SPY HUNTER II U.R.

2 PLAYER

Bally

MIDWAY MFG. CO.

10601 W. Belmont Avenue
Franklin Park, Illinois 60131
U.S.A.

Phone: (312) 451-9200 Cable Address: MIDCO Telex No.: 72-1596

0B75-00300-0000

WARNING

THIS GAME MUST BE GROUNDED. FAILURE TO DO SO MAY RESULT IN DESTRUCTION TO ELECTRONIC COMPONENTS.

WARNING: This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a CLASS A computing device pursuant to SUBPART J of PART 15 of FCC RULES, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

ELECTRICAL BULLETIN: FOR ALL APPARATUS COVERED BY THE CANADIAN STANDARDS ASSOCIATION (CSA) STANDARD C22.2 NO. 1, WHICH EMPLOYS A SUPPLY CORD TERMINATED WITH A POLARIZED 2-PRONG ATTACHMENT PLUG.

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR. UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

Printed in U.S.A.

BALLY/MIDWAY'S SPY HUNTER II (2 PLYR)
U.R. #0B75
ROM/EPROM PART NUMBERS

UNPROGRAMMED 68000 VIDEO BOARD A084-91871-D000
PROGRAMMED 68000 VIDEO BOARD A084-91871-AB75

POS.	MIDWAY PART NUMBER
3C	B75A-12601-0000
3B	B75A-12602-0000
2C	B75A-12603-0000
2B	B75A-12604-0000
7J	B75A-12605-0000
8J	B75A-12606-0000
9J	B75A-12607-0000
10J	B75A-12608-0000
11D	B75A-12609-0000
12D	B75A-12610-0000

JUMPERS	IN	OUT
JW1		**
JW2		**
JW3	**	
JW4		**
JW5	**	
JW6		**
JW7	**	
JW8	**	
JW9	**	
JW10		**
JW11	**	
JW12		**

UNPROGRAMMED SOUNDS GOOD BOARD A084-91863-B000
PROGRAMMED SOUNDS GOOD BOARD A084-91863-AB75

POS.	MIDWAY PART NUMBER
U17	B75A-12611-0000
U7	B75A-12612-0000
U18	B75A-12613-0000
U8	B75A-12614-0000

JUMPERS	IN	OUT
JW1		**
JW2		**
JW3	**	

UNPROGRAMMED TURBO CHEAP SQUEAK A084-91779-B000
PROGRAMMED TURBO CHEAP SQUEAK A084-91779-AB75

POS.	MIDWAY PART NUMBER
U4	B75A-12615-0000
U5	B75A-12616-0000

JUMPERS	IN	OUT
JW1		**
JW2	**	
JW3		**
JW4	**	

M051-00B75-A008	REVISIONS
02-16-87	RELEASE FOR PRODUCTION

SECTION 3

COMPONENT LAYOUTS, SCHEMATICS & WIRING DIAGRAM

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COMPONENT LAYOUTS, SCHEMATICS & WIRING DIAGRAM

VIDEO INTERFACE AND OUTPUT

The red, green, and blue video inputs come into the monitor at P1. Isolation and attenuation is provided by emitter followers Q1, Q2 and Q3. Forced blanking of the video signals is provided by the circuit of Q4, D5, D6, and D7. The forced blanking causes there to be an interruption in the video signal before it goes to the inputs of IC1. This interruption occurs between scan periods, while retrace is taking place; it is required by IC1. The forced blanking is not necessary for most video signals since they already have an interruption of video (blanking) between scan periods. Some do not; it is to accommodate such signals that the forced blanking circuit is included.

The red, green, and blue signals go into IC1 at pins 2, 4, and 6. Their levels are controlled by the gain of separate channels of the contrast amplifier. The gain is controlled by a DC voltage input to pin 11, which varies with the setting of the contrast control.

IC1 provides blanking of the video during retrace in response to blanking pulses at pin 13, derived from the horizontal and vertical sweep circuits. IC1 also requires a gating signal at pin 12 in order to provide red, green, and blue outputs at pins 21, 19, and 17. If the gating signal is not present, IC1 will not provide video output signals. The gating signal comes from IC2, pin 12 and is derived from horizontal sync.

The brightness is varied by varying the DC level of the outputs at pins 17, 19, and 21. This is accomplished by varying the DC voltage input to pin 14.

The video outputs from IC1 are provided via R30, R31, and R32 to the neck board where they are amplified by the video output stages Q201, Q202, and Q203 before being applied to the cathodes of the CRT through R10, R11, and R12.

SYNC

Sync is applied at P1 (positive sync) or at P2 (negative sync). Composite sync should be applied only to the horizontal sync input of the appropriate polarity. Positive sync is inverted by Q5 and Q6 then applied through D3, D4 and R51 to the sync amplifier Q7.

The sync amplifier output is applied through C22, R53, and R55 to pin 14 of IC2. Pin 14 is the sync separation input.

The sync separator extracts the horizontal and vertical sync from each other–providing horizontal sync to the horizontal AFC circuit in the IC. A composite sync output is provided at pin 12. This output signal is used for gating IC1 the video interface IC and for triggering the vertical oscillator.

HORIZONTAL OSCILLATOR AND OUTPUT

The horizontal AFC circuit of IC2 receives a horizontal sync input from the sync separator and a feedback signal at pin 1, derived from the horizontal output. Slight differences in frequency and phase of the two signals will cause the AFC to generate a correction voltage at pin 2.

The horizontal oscillator in IC2 has its free running frequency determined by the RC time constant of C19, R56, R57, R58, and VR2, the horizontal hold control. The horizontal hold control varies the horizontal frequency by varying the RC time constant. Slight correction in frequency is provided by a correction voltage at IC2, pin 3 which comes from pin 2 through R60.

