

Module 14 Table of Contents

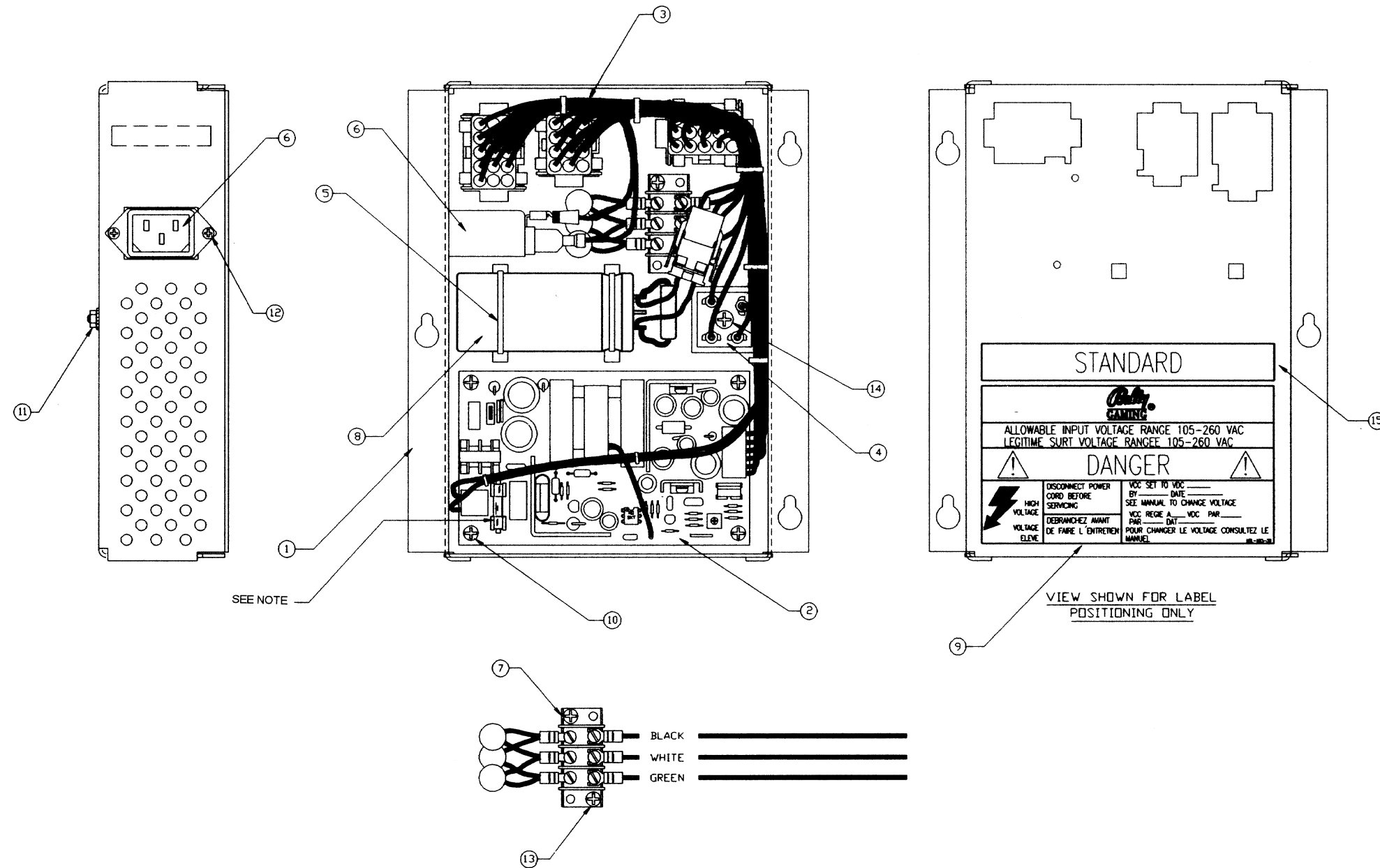
Power Supply	14-2
MPU Board Block Diagram	14-4
MPU Board	14-5
Back Plane Board	14-18
Reel Control Board AS-3356-92	14-20
Reel Control Board AS-3356-205	14-22
LED Display Board	14-24
Bill Validator LED Board	14-26
Bill Bezel Illuminator Assembly	14-28
Bill Bezel Lamp Boards	14-29
Coin Optic Decoder Board AS-3356-172A	14-30
Coin Optic Decoder Board AS-3356-303C	14-32
Hopper Control Board AS-3356-171A	14-34
Hopper Control Board AS-3356-244,-245	14-36
Hopper Control Board AS-3356-339,-346	14-38
Hopper Control Board AS-3356-368	14-40

Power Supply AS-4238-39

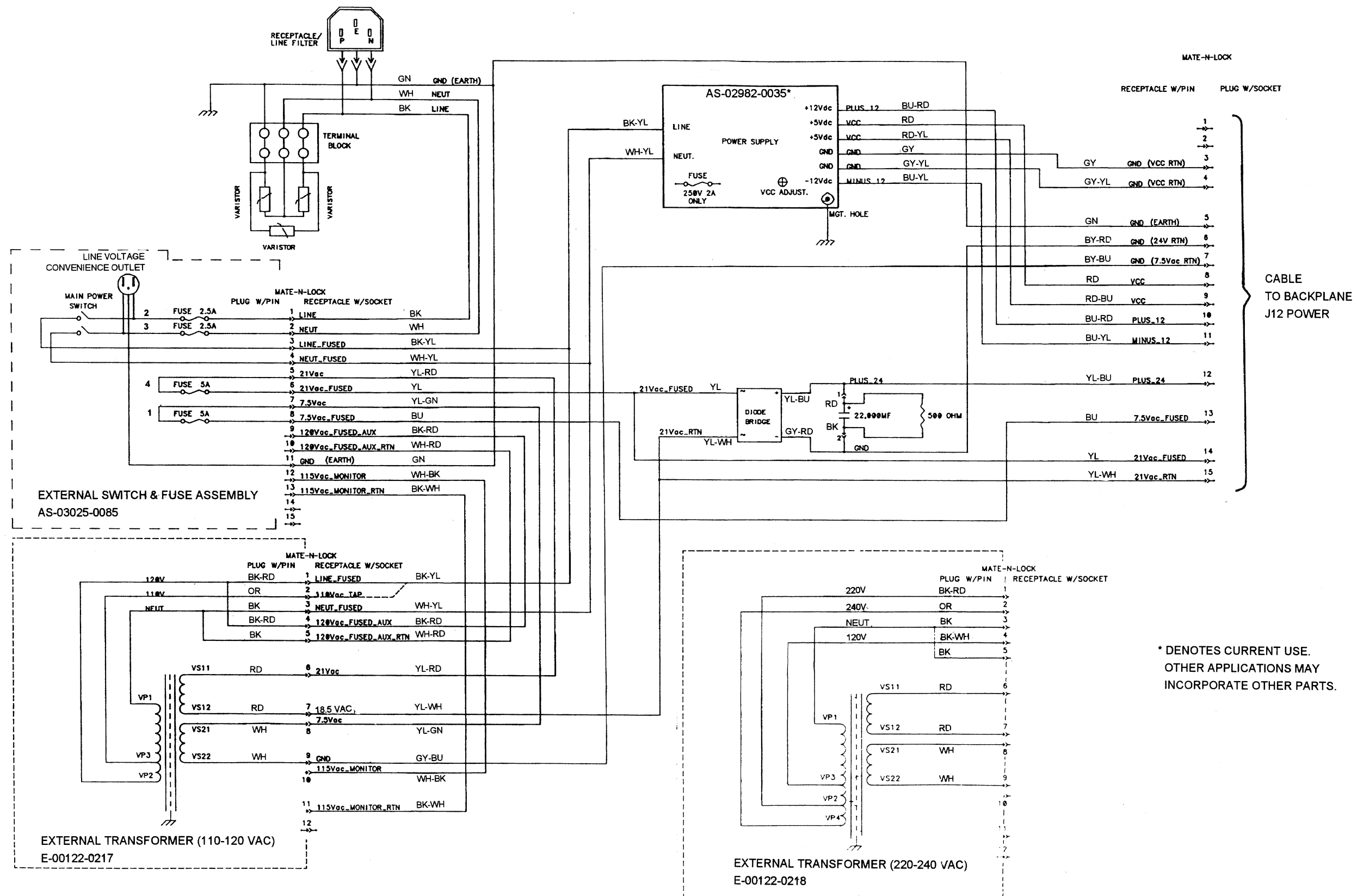
THE PARTS LIST ON THIS DRAWING IS TO BE USED FOR REFERENCE ONLY.
PLEASE USE CURRENT REVISION BILL OF MATERIAL.

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	A-04345-0004	ASSEMBLY, POWER SUPPLY CASE
2	1	AS-02982-0035	ASSEMBLY, POWER SUPPLY SWITCHING TRIP
3	1	E-00537-7570	CABLE, POWER SUPPLY
4	1	E-00602-0016	RECTIFIER, BRIDGE
5	2	E-00647-0005	CABLE TIE
6	1	E-00654-0011	LINE FILTER
7	1	AS-03025-0048	ASSEMBLY, TERMINAL BLOCK
8	1	E-00664-0412	ASSEMBLY, CAPACITOR W/CONN
9	1	LBL-00183-0003	LABEL, POWER SUPPLY 105/260 VAC. ENGLISH/FRENCH
10	4	LSPP-00632-1104	SCREW, 6-32 X 1/4 MACH W/LOCK PHIL PAN HD.
11	1	NLS-00832-1112	NUT 8-32 KEPS
12	2	TFPP-00440-1106	SCREW, 4-40 X 3/8 THD FORM PHIL PAN HEAD
13	2	TFPP-00632-1108	SCREW, 6-32 X 1/2 THD FORM PHIL PAN HEAD.
14	1	TFPP-00832-1112	SCREW, 8-32 X 3/4 THD FORM PHIL PAN HEAD.
15	1	LBL-00246-0001	LABEL, POWER SUPPLY ID, STANDARD

NOTE:
WHEN SERVICING, REPLACE THIS FUSE WITH BALLY PART NO.
E-133-41 (1.6 AMPS, 250 VOLTS).

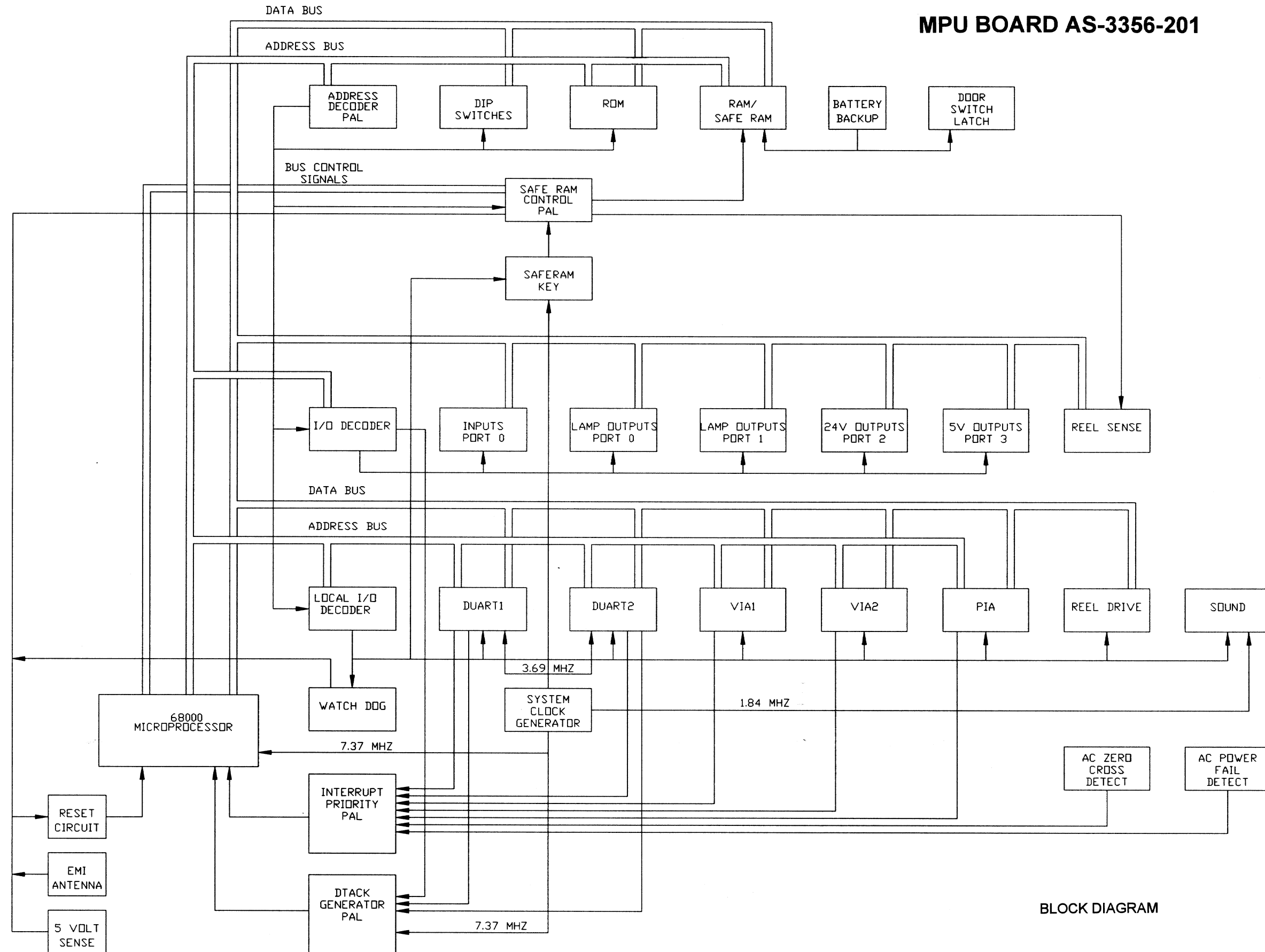


Power Supply AS-4238-39

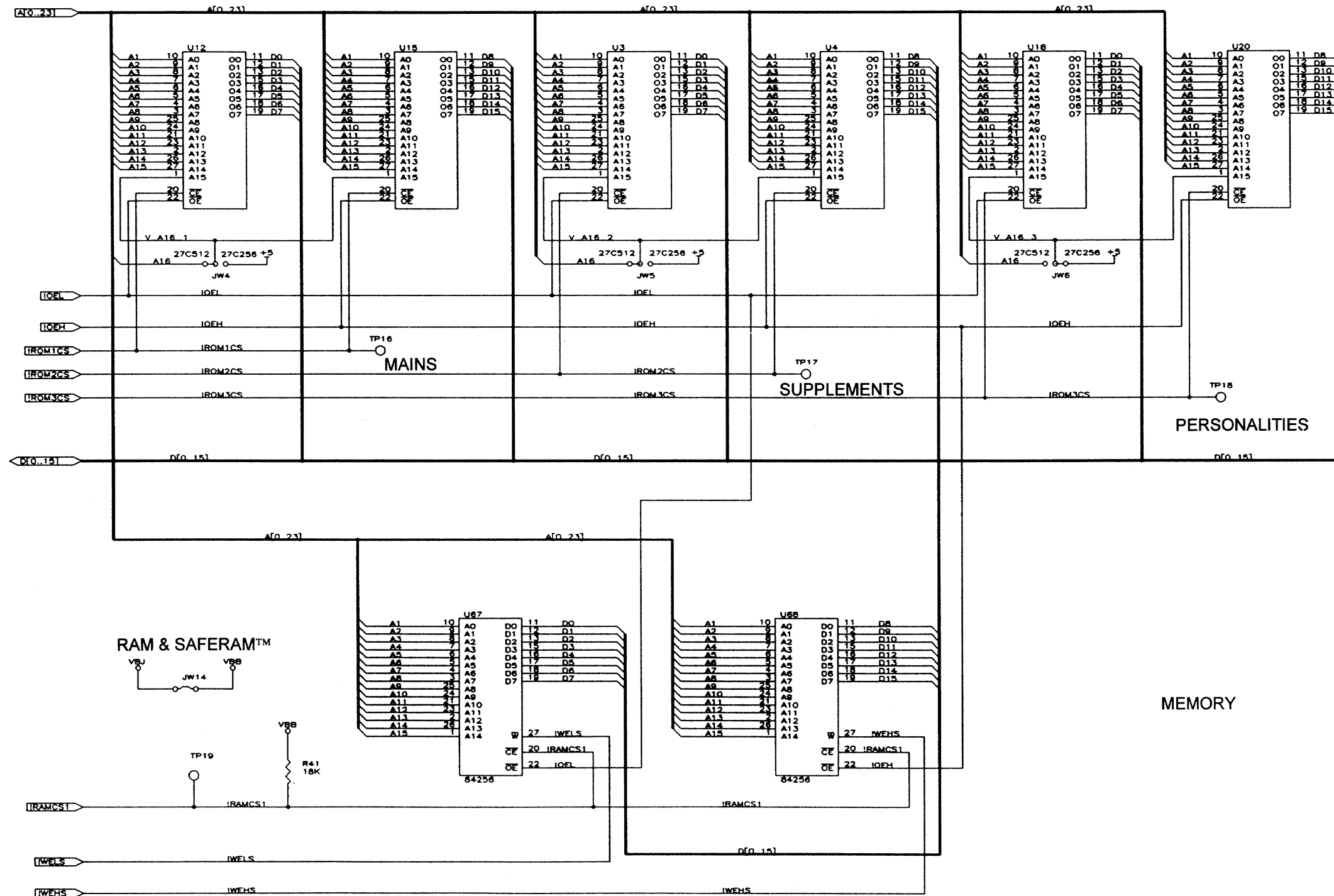


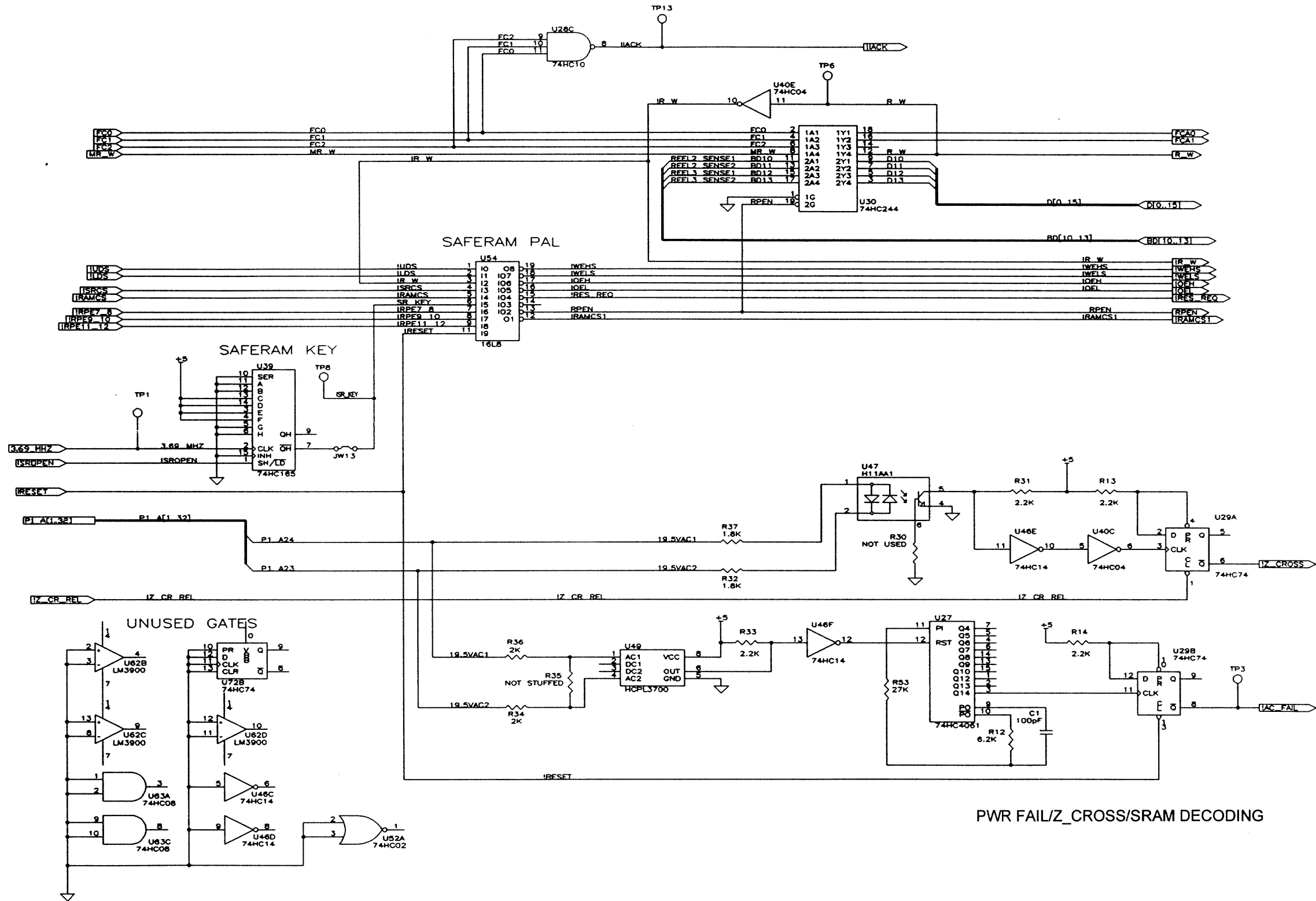
* DENOTES CURRENT USE.
OTHER APPLICATIONS MAY
INCORPORATE OTHER PARTS.

