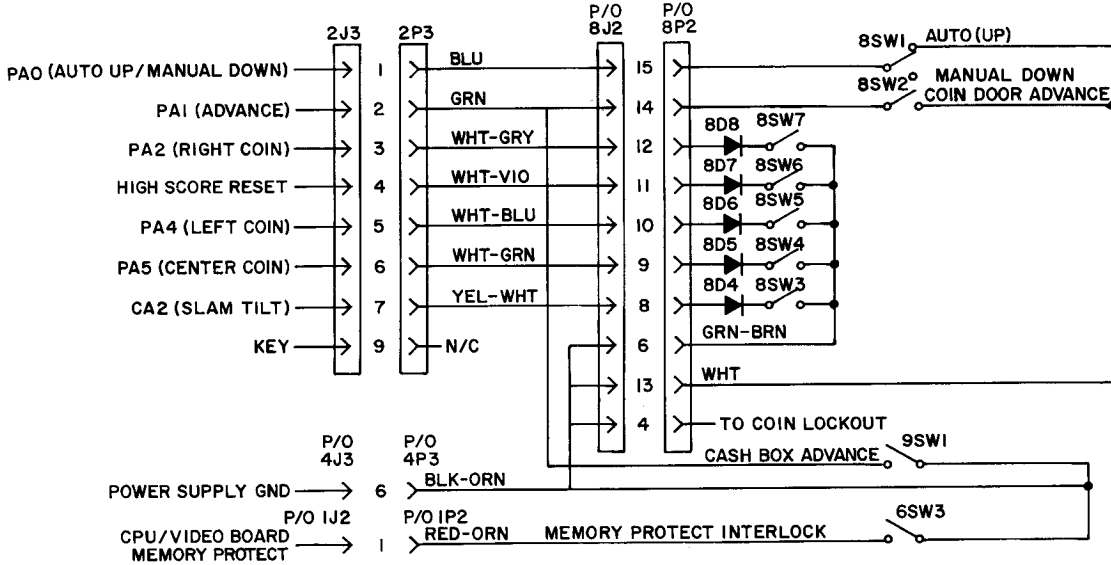
NOTES:

1. For 105 or 115 V.A.C., 3A fuse & 130 V varistor 5017-09044 are used.
2. For 210 or 235 V.A.C., 1A fuse & 275V varistor 5017-09063 are used.
3. Jumper wires on 6PI shown with solid lines are connected for 117 V.A.C. operation. Only the one shown with a dashed line is connected for 220 V.A.C. operation.
4. For low-line conditions (105 or 210 V.A.C) move WHT-RED wire from 6T1-3 to 7T1-2 & move WHT-RED & WHT-BLU wires from 7T1-7 to 7T1-6.
5. For high line conditions (135 or 240 VAC) move WHT-RED wire from 7T1-3 to 7T1-4 and move WHT-RED & WHT-BLU wires from 7T2-7 to 7T2-8.
6. On compact games marquee is illuminated with 6.3 V.A.C. bulbs and no 115 V.A.C. connections are routed through 6T2/6P2. Refer to Detail A on cabinet wiring diagram for compact game connections.

CABINET WIRING

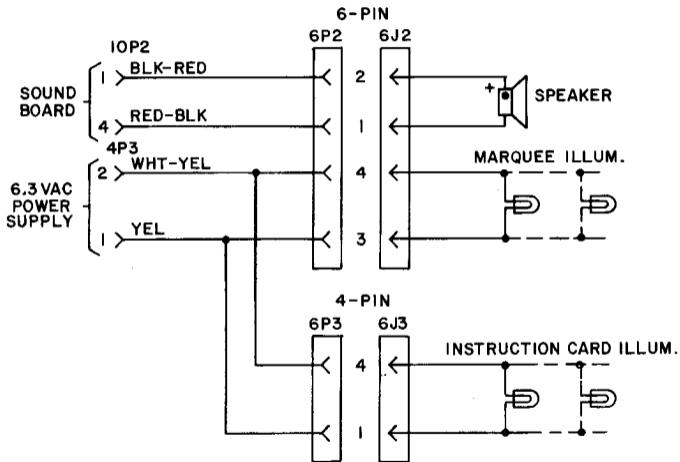


Note:
Speaker connections shown for upright games. Refer to Detail A for compact games.