The oscillator output at pin 4 is amplified and shaped by the horizontal drive stage Q10. The drive signal is then coupled to the base circuit of the horizontal output transistor Q11 by the horizontal drive transformer T2. T2 is used for impedance transformation to provide the Q11 base circuit with the low impedance source that it requires.

The horizontal output transistor Q11 is operated as a switch. It is either on or off. It is turned on and off at the scan rate which is determined by the horizontal oscillator frequency which is ultimately determined by the incoming horizontal sync frequency. A yoke current with a sawtooth waveform is needed to deflect the beam linearly across the CRT. The beam begins at the center of the CRT and is deflected from center to right. This center-to-right deflection occurs when Q11 is turned on. The deflection yoke coupling capacitor C38, also known as the S-shaping capacitor, begins to discharge through the yoke; the discharge current causes the beam to be deflected to the right CRT edge. At this time, Q11 is turned off, and the current provided by C38 stops. As the current falls to zero, a voltage is induced across the yoke windings as the magnetic field collapses; an oscillation is produced by the yoke windings and C36, the retrace tuning capacitor. During the first half cycle of oscillation, the induced voltage is impressed on the collector of Q11, C36, and the primary of they flyback transformer T1. This induced voltage is stepped up by the flyback transformer's secondary winding. This high voltage is then rectified and applied to the high voltage anode of the CRT. When this induced voltage occurs, the electron beam is deflected from the right edge of the CRT face to the left edge. This is called retrace. During the second half cycle of the oscillation (of C36 and the yoke windings), the voltage at the Q11 collector tries to go negative or below ground. When this happens, the damper diode (include in same package with Q11) becomes forward biased. The conduction of the damper diode allows energy stored in the horizontal system to decay linearly to zero, thus allowing the beam to return to the center of the CRT face.

The focus voltage and the screen, G2, voltage are obtained from the anode voltage with a resistor divider network within the T1 assembly. An auxiliary winding (pin 10) provides feedback to the horizontal AFC through R71, R70, and C29. This signal is also used to furnish the horizontal blanking input to IC1 via C28, R69, and R68. The signal from the auxiliary winding at pin 5 of T1 is rectified by D14 and filtered to provide the +12VDC supply for the video interface and sync circuits. The auxiliary winding of pins 3 and 4 produces a signal which is rectified by D13 and filtered to produce the +24VDC supply for the vertical output circuit.

The horizontal linearity coil L2 is a magnetically biased coil which shapes the yoke current for optimum linearity. The horizontal size coil L1 is a variable series inductor which is used to vary the horizontal size of the display.

HIGH VOLTAGE HOLD-DOWN CIRCUIT

The high voltage hold down circuit is part of the main PC board P447 of this monitor. The +12V DC supply is sensed via D10. Since the +12V DC supply is flyback pulse derived, the +12V DC supply will rise as the high voltage rises. If the +12V DC exceeds a threshold which is set with VR8, then D12 will conduct, thereby providing drive to IC2, pin 5–holddown input of deflection oscillator IC. The drive being applied to pin 5 causes the horizontal oscillator within the IC to shut down–thus preventing the generation of high voltage.

The horizontal oscillator will remain in its OFF state, even if the input to IC2, pin 5 is removed, unless and until AC power is removed from the monitor input. The power may then be reapplied.

VERTICAL OSCILLATOR AND OUTPUT

The composite sync ouput of IC2, pin 12 is filtered through the network of R65, C25, C24 and R66 so that only vertical sync is applied to the vertical trigger input at pin 11. The vertical oscillator frequency is controlled by the vertical hold control and its input to pin 10.

The vertical drive output at IC2, pin 7 is applied to pin 4 of IC3, the vertical output IC. Output current from IC3, pin 2 flows through the yoke to cause vertical deflection. During upward deflection, current flows out of pin 2, through the yoke, and into C50 to charge it. Downward deflection is caused by C50 discharging through the yoke in the opposite direction and back into IC3, pin 2. AC feedback is provided through the wiper of the vertical size control VR4 to IC2, pin 8 in order to control the drive amplitude. DC feedback at IC2, pin 9 maintains good vertical linearity at all sizes.

DC current from the +24V supply flows through R83 and through the yoke to provide downward raster shift. Some of this DC current is diverted from the yoke through the collector of Q9. The amount of this current which is diverted from the yoke can be varied by varying the base drive to Q9 by adjusting VR3, the vertical position control, thus providing manual adjustment of the vertical position of the display.