MPU BOARD AS-3356-201

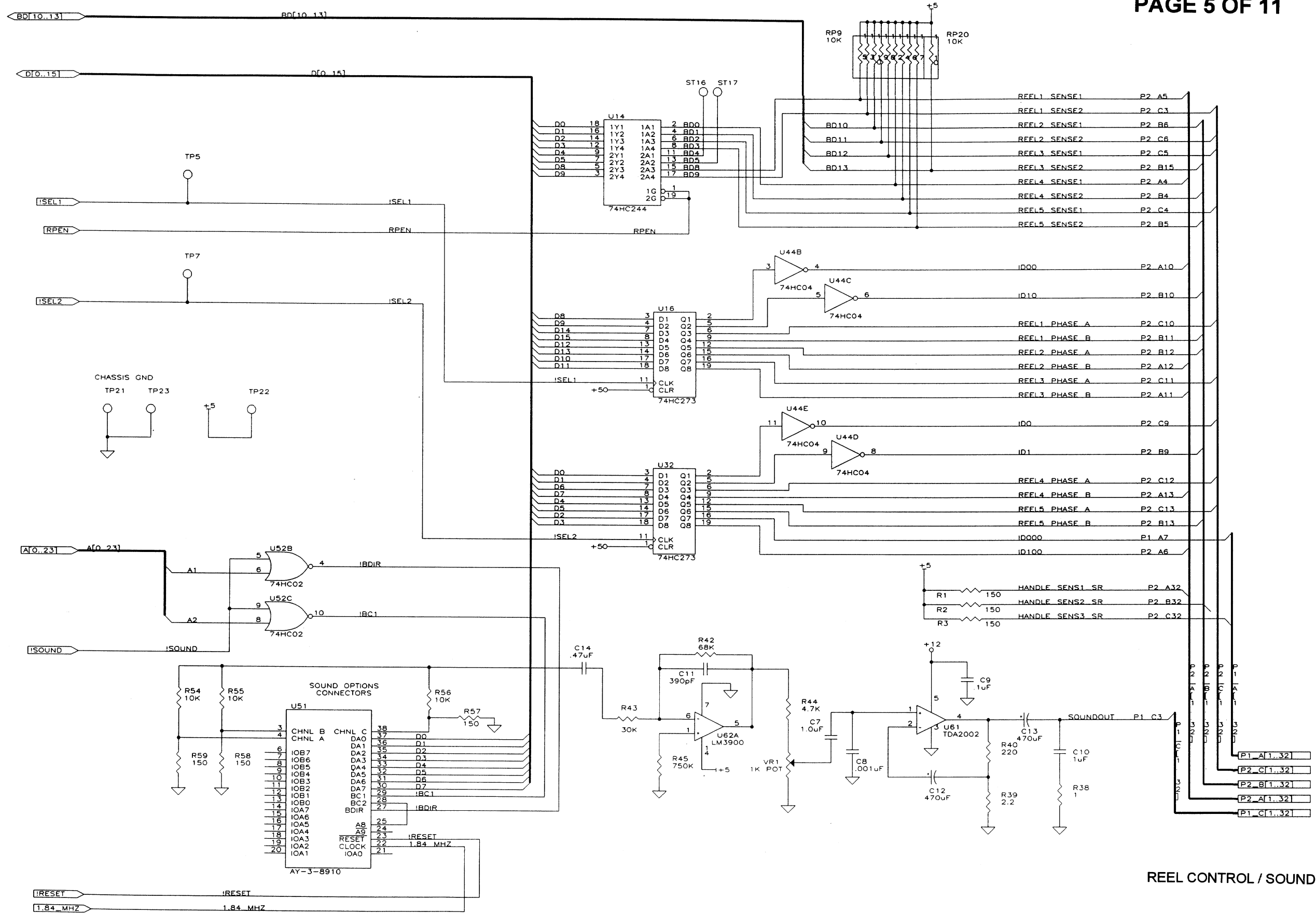


BLOCK DIAGRAM

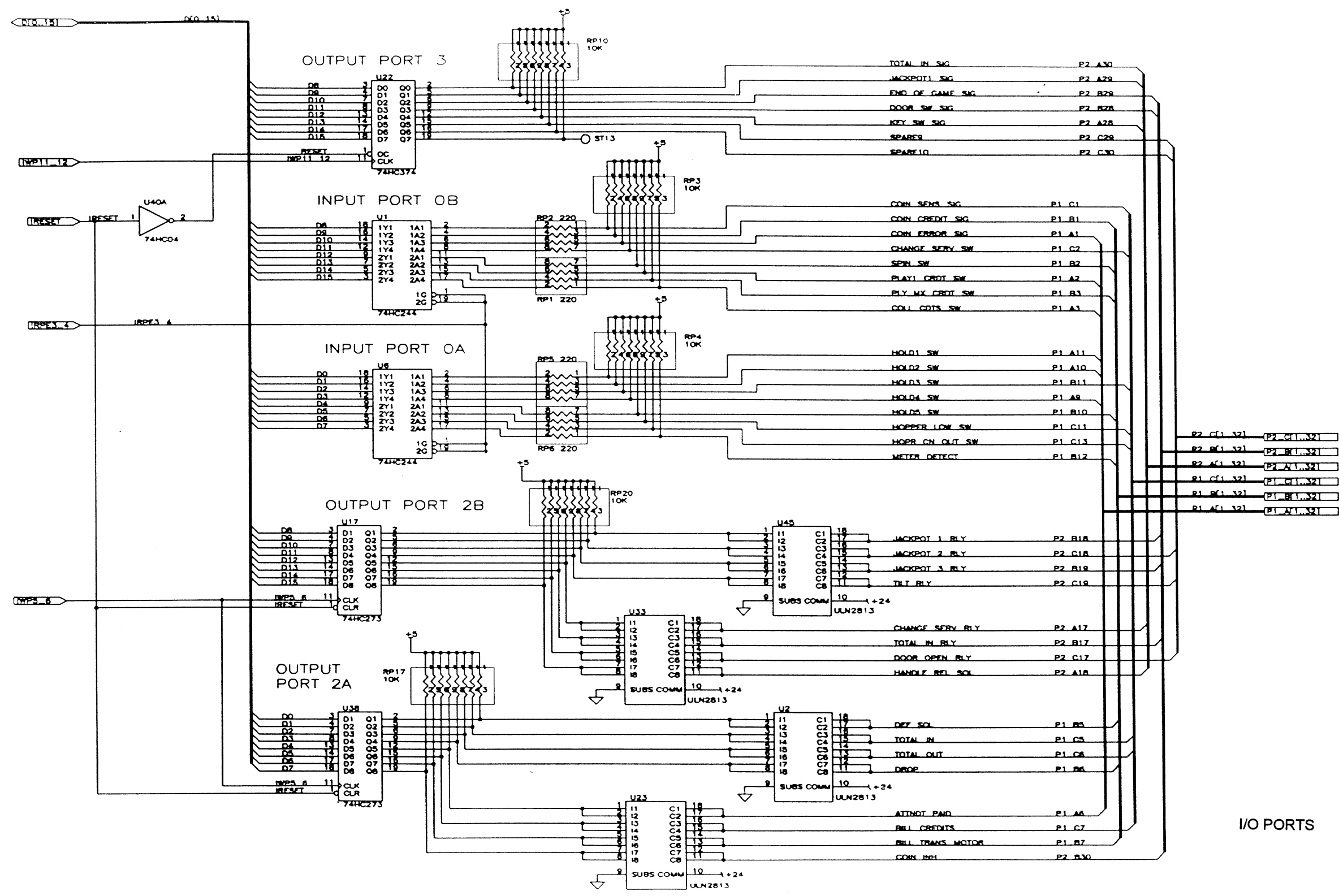




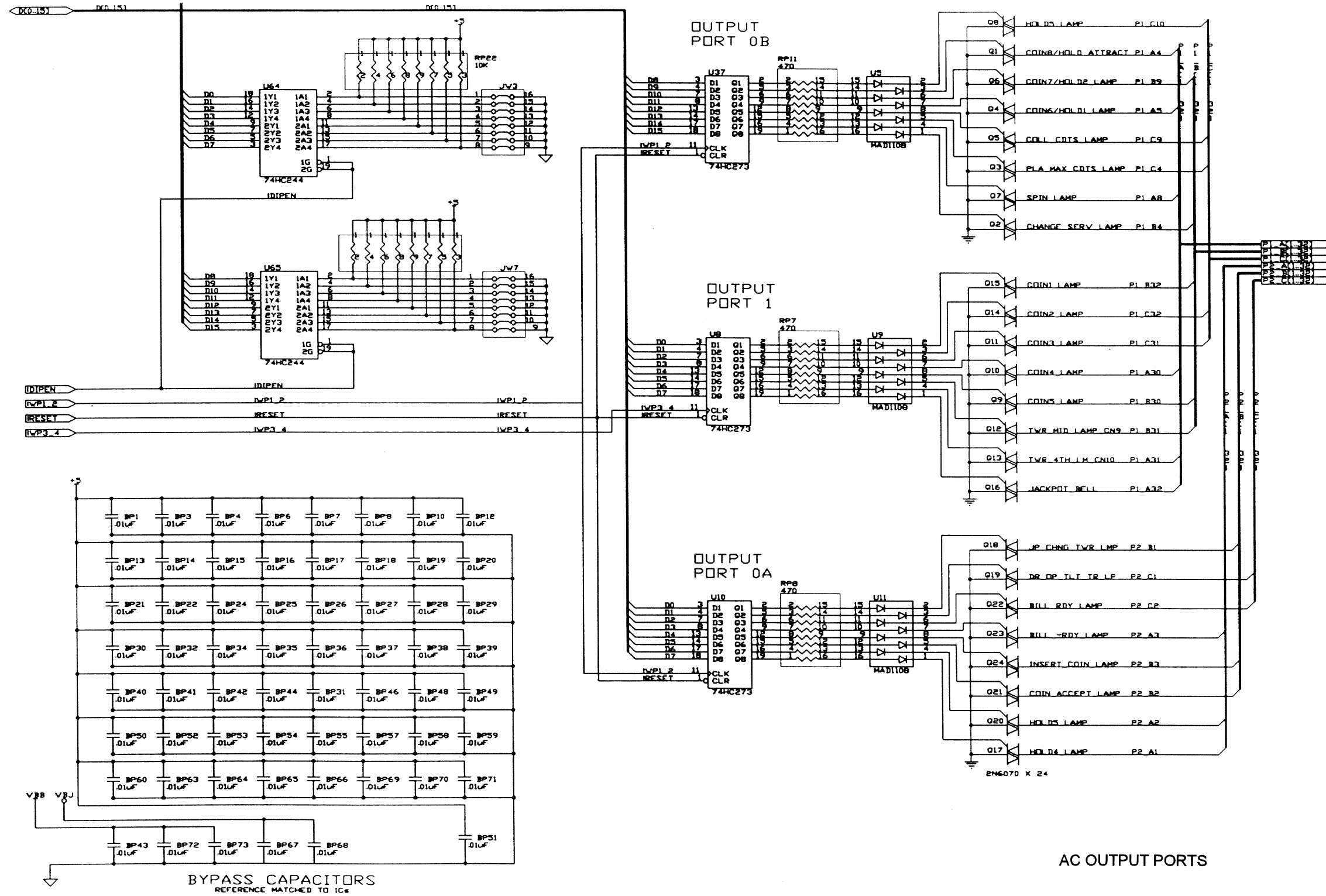
PWR FAIL/Z_CROSS/SRAM DECODING



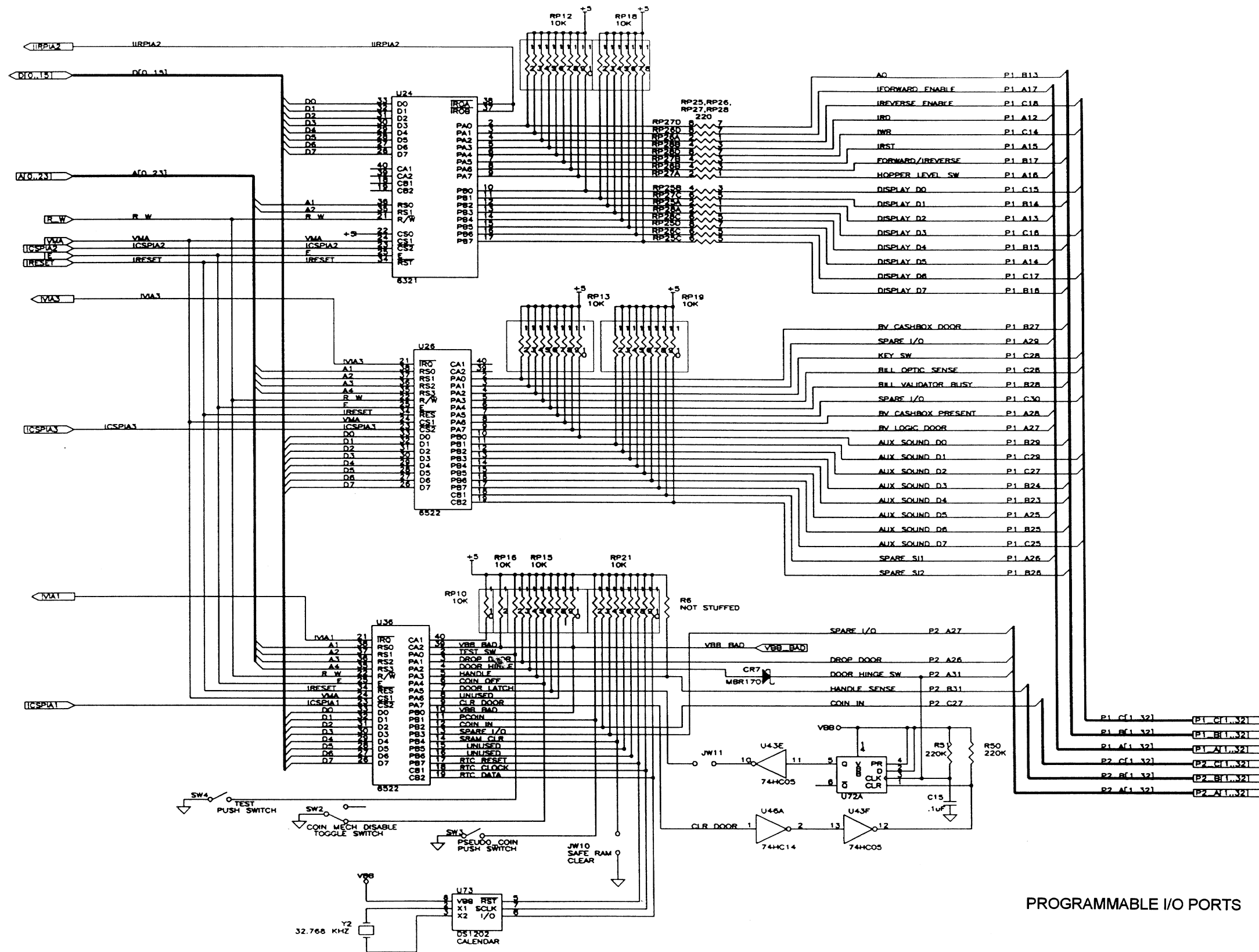
REEL CONTROL / SOUND

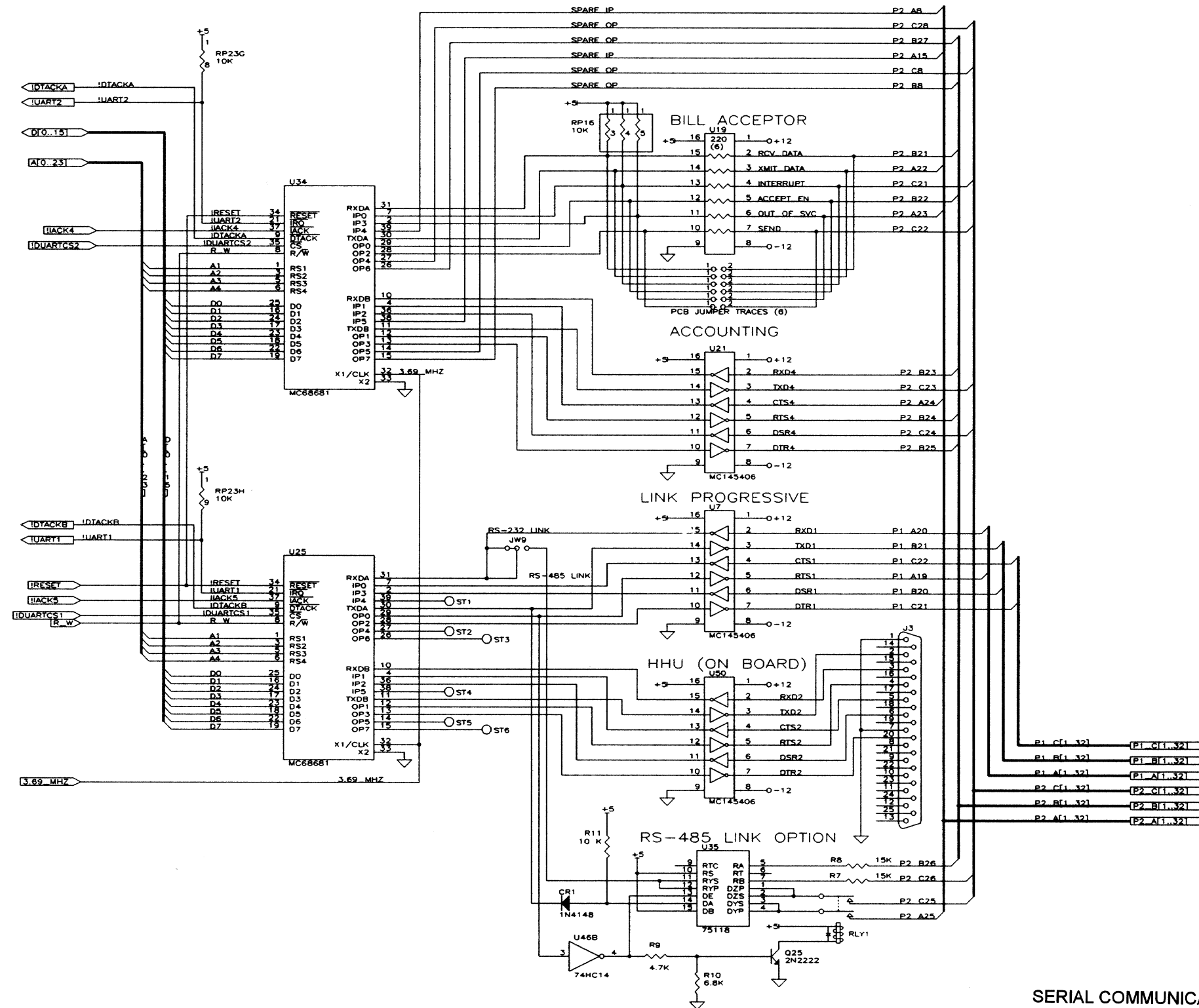


I/O PORTS

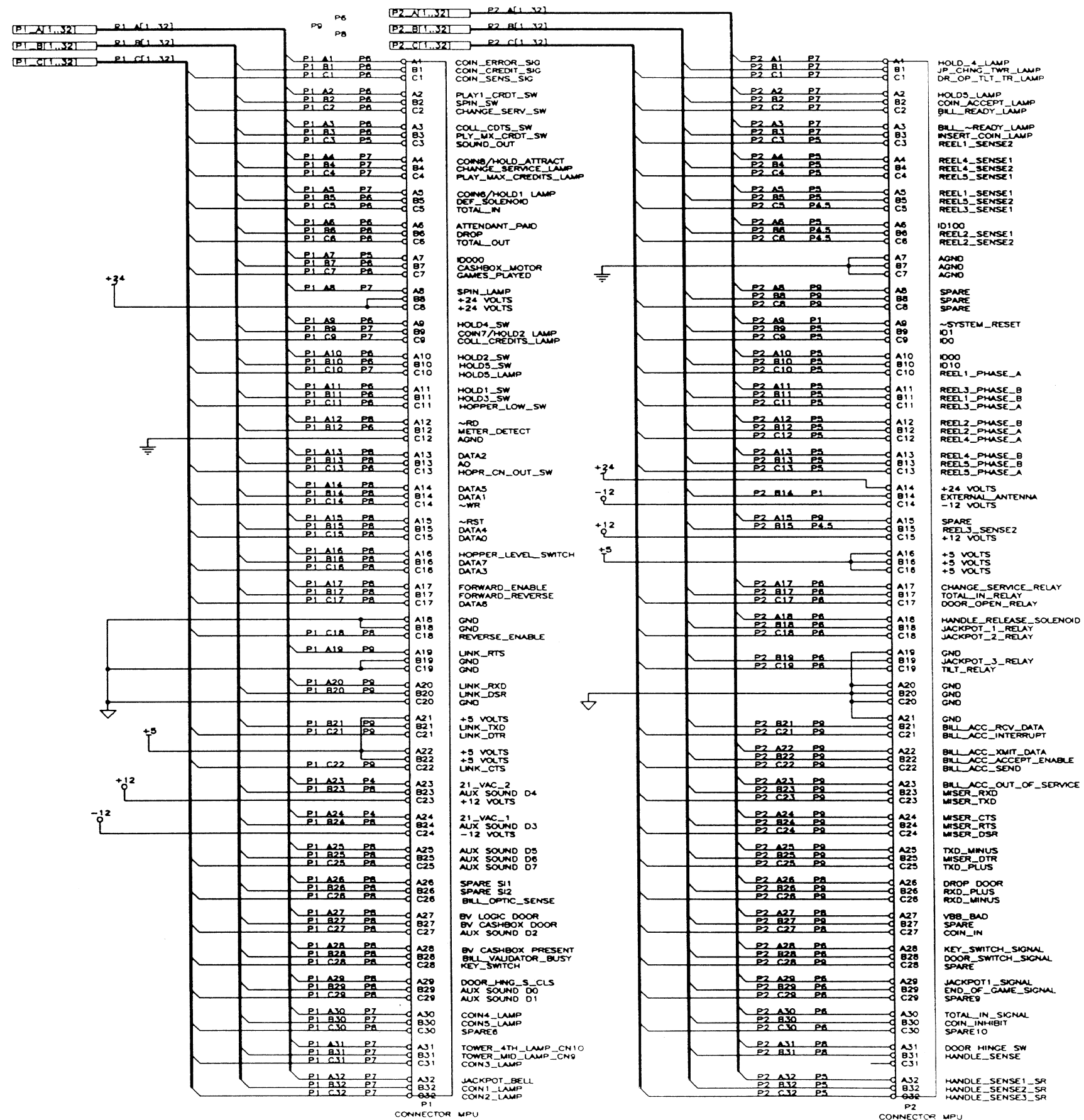


AC OUTPUT PORTS





SERIAL COMMUNICATIONS



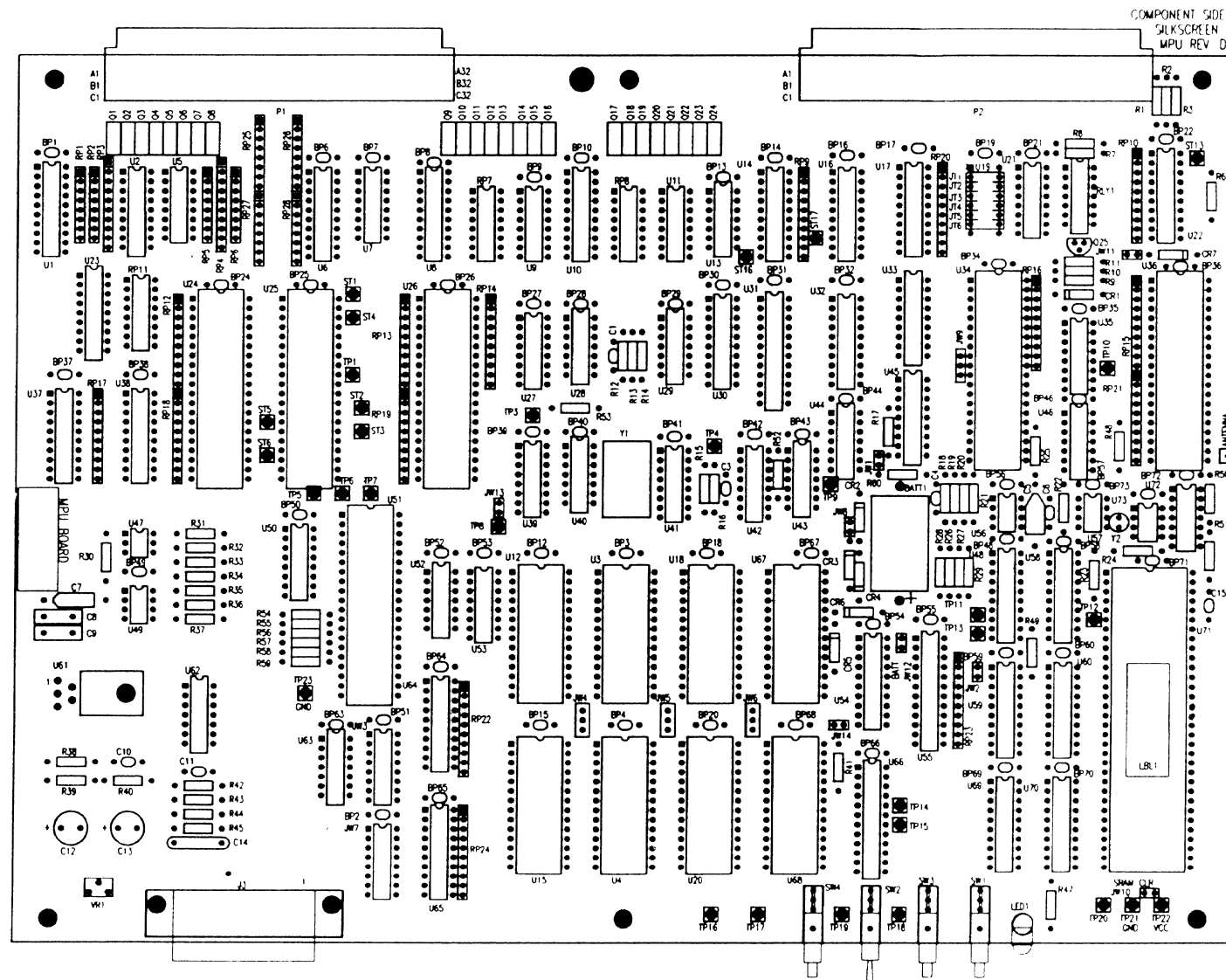
BACKPLANE CONNECTIONS

COMPONENT CROSS REFERENCE				PAGE INTERCONNECTIONS			
BATT1	3.5V	PAGE 1	R48	2K	PAGE 1	1.84_MHZ	PAGE 1,5
BP1-BP8	.01uF	PAGE 7	R49	4.7M	PAGE 1	3.69_MHZ	PAGE 1,4,9
BP9	.1uF	PAGE 1	R50,R51	220K	PAGE 8	7.37_MHZ	PAGE 1,2
BP10-BP73	.01uF	PAGE 7	R52	1M	PAGE 1	IAC_FAIL	PAGE 2,4
CR1	1N4148	PAGE 9	R53	27K	PAGE 4	IAS	PAGE 1,2
CR2-CR4	1N4148	PAGE 1	R54	10K	PAGE 5	IBERR	PAGE 1,2
CR5-CR6	MBR170	PAGE 1	R55,R56	10K	PAGE 5	ICSP1A1	PAGE 2,8
CR7	MBR170	PAGE 8	R57-R59	150	PAGE 5	ICSP1A2	PAGE 2,8
C1	100pF	PAGE 4	R60	NOT USED	PAGE 1	ICSP1A3	PAGE 2,8
C3	100pF	PAGE 1	R61	1K	PAGE 1	IDIPEN	PAGE 2,7
C4	470pF	PAGE 1	ST1-ST6	SPARE TAP	PAGE 9	IDTACK	PAGE 1,2
C5	10uF	PAGE 1	ST13	SPARE TAP	PAGE 6	IDTACKA	PAGE 2,9
C6	.1uF	PAGE 1	ST16-ST17	SPARE TAP	PAGE 5	IDTACKB	PAGE 2,9
C7	1.0uF	PAGE 5	SW1	RESET	PAGE 1	IDUARTCS1	PAGE 2,9
C8	.001uF	PAGE 5	SW2-SV4	SWITCH	PAGE 8	IDUARTCS2	PAGE 2,9
C9-C10	.1uF	PAGE 5	TP1,TP3,	TEST POINT	PAGE 4	IACK	PAGE 2,4
C11	390pF	PAGE 5	TP6,TP8,			IACK4	PAGE 2,9
C12-C13	470uF	PAGE 5	TP13			IACK5	PAGE 2,9
C14	.47uF	PAGE 5	TP4,TP9,	TEST POINT	PAGE 1	IIRP1A2	PAGE 2,8
C15	.1uF	PAGE 8	TP10,TP20			ILDS	PAGE 1,2,4
D1	MBR170	PAGE 3	TP5,TP7	TEST POINT	PAGE 5	IDEL	PAGE 3,4
JT1-JT6	JTRACE	PAGE 9	TP21-TP23			IDEL	PAGE 3,4
JW1,JW8,	JUMPER	PAGE 1	TP11-TP15	TEST POINT	PAGE 2	IRAMCS	PAGE 2,4
JW12			TP16-TP19	TEST POINT	PAGE 3	IRAMCS1	PAGE 3,4
JW3,JW7	DIP SW	PAGE 7	U1	74HC244	PAGE 6	IRESET	PAGE 1,2,4-9
JW4-JW6,	JUMPER	PAGE 3	U2	ULN2813	PAGE 6	IRES_RED	PAGE 1,4
JW14			U3	27512	PAGE 3	IRDMICS	PAGE 2,3
JW9	JUMPER	PAGE 9	U4	27512	PAGE 3	IRDM2CS	PAGE 2,3
JW10-JW11	JUMPER	PAGE 8	U5	MAD1108	PAGE 7	IRDM3CS	PAGE 2,3
JW13	JUMPER	PAGE 4	U6	74HC244	PAGE 6	IRPE3_4	PAGE 2,6
J3	CONNECTOR DB25	PAGE 9	U7	MC145406	PAGE 9	IRPE7_8	PAGE 2,4
LED1	LED	PAGE 1	U8	74HC273	PAGE 7	IRPE9_10	PAGE 2,4
P1	CONNECTOR BKPL	PAGE 10	U9	MAD1108	PAGE 7	IRPE11_12	PAGE 2,4
P2	CONNECTOR BKPL	PAGE 10	U10	74HC273	PAGE 7	IR_V	PAGE 1,4
Q1-Q24	2N6070	PAGE 7	U11	MAD1108	PAGE 7	ISEL1	PAGE 2,5
Q25	2N2222	PAGE 9	U12	27512	PAGE 3	ISEL2	PAGE 2,5
RLY1	RLY1 DPST	PAGE 9	U13	74HC32	PAGE 2	ISDUND	PAGE 2,5
RP1	220	PAGE 6	U14	74HC244	PAGE 5	ISRCS	PAGE 2,4
RP2	220	PAGE 6	U15	27512	PAGE 3	ISROPEN	PAGE 2,4
RP3	10K	PAGE 6	U16	74HC273	PAGE 5	IUART1	PAGE 2,9
RP4	10K	PAGE 6	U17	74HC273	PAGE 6	IUART2	PAGE 2,9
RP5	220	PAGE 6	U18	27512	PAGE 3	IUDS	PAGE 1,2,4
RP6	220	PAGE 6	U19	MC145406	PAGE 9	IVIA1	PAGE 2,8
RP7	470	PAGE 7	U20	27512	PAGE 3	IVIA3	PAGE 2,8
RP8	470	PAGE 7	U21	MC145406	PAGE 9	IVPA	PAGE 1,2
RP9	10K	PAGE 5	U22	74HC374	PAGE 6	IWRST	PAGE 1,2
RP10	10K	PAGE 6,8	U23	ULN2813	PAGE 6	IWEHS	PAGE 3,4
RP11	470	PAGE 7	U24	6321	PAGE 8	IWELS	PAGE 3,4
RP12	10K	PAGE 8	U25	MC68681	PAGE 9	IWP1_2	PAGE 2,7
RP13	10K	PAGE 8	U26	6522	PAGE 8	IWP3_4	PAGE 2,7
RP14	10K	PAGE 1	U27	74HC4061	PAGE 4	IWP5_6	PAGE 2,6
RP15	10K	PAGE 8	U28	74HC10	PAGE 2,4	IWP11_12	PAGE 2,6
RP16	10K	PAGE 8,9	U29	74HC74	PAGE 4	I2_CROSS	PAGE 2,4
RP17	10K	PAGE 6	U30	74HC244	PAGE 4	I2_CR_REL	PAGE 2,4
RP18	10K	PAGE 1,2,8	U31	74HC154	PAGE 2	AC0_23	PAGE 1,2,3,5,8,9
RP19	10K	PAGE 8	U32	74HC273	PAGE 5	BD10...13	PAGE 4,5
RP20	10K	PAGE 5,6	U33	ULN2813	PAGE 6	DC0...15	PAGE 1,3-9
RP21	10K	PAGE 8	U34	MC68681	PAGE 9	E	PAGE 1,8
RP22	10K	PAGE 7	U35	75118	PAGE 9	FC0	PAGE 1,4
RP23	10K	PAGE 1,2,9	U36	6522	PAGE 8	FC1	PAGE 1,4
RP24	10K	PAGE 7	U37	74HC273	PAGE 7	FC2	PAGE 1,4
RP25	220	PAGE 8	U38	74HC273	PAGE 6	FCA0	PAGE 2,4
RP26	220	PAGE 8	U39	74HC165	PAGE 4	FCA1	PAGE 2,4
RP27	220	PAGE 8	U40	74HC04	PAGE 1,4,6	IPL0	PAGE 1,2
RP28	220	PAGE 8	U41	74HC161	PAGE 1	IPL1	PAGE 1,2
R1-R3	150	PAGE 5	U42	74HC4061	PAGE 1	IPL2	PAGE 1,2
R6	NOT STUFFED	PAGE 8	U43	74HC05	PAGE 1,8	HR_V	PAGE 1,4
R7,R8	15K	PAGE 9	U44	74HC04	PAGE 2,5	P1_AC1...32	PAGE 4,5,6,7,8,9,10
R9	4.7K	PAGE 9	U45	ULN2813	PAGE 6	P1_BC1...32	PAGE 6,8,9,10
R10	6.8K	PAGE 9	U46	74HC14	PAGE 4,8,9	P1_CI1...32	PAGE 5,6,7,8,9,10
R11	10 K	PAGE 9	U47	H11AA1	PAGE 4	P2_AC1...32	PAGE 1,5,6,7,8,9,10
R12	6.2K	PAGE 4	U48	16R4	PAGE 2	P2_BC1...32	PAGE 1,5,6,7,8,9,10
R13,R14	2.2K	PAGE 4	U49	HCP13700	PAGE 4	P2_CI1...32	PAGE 5,6,7,8,9,10
R15,R22,	4.7K	PAGE 1	U50	MC145406	PAGE 9	RPEH	PAGE 4,5
R27			U51	AY-3-8910	PAGE 5	R_V	PAGE 2,4,8,9
R16,R19,	470K	PAGE 1	U52	74HC02	PAGE 2,4,5	VBB_BAD	PAGE 1,8
R29			U53	74HC138	PAGE 2	VMA	PAGE 1,8
R17	1M	PAGE 1	U54	16L8	PAGE 4		
R18,R20,	47K	PAGE 1	U55	22V10	PAGE 2		
R28			U56	TLC372C	PAGE 1		
R21	24K	PAGE 1	U57	TL7702A	PAGE 1		
R23	2.2K	PAGE 1	U58	74HC245	PAGE 1		
R24	1.13K	PAGE 1	U59	74HC244	PAGE 1		
R25	1.00K	PAGE 1	U60	74HC244	PAGE 1		
R26	220K	PAGE 1	U61	TDA2002	PAGE 5		
R30	NOT USED	PAGE 4	U62	LM3900	PAGE 4,5		
R31,R33	2.2K	PAGE 4	U63	74HC08	PAGE 1,2,4		
R32,R37	1.8K	PAGE 4	U64	74HC244	PAGE 7		
R34	2K	PAGE 4	U65	74HC244	PAGE 7		
R35	NOT STUFFED	PAGE 4	U66	20L10	PAGE 2		
R36	2K	PAGE 4	U67	84256	PAGE 3		
R38	1	PAGE 5	U68	84256	PAGE 3		
R39	2-2	PAGE 5	U69	74HC245	PAGE 1		
R40	221	PAGE 5	U70	74HC244	PAGE 1		
R41	18K	PAGE 3	U71	68C000	PAGE 1		
R42	68K	PAGE 5	U72	74HC74	PAGE 4,8		
R43	30K	PAGE 5	U73	DS1202	PAGE 8		
R44	4.7K	PAGE 5	VR1	1K PDT	PAGE 5		
R45	750K	PAGE 5	Y1	14.7436MHZ	PAGE 1		
R47	270	PAGE 1	Y2	32.768 KHZ	PAGE 8		

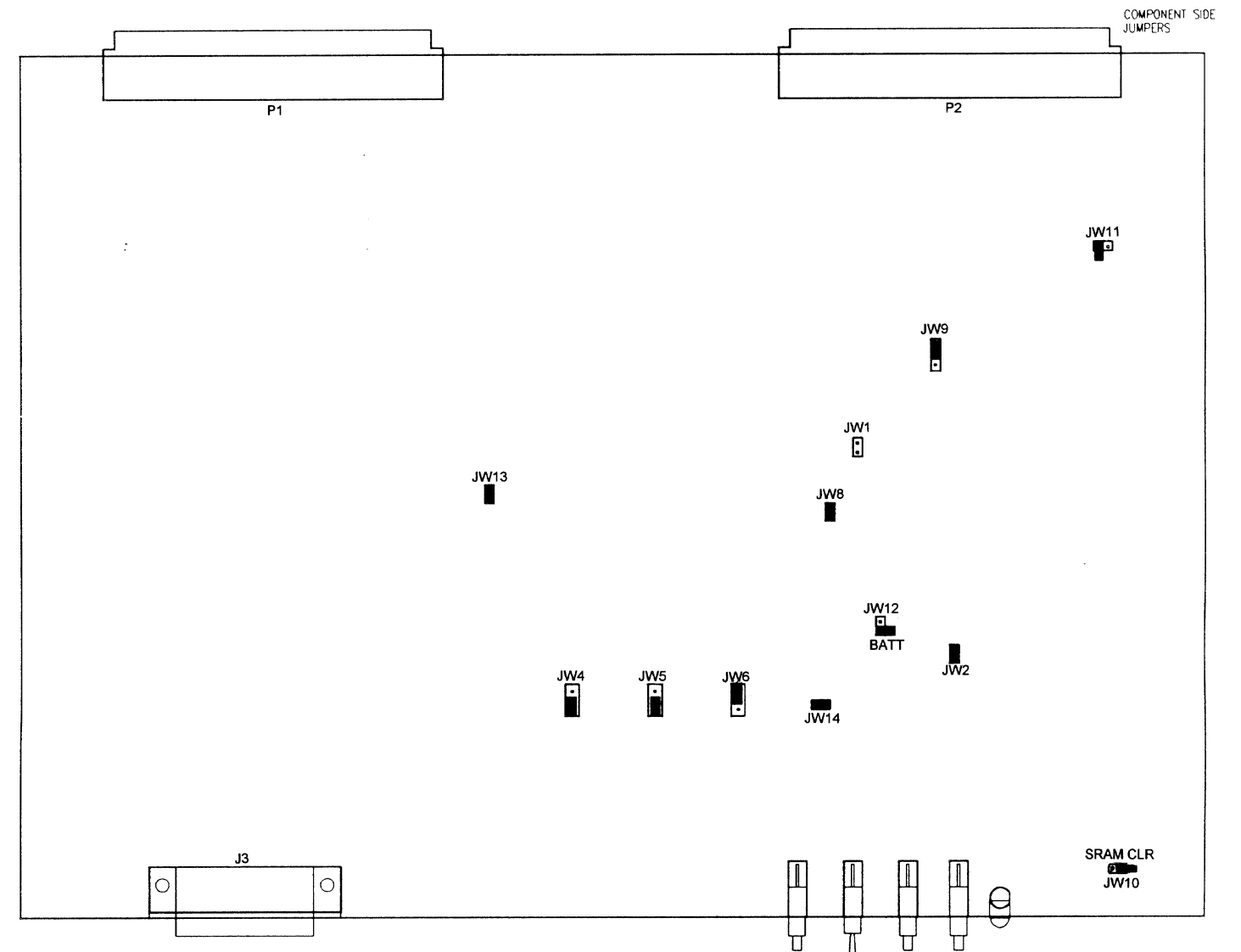
MPU BOARD AS-3356-201

PARTS LIST									
ITEM	QTY	REFERENCE	Bally p/n	DESCRIPTION	ITEM	QTY	REFERENCE	BALLY p/n	DESCRIPTION
1	5	C6,BP9,C9,C10,C15	E-00586-0159	CAP, .1MF 50VDC CER AXIAL	55	2	U40,U44	E-00620-0327	IC, 74HC04 HEX INV, 14 PIN STD
2	62	BP1,BP3,BP4,BP6-BP8, BP10,BP12-BP22,BP24-BP32, BP34-BP44,BP46,BP48-BP55, BP57-BP60,BP63-BP73	E-00586-0320	CAP, .01MF 50VDC CER AXL	56	9	U1,U6,U14,U30,U59,U60, U64,U65,U70	E-00620-0332	IC, 74HC244, 20PIN STD, OCT. BUFFER