Cabinet Wiring Diagram

DETAIL A - COMPACT GAMES (NOTE)



BILL OF MATERIAL

ITEM NO.	PART NO.	PART DESIGNATION	DESCRIPTION	REQ'D. NO.
1	01-2 01-146-6		BARE P.C. BOARD REV F	1
2	5370-09156-00	IC1	TDA 2002 V AUDIO AMPLIFIER	1
3	5280-09012-00	IC2	7442 BCD-DEC DECODER	1
4	5280-09073-00	IC3	7400 QUAD 2 INPUT NAND	1
5	5280-08973	IC4	7408 QUAD 2 INP. AND GATE	1
6	5310-09153-00	IC5	4050 BUFFER	1
7	5310-09154-00	IC6	4068 8 INPUT NAND GATE	1
8	5310-08971-00	IC7	4069 HEX INVERTER	1
9	5250-09157-00	IC8	7805 5 VOLT REG. W/TO 220 CASE	1
10	5430-08972-00	IC10	6821 P.I.A.	1
11	5340-09003-00	IC11	6810 RAM	1
12	5371-09152-00	IC13	1408 D/A CONVERTER	1
13	5160-08938-00	Q2, Q3, Q4	2N4401 NPN TRANSISTOR	3
14				
15	5075-09018-00	ZR1	1N5996A 6.8V ZENER DIODE	1
16				
17	5100-09357-00)	BR1	MDA 200/3N253	1
	5100-09158-00)		BRIDGE RECTIFIER	0
18	5520-09020-00	Y1	3.58 MHZ CRYSTAL	1
19	5010-08991-00	R1,R18,R19,R21,R22, R27,R30,R31, R32	RESISTOR, FC, 4.7K OHM, 5% 1/4 WATT	9
20	5010-09036-00	R2 thru R10	RESISTOR, FC, 100 OHM, 5% 1/4W	9
21	5010-09358-00	R12,R15,R28,R36,R38	RESISTOR, FC, 1K OHM, 5% 1/4W	5
22	5010-09181-00	R14	RESISTOR, FC, 1 OHM, 10% 1/2 WATT	1
23	5010-09161-00	R16	RESISTOR, FC, 2.2 OHM, 5% 1/4 WATT	1
24	5010-09361-00	R17	RESISTOR, FC, 220 OHM, 5% 1/2 WATT	1
25				
26	5010-08983-00	R23, R24, R26	RESISTOR, FC, 3.3K OHM, 5% 1/4 WATT	3
27	5010-09179-00	R25	RESISTOR, FC, 3.3M OHM, 5% 1/4 WATT	1
28	5010-09035-00	R29	RESISTOR, FC, 47K OHM, 5% 1/4 WATT	1
29	5010-09034-00	R33, R35, R37	RESISTOR, FC, 10K OHM, 5% 1/4 WATT	3
30	5010-09039-00	R34	RESISTOR, FC, 10 OHM, 5% 1/4 WATT	1
31	5043-08980-00	C1, C16 thru C23, C31	CAPACITOR, CER. .01 MFD. 50V. +80%, -20%	10
32	5043-09065-00	C2 thru C10	CAPACITOR, CER. 470 PFD. 50V. +20%	9