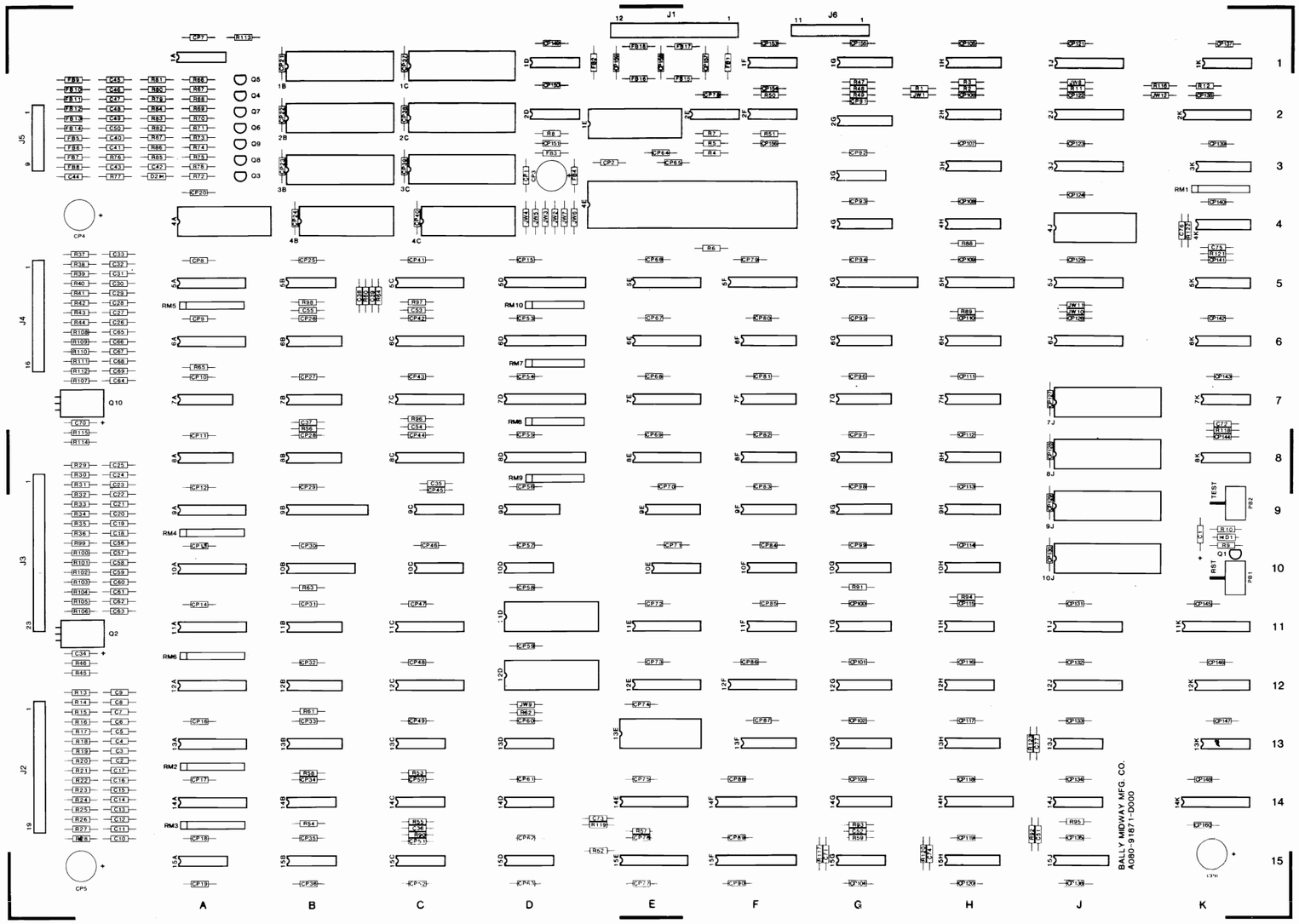
The drive signal at IC3, pin 2 is also used to furnish the vertical blanking input to IC1, pin 13 via R63 and C14.

AUTOMATIC DEGAUSSING ADG

The ADG circuit automatically demagnetizes the CRT. This circuit is activated only when the monitor is initially powered up after having been off for at least 20 minutes.

R105 is a positive temperature coefficient device. When it is cold, it has a very low resistance. As it gets warm, its resistance increases. If the monitor is cold when AC power is applied, then R105 with a low resistance allows current to pass through it, D23, D24, and the degaussing coil. As current flows through R105, it heats up and eventually has a very high resistance, allowing very little current to flow through it. The residual current now flowing through R105 produces a voltage drop across R104 of less than 0.6 volts. This is not enough to forward bias D23 and D24, so there is no current through the degaussing coil.

The process of initially having a large current through the degaussing coil and then having the current decay to zero is what produces the degaussing action. The degaussing current decays to zero before the CRT warms up, so the degaussing is completed before the picture comes on.



D	UPDATED	2/10/87	

REVISIONS

PROJECT ENG: R. PLOUSSARD		USED ON	Bally / MIDWAY MFG. CO. FRANKLIN PK. ILL.
DO NOT SCALE DWG.	HEAT TREAT	SCALE FULL	NO. REQ'D
DIM. TOLERANCES UNLESS SPECIFIED: CONCENTRICITY T.I.R .003, FRACTIONAL ±1/64, DECIMAL ±.005, HOLE DIA +.002 -.000	DRWN. DBS 2/10/87	MAT'L.	ASSEMBLY DRAWING 68000 VIDEO GAME BD. (A084-91871-D000)
	CHD.	FINISH	PART NO. M051-00114-D164
	DATE / /		

68000 VIDEO GAME BOARD
A000-91871-D000
M051-00114-D165

CROSS REFERENCE LIST:

DESCRIPTION	QTY	DESIGNATION	PART NUMBER
10 pF AX CR	3	C71 C55 C72	0360-00000-0038
18pF AX CR	4	C37 C38 C73 C75	0365-00000-0026
33pF AX CR	2	C51 C74	0986-00000-0300
47pF AX CR	6	C45-C50	0986-00000-2800
68pF AX CR	5	C39 C53 C54 C76 C77	0360-00000-0028
100pF AX CR	32	C2-C33	0360-00000-0046
390pF AX CR	4	CP1 CP2 C35 C42	0986-00000-3000
820pF AX CR	18	C40 C41 C43 C44 C56-C69	0945-00816-0400
.01uF AX CR	155	C36 C52 CP[7-151,153-160]	0986-00000-2000
10uF AX TANT	3	C1 C34 C70	0986-00000-0700
470uF RD ELEC	4	CP3-CP6	0B75-00003-0001
10 OHM 1/4W 5% RES	6	R79 R80 R82 R83 R85 R86	100E-00005-0011
22 OHM 1/4W 5% RES	1	R57	100E-00005-0016
47 OHM 1/4W 5% RES	4	R47 R48 R49 R52	100E-00005-0025
68 OHM 1/4W 5% RES	3	R50 R53 R90	100E-00005-0029
82 OHM 1/4W 5% RES	6	R60 R96 R97 R120 R121 R123	100E-00005-0031
100 OHM 1/4W 5% RES	15	R92 R99-R112	100E-00005-0033
200 OHM 1/4W 5% RES	7	R56 R64 R98 R117-R119 R122	100E-00005-0040
470 OHM 1/4W 5% RES	3	R81 R84 R87	100E-00005-0051
510 OHM 1/4W 5% RES	3	R68 R71 R75	100E-00005-0053
560 OHM 1/4W 5% RES	3	R76 R77 R78	100E-00005-0054
680 OHM 1/4W 5% RES	1	R58	100E-00005-0056
1K OHM 1/4W 5% RES	10	R1 R3-R6 R12 R67 R70 R72 R74	100E-00005-0061
2K OHM 1/4W 5% RES	3	R66 R69 R73	100E-00005-0068
2.7K OHM 1/4W 5% RES	4	R45 R46 R114 R115	100E-00005-0071
4.7K OHM 1/4W 5% RES	19	R2 R8 R11 R51 R54 R55 R59 R61 R62 R63 R65 R88 R89 R91 R93 R94 R95 R113 R116	100E-00005-0079
10K OHM 1/4W 5% RES	34	R9 R10 R13-R44	100E-00005-0088
20K OHM 1/4W 5% RES	1	R7	100E-00005-0094
1K 9 PIN SIP	4	RM7 RM8 RM9 RM10	102E-00004-0011
4.7K 9 PIN SIP	1	RM1	102E-00004-0024
4.7K 10 PIN SIP	1	RM6	102E-00004-0026
100K 10 PIN SIP	4	RM2 RM3 RM4 RM5	102E-00004-0045
1N4148 DIODE	2	D1 D2	103E-00002-0005
2N4123 NPN XSTR	2	Q1 Q3	104E-00001-0007
MPSA70 PNP XSTR	6	Q4 Q5 Q6 Q7 Q8 Q9	104E-00002-0012
TIP110 NPN XSTR	2	Q2 Q10	104E-00009-0001
COSC 16MHz	1	1D	109E-00002-0001
COSC 20MHz	1	1F	0304-00004-0007
7406	1	1A	0986-00003-7600
74ALS20	1	12H	0A59-00003-0015
74F00	2	11F 8K	0A59-00003-0001
74F04	1	3G	0A59-00003-0034
74F08	1	10D	0A59-00003-0030
74F32	1	1K	0304-00003-0059
74F74	2	2F 11H	0A59-00003-0003
74F86	2	13C 13K	0A59-00003-0031
74F157	4	14G 13F 13G 5K	0A59-00003-0004
74F174	1	12K	0A59-00003-0005
74HCT244	4	14A 9A 5A 13A	0B75-00003-0001
74S04	2	15B 15C	0986-00003-6600
74S74	1	2D	0A15-00003-0023
74LS00	1	5B	0304-00003-0010
74LS02	1	9C	0986-00003-7400
74LS05	1	2E	0A15-00003-0011
74LS08	1	15D	0986-00003-7300
74LS20	3	13D 10E 15A	0986-00003-1004
74LS32	2	14D 13J	0986-00003-6100
74LS74	5	15G 14J 10F 14B 14C	0986-00003-1005
74LS86	2	10C 7K	0986-00003-9900
74LS148	1	3K	0A15-00003-0067
74LS153	2	11B 12B	0A59-00003-0006
74LS157	6	8A 7A 4K 4H 3H 2H	0304-00003-0021
74LS161	2	1H 2G	0986-00003-1003
74LS163	3	4G 6G 6H	0A59-00003-0008
74LS169	4	9F 8F 6F 7F	0304-00003-0023
74LS173	1	6K	0A59-00003-0009
74LS174	4	13B 8B 15H 13H	0304-00003-0024
74LS175	1	15J	0304-00003-0025
74LS194	8	8G 9H 7H 10G 9G 7G 8H 10H	0304-00003-0026
74LS244	2	5H 11A	0986-00003-4800
74LS245	2	12F 3J	0986-00003-6400
74LS258	2	9E 9D	0304-00003-0028
74LS273	6	10B 12C 11C 11K 10A 6A	0986-00003-4700
74LS283	2	11G 12G	0304-00003-0030
74LS298	2	7B 6B	0A59-00003-0010
74LS368	1	1G	0A59-00003-0011
74LS374	8	5E 6E 7E 8E 6C 7C 8C 5C	0986-00003-4600

CROSS REFERENCE LIST:

DESCRIPTION	QTY	DESIGNATION	PART NUMBER
74LS377	5	12E 11E 5J 6J 5F	0A59-00003-0012
PACOUT REV 1 PLA	1	11J	A59A-26AXL-AXHD
PACNS REV 1 PLA	1	12J	A59A-26AXL-BXHD
ROMCTRL REV 1 PLA	1	14H	A59A-26AXL-CXHD
MMC02B HAL	1	14F	0986-00003-9000
MMC01A HAL	1	15F	0986-00003-8900
MMC06 HAL	1	14E	0986-00003-9200
MMC03B HAL	1	15E	0986-00003-9100
COLAR8 PAL20L8	1	9B	0E61-00003-0001
IODCD PAL16L8	1	1J	0B75-00003-0003
MEMDCD PAL16L8	1	2J	0B75-00003-0004
DTACK PAL16R4	1	2K	0B75-00003-0005
HSYNC PAL16R4	1	14K	0B75-00003-0006
93419 64x9 RAM	1	4A	0986-00003-9600
2018 2Kx8 RAM 45nS	4	8D 7D 5D 6D	0A59-00003-0028
2018 2Kx8 RAM 55nS	1	5G	0A59-00003-0029
2064 8Kx8 RAM 150nS	2	4B 4C	0A15-00003-0079
6116 2Kx8 RAM 150nS	1	4J	0A59-00003-0027
6116 2Kx8 RAM 120nS	1	13E	0A59-00003-0014
MC68000	1	4E	0304-00003-0051
MC6840	1	1E	0A15-00003-0068
ROM/EPROMS	12	1B-3B 1C-3C 7J-10J 11D 12D	SEE ROM/EPROM CHART
16 PIN IC SOCKET(.3)	1	1G	110E-00001-0003
20 PIN IC SOCKET(.3)	9	1J 2J 2K 14K 14E 15E 11J 12J 14H	110E-00001-0005
24 PIN IC SOCKET(.3)	8	14F 15F 5G 5D 6D 7D 8D 9B	110E-00001-0009
24 PIN IC SOCKET(.6)	2	13E 4J	110E-00001-0007
28 PIN IC SOCKET(.6)	12	1B-4B 1C-4C 7J-10J 11D 12D 1E 4A	110E-00001-0010
32 PIN IC SOCKET(.6)	4	7J-10J	110E-00001-0024
64 PIN IC SOCKET(.9)	1	4E	110E-00001-0016
AUTO INSERT PIN .025	73	J2 J3 J4 J5 J6	0304-00004-0009
AUTO INSERT PIN .045	11	J1	0304-00004-0010
FERRITE BEADS	18	FB1-FB18	0316-00004-0002
JUMPERS	12	JW1-JW12	117E-00001-0003
SWITCH PC MTG.	2	PB1 PB2	0986-00004-3101
DIP SWITCH 10 POS	1	12A	113E-00001-000
SNAP	2	Q2 Q10	0017-00007-013
PC BOARD	1		A000-91871-C00

RELEASED 10 FEB 1987 RAP

DESIGNATION LIST:

DESIGNATION	DESCRIPTION
CP1-2	390pF AX CER
CP[3-6]	470uF RD ELEC
CP[7-151]	.01uF AX CER
CP[153-160]	.01uF AX CER
C1	10uF AX TANT
C2-C33	100pF AX CER
C34	10uF AX TANT
C35	390pF AX CER
C36	.01uF AX CER
C37-C38	18pF AX CER
C39	68pF AX CER
C40-C41	820pF AX CER
C42	390pF AX CER
C43-C44	820pF AX CER
C45-C50	47pF AX CER
C51	33pF AX CER
C52	.01uF AX CER
C53-C54	68pF AX CER
C55	10pF AX CER
C56-C69	820pF AX CER
C70	10uF AX TANT
C71-C72	10pF AX CER
C73	18pF AX CER
C74	33pF AX CER
C75	18pF AX CER
C76-C77	68pF AX CER
R1	1K OHM 1/4W 5% RES
R2	4.7K OHM 1/4W 5% RES
R3-R6	1K OHM 1/4W 5% RES
R7	20K OHM 1/4W 5% RES
R8	4.7K OHM 1/4W 5% RES
R9-R10	10K OHM 1/4W 5% RES
R11	4.7K OHM 1/4W 5% RES
R12	1K OHM 1/4W 5% RES
R13-R44	10K OHM 1/4W 5% RES
R45-R46	2.7K OHM 1/4W 5% RES
R47-R49	47 OHM 1/4W 5% RES
R50	68 OHM 1/4W 5% RES
R51	4.7K OHM 1/4W 5% RES
R52	47 OHM 1/4W 5% RES
R53	68 OHM 1/4W 5% RES
R54-R55	4.7K OHM 1/4W 5% RES
R56	200 OHM 1/4W 5% RES
R57	22 OHM 1/4W 5% RES
R58	680 OHM 1/4W 5% RES
R59	4.7K OHM 1/4W 5% RES
R60	82 OHM 1/4W 5% RES
R61-R63	4.7K OHM 1/4W 5% RES
R64	200 OHM 1/4W 5% RES
R65	4.7K OHM 1/4W 5% RES
R66	2K OHM 1/4W 5% RES
R67	1K OHM 1/4W 5% RES
R68	510 OHM 1/4W 5% RES
R69	2K OHM 1/4W 5% RES
R70	1K OHM 1/4W 5% RES
R71	510 OHM 1/4W 5% RES
R72	1K OHM 1/4W 5% RES
R73	2K OHM 1/4W 5% RES
R74	1K OHM 1/4W 5% RES
R75	510 OHM 1/4W 5% RES
R76-R78	560 OHM 1/4W 5% RES
R79,R80	10 OHM 1/4W 5% RES
R81	470 OHM 1/4W 5% RES
R82,R83	10 OHM 1/4W 5% RES
R84	470 OHM 1/4W 5% RES
R85,R86	10 OHM 1/4W 5% RES
R87	470 OHM 1/4W 5% RES
R88-R89	4.7K OHM 1/4W 5% RES
R90	68 OHM 1/4W 5% RES
R91	4.7K OHM 1/4W 5% RES
R92	100 OHM 1/4W 5% RES
R93-R95	4.7K OHM 1/4W 5% RES
R96-R97	82 OHM 1/4W 5% RES
R98	200 OHM 1/4W 5% RES
R99-R112	100 OHM 1/4W 5% RES
R113	4.7K OHM 1/4W 5% RES
R114-R115	2.7K OHM 1/4W 5% RES
R116	4.7K OHM 1/4W 5% RES
R117-R119	200 OHM 1/4W 5% RES
R120-R121	82 OHM 1/4W 5% RES
R122	200 OHM 1/4W 5% RES
R123	82 OHM 1/4W 5% RES
RM1	4.7K 9 PIN SIP
RM2-RM5	100K 10 PIN SIP
RM6	4.7K 10 PIN SIP
RM7-RM10	1K 9 PIN SIP
D1-D2	1N4148 DIODE
Q1	2N4123
Q2	TIP110
Q3	2N4123
Q4-Q9	A70
Q10	TIP110
IC 1A	7406
IC 1B	PROGRAM ROM/EPROM
IC 1C	PROGRAM ROM/EPROM
IC 1D	16MHz OSC
IC 1E	MC6840
IC 1F	20MHz OSC
IC 1G	74LS368
IC 1H	74LS161
IC 1J	PAL10L8 IODCD1
IC 1K	74F32
IC 2B	PROGRAM ROM/EPROM
IC 2C	PROGRAM ROM/EPROM
IC 2D	74S74
IC 2E	74LS05
IC 2F	74F74
IC 2G	74LS161
IC 2H	74LS157
IC 2J	PAL16L8 MEMDCD1
IC 2K	PAL16R4 DTACK1
IC 3B	PROGRAM ROM/EPROM
IC 3C	PROGRAM ROM/EPROM
IC 3G	74F04
IC 3H	74LS157
IC 3J	74LS245
IC 3K	74LS148
IC 4A	93419
IC 4B	2064 8Kx8 RAM
IC 4C	2064 8Kx8 RAM
IC 4E	MC68000
IC 4G	74LS163
IC 4H	74LS157
IC 4J	6116 2Kx8 RAM
IC 4K	74LS157
IC 5A	74HCT244
IC 5B	74LS00
IC 5C	74LS374
IC 5D	2018 2Kx8 RAM
IC 5E	74LS374
IC 5F	74LS377
IC 5G	2018 2Kx8 RAM
IC 5H	74LS244
IC 5J	74LS377
IC 5K	74F157
IC 6A	74LS273
IC 6B	74LS298
IC 6C	74LS374
IC 6D	2018 2Kx8 RAM
IC 6E	74LS374
IC 6F	74LS169
IC 6G	74LS163
IC 6H	74LS163
IC 6J	74LS377
IC 6K	74LS173
IC 7A	74LS157
IC 7B	74LS298
IC 7C	74LS374
IC 7D	2018 2Kx8 RAM
IC 7E	74LS374
IC 7F	74LS169
IC 7G	74LS194
IC 7H	74LS194
IC 7J	FG0 ROM/EPROM
IC 7K	74LS86
IC 8A	74LS157
IC 8B	74LS174
IC 8C	74LS374