3	1	C5	E-00586-0363	CAP, 10MF 10V TANT AXL	57	4	U2,U23,U33,U45	E-00620-0133	IC, ULN2803A 18PIN STD SPRAGUE OCT DARL DRIVER
4	2	C1,C3	E-00586-0145	CAP, 100pF 50VDC CER AXL	58	7	U8,U10,U16,U17,U32,U37, U38	E-00620-0388	IC, 74HC273, 20 PIN STD
5	1	C4	E-00586-0083	CAP, 470pF 50VDC CER AXL	59	3	U7,U21,U50	E-00620-0681	IC, MAX1406 HEX RS232 16 PIN STD MAXIM
6	1	C7	E-00586-0309	CAP, 1uF 20VDC TANT AXL	60	1	U22	E-00620-0533	IC, 74HC374 20 PIN STD
7	1	C8	E-00586-0365	CAP, .001uF 50VDC CER AXL	61	2	U25,U34	E-00620-0394	IC, 68681 DUART 40 PIN STD
8	1	C11	E-00586-0357	CAP, 390pF 100VDC CER AXL	62	2	U26,U36	E-00620-0415	IC, R6522 VA, 40 PIN STD
9	2	C12,C13	E-00586-0355	CAP, 470uF 16V ALUM LYTIC RAD	63	1	U24	E-00620-0373	IC, R6321 PIA, 40 PIN STD
10	1	C14	E-00586-0358	CAP, 47uF 50VDC CER AXL	64	1	U31	E-00620-0404	IC, 74HC154, 4-1 OF 16 24 PIN STD
11	2	CR6,CR7	E-00587-0052	DIODE, MBR170, SCHOTTKY RECT.	65	1	U35	E-00620-0217	IC, 75118 16 PIN STD
12	4	CR1,CR2,CR3,CR4	E-00587-0014	DIODE, 100V 1N4148	66	2	U27,U42	E-00620-0608	IC, 74HC4060 BINARY COUNTER 16 PIN STD
13	1	CR5	E-00587-0028	DIODE, 1N5817, SCHOTTKY RECT.	67	1	U28	E-00620-0322	IC, 74HC10 TRIPLE NAND, 14 PIN STD
14	8	JW1,JW2,JW8,JW10-JW14,	E-00766-0002	CONN, MTA-100 WAFER, 2 PIN	68	2	U29,U72	E-00620-0329	IC, 74HC74 DUAL D FF, 14 PIN STD
15	1	J3	E-00910-0046	CONN, R/A DB25 AMP #745392-2	69	1	U46	E-00620-0403	IC, 74HC14 HEX SCHMIDT TRIGG, 14 PIN STD
16	2	JW3,JW7	E-00677	DIP SWITCH, 8 POSITION	70	1	U39	E-00620-0526	IC, 74HC165 SHIFT REG, 16 PIN STD
17	4	JW4,JW5,JW6,JW9	E-00766-0003	CONN, MTA-100 WAFER, 3 PIN	71	1	U41	E-00620-038	IC, 74HC161 COUNTER, 16 PIN STD
18	2	P1,P2	E-00965	CONN, DIN MALE R/A 96 PIN	72	1	U56	E-00620-0615	IC, TLC372C DUAL COMPARTOR, 8 PIN DIP, TI
19	17	RP3,RP4,RP9,RP10,RP12- RP24	E-00835-0009	RES, SIP 10K OHM 10 PIN COMMON	73	1	U52	E-00620-0561	IC, 74HC02N QUAD NOR, 14 PIN STD
20	4	R11,R54,R55,R56	E-00105-0185	RES, 10K OHM 5% .25 WATT CF	74	1	U53	E-00620-0290	IC, 74HC138N, 3-1 OF 8, 14 PIN STD
21	1	R47	E-00105-0264	RES, 270 OHM 5% .25 WATT CF	75	2	U67,U68	E-00620-0529	IC, 32K x 8 SRAM 150ns, 28 PIN .600
22	3	RP7,RP8,RP11	E-00835-0026	RES, DIP 470 OHM 16 PIN STD	76	1	U48	E-01055-0001	IC PAL E-620-458 PROG WITH FIRMWARE EP-01055-0001
23	6	R1,R2,R3,R57,R58,R59	E-00105-0233	RES, 150 OHM 5% .25 WATT CF	77	2	U58,U69	E-00620-0291	IC, 74HC245N, 20 PIN STD
24	2	R7,R8	E-00105-0281	RES, 15K OHM 5% .25 WATT CF	78	1	U71	E-00620-0499	IC, 68HC000L8 MICROPROCESSOR, 64 PIN STD
25	5	R9,R15,R22,R27,R44	E-00105-0239	RES, 4.7 KOHM 5% .25 WATT CF	79	1	U47	E-00620-0609	IC, H11AA1 BIDIRECT. OPTOCOUPLER, 6 PIN DIP
26	1	R10	E-00105-0160	RES, 6.8 KOHM 5% .25 WATT CF	80	1	U49	E-00620-0610	IC, HCPL3700 8 PIN STD
27	1	R12	E-00105-0369	RES, 6.2 KOHM 5% .25 WATT CF	81	1	U54	E-01055-0004	IC PAL E-620-503 PROG WITH FIRMWARE EP-1055-4
28	5	R13,R14,R23,R31,R33	E-00105-0287	RES, 2.2 KOHM 5% .25 WATT CF	82	1	U55	E-01055-0002	IC PAL E-620-611 PROG WITH FIRMWARE EP-1055-2
29	1	R41	E-00105-0240	RES, 18 KOHM 5% .25 WATT CF	83	1	U62	E-00620-0126	IC, LM3900 QUAD OP AMP, 14 PIN STD
30	2	R17,R52	E-00105-0285	RES, 1 MOHM 5% .25 WATT CF	84	1	U61	E-00620-0307	IC, TDA2002 SGS AUDIO AMP, TO-220 5 PIN
31	3	R18,R20,R28	E-00105-0263	RES, 47 KOHM 5% .25 WATT CF	85	1	U63	E-00620-0406	IC, 74HC08 QUAD NAND 14 PIN STD
32	1	R21	E-00105-0268	RES, 24 KOHM 5% .25 WATT CF	86	1	U66	E-01055-0003	IC PAL E-620-611 PROG WITH FIRMWARE EP-1055-3
33	1	R24	E-00105-0524	RES, 1.13 KOHM 1% .25 WATT MF	87	1	U51	E-00620-0657	IC, YAMAHA SOUND CHIP YM2149, 40 PIN .600
34	1	R25	E-00105-0388	RES, 1.0 KOHM 1% .25 WATT MF	88	1	U13	E-00620-0343	IC, 74HC32 QUAD OR, 14 PIN STD
35	3	R26,R50,R51	E-00105-0283	RES, 220 KOHM 5% .25 WATT CF	89	1	U73	E-00620-0638	IC, DS1202 TIMEKEEPER, 8 PIN STD
36		----	-----	ITEM DELETED	90	19	TP1,TP3,TP5-TP7,TP9-TP15, TP17-TP23	P-05399	TEST CLIP
37	4	R6,R30,R35,R60	-----	RES, DO NOT STUFF	91	1	BATT1	E-00628-0015	BATTERY, 3 VOLTS AT 800 mAh
38	2	R32,R37	E-00105-0346	RES, 1.8 KOHM 5% .25 WATT CF	92	1	RLY1	E-01006-0014	IC SOCKET, 14 PIN DIP
39	1	R38	E-00105-0196	RES, 1 OHM 5% .25 WATT CF	93	3	SW1,SW3,SW4	E-00108-0299	SWITCH SPDT PUSH BUTTON C&K #TP12H 9AVB
40	1	R39	E-00105-0211	RES, 2.2 OHM 5% .25 WATT CF	94	1	SW2	E-00108-0358	SWITCH SPDT PC MOUNT TOGGLE C&K #T101 MH 9AVB
41	8	RP1,RP2,RP5,RP6,RP25, RP26,RP27,RP28	E-00835-0027	RES, SIP 220 OHM 8 PIN ISOL	95	1	Y1	E-00744-0034	XTAL OSC. 14.746 MHZ
42	1	R40	E-00105-0303	RES, 220 OHM 5% .25 WATT CF	96	1	Y2	E-00744-0020	XTAL OSC. 32.768 KHZ
43	1	R42	E-00105-0526	RES, 68 KOHM 5% .25 WATT CF	97	24	Q1-Q24	E-00585-0099	TRIAC, 2N6070A, TO-126
44	1	R43	E-00105-0245	RES, 30 KOHM 5% .25 WATT CF	98	1	Q25	E-00585-0117	XSTR, 2N2222, TO-92
45	1	R45	E-00105-0344	RES, 750 KOHM 5% .25 WATT CF	99	1	U72	E-01006-0014	IC SOCKET, 14 PIN DIP
46	1	R61	E-00105-0230	RES, 1 KOHM 5% .25 WATT CF	100	5	U7,U21,U50,JW3,JW7	E-01006-0016	IC SOCKET, 16 PIN DIP
47	3	R16,R19,R29	E-00105-0284	RES, 470 KOHM 5% .25 WATT CF	101	4	U2,U23,U33,U45	E-01006-0018	IC SOCKET, 18 PIN DIP
48	1	VR1	E-00599-0044	POT, 1 KOHM, PIHER #PT10WH2.51KA9	102	2	U48,U54	E-01006-0020	IC SOCKET, 20 PIN DIP
49	1	R49	E-00105-0533	RES, 4.7 MOHM 5% .25 WATT CF	103	2	U55,U66	E-01006-0024	IC SOCKET, 24 PIN DIP
50	1	R53	E-00105-0290	RES, 27 KOHM 5% .25 WATT CF	104	8	U3,U4,U12,U15,U18,U20 U67,U68	E-01006-0028	IC SOCKET, 28 PIN DIP
51	3	R34,R36,R48	E-00105-0237	RES, 2K OHM 5% .25 WATT CF	105	1	U34	E-01006-0040	IC SOCKET, 40 PIN DIP
52	1	U43	E-00620-0429	IC, 74HC05, OC HEX INV. 14 PIN STD	106	1	U71	E-01006-0064	IC SOCKET, 64 PIN DIP
53	1	U57	E-00620-0614	IC, TI #TL7702A PWR SUPERVSR 8 PIN STD	107	1	PCB	P-09018-0201	REVB BARE PCB, S-5500 MPU BOARD
54	3	U5,U9,U11	E-00620-0401	IC, MAD1108P OCTAL DIODE, 16 PIN STD	108	2	TP4,TP8,	-----	NOT USED
					109	1	LED1	E-00679-0002	LED, RED HLMP-3000
					110	11	JW2,JW4-JW6,JW8-14	E-00882	JUMPER SHUNT
					111	1	U19	RPK-112D2-0221	R ARRAY,ISOL,12PIN,DIP,.2%,0220
					112	1	LBL1	LBL-001100-001A LABEL, SILICON SOFTWARE RESTRICTED RIGHTS	