33	5043-09345-00	C11	CAPACITOR, CER. .001 MFD. +20% 100V.	1
34	5040-09365-00	C12, C30, C36	CAPACITOR, ELECT. 1 MFD. 63V. -10 +50%	3
35	5043-08996-00	C13, C24, C35	CAPACITOR, CER. .1 MFD. 50V. +20%	3
36	5040-09165-00	C14	CAPACITOR, ELECT. 1,000 MFD. 16V. +20%	1
37	5040-09164-00	C15	CAPACITOR, ELECT. 470 MFD. 10V. +20%	1
38	5040-08986-00	C25	CAPACITOR, ELECT. 100 MFD. 10V. +20%	1
39	5040-08893-00	C26	CAPACITOR, ELECT. 1,000 MFD. 25V. +20%	1
40	5040-09376-00	C27	CAPACITOR, ELECT. 4700 MFD. 16V. +20%	1
41	5043-09180-00	C28	CAPACITOR, CER. 47 PFD. 1K V. +20%	1
42	5040-09343-00)	C29	CAPACITOR, ELECT. 10 MFD. 20V	1
43	5043-09169-00	C32, C33	CAPACITOR, CER. DISC, 27 PFD. 1KV. +10%	2
44	5041-09163-00	C34	CAPACITOR, TANTALUM 2.2 MFD. 15V. +20%	1
45	5041-09031-00	C37	CAPACITOR, TANTALUM 1 MFD. 25V. +20%	1
46	5641-09658-00)	SW1	MOMENTARY SWITCH SPDT	1
47	5645-09330-00	DS1	2 STD, DIP SWITCH	1
48	5731-06314-00	F1, F2	4 AMP SLOW BLOW FUSE	2
49	5732-09178-00		FUSEHOLDER	4
50	5705-09172-00		HEAT SINK THERMALLOY #6072B	1
51	5705-09173-00		HEAT SINK THERMALLOY #6071B	1
52	5705-09199-00		HEAT SINK THERMALLOY #6030	1
53	5700-09004-00		24 PIN SOCKET	1
54	5700-08985-00		40 PIN SOCKET	1
55	5791-09027-00	10J1, 10J3	9 PIN MALE CONNECTOR 09-65-1091	2
56	5791-09028-00	10J2, 10J4	4 PIN MALE CONNECTOR 09-65-1041	2
57				
58	4006-01003-06		6-32x3/8" P-PH-S	3
59	4406-01117-00		6-32 HEX NUT	3
60	5010-09534-00		0 OHM RESISTOR	A/R
61	5824-09248-00	TP1 THR TP4	TERMINAL #1502-1	4
62	5010-09363-00	R11	RESISTOR, FC, 5.6K OHM 5% 1/4 WATT	1
63				
64	5019-09362-00	SR1	RESISTOR, 4.7K OHM 10 PIN SIP	1
65	03-7520-1		TIE WRAP	1
66	4703-00007-00		#6 EXT. LOCKWASHER	3
67	20-9229		THERMAL COMPOUND	.01