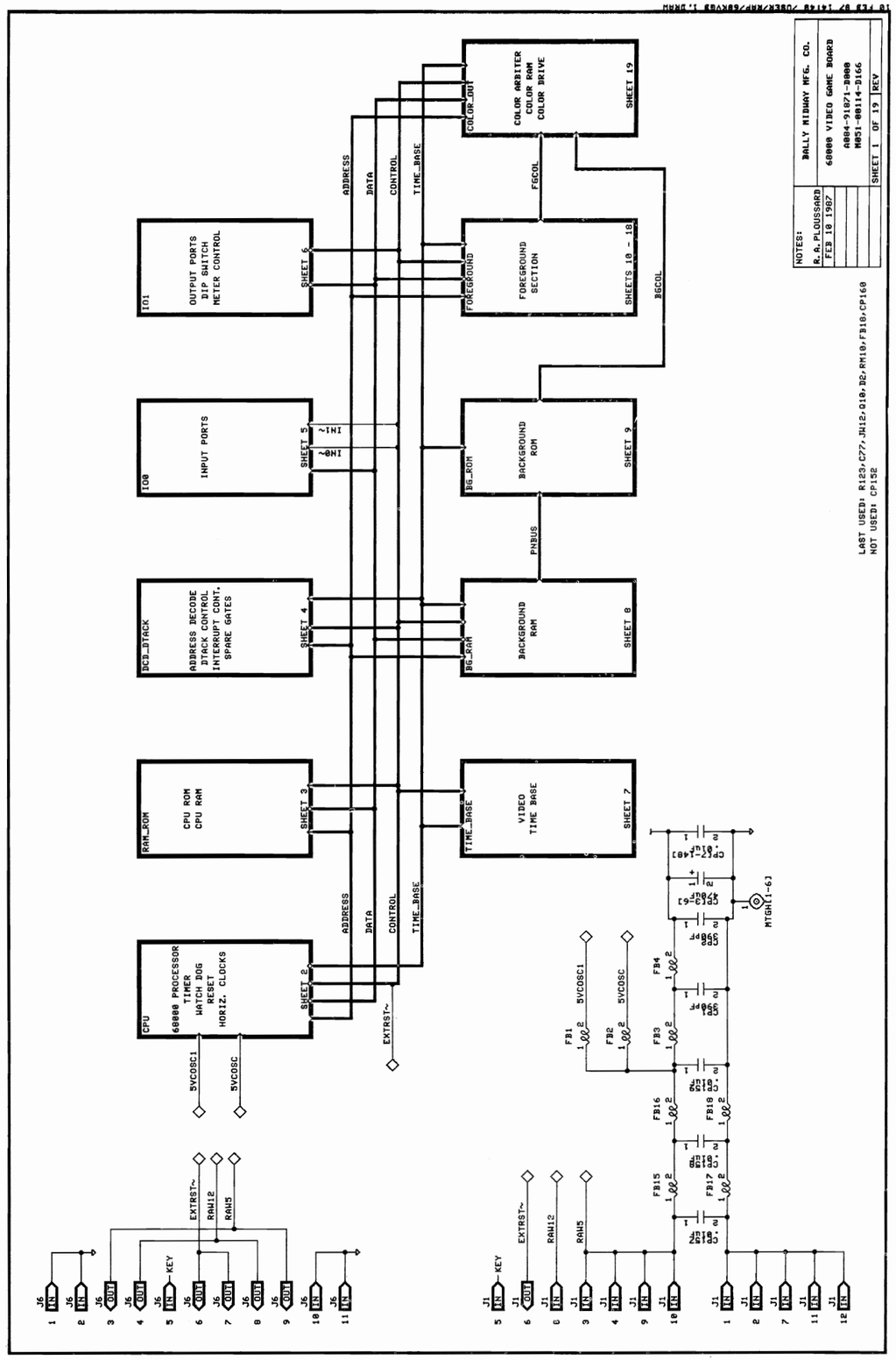
68000 VIDEO GAME BOARD
A000-91871-D000
M051-00114-D165