MPU BOARD AS-3356-201



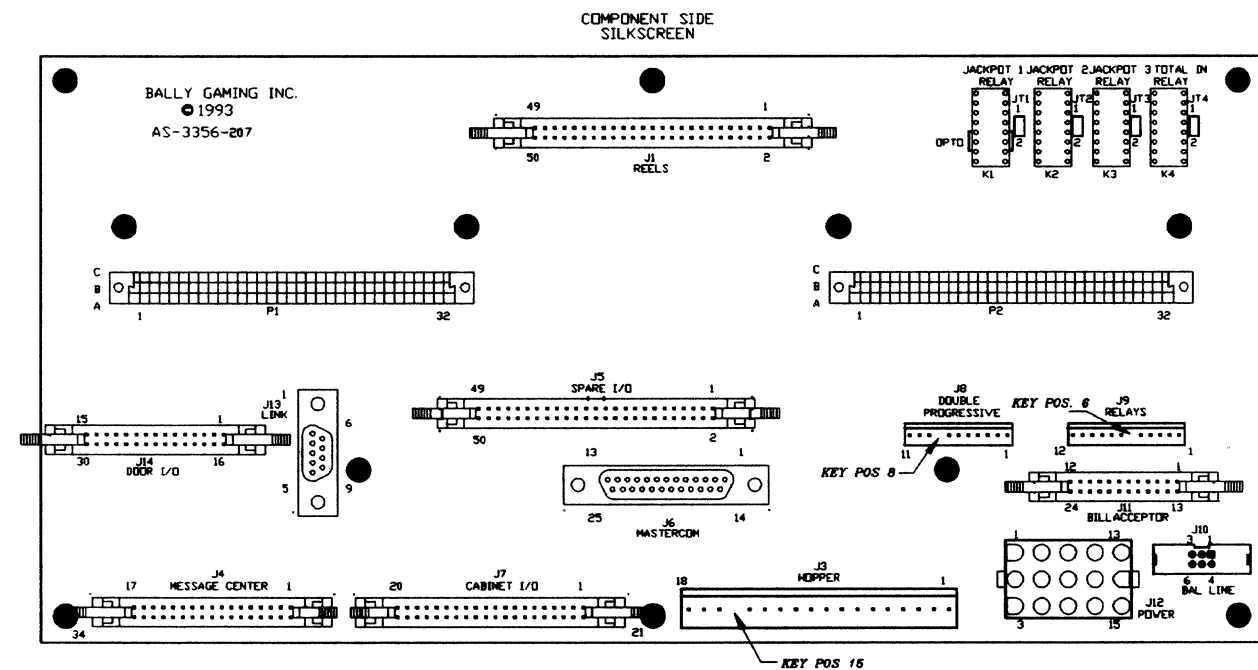
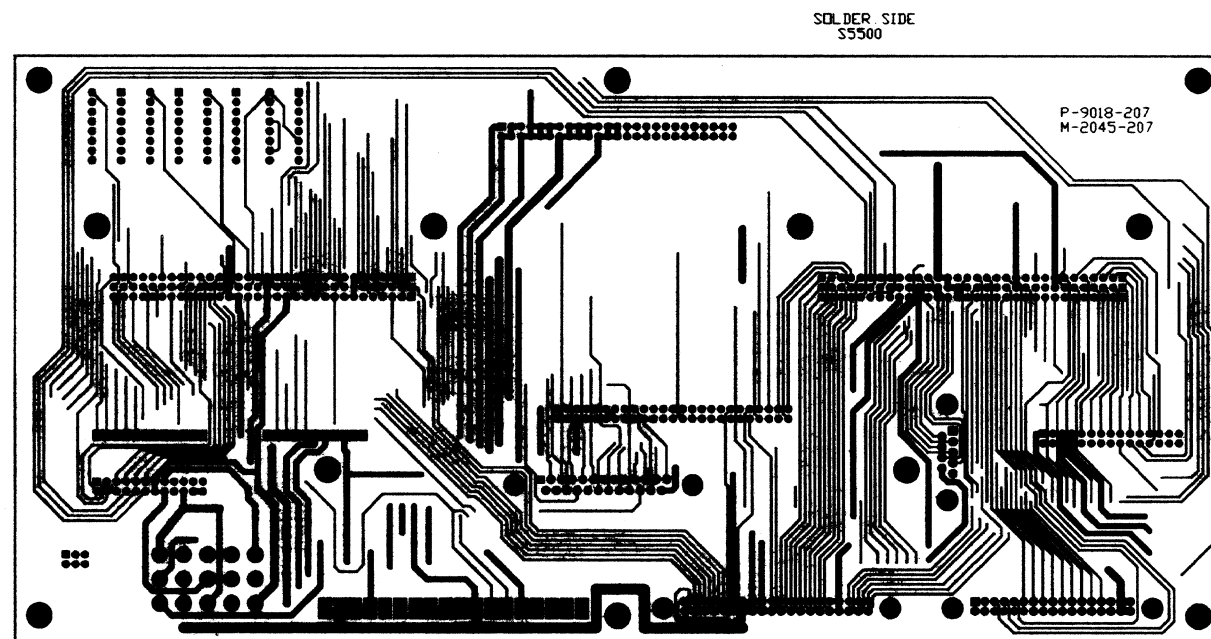
NOTE:
CUT JUMPER TRACES JT1 THROUGH JT6 INSERT RESISTOR
RP-11202-0221 SO PINS 1 AND 12 COOUPY POSITION JT1



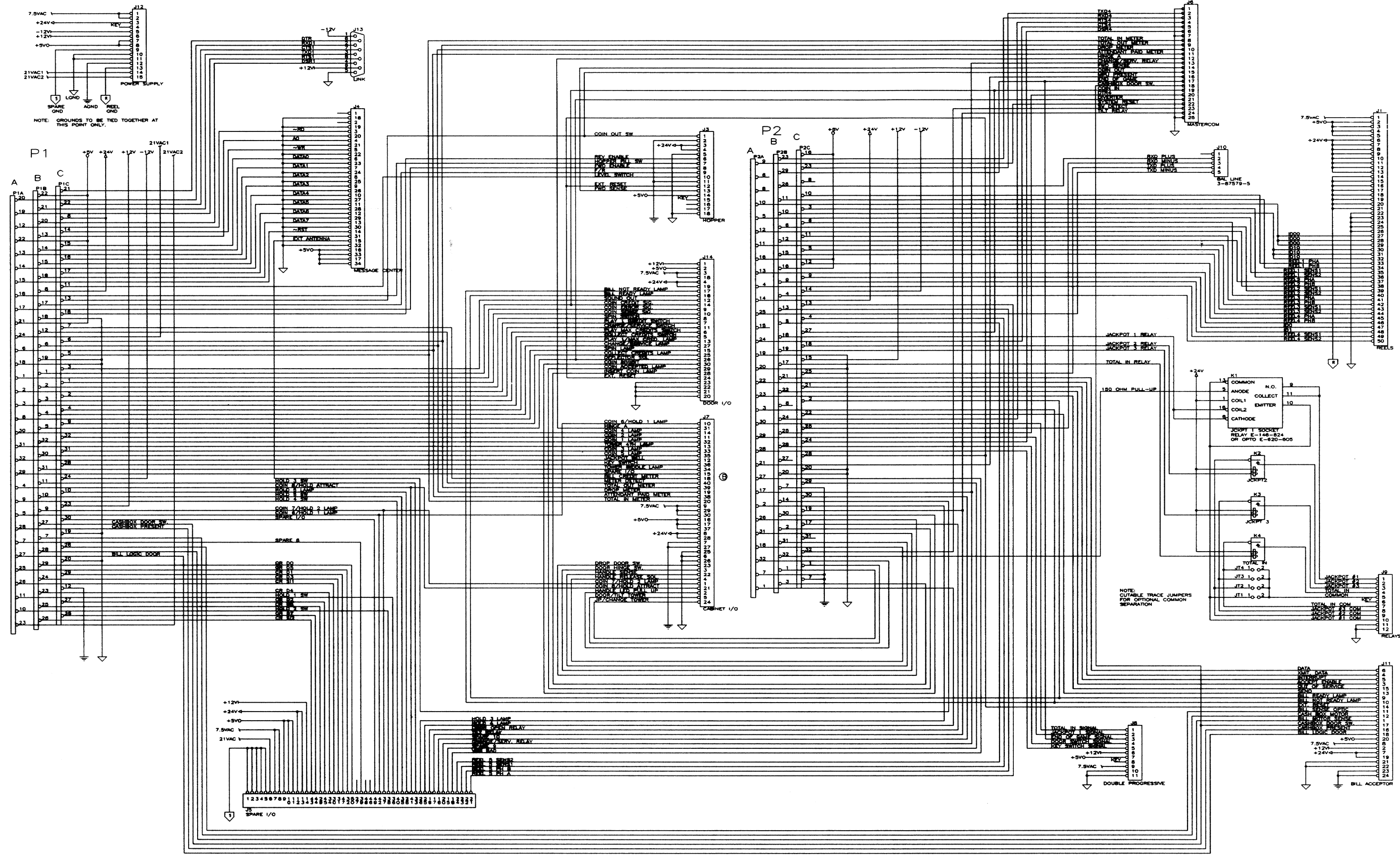
JUMPER OPTIONS		
JUMPER	SHIPPING POSITION	PURPOSE (REF)
JW1	NOT USED	EXTERNAL ANTENNA
JW2	IN	WAIT STATE
JW4	AS SHOWN	MAIN ROM ADDRESS
JW5	AS SHOWN	SUPPLEMENT ROM ADDRESS
JW6	AS SHOWN	RAM ADDRESS
JW8	IN	PCB ANTENNA
JW9	AS SHOWN	RS-422 SELECT
JW10	IN	SAFE RAM CLEAR
JW11	OFF AS SHOWN	DOOR LATCH DISCONNECT
JW12	OFF AS SHOWN	BATTERY DISCONNECT
JW13	IN	SRAM KEY DISCONNECT
JW14	IN	VBATT TO RAM

Back Plane Board AS-3356-207

PARTS LIST				
Item	Quantity	Reference	Bally p/n	Description
1	1	J13	E-910-44	DB-9 PDB MOUNT STR FEMALE AMP 745076-3
2	1	J12	E-998-15	15 PDS PIN HEADER AMP 350714-1
3	1	J4	E-1076-134	34 PDS STR HEADER W/LATCH AMP 499922-8
4	2	J5, J1	E-1076-150	50 PDS STR HEADER W/LATCH AMP 1-499922-0
5	1	J3	E-978-18	18 PDS STR MTA-156 AMP 1-640445-8
6	1	J14	E-1076-130	30 PDS STR HEADER W/LATCH AMP 499922-7
7	1	J7	E-1076-140	40 PDS STR HEADER W/LATCH AMP 499922-9
8	1	P1	E-964-0	96 PDS FEMALE DIN AMP 535043-4
9	1	P2	E-964-0	96 PDS FEMALE DIN AMP 535043-4
10	1	J10	E-985	6 PDS STR HEADER MOD II AMP 102619-1
11	1	J6	E-910-26	DB-25 MALE AMP 745058-3
12	4	K1-K4	E-1006-16	IC SOCKET, 16 PIN DIP
13	1	J9	E-989-12	12 PDS STR MTA 100 AMP 1-640456-2
14	1	J11	E-1076-124	24 PDS STR HEADER W/LATCH AMP 499922-5
15	1	J8	E-989-11	11 PDS STR MTA 100 AMP 1-640456-1
16	1	PCB	P-9018-162	BARE BOARD, S-5500 BACKPLANE

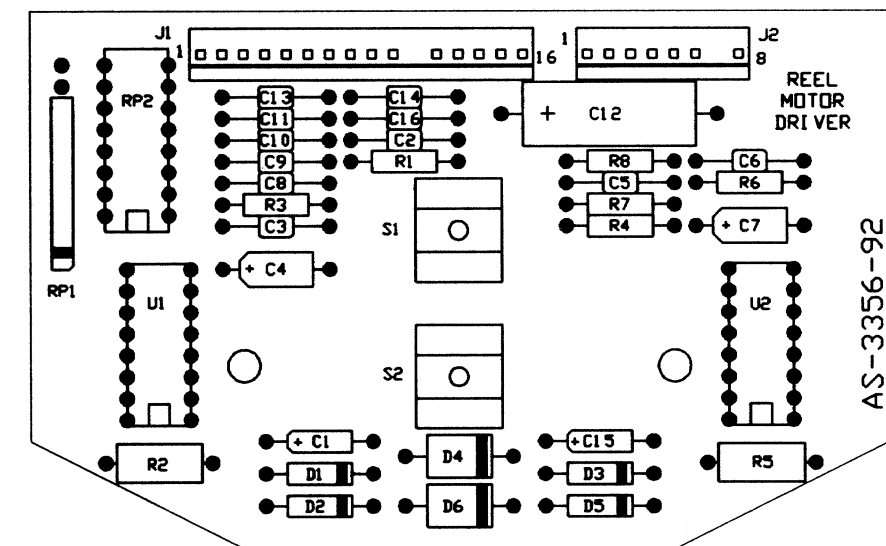


Back Plane Board AS-3356-207

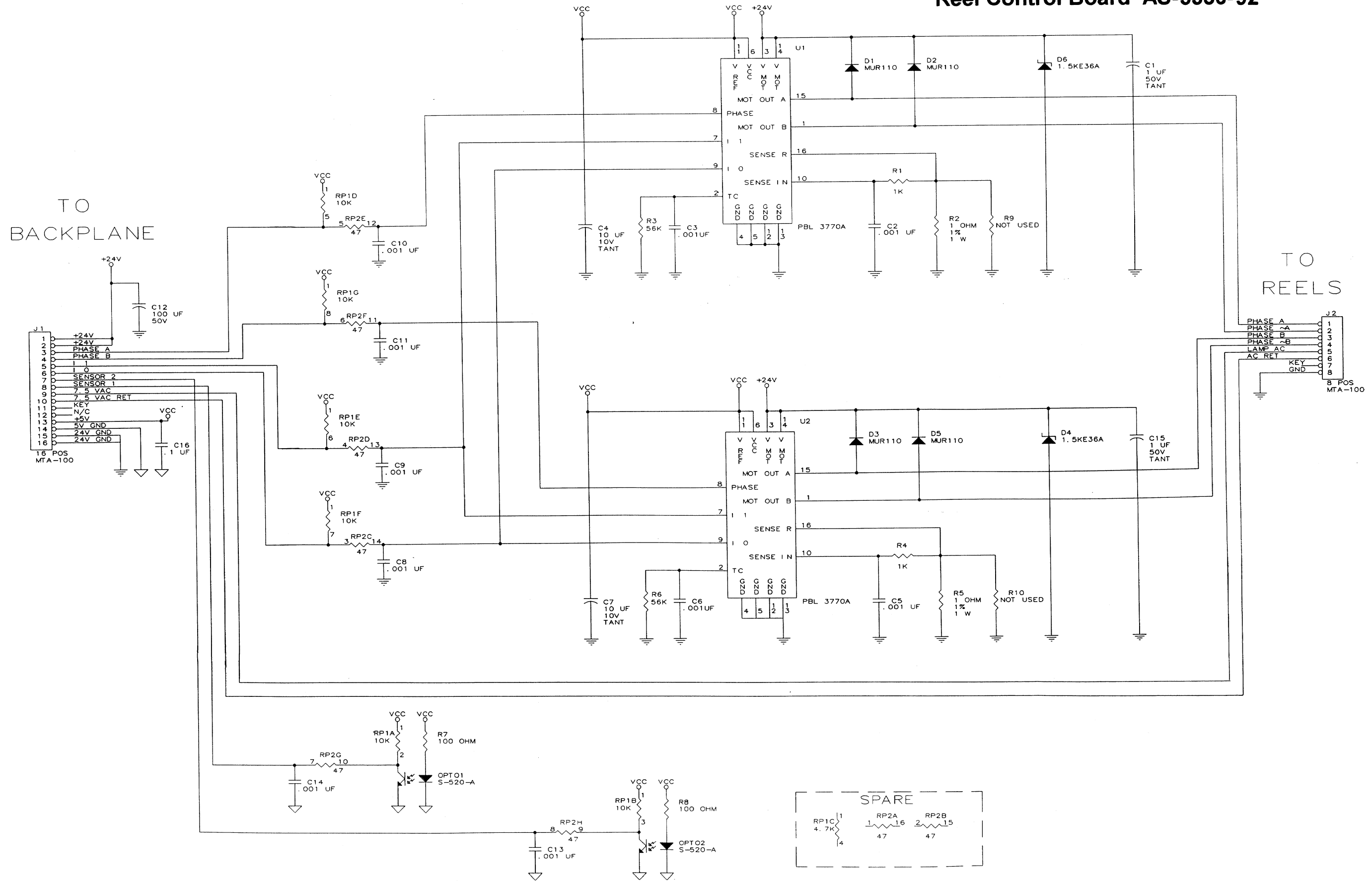


Reel Control Board AS-3356-92

ITEM	LOCATION	PART NUMBER	DESCRIPTION	QTY
1		P-09018-0092	PC BOARD, USING ARTWORK M-2045-092	1
2	C1, C15	E-00586-0364	CAP, 1 μ F, 50V. TANTALUM AXIAL	2
3	C2, C5, C8-11, C13-14	E-00586-0164	CAP, .001 μ F, 50V., CERAMIC AXIAL	8
4	C3, C6	E-00586-0315	CAP, .001 μ F, 50V., CERAMIC AXIAL	2
5	C4, C7	E-00586-0363	CAP, 10 μ F, 10V., TANTALUM AXIAL	2
6	C12	E-00586-0066	CAP, 100 μ F, 50V. ALUM. 'LYTIC AXIAL	1
7	C16	E-00586-0227	CAP, .1 μ F, 50V., CERAMIC AXIAL	1
8	D1-3, D5	E-00587-0058	DIODE, FAST, 1 A., 100V., 25 NS.	4
9	D4, D6	E-00713-0012	TRANSZORB, 36V.	2
10	J1	E-00989-0016	HEADER, KK-100, 16 POSITION	1
11	J2	E-00989-0008	HEADER, KK-100, 8 POSITION	1
12	R1, R4	E-00105-0262	RESISTOR, 1K OHM, 1/4W., 5%	2
13	R2, R5	E-00105-0530	RESISTOR, 1 OHM, 1W., 1%	2
14	R3, R6	E-00105-0531	RESISTOR, 56K OHM, 1/4W., 5%	2
15	R7, R8	E-00105-0301	RESISTOR, 100 OHM, 1/4W., 5%	2
16	RP1	E-00835-0047	RES NET, 10K OHM, 8 PIN, 7 RES, SIP	1
17	RP2	E-00835-0057	RES NET, 47 OHM, 16 PIN, 8 RES, DIP	1
18	S1, S2	E-00620-0621	SWITCH, OPTICAL SLOTTED	2
19	U1, U2	E-00620-0613	IC, PLB 3770A, STEPPER MOTOR DRIVER	2



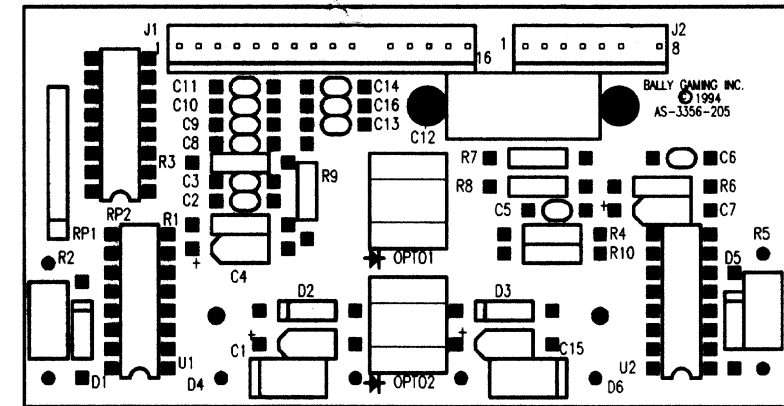
Reel Control Board AS-3356-92



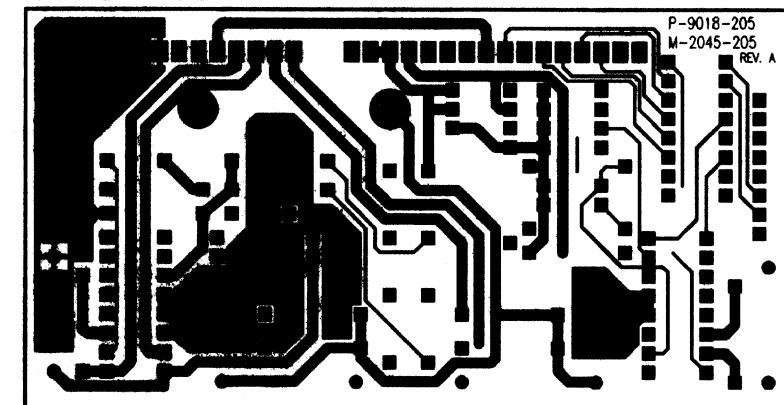
REEL CONTROL BOARD AS-3356-205

ITEM	LOCATION	PART NUMBER	DESCRIPTION	QTY
1		P-09018-0205	PC BOARD, USE ARTWORK M-2045-0205	1
2	C1, C15	E-00586-0364	CAP, 1 μ F, 50V. TANTALUM AXIAL	2
3	C2,C5,C8-11,C13-14	E-00586-0164	CAP, .001 μ F, 50V., CERAMIC AXIAL	8
4	C3, C6	E-00586-0315	CAP, .001 μ F, 50V., CERAMIC AXIAL	2
5	C4, C7	E-00586-0363	CAP, 10 μ F, 10V., TANTALUM AXIAL	2
6	C12	E-00586-0366	CAP, 100 μ F, 50V. ALUM. 'LYTIC AXIAL	1
7	C16	E-00586-0227	CAP, .1 μ F, 50V., CERAMIC AXIAL	1
8	D1-3, D5	E-00587-0058	DIODE, FAST, 1 A., 100V., 25 NS.	4
9	D4, D6	E-00713-0012	TRANSZORB, 36V.	2
10	J1	E-00989-0016	HEADER, KK-100, 16 POSITION	1
11	J2	E-00989-0008	HEADER, KK-100, 8 POSITION	1
12	R1, R4	RES-0C0Q5-0102	RES,CF,1/4W,_5%,_1K	2
13	R2, R5	RES-0M011-01D0	RES,MF,___1W,_1%,_1.0	2
14	R3, R6	RES-0C0Q5-0563	RES,CF,1/4W,_5%,_56K	2
15	R7, R8	RES-0C0Q5-0101	RES,CF,1/4W,_5%,_100	2
16	R9, R10	-----	NOT USED	0
17	RP1	RPK-C08S2-0103	R ARRAY,1COM,8PIN,SIP,_2%,_10K	1
18	RP2	RPK-I16D2-0470	R ARRAY,1SOL,16PIN,DIP,_2%,_47	1
19	OPTO1, OPTO2	E-00620-0621	SWITCH, OPTICAL SLOTTED	2
20	U1, U2	E-00620-0613	IC, PLB 3770A, STEPPER MOTOR DRIVER	2