NOTES:

1. USE THERMAL COMPOUND BETWEEN IC1 AND IC8, AND HEAT SINKS.

2. CAUTION: AVOID STATIC DISCHARGE DAMAGE TO MOS LOGIC.

3. SYMBOLS SHOWN ON COMPONENTS ARE FOR REFERENCE ONLY.

DO NOT SCREEN OR STAMP.

4. OBSERVE INDEX MARK OF ALL INTEGRATED CIRCUITS;

DIODES D1, D2, AND ZR1;

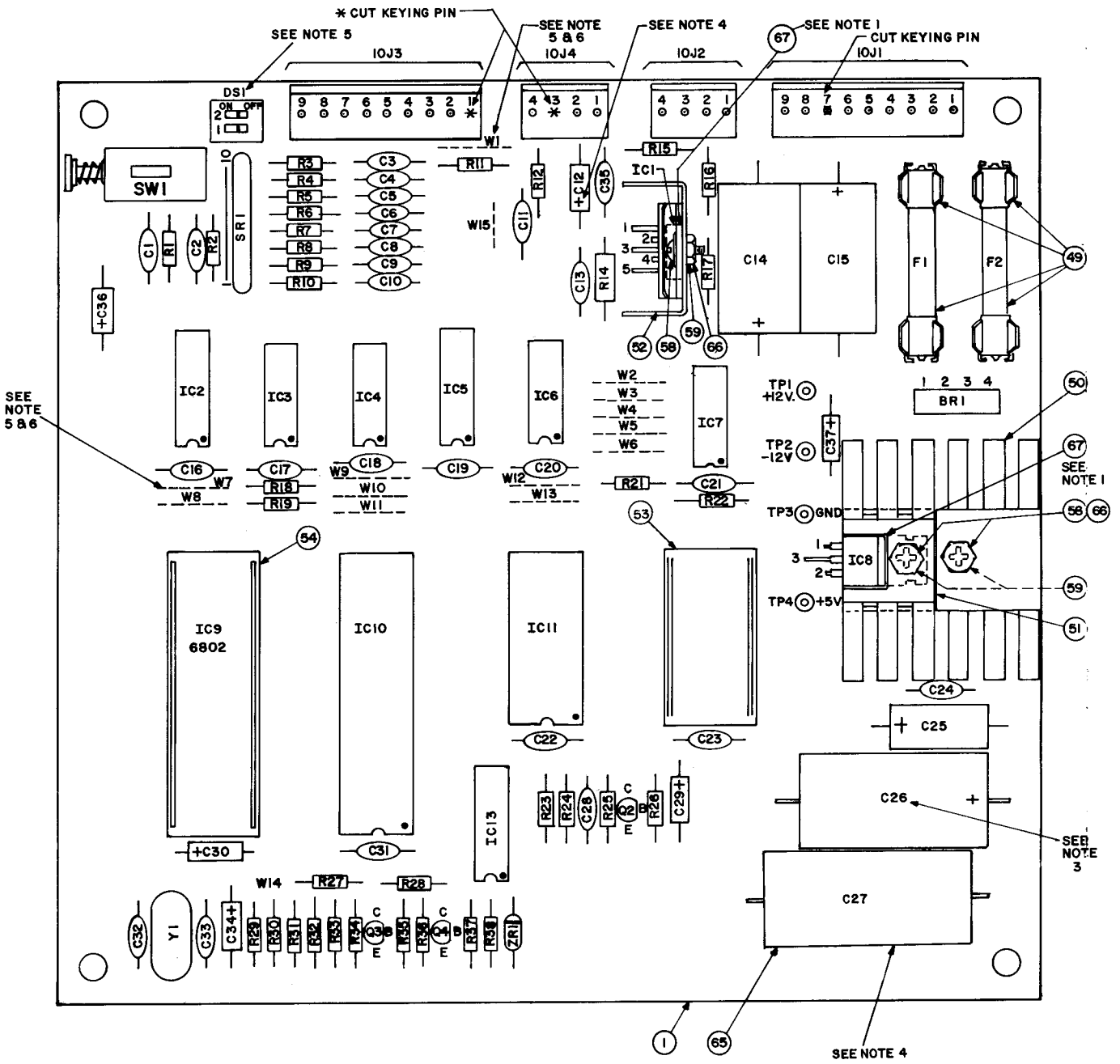
CAPACITORS C12, C14, C15, C25, C26, C27;

CONNECTORS 10J1, 10J2, 10J4, 10J3, 10J5;

POSITION OF TRANSISTORS Q1, Q2, Q3, Q4.

5. JUMPERS

- W3) W2)
- W4) W6)
- W5) IN W9) OUT
- W10) W11)
- W12)
- W13)