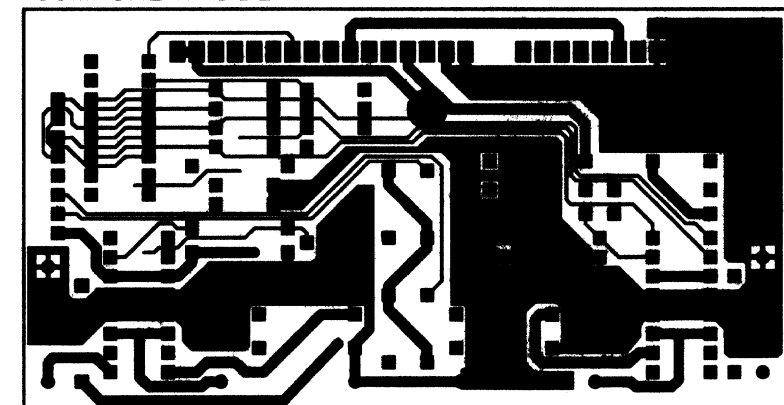
COMPONENT SIDE SILKSCREEN



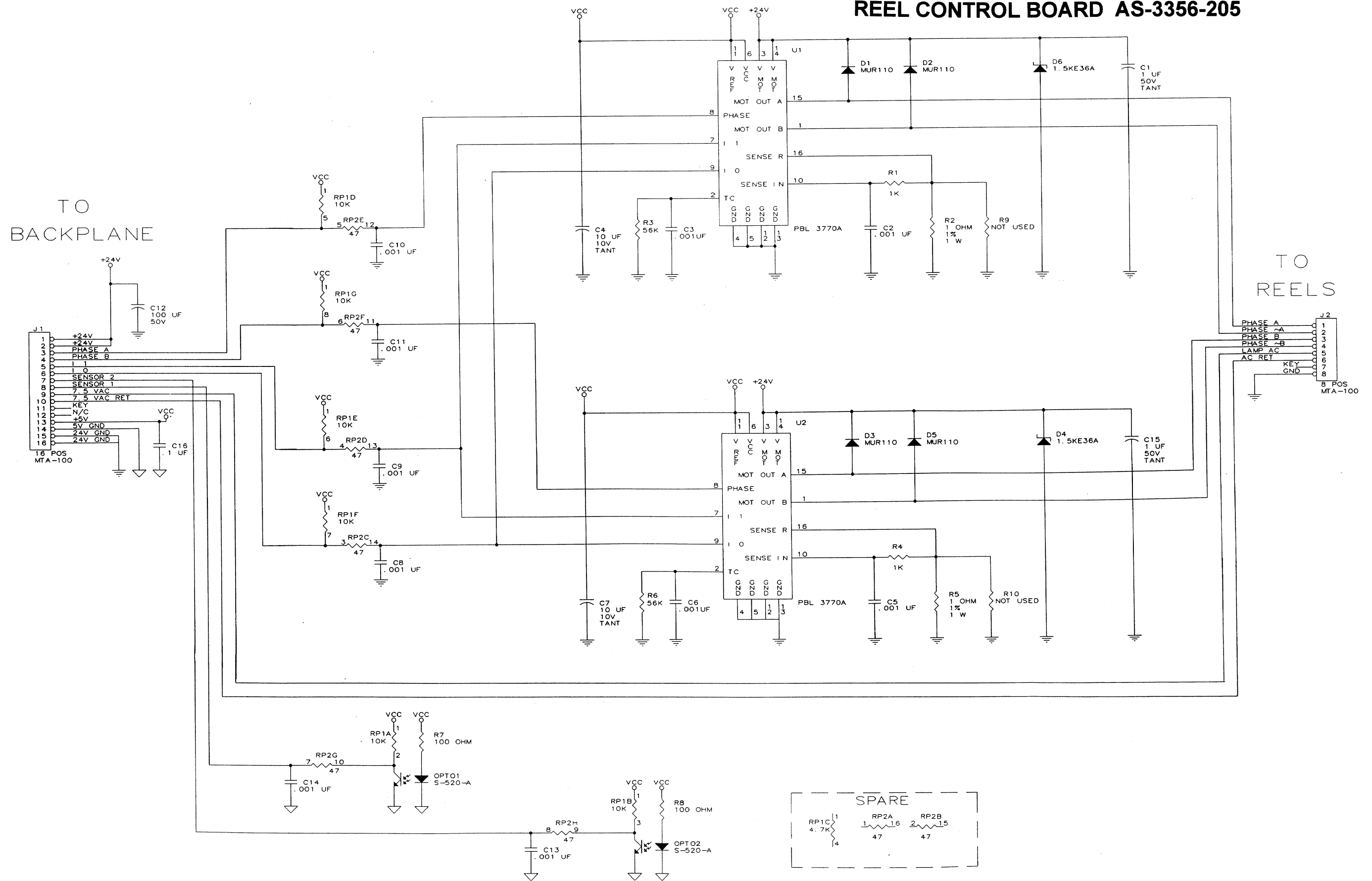
SOLDER SIDE



COMPONENT SIDE

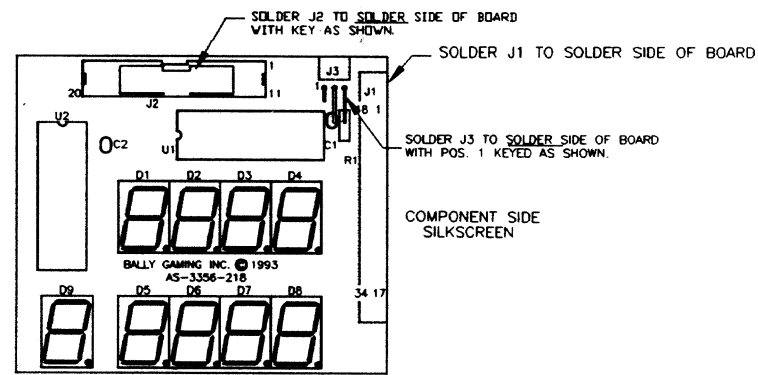


REEL CONTROL BOARD AS-3356-205

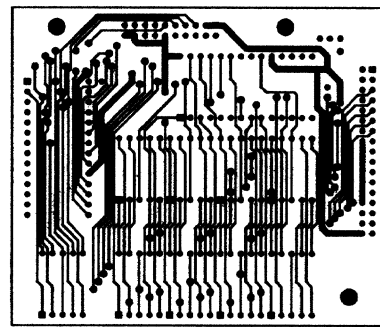


LED DISPLAY BOARD

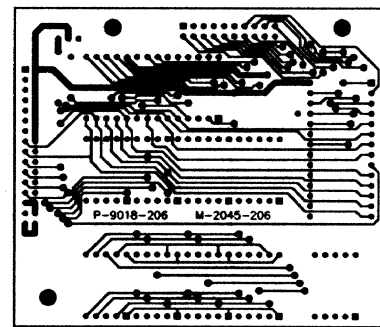
AS-3356-218



COMPONENT SIDE SILKSCREEN

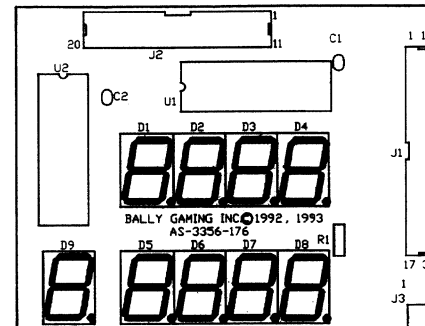


COMPONENT SIDE

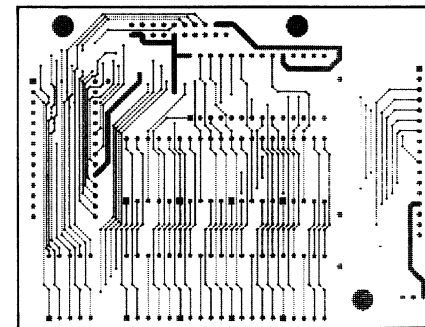


SOLDER SIDE

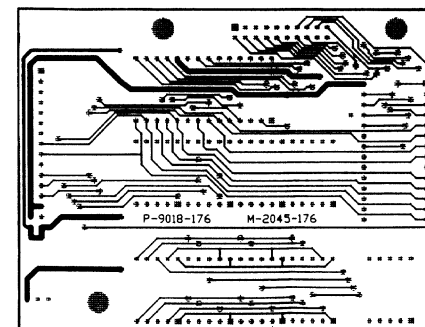
AS-3356-176A



COMPONENT SIDE SILKSCREEN LED DISPLAY

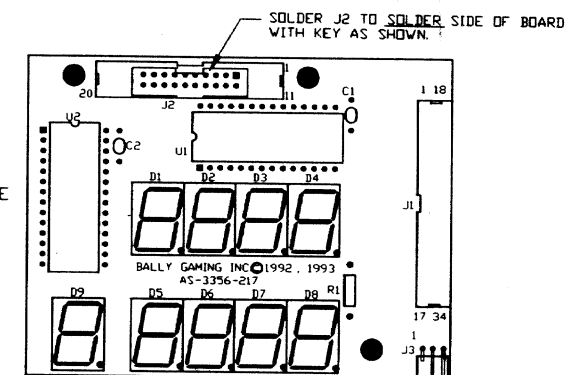


COMPONENT SIDE LED DISPLAY

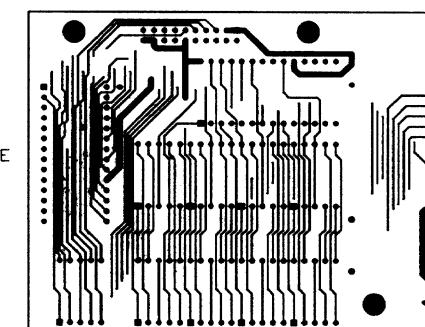


SOLDER SIDE LED DISPLAY

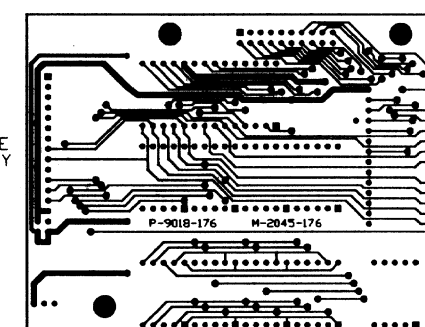
AS-3356-217



COMPONENT SIDE SILKSCREEN LED DISPLAY



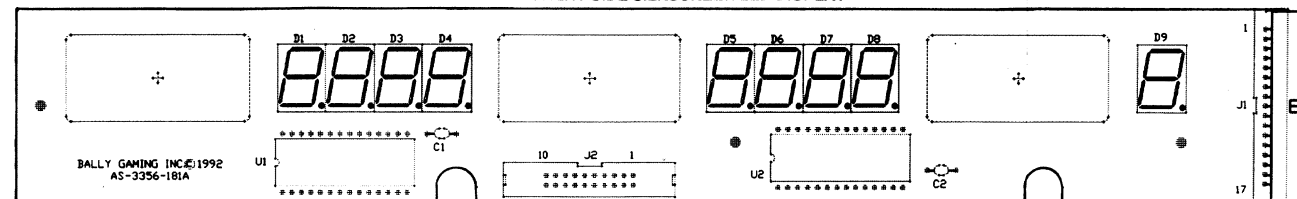
COMPONENT SIDE LED DISPLAY



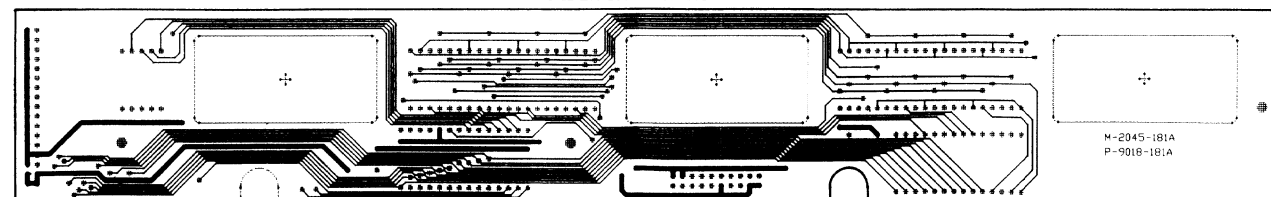
SOLDER SIDE LED DISPLAY

AS-3356-181A

COMPONENT SIDE SILKSCREEN LED DISPLAY



SOLDER SIDE LED DISPLAY



LED DISPLAY BOARD PARTS LIST

ITEM	QUANTITY	REFERENCE	BALLY NO.	DESCRIPTION
1	1	J1	E-1076-134	HEADER, 34 PIN CTR KEY W/ LATCH
2	1	J2	E-991-20	HEADER, 20 PIN CTR KEY FOUR SIDE
3	1	J3	E-975-3	.100" R/A LOCKING WAFER HEADER
4	2	C1, C2	E-586-100	CAP, 0.1uF CERAMIC AXIAL
5	9	D1 - D9	E-680-27A	IC, 7 SEG DISPLAY
6	2	U1, U2	E-620-596	IC, EIGHT CHAR DISPLAY DRIVER
7	1	R1	E-105-233	RES, 180 OHM, .25W, 5% CF

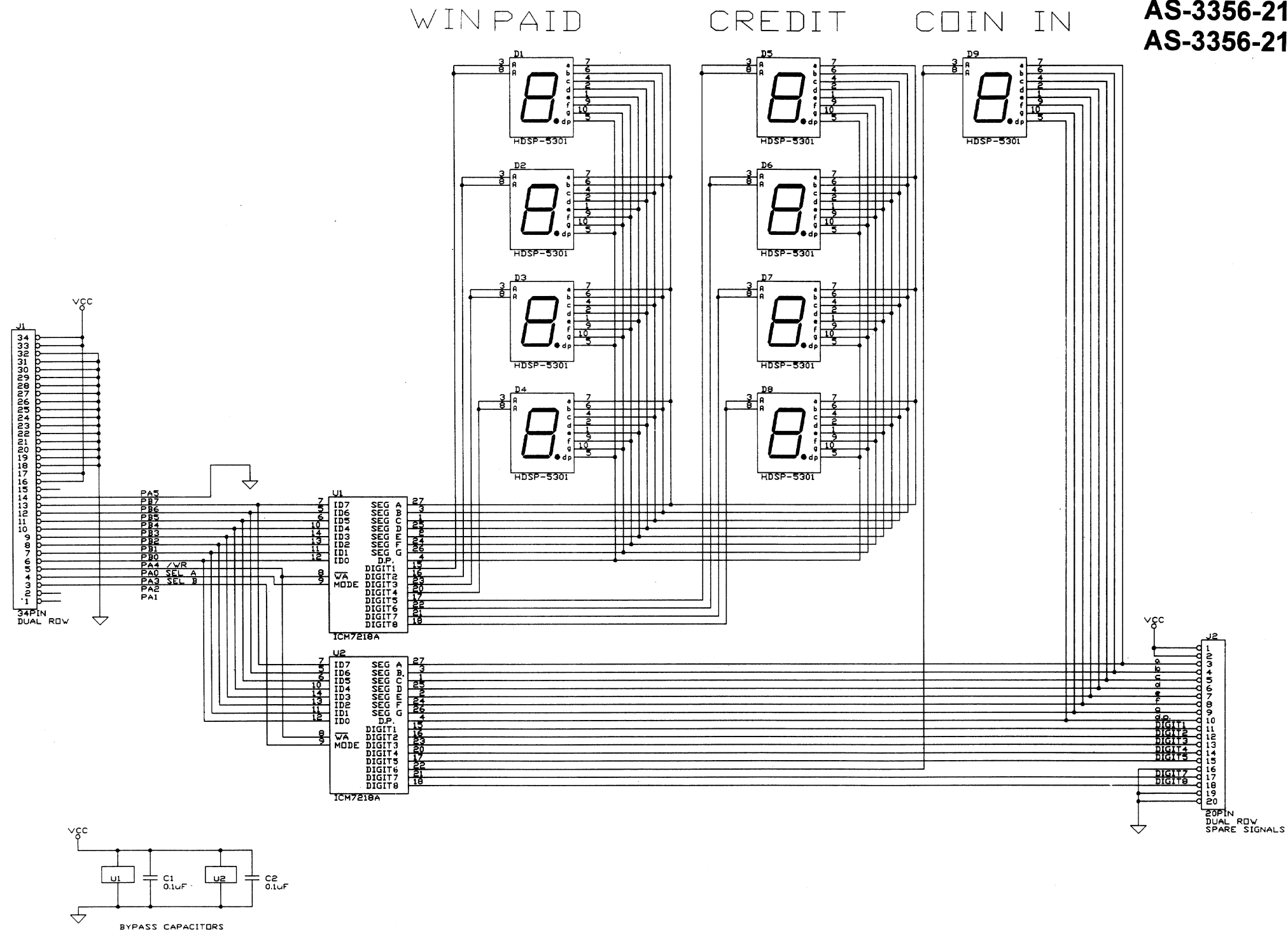
LED DISPLAY BOARD

AS-3356-176A

AS-3356-181A

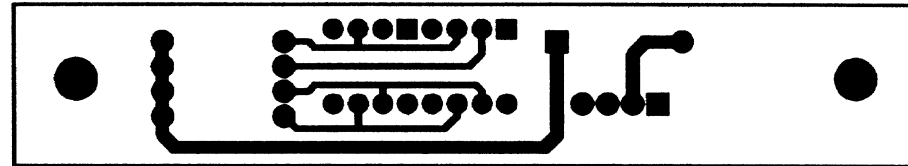
AS-3356-217

AS-3356-218

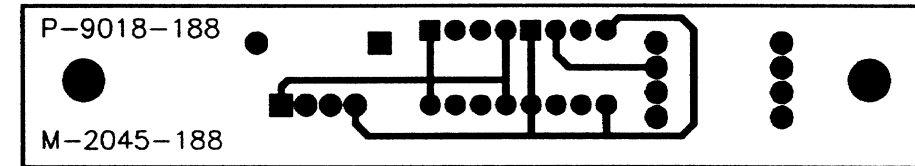


BILL VALIDATOR LED BOARD
AS-3356-188

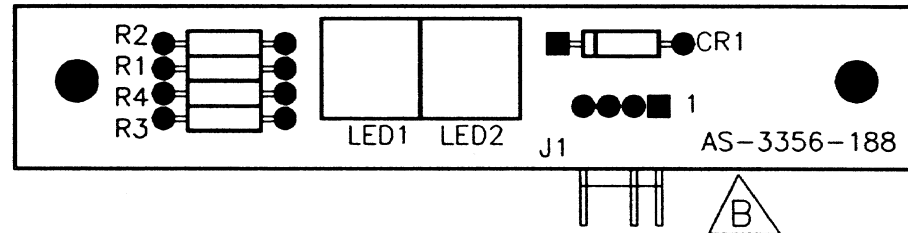
COMPONENT SIDE



SOLDER SIDE



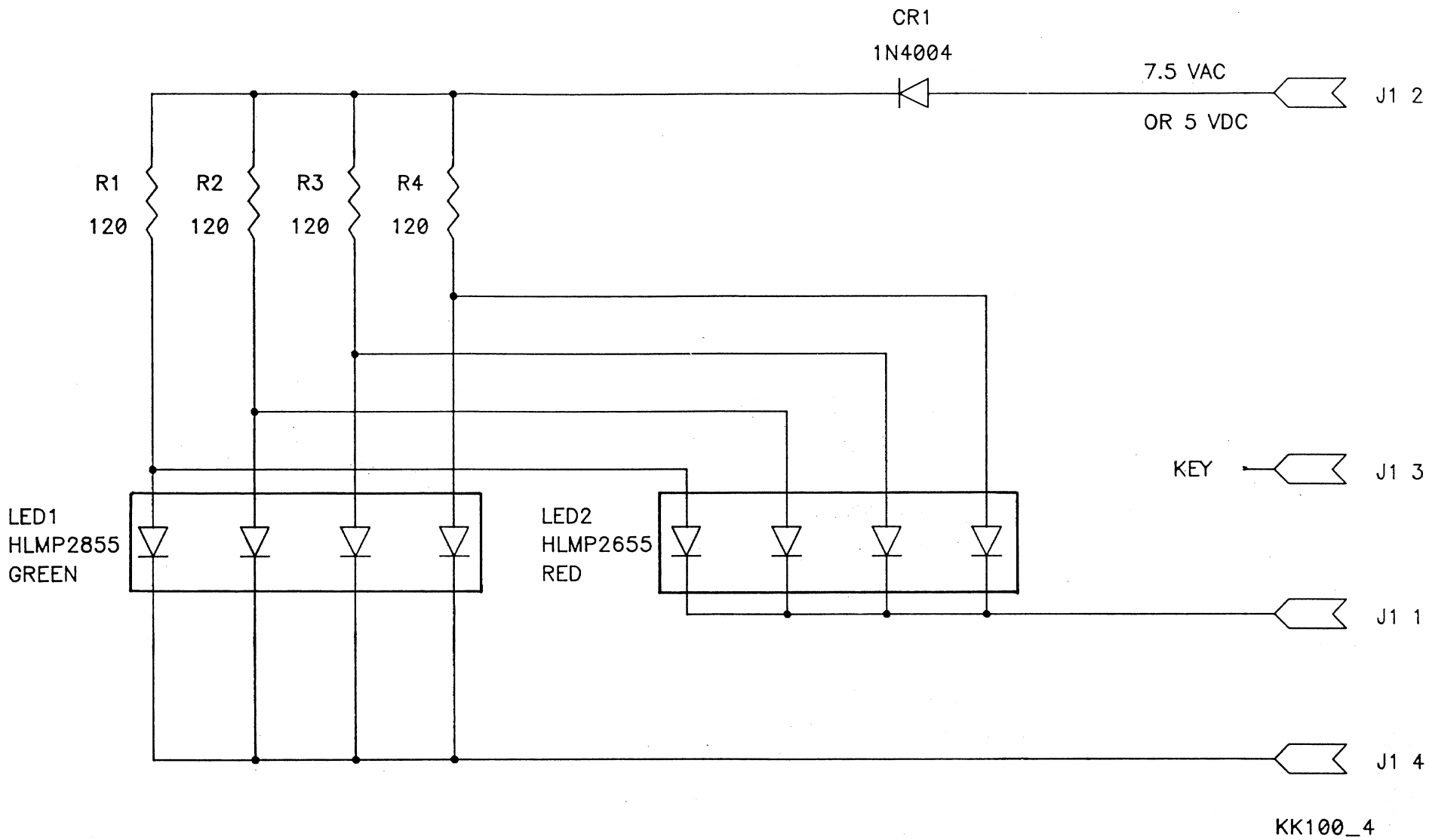
COMPONENT SIDE
SILKSCREEN



PARTS LIST

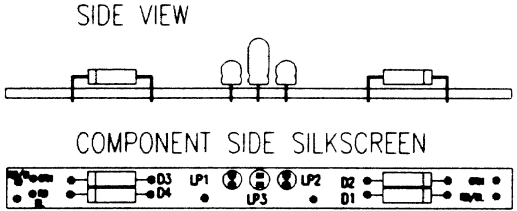
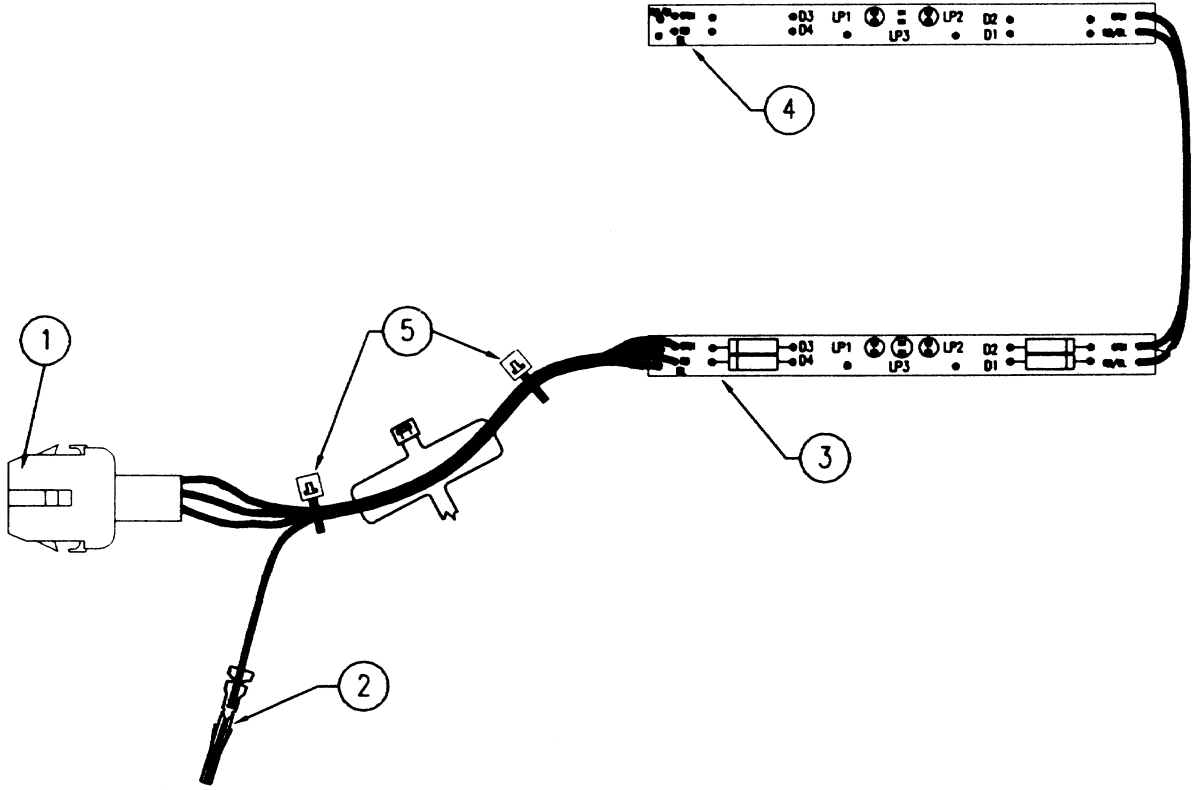
REFERENCE	PART NUMBER	DESCRIPTION	QTY
CR1	E-587-6	DIODE, 1N4004 400V 1A	1
J1	E-975-4	CONN, MTA-100 R/A 4 PIN	1
LED1	E-679-35	LED, GREEN, HLMP2855	1
LED2	E-679-34	LED, RED, HLMP2655	1
R1,R2,R3,R4	E-105-212	RES, 120 OHM, 5% .25W CF	4

BILL VALIDATOR LED BOARD
AS-3356-188



Bill Bezel Illuminaton Assembly E-664-496

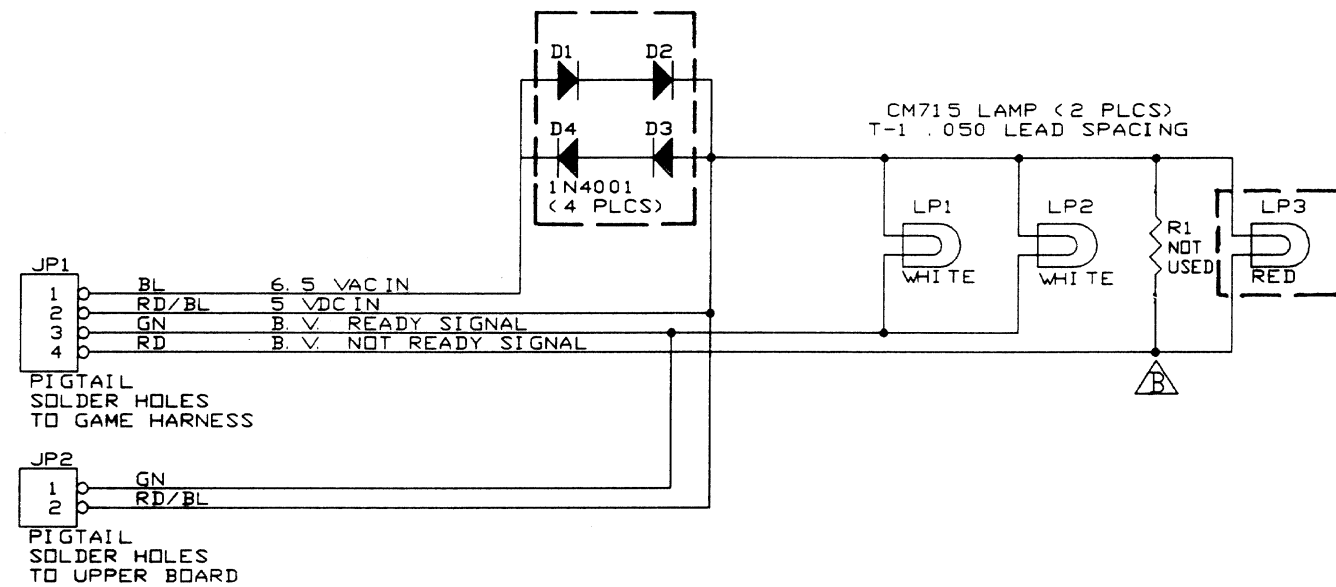
PARTS LIST			
ITEM	BALLY PART NO.	DESCRIPTION	QUANTITY
1	E-00804-0004	AMP HOUSING, 4 CKT	1
2	E-00807	AMP SOCKET	4
3	AS-03356-0241	BILL ILLUM. BOARD, LOWER REV D	1
4	AS-03356-0242	BILL ILLUM. BOARD, UPPER REV D	1
5	E-00647-0004	CABLE TIE	2



Bill Bezel Lamp Boards AS-3356-241 & 242

PARTS LIST

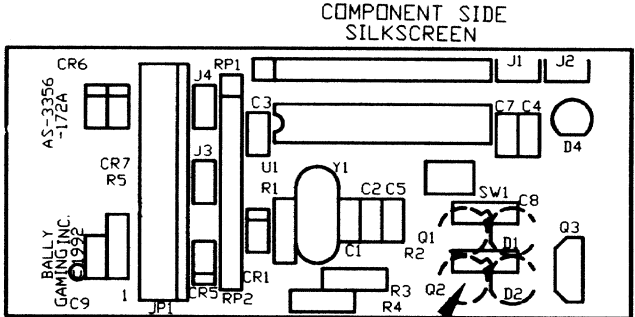
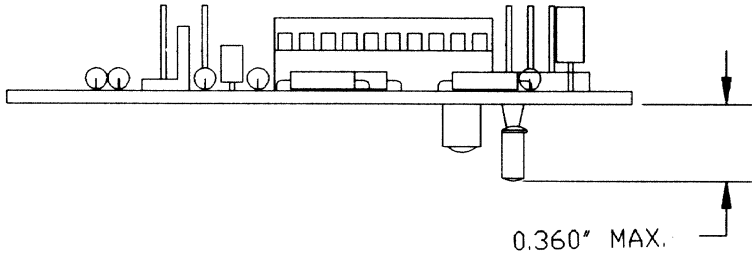
ITEM	QTY	REFERENCE	PART NO.	DESCRIPTION
1	4	D1-D4	E-00587-0040	DIODE, 1N4001
2	2	LP1, LP2	E-00125-0101	LAMP, T-1, 5 VOLT, #7152
3	1	LP3	E-0125-0098	LAMP, RED, T-1, 5 VOLT
4	1	---	P-09018-0241	PCB, BILL BEZEL LAMP BOARD REV. B



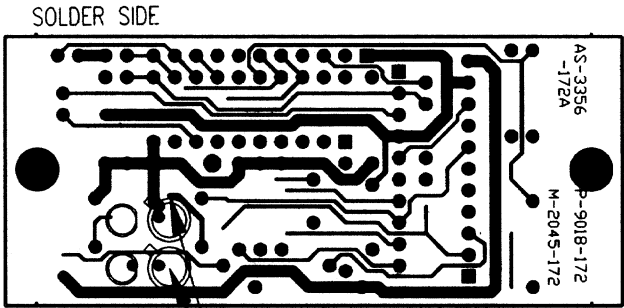
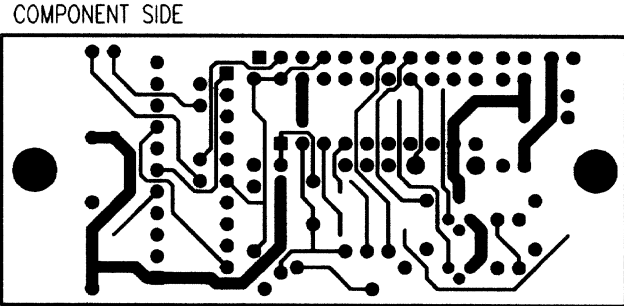
----- NOT USED ON AS-03356-0242

Coin Optic Decoder Board AS-3356-172A

PARTS LIST				
Item	Quantity	Reference	Bally p/n	Description
1	1	C3	E-00586-0363	CAP, 10uF, 10V TANT AXIAL
2	5	C4,C5,C7,C8,C9	E-00586-0100	CERM. CAP, .1uF
3	2	C1,C2	E-00586-0154	CERM. CAP, 22pF
4	2	CR1,CR5	E-00587-0058	ULTRA FAST DIODE, 1A 100V 25ns
5	1	D4	E-00769-0004	LED, YELLOW T1-3/4 HP #HLMF-3400
6	2	D1,D2	E-00679-0033	IR EMITTER, HONEYWELL #SEP8705-003
7	1	JP1	E-00989-0011	11 PIN STR MTA-100 FRIC LOCK, KEY POS. 4
8	2	Q1,Q2	E-00585-0119	PHOTOTRANSISTOR, HONEYWELL SD5443-002
9	1	Q3	E-00585-0120	TRANSISTOR, PNP, 1AMP, 1 WATT, MPS6727
10	2	CR6,CR7	E-00598-0053	ZENER DIODE, 5.1 VOLT, .25 WATT
11	1	R1	E-00105-0300	RES, 10 MOHM, .25W, 5%
12	1	R4	E-00105-0185	RES, 10 KOHM, .25W, 5%
13	1	RP2	E-00835-0071	SIP RES PACK, 10 PIN DALE #CSC10-03-221J
14	1	RP1	RPK-C11S2-0332	SIP RES PACK, 11 PIN COM 3.3K 2%
15	1	R3	E-00105-0238	RES, 3300 OHM, .25W, 5%
16	1	R2	E-00105-0213	RES, 68 OHM, .25W, 5%
17	1	R5	E-00105-0303	RES, 220 OHM, .25W, 5%
18	1	U1	E	IC, E-00620-0625 PROGRAMED WITH EP-1091-2
19	1	Y1	E-00744-0037	CRYSTAL, AT CUT, FOX #HC49S LOW PROFILE
20	1	SW1	E-00108-368A	PUSH BUTTON SWITCH ECG #TL 1107A
21	4	J1,J2,J3,J4	E-00766-0002	2 PIN STRAIGHT MTA-100 HEADER
22	1	U1	E-00712-0020	DIP SOCKET, 20 PIN .300"
23	1	NONE	P-09018-172A	PRINTED WIRING BOARD, COIN OPTIC DECODER
24	2	NONE	M-01777-5621	TO-18 AND T-1 3/4 LED MOUNT

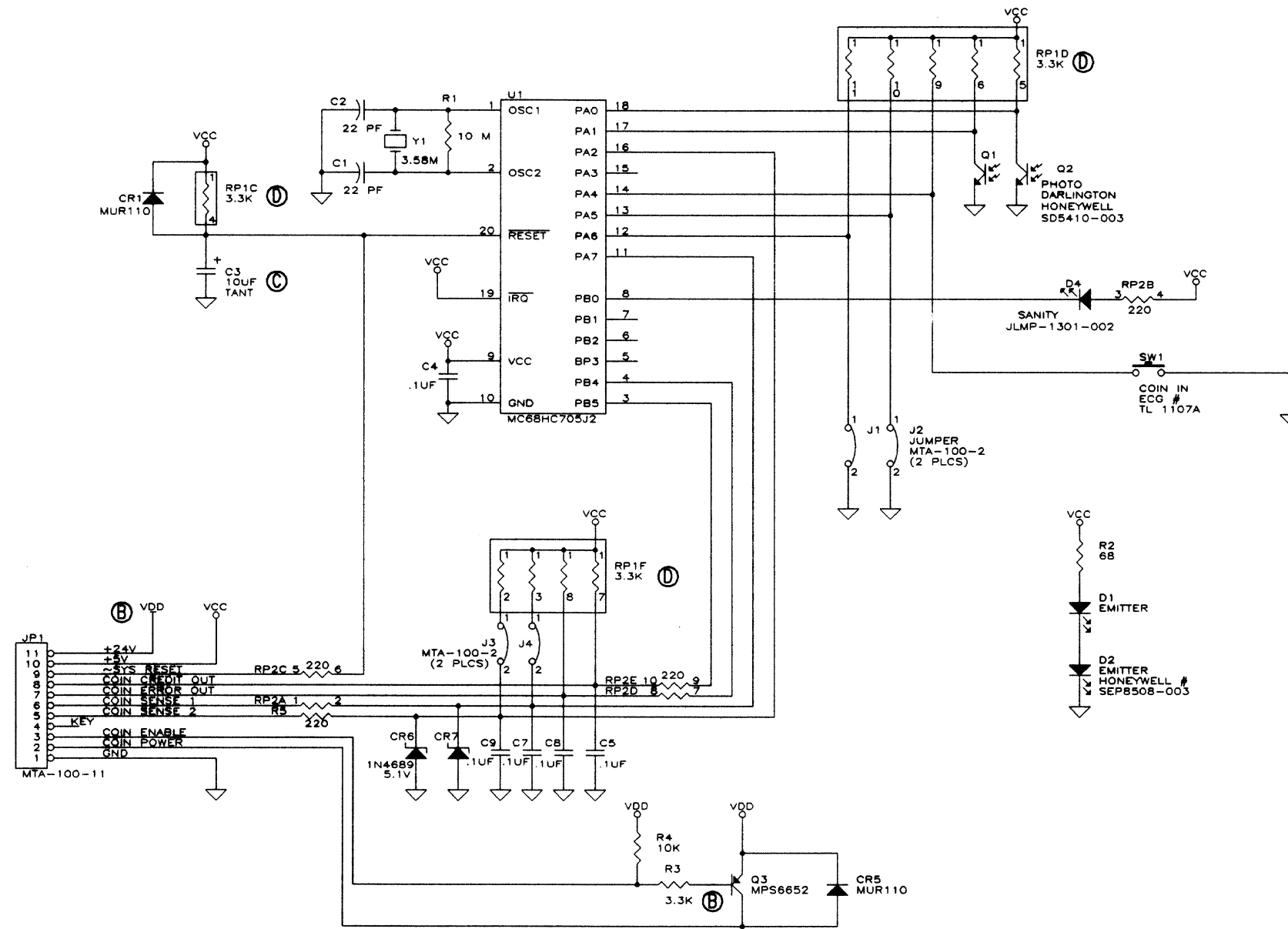


D1, D2, Q1 AND Q2 TO BE MOUNTED TO SOLDER SIDE



PLACE SPACER M-1777-5621 BENEATH Q1 AND Q2

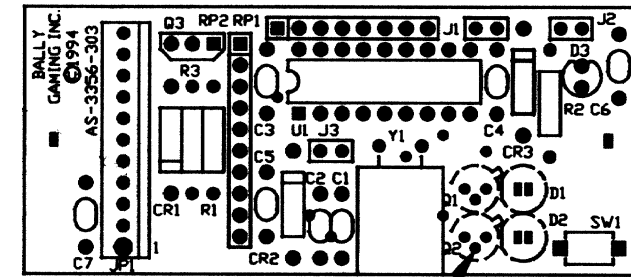
Coin Optic Decoder Board AS-3356-172A



Coin Optic Decoder Board AS-3356-303 C

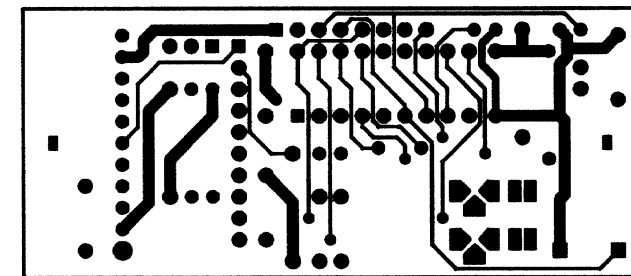
PARTS LIST				
ITEM	QUANTITY	REFERENCE	BALLY P/N	DESCRIPTION
1	2	NONE	M-01777-5621	TO-18 AND T-1 3/4 LED MOUNT
2	5	C3,C4,C5,C6,C7	CCP-A4+50-0103	CER/CAP,AXIAL,Z5U,50V,.01M
3	2	C1,C2	CCP-A4+50-0150	CER/CAP,AXIAL,Z5U,50V,15P
4	2	CR1,CR3	E-00587-0058	ULTRA FAST DIODE, 1A 100V 25ns
5	1	D3	E-00769-0004	LED, YELLOW T1-3/4 HP #HLMP-3400
6	2	D1,D2	E-00679-0033	IR EMITTER, HONEYWELL #SEP8705-003
7	1	JP1	E-00989-0011	11 PIN STR MTA-100 FRIC LOCK, KEY POS. 4
8	2	Q1,Q2	E-00585-0119	PHOTOTRANSISTOR, HONEYWELL SD5443-002
9	1	Q3	E-00585-0120	TRANSISTOR, PNP, 1 AMP, 1 WATT, MPS6727
10	1	CR2	E-00598-0057	ZENER DIODE, 4.7 VOLT 1 WATT 10% 1N4732
11	1	Y1	E-00744-0019	CRYSTAL, AT CUT, 3.6864 MHZ, HC49
12	1	R1	E-00105-0185	RES, 10 KOHM, .25W, 5%
13	1	RP2	RPK-110S5-0221	RES ARRAY,ISOL,10PIN,SIP,5%,220 OHM
14	1	RP1	RPK-C08S5-0472	RES ARRAY,1COM,8PIN,SIP,5%,4.7 KOHM2J
15	1	R3	RES-0F0Q5-0332	RES,CF,1/4W,5%,3.3K OHM
16	1	R2	RES-0F0Q5-0680	RES,CF,1/4W,5%,68 OHM
17	1	U1	E-00712-0018	DIP SOCKET, 20 PIN .300"
18	1	U1	E-01091-0003	IC, E-620-670 PROGRAMMED WITH LATEST REVISION
19	4	J1,J2,J3	E-00766-0002	2 PIN STRAIGHT MTA-100 HEADER
20	1	SW1	E-00108-368A	PUSH BUTTON SWITCH ECG #TL 1107A
21	1	NONE	P-09018-0303	PRINTED WIRING BOARD, COIN OPTIC DECODER