* CUT KEYING PIN

SEE NOTE 5

SEE NOTE 5 & 6

SEE NOTE 4

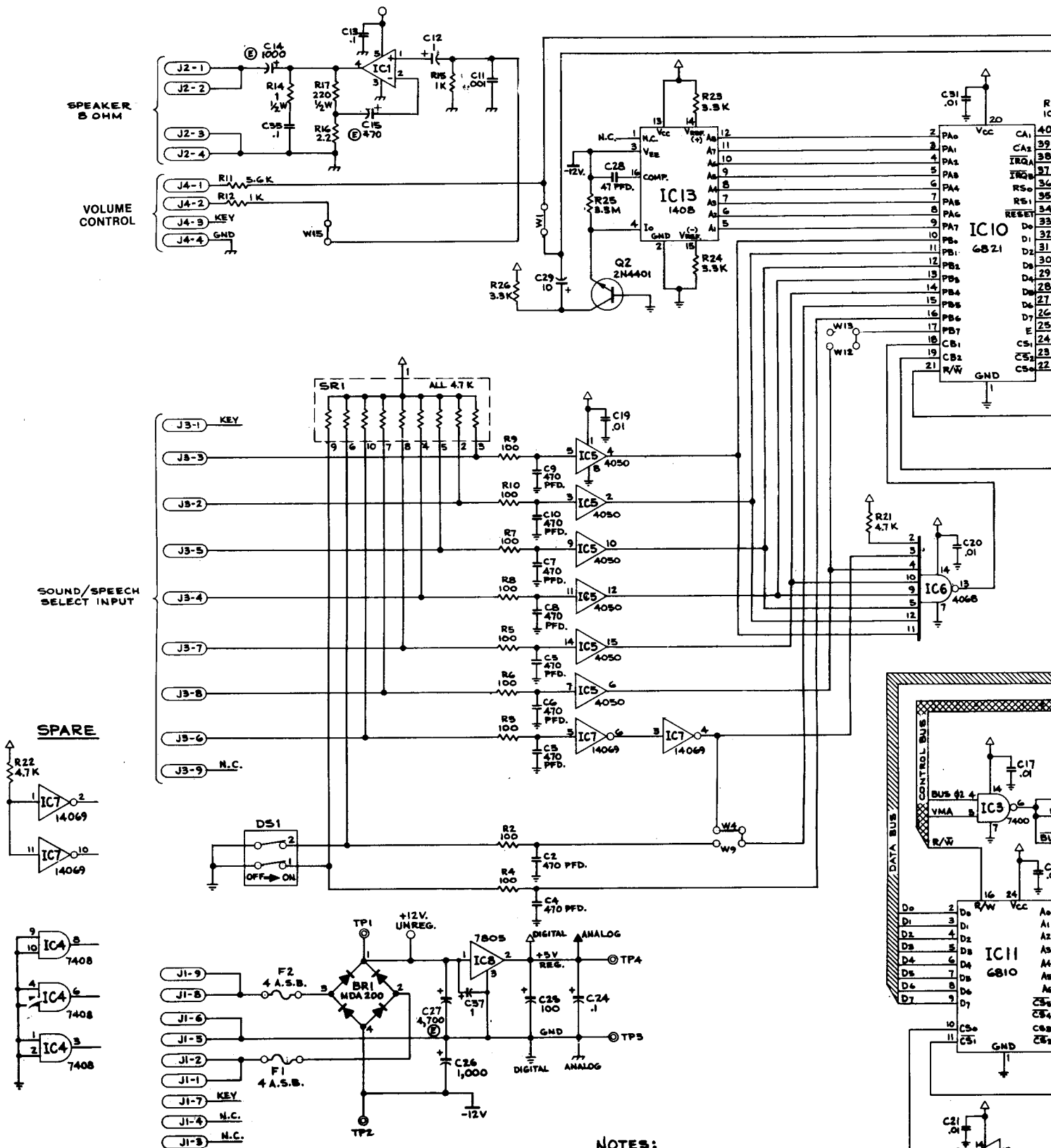
SEE NOTE 1
CUT KEYING PIN

SEE NOTE 5 & 6

SEE NOTE 1

SEE NOTE 3

SEE NOTE 4



- NOTES:**
1. ALL RESISTORS, 1/4 WATT UNLESS OTHERWISE NOTED.
 2. ALL CAPACITORS, MFD. UNLESS OTHERWISE NOTED.