COMPONENT SIDE
SILKSCREEN

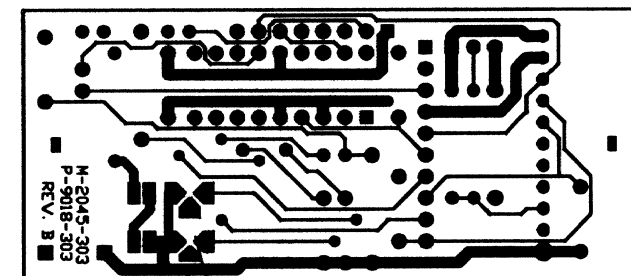


D1, D2, Q1 AND Q2
MOUNTED TO SOLDER SIDE

COMPONENT SIDE

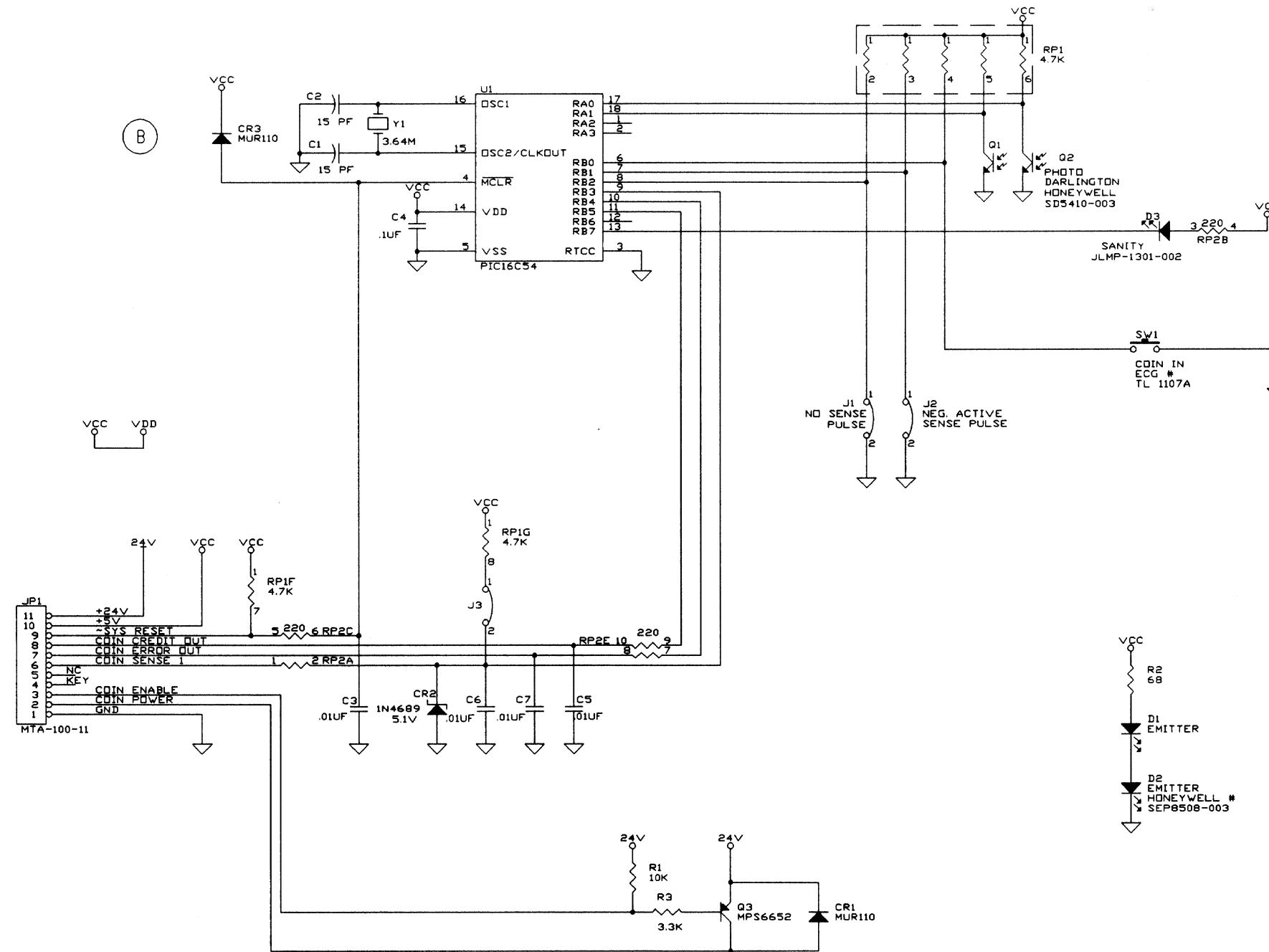


SOLDER SIDE



PLACE SPACER M-1777-5621
BENEATH Q1 AND Q2

Coin Optic Decoder Board AS-3356-303C

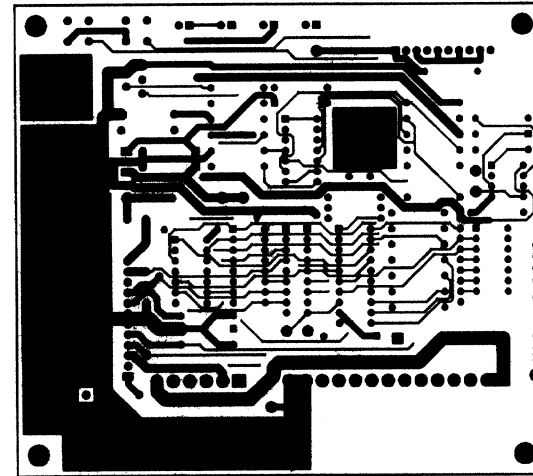


PARTS LIST

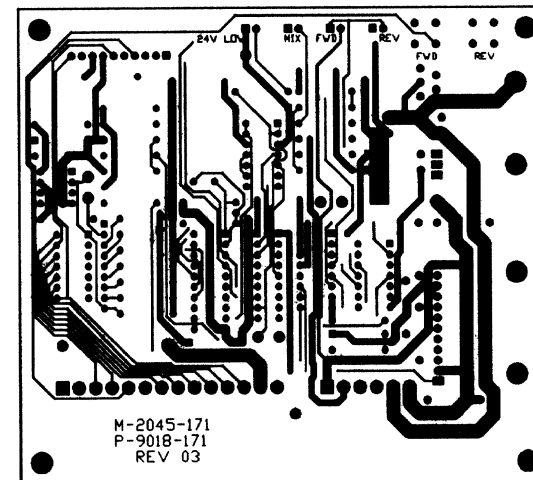
ITEM	QUANTITY	REFERENCE	BALLY PART NO.	DESCRIPTION
1	2	C1, C2	E-586-154	CAP, 22pF 50V, 10% CERAMIC AXIAL
2	10	C3, C4, C5, C6, C7, C8, C9, C10, C11, C24	E-586-85	CAP, .01uF 50V, +80/-20% CERAMIC AXIAL
3	3	C14, C16, C21	E-586-363	CAP, 10uF 10V, 20% TANT AXIAL
4	2	C15, C22	E-586-364	CAP, 1uF 50V, 20% TANT AXIAL
5	1	C13	E-586-366	CAP, 100uF 50V, ELECTROLYTIC AXIAL
6	5	C12, C17, C18, C20, C23	E-586-159	CAP, .1uF 50V, +80/-20% CERAMIC AXIAL
7	2	CR1, CR2	E-587-58	ULTRA FAST DIODE, MUR 110
8	1	CR3	E-679-26	LED, R/A YELLOW
9	1	CR4	E-679-27	LED, R/A GREEN
10	1	CR5	E-679-28	LED, R/A RED
11	1	CR6	E-679-29	LED, R/A ORANGE
12	1	J1	E-976-14	HEADER, R/A MTA-156, 14 POS
13	1	J2	E-976-6	HEADER, R/A MTA-156, 6 POS
14	1	J3	E-975-10	HEADER, R/A MTA 100, 10 POS
15	1	L1	E-604-31	CHOKER, 100uH, 1.2 AMP, .208 OHM
16	1	Q1	E-585-118	SENSFET, TMO5 MTP1010M MOTOROLA
17	1	R1	E-105-532	RES, 10 KOHM 1/4W 5%
18	2	R2, R3	E-105-253	RES, 470 OHM 1/4W 5%
19	5	R4, R5, R6, R7, R19	E-105-230	RES, 1 KOHM 1/4W 5%
20	2	R11, R12	E-105-229	RES, 1.5 KOHM 1/4W 5%
21	1	R13	E-105-159	RES, 4.7 KOHM 1/4W 5%
22	1	R14	E-105-277	RES, 680 OHM 1/4W 5%
23	3	R17, R18	E-105-264	RES, 270 OHM 1/4W 5%
24	3	R16	E-105-302	RES, 200 OHM 1/4W 5%
25	1	RP9	E-835-68	RES PACK, 180 OHM 14 PIN DIP ISOL.
26	1	RP15	E-835-63	RES PACK, 4.7 KOHM 16 PIN DIP ISOL.
27	3	RP8, RP10, RP17	E-835-13	RES PACK, 4.7 KOHM 9 PIN SIP COM.
28	2	SW1, SW2	E-108-366	SPST SWITCH, R/A SEALED
29	1	U1	E-1056-2	IC, E-620-625 PROGRAMMED WITH VER 3.5
30	1	U1	E-712-20	DIP SOCKET, 20 PIN .300"
31	1	U2	E-620-245	IC, SN7406 HEX D.C. INVERTER
32	1	U3	E-620-130	IC, LM339 QUAD COMPARTOR
33	1	U4	E-620-614	IC, TL7702A VOLTAGE SUPERVISOR
34	1	U5	E-620-622	IC, TL780-05CKC 5 VOLT REG.
35	1	U6	E-620-624	IC, MPM3002 H-BRIDGE SENSEFET
36	1	Y1	E-744-5	CRYSTAL, 3.5859 MHZ HC49U CASE
37	4	D5, D6, D7, D8	E-713-13	TRANSIENT VOLTAGE SUPPRESSOR, 15V
38	4	NONE	MSPP-440-1104	440 1/4" MACHINE SCREW
39	4	NONE	N-440-2112	440 HEX NUT
40	1	NONE	P-9018-171	PRINTED CIRCUIT BOARD

Hopper Control Board AS-3356-171A

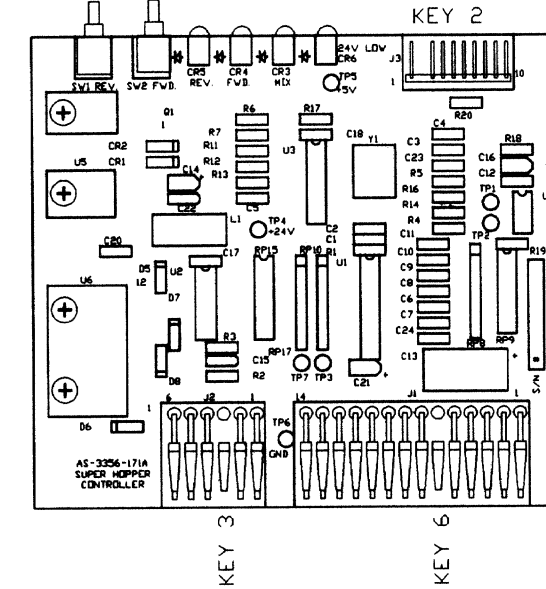
COMPONENT SIDE



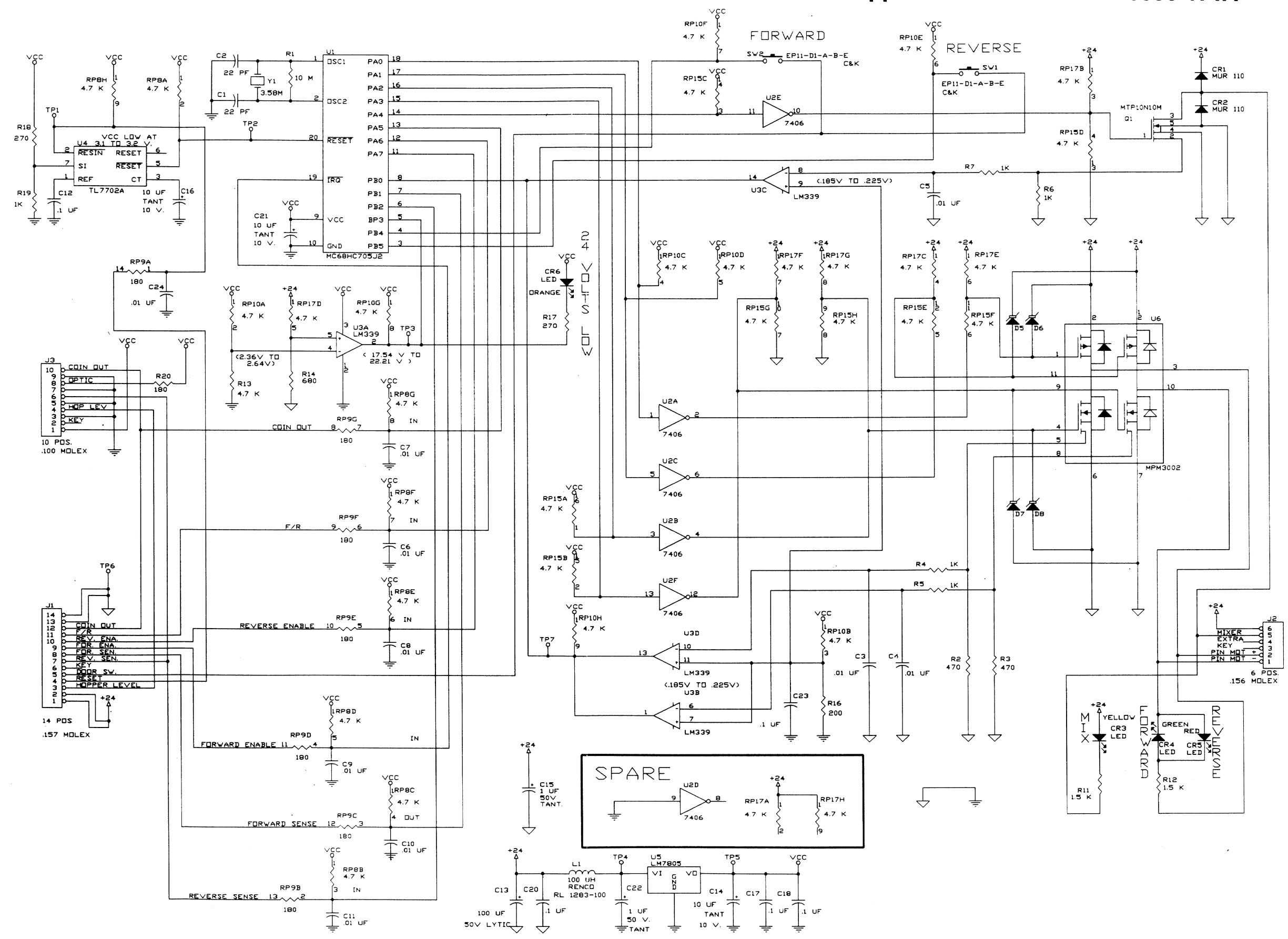
SOLDER SIDE



COMPONENT SIDE SILKSCREEN



Hopper Control Board AS-3356-171A

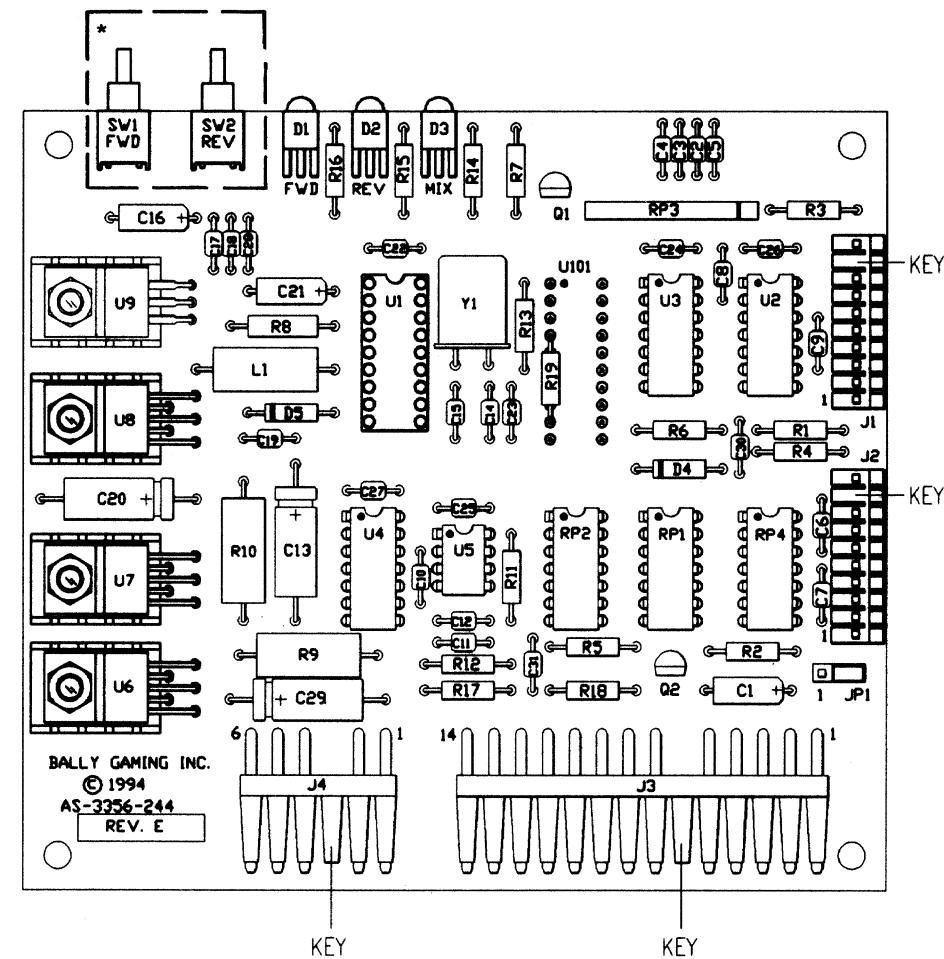
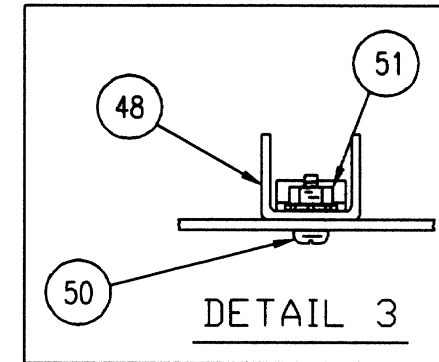
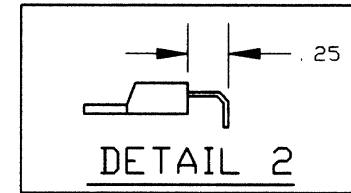
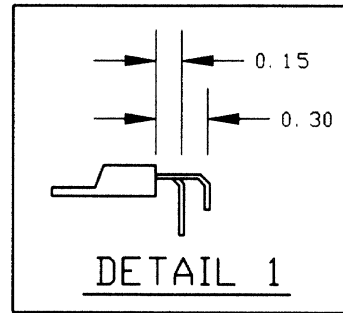


HOPPER CONTROL BOARD
AS-3356-344
AS-3356-345

ITEM	LOCATION	PART NUMBER	DESCRIPTION	QTY
1		P-09018-0244	PC BOARD, USING M-2045-244 REV. C	1
2	C1, C21	E-00586-0364	CAPACITOR, .1uF, 50V., TANT AXIAL	2
3	C2-5, C10-12, C22-28	E-00586-0085	CAPACITOR, .01uF, 50V., CERAM AXIAL	14
4	C6-C9	E-00586-0332	CAPACITOR, .001uF, 50V., CERAM AXIAL	4
5	C13, C29	E-00586-0306	CAPACITOR, 22uF, 50V., LYTIC AXIAL	2
6	C14, C15	E-00586-0154	CAPACITOR, 22pF, 50V., CERAM AXIAL	2
7	C16	E-00586-0363	CAPACITOR, 10uF, 10V., TANT AXIAL	1
8	C17-19, C30-31	E-00586-0159	CAPACITOR, .1uF, 50V., CERAM AXIAL	5
9	C20	E-00586-0366	CAPACITOR, 100uF, 50V., LYTIC AXIAL	1
10	D1	E-00679-0027	LED, GREEN, RIGHT ANGLE MOUNT	1
11	D2	E-00679-0028	LED, RED, RIGHT ANGLE MOUNT	1
12	D3	E-00679-0026	LED, YELLOW, RIGHT ANGLE MOUNT	1
13	D4	E-00587-0014	DIODE, 1N4148, 75V., 200 mA	1
14	D5	E-00587-0040	DIODE, 1N4001, 50V., 1 AMP	1
15	JP1	E-00777-0003	HEADER, 3 PIN 0.1" CENTERS	1
16	JP1	E-00882	PROGRAMMING SHUNT	1
17	J1, J2	E-00989-0010	HEADER, MTA-100, 10 POSITIONS	2
18	J3	E-00976-0014	CONNECTOR, 14 POSITION, MTA-156	1
19	J4	E-00976-0006	CONNECTOR, 6 POSITION, MTA-156	1
20	L1	E-00604-0031	CHOKE, 100 uH, 1.2 AMP	1
21	Q1	E-00585-0071	TRANSISTOR, NPN, 2N4401	1
22	Q2	E-00585-0023	TRANSISTOR, PNP, 2N4403	1
23	RP1	E-00835-0068	RES NETWORK, 180 OHM, 14P DIP, ISOL.	1
24	RP2	E-00835-0077	RES NETWORK, 1.5K OHM, 14P DIP, ISOL.	1
25	RP3	E-00835-0021	RES NETWORK, 4.7K OHM, 10P SIP, COMM.	1
26	RP4	E-00835-0078	RES NETWORK, 3.3K OHM, 14P DIP, ISOL.	1
27	R1-4	RES-0F0Q5-0471	RES, CF, 1/4W, 5%, 470. OHM	4
28	R5	RES-0F0Q5-0153	RES, CF, 1/4W, 5%, 15.K OHM	1
29	R6	RES-0F0Q5-0474	RES, CF, 1/4W, 5%, 470.K OHM	1
30	R7	RES-0F0Q5-0222	RES, CF, 1/4W, 5%, 2.2K OHM	1
31	R8	RES-0F0H5-0101	RES, CF, 1/2W, 5%, 100. OHM	1
32	R9, R10	RES-0X025-0001	RES, MX, 2W, 5%, 0.1 OHM	2
33	R11	RES-0F0Q5-0472	RES, CF, 1/4W, 5%, 4.7K OHM	1
34	R12	RES-0F0Q5-0201	RES, CF, 1/4W, 5%, 200. OHM	1
35	R13	RES-0F0Q5-0106	RES, CF, 1/4W, 5%, 10.M OHM	1
36	R14-16	RES-0F0Q5-0751	RES, CF, 1/4W, 5%, 750. OHM	3
37	R17	RES-0F0Q5-0102	RES, CF, 1/4W, 5%, 1.0K OHM	1
38	R18	RES-0F0Q5-0103	RES, CF, 1/4W, 5%, 10.K OHM	1
39	R19	RES-0F0Q5-0473	RES, CF, 1/4W, 5%, 47.K OHM	1
40	SW1-2	E-00108-0366	SWITCH, SPST, SEALED, R/A MOUNT	2
41	U1	E-00712-0018	SOCKET, 1C, 18 PIN	1
42	U2, U4	E-00620-0502	IC, 74HC14 HEX SCHMITT TRIGGER	2
43	U3	E-00620-0406	IC, 74HC08 QUAD AND GATE	1
44	U5	E-00620-0282	IC, LM393 DUAL COMPARATOR	1
45	U6-8	E-00620-0664	IC, UC2950T, HALF-BRIDGE CONTROLLER	3
46	U9	E-00620-0622	IC, LM7805 VOLTAGE REGULATOR	1
47	Y1	E-00744	CRYSTAL, 4.00 MHz	1
48	U6-U9	E-00682-0034	HEATSINK, THERMALLOY 6079B	4
49	U6-U9	MSSP-00632-1806	SCREW, 6-32x3/8 PAN HEAD, BLK OXIDE	4
50	U6-U9	NLS-00632-1118	NUT, 6-32 KEPS, BLACK OXIDE	4

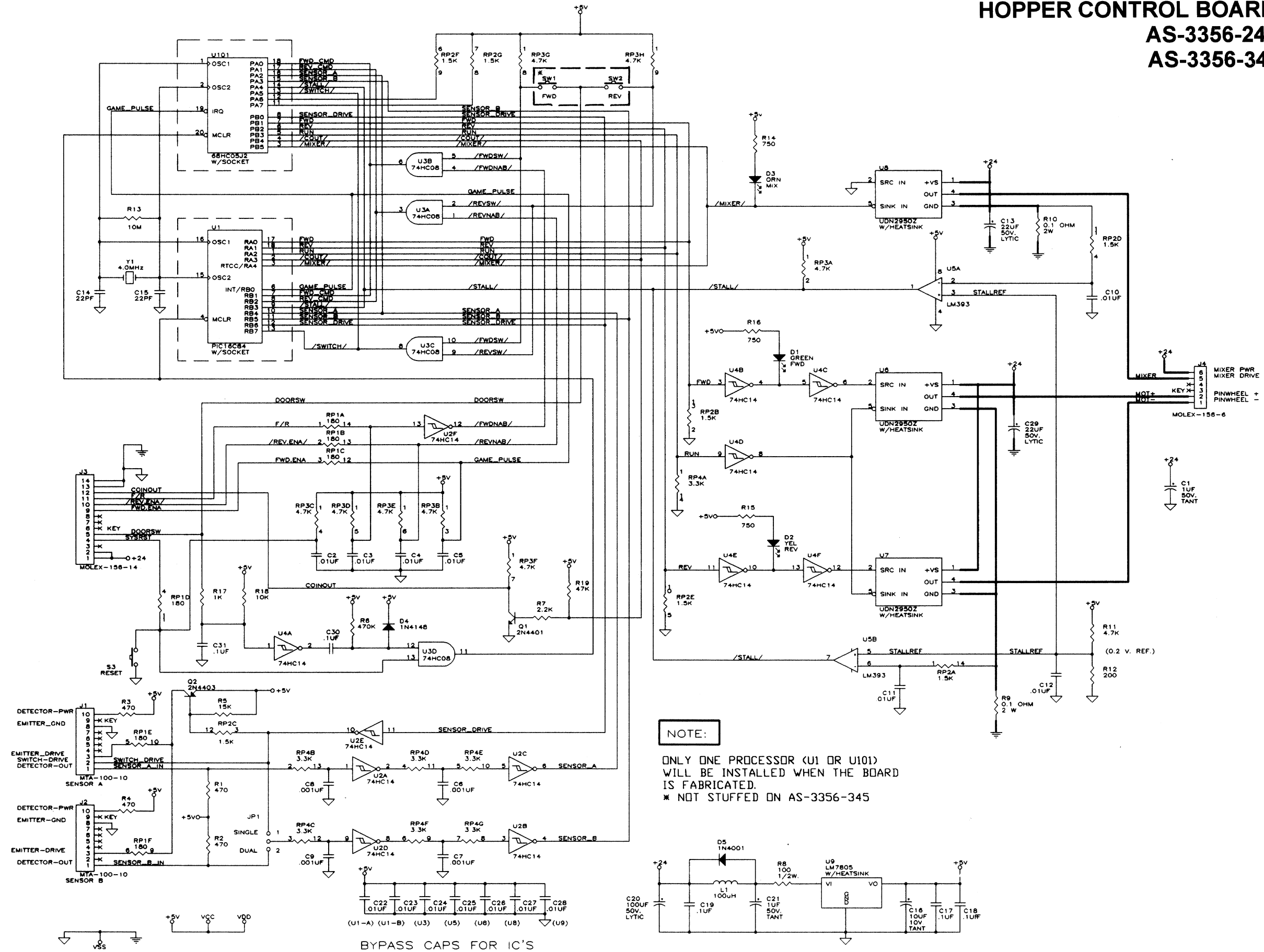
NOTE:

* NOT INSTALLED IN AS-3356-345



HOPPER CONTROL BOARD

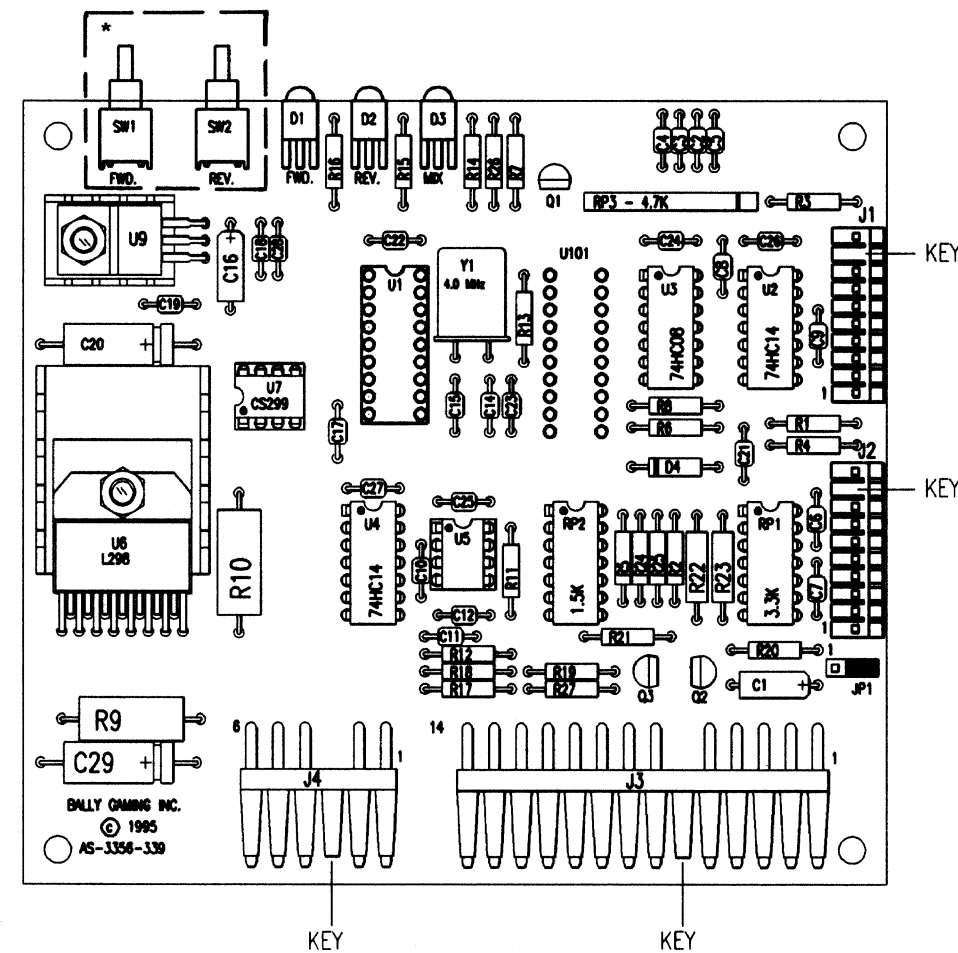
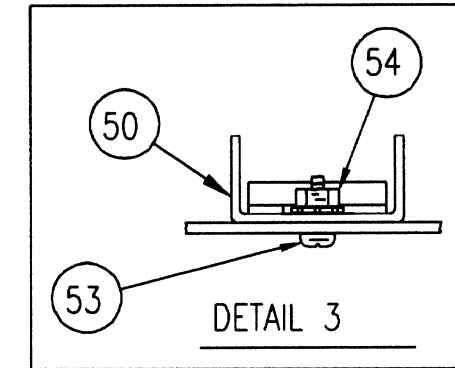
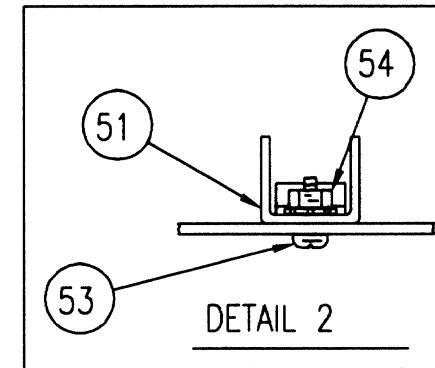
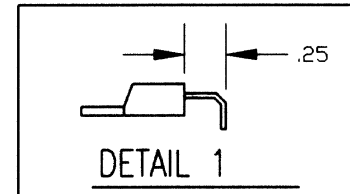
AS-3356-244
AS-3356-345



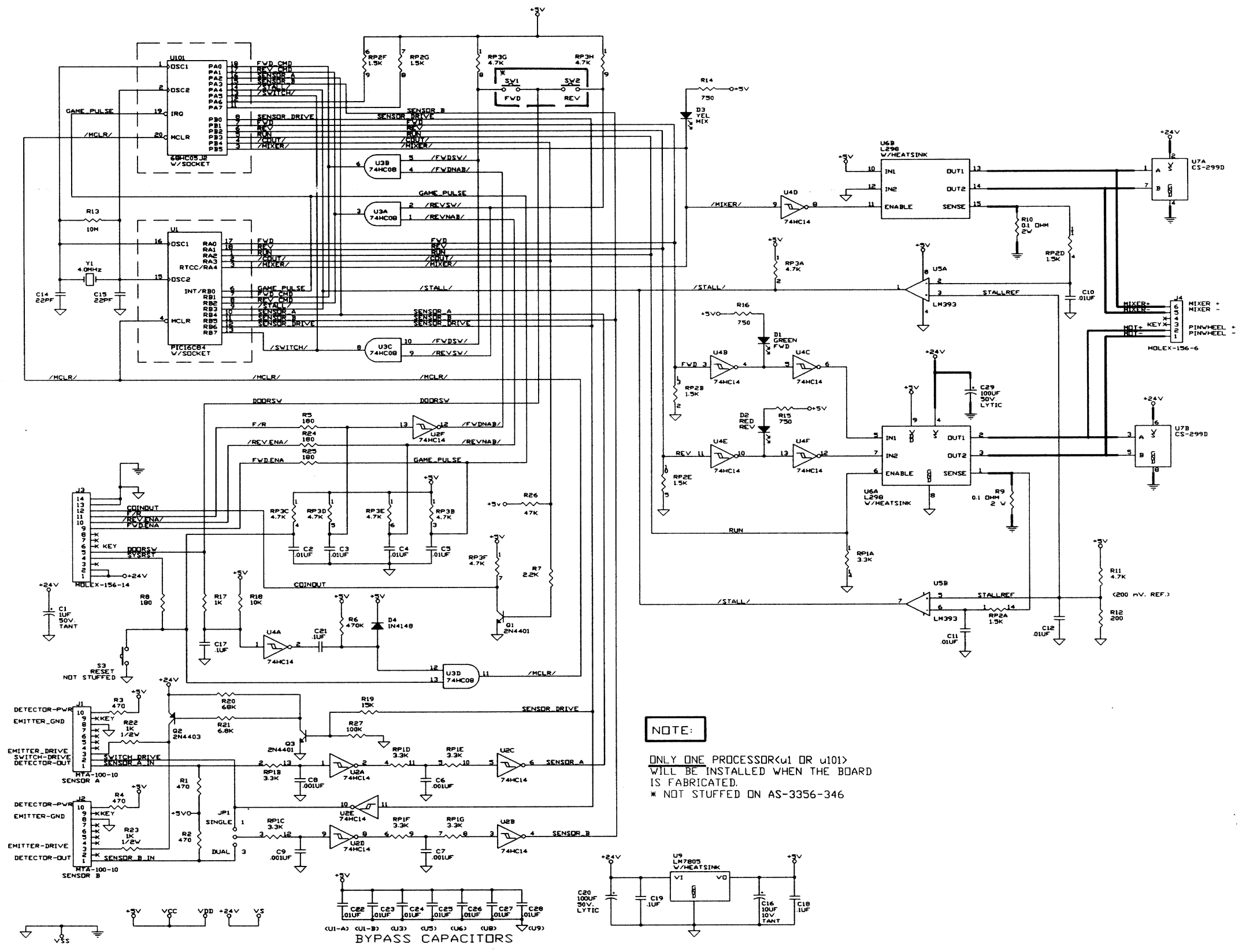
HOPPER CONTROL BOARD
AS-3356-339
AS-3356-346

ITEM	LOCATION	PART NUMBER	DESCRIPTION	QTY
1		P-09018-0339	PC BOARD, USING M-2045-339 REV. A	1
2	C1	E-00586-0364	CAPACITOR, 1uF, 50V., TANT AXIAL	1
3	C2-5,C10-12,C22-28	E-00586-0085	CAPACITOR, .01uF, 50V., CERAM AXIAL	14
4	C6 - C9	E-00586-0332	CAPACITOR, .001uF, 50V., CERAM AXIAL	4
5	C14, C15	E-00586-0154	CAPACITOR, 22pF, 50V., CERAM AXIAL	2
6	C16	E-00586-0363	CAPACITOR, 10uF, 10V., TANT AXIAL	1
7	C17-19,C21	E-00586-0159	CAPACITOR, .1uF, 50V., CERAM AXIAL	4
8	C20, C29	E-00586-0366	CAPACITOR, 100uF, 50V., LYTIC AXIAL	2
9	D1	E-00679-0027	LED, GREEN, RIGHT ANGLE MOUNT	1
10	D2	E-00679-0028	LED, RED, RIGHT ANGLE MOUNT	1
11	D3	E-00679-0026	LED, YELLOW, RIGHT ANGLE MOUNT	1
12	D4	E-00587-0014	DIODE, 1N4148, 75V., 200 mA	1
13	JP1	E-00777-0003	HEADER, 3 PIN 0.1" CENTERS	1
14	JP1	E-00882	PROGRAMMING SHUNT	1
15	J1, J2	E-00989-0010	HEADER, KK-100, 10 POSITIONS	2
16	J3	E-00976-0014	CONNECTOR, 14 POSITION, MTA-156	1
17	J4	E-00976-0006	CONNECTOR, 6 POSITION, MTA-156	1
18	Q1,Q3	E-00585-0071	TRANSISTOR, NPN, 2N4401	2
19	Q2	E-00585-0023	TRANSISTOR, PNP, 2N4403	1
20	RP1	E-00835-0078	RES NETWORK, 3.3K OHM, 14P DIP, ISOL.	1
21	RP2	E-00835-0077	RES NETWORK, 1.5K OHM, 14P DIP, ISOL.	1
22	RP3	E-00835-0021	RES NETWORK, 4.7K OHM, 10P SIP, COMM.	1
23	R1-4	RES-0F0Q5-0471	RES,CF,1/4W, 5%, 470. OHM	4
24	R5,R8,R24,R25	RES-0F0Q5-0181	RES,CF,1/4W, 5%, 180. OHM	4
25	R6	RES-0F0Q5-0474	RES,CF,1/4W, 5%,470.K OHM	1
26	R7	RES-0F0Q5-0222	RES,CF,1/4W, 5%, 2.2K OHM	1
27	R9,R10	RES-0X025-0001	RES, MX, 2W, 5%, 0.1 OHM	2
28	R11	RES-0F0Q5-0472	RES,CF,1/4W, 5%, 4.7K OHM	1
29	R12	RES-0F0Q5-0201	RES,CF,1/4W, 5%, 200. OHM	1
30	R13	RES-0F0Q5-0106	RES,CF,1/4W, 5%, 10.M OHM	1
31	R14-16	RES-0F0Q5-0751	RES,CF,1/4W, 5%, 750. OHM	3
32	R17	RES-0F0Q5-0102	RES,CF,1/4W, 5%, 1.0K OHM	1
33	R18	RES-0F0Q5-0103	RES,CF,1/4W, 5%, 10.K OHM	1
34	R19	RES-0F0Q5-0153	RES,CF,1/4W, 5%, 15.K OHM	1
35	R20	RES-0F0Q5-0683	RES,CF,1/4W, 5%, 68.K OHM	1
36	R21	RES-0F0Q5-0682	RES,CF,1/4W, 5%, 6.8K OHM	1
37	R22,R23	RES-0F0H5-0102	RES,CF,1/2W, 5%, 1.0K OHM	2
38	R26	RES-0F0Q5-0473	RES,CF,1/4W, 5%, 47.K OHM	1
39	R27	RES-0F0Q5-0104	RES,CF,1/4W, 5%,100.K OHM	1
40	SW1, SW2 *	E-00108-0366	SWITCH, SPST, SEALED, R/A MOUNT	2
41	SW3		NOT STUFFED	
42	U1	E-00712-0018	SOCKET, 1C, 18 PIN	1
43	U2, U4	E-00620-0502	IC, 74HC14 HEX SCHMITT TRIGGER	2
44	U3	E-00620-0406	IC, 74HC08 QUAD AND GATE	1
45	U5	E-00620-0282	IC, LM393 DUAL COMPARATOR	1
46	U6	E-00620-0675	IC, CS-298, DUAL H-BRIDGE CONTROLLER	1
47	U7	E-00620-0676	IC, CS-299D DUAL SCHOTTKY BRIDGE	1
48	U9	E-00620-0622	IC, LM7805 VOLTAGE REGULATOR	1
49	Y1	E-00744	CRYSTAL, 4.00 MHz	1
50	U6	E-00682-0037	HEATSINK, THERMALLOY 6106B-14	1
51	U9	E-00682-0034	HEATSINK, THERMALLOY 6079B	1
52	U6,U9	MSSP-00632-1806	SCREW, 6-32x3/8 PAN HEAD, BLK. OXIDE	2
53	U6,U9	NLS-00632-1118	NUT, 6-32 KEPS, BLACK OXIDE	2

NOTE:
 * NOT INSTALLED IN AS-3356-346

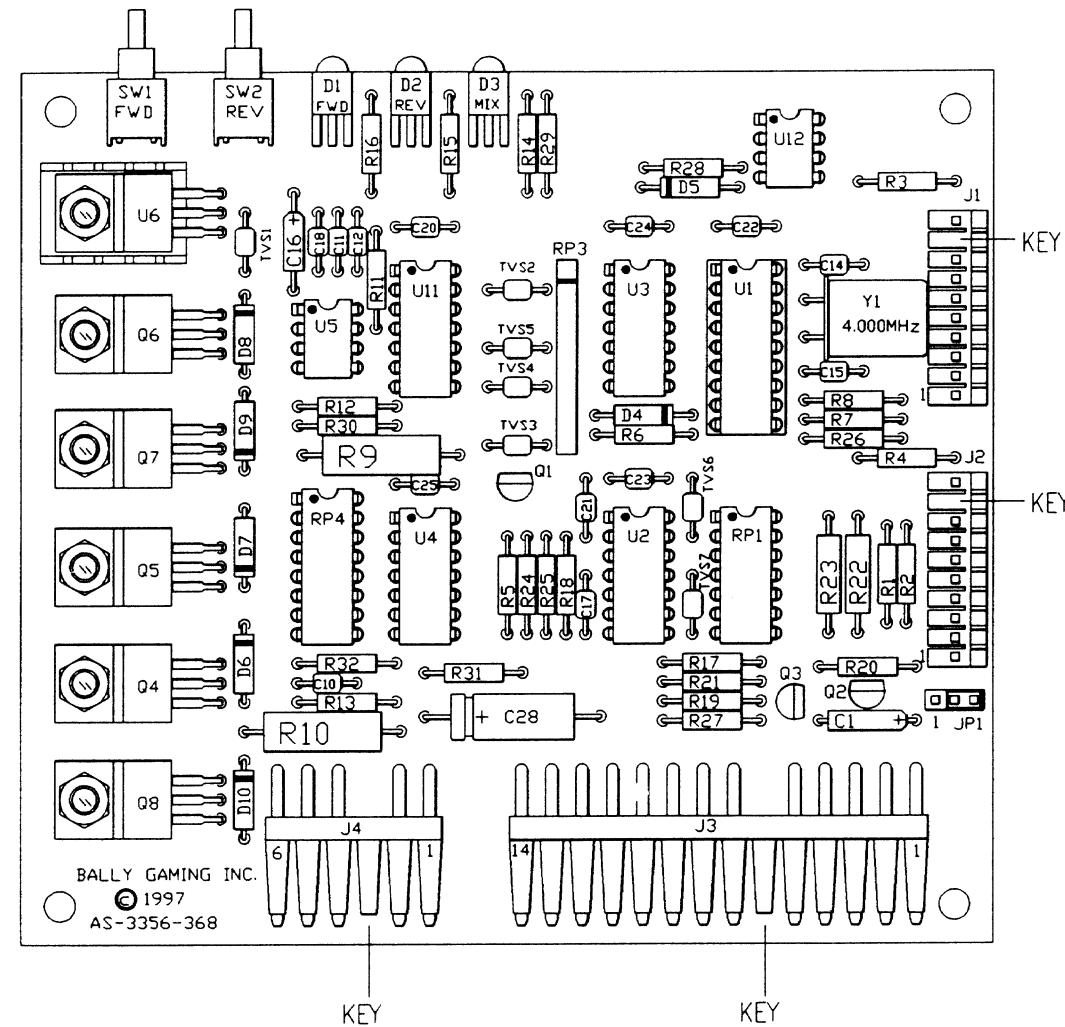
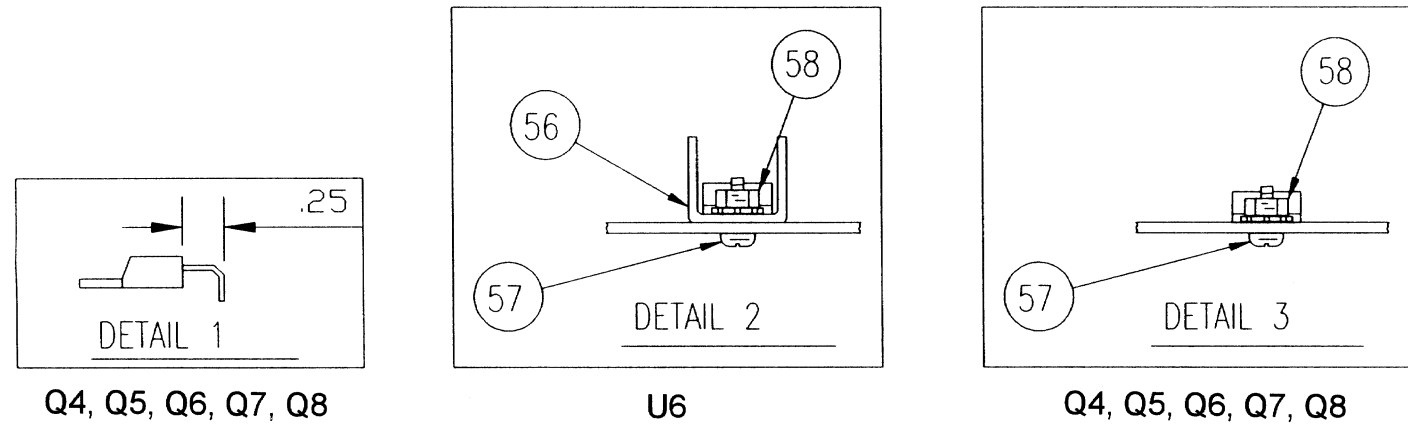


HOPPER CONTROL BOARD
AS-3356-339
AS-3356-346



Hopper Control Board AS-3356-368

ITEM	LOCATION	PART NUMBER	DESCRIPTION	QTY
1		P-09018-0368	PC BOARD, USING M-02045-0368 REV. A	1
2	C1	E-00586-0364	CAPACITOR, 1uF, 50V., TANT AXIAL	1
3	C10-12,C20,C22-25	CCP-A3+50-0103	CER/CAP,AXIAL**,X7R,+50,.010 MF	8
4	C6, C7		NOT STUFFED	
5	C14, C15	CCP-A1+50-0220	CER/CAP,AXIAL**,COG,+50,*22. PF	2
6	C16	E-00586-0363	CAPACITOR, 10uF, 10V., TANT AXIAL	1
7	C17	CCP-A3+50-0102	CER/CAP,AXIAL**,X7R,+50,.001 MF	1
8	C18,C21	CCP-A3+50-0104	CER/CAP,AXIAL**,X7R,+50,.100 MF	2
9	C28	E-00586-0366	CAPACITOR, 100uF, 50V., LYTIC AXIAL	1
10	D1	E-00679-0027	LED, GREEN, RIGHT ANGLE MOUNT	1
11	D2	E-00679-0028	LED, RED, RIGHT ANGLE MOUNT	1
12	D3	E-00679-0026	LED, YELLOW, RIGHT ANGLE MOUNT	1
13	D4,D5	E-00587-0014	DIODE, 1N4148, 75V., 200 mA	2
14	D6-10	E-00598-0028	DIODE, ZENER,12.0V,***,10%	5
15	JP1	E-00777-0003	HEADER, 3 PIN 0.1" CENTERS	1
16	JP1	E-00882	PROGRAMMING SHUNT	1
17	J1, J2	E-00989-0010	HEADER, KK-100, 10 POSITIONS	2
18	J3	E-00976-0014	CONNECTOR, 14 POSITION, MTA-156	1
19	J4	E-00976-0006	CONNECTOR, 6 POSITION, MTA-156	1
20	Q1,Q3	E-00585-0071	TRANSISTOR, NPN, 2N4401	2
21	Q2	E-00585-0023	TRANSISTOR, PNP, 2N4403	1
22	Q4,Q6	E-00585-0136	XSTR,IRF9530*,P-CH,12A,100V.**	2
23	Q5,Q7,Q8	E-00585-0135	XSTR,IRF530N*,N-CH,15A,100V.**	3
24	RP1	RPK-I14D2-0332	R ARRAY,ISOL,14PIN,DIP,*2%*,3.3K	1
25	RP3	RPK-C10S2-0472	R ARRAY,1COM,10PIN,SIP,*2%*,4.7K	1
26	RP4	RPK-I16D2-0472	R ARRAY,ISOL,16PIN,DIP,*2%*,4.7K	1
27	R1, R2	RES-0F0Q5-0102	RES,CF,1/4W, 5%, 1.0K OHM	2
28	R3,R4	RES-0F0Q5-0471	RES,CF,1/4W, 5%, 470. OHM	2
29	R5,R8,R24,R25	RES-0F0Q5-0181	RES,CF,1/4W, 5%, 180. OHM	4
30	R6	RES-0F0Q5-0474	RES,CF,1/4W, 5%,470.K OHM	1
31	R7	RES-0F0Q5-0222	RES,CF,1/4W, 5%, 2.2K OHM	1
32	R9,R10	RES-DX025-00D1	RES,MX, 2W, 5%, 0.1 OHM	2
33	R11, R31, R32	RES-0F0Q5-0472	RES,CF,1/4W, 5%, 4.7K OHM	3
34	R12	RES-0F0Q5-0201	RES,CF,1/4W, 5%, 200. OHM	1
35	R13, R30	RES-0F0Q5-0152	RES,CF,1/4W, 5%, 1.5K OHM	2
36	R14-16	RES-0F0Q5-0751	RES,CF,1/4W, 5%, 750. OHM	3
37	R17, R27	RES-0F0Q5-0104	RES,CF,1/4W, 5%,100.K OHM	2
38	R18	RES-0F0Q5-0105	RES,CF,1/4W, 5%, 1.0M OHM	1
39	R19	RES-0F0Q5-0153	RES,CF,1/4W, 5%, 15.K OHM	1
40	R20	RES-0F0Q5-0683	RES,CF,1/4W, 5%, 68.K OHM	1
41	R21	RES-0F0Q5-0682	RES,CF,1/4W, 5%, 6.8K OHM	1
42	R22, R23	RES-0FDH5-0102	RES,CF,1/2W, 5%, 1.0K OHM	2
43	R26,R28,R29	RES-0F0Q5-0103	RES,CF,1/4W, 5%, 10.K OHM	3
44	SW3		NOT STUFFED	
45	SW1, SW2	E-00108-0366	SWITCH, SPST, SEALED, R/A MOUNT	2
46	TVS1	E-00713-0017	TRANS GUARD,30V*,VA100030D650**	1
47	TVS2-7	E-00713-0016	TRANS GUARD,5.6V,VA100005D150**	6
48	U1	E-00712-0018	SOCKET, 1C, 18 PIN	1
49	U2	E-00620-0502	IC, 74HC14 HEX SCHMITT TRIGGER	1
50	U3,U11	E-00620-0406	IC, 74HC08 QUAD AND GATE	2
51	U4	E-00620-0245	IC, 7406,HEX INVERTER, OC	1
52	U5	E-00620-0282	IC, LM393 DUAL COMPARATOR	1
53	U6	E-00620-0622	IC, LM7805 VOLTAGE REGULATOR	1
54	U12	E-00620-0689	IC, LTC1232,MICROPROCESSOR SUPERVISOR	1
55	Y1	E-00744	CRYSTAL, 4.00 MHz	1
56	U6	E-00682-0034	HEATSINK, THERMALLOY 6079B	1
57	U6,Q4-8	MSSP-00632-1806	SCREW, 6-32x3/8 PAN HEAD, BLK. OXIDE	6
58	U6,Q4-8	NLS-00632-1118	NUT, 6-32 KEPS, BLACK OXIDE	6



HOPPER CONTROL BOARD AS-3356-368