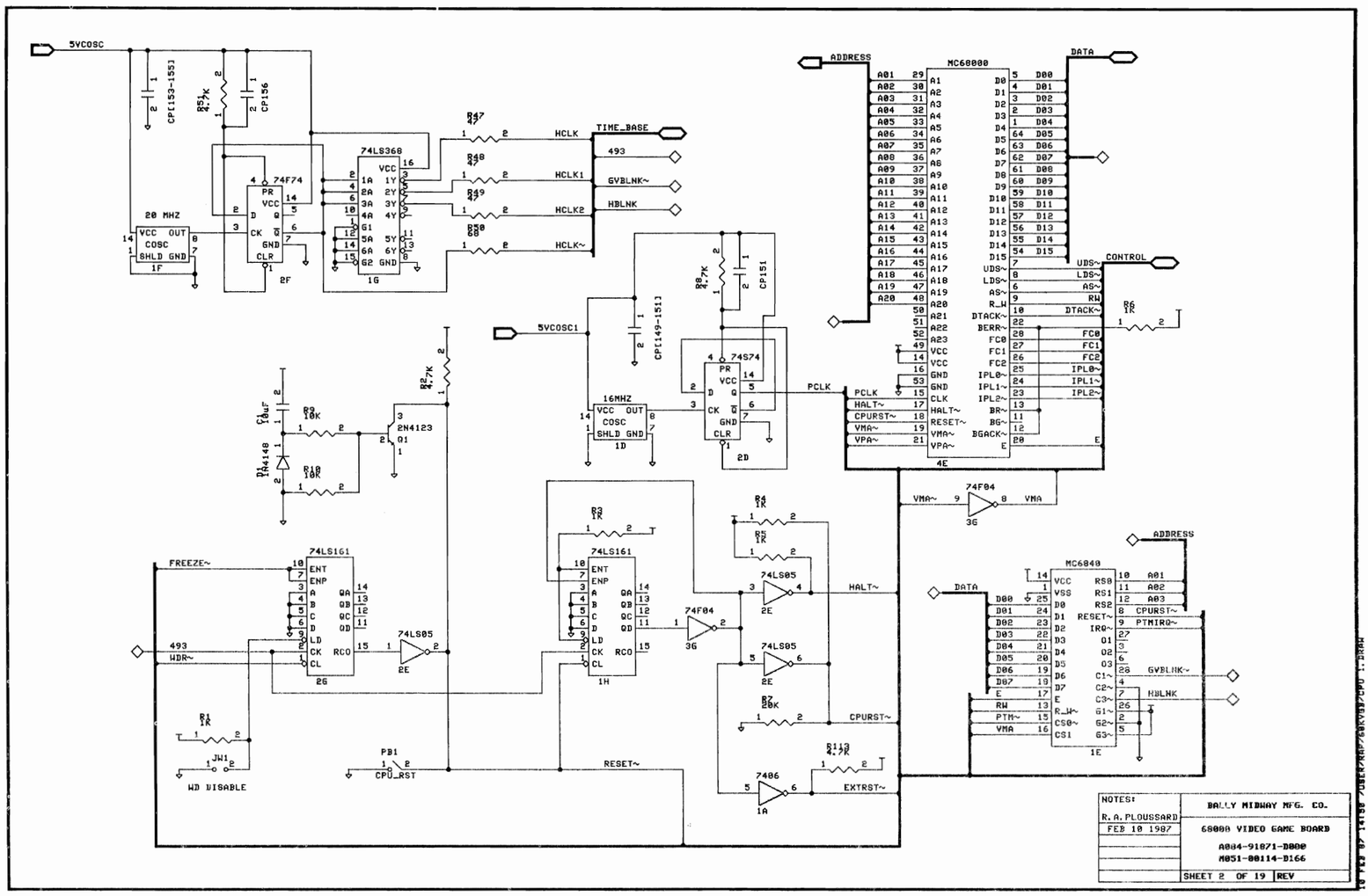
DESIGNATION LIST:

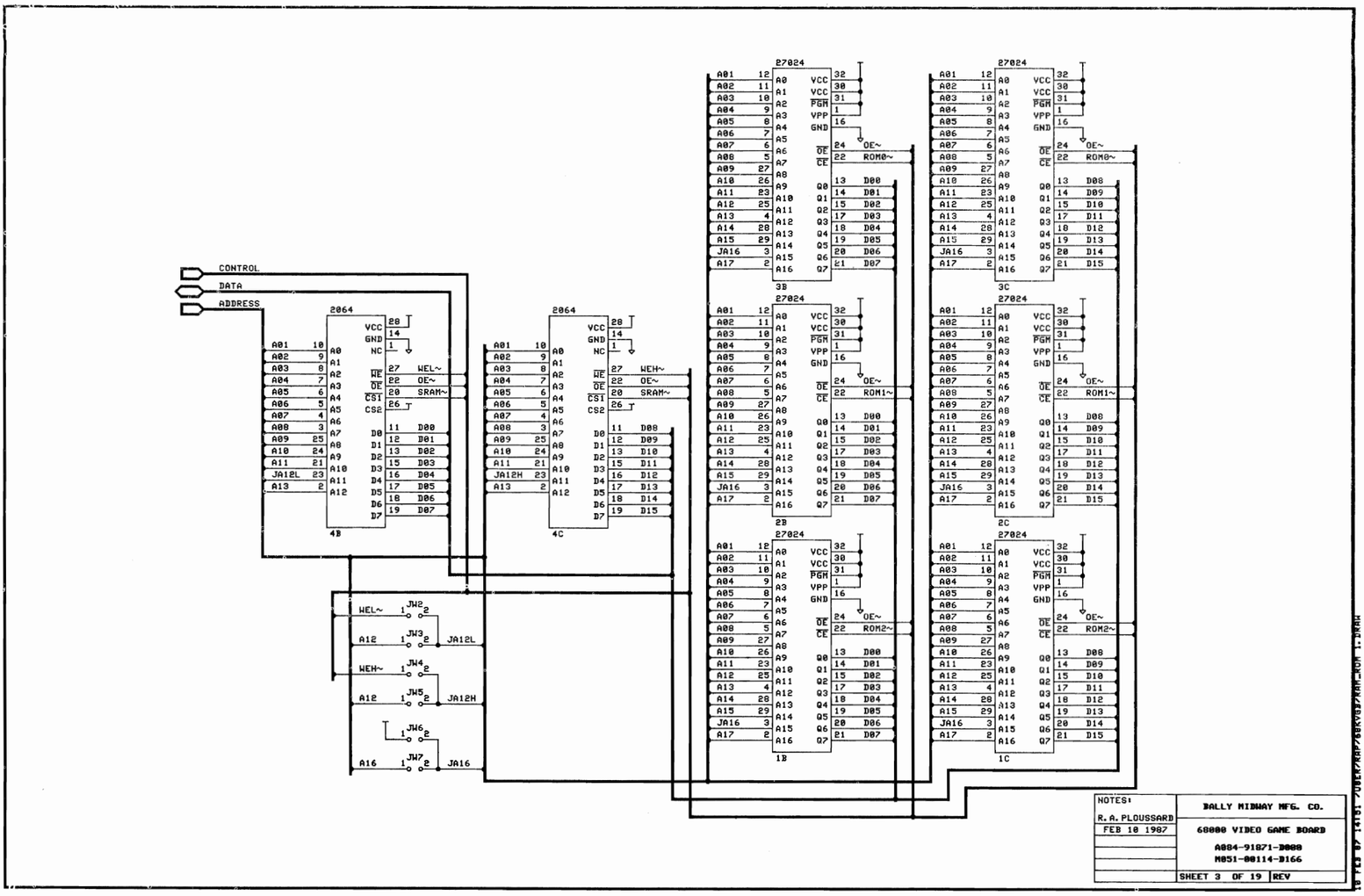
DESIGNATION	DESCRIPTION
IC 8D	2018 2Kx8 RAM
IC 8E	74LS374
IC 8F	74LS169
IC 8G	74LS194
IC 8H	74LS194
IC 8J	FG1 ROM/EPROM
IC 8K	74F00
IC 9A	74HCT244
IC 9B	PAL20L8A COLARB1
IC 9C	74LS02
IC 9D	74LS258
IC 9E	74LS258
IC 9F	74LS169
IC 9G	74LS194
IC 9H	74LS194
IC 9J	FG2 ROM/EPROM
IC 10A	74LS273
IC 10B	74LS273
IC 10C	74LS86
IC 10D	74F08
IC 10E	74LS20
IC 10F	74LS74
IC 10G	74LS194
IC 10H	74LS194
IC 10J	FG3 ROM/EPROM
IC 11A	74LS244
IC 11B	74LS153
IC 11C	74LS273
IC 11D	BG0 ROM/EPROM
IC 11E	74LS377
IC 11F	74F00
IC 11G	74LS283
IC 11H	74F74
IC 11J	82S153
IC 11K	74LS273
IC 12A	10 POS DIP SWITCH
IC 12B	74LS153
IC 12C	74LS273
IC 12D	BG1 ROM/EPROM
IC 12E	74LS377
IC 12F	74LS245
IC 12G	74LS283
IC 12H	74ALS20
IC 12J	82S153 PACNS PLA
IC 12K	74F174
IC 13A	74HCT244
IC 13B	74LS174
IC 13C	74F86
IC 13D	74LS20
IC 13E	6116 2Kx8 RAM
IC 13F	74F157
IC 13G	74F157
IC 13H	74LS174
IC 13J	74LS32
IC 13K	74F86
IC 14A	74HCT244
IC 14B	74LS74
IC 14C	74LS74
IC 14D	74LS32
IC 14E	MMC06 HAL
IC 14F	MMC02B HAL
IC 14G	74F157
IC 14H	82S153
IC 14J	74LS74
IC 14K	PAL16R4A HSYNC1
IC 15A	74LS20
IC 15B	74S04
IC 15C	74S04
IC 15D	74LS08
IC 15E	MMC03B HAL
IC 15F	MMC01A HAL
IC 15G	74LS74
IC 15H	74LS174
IC 15J	74LS175

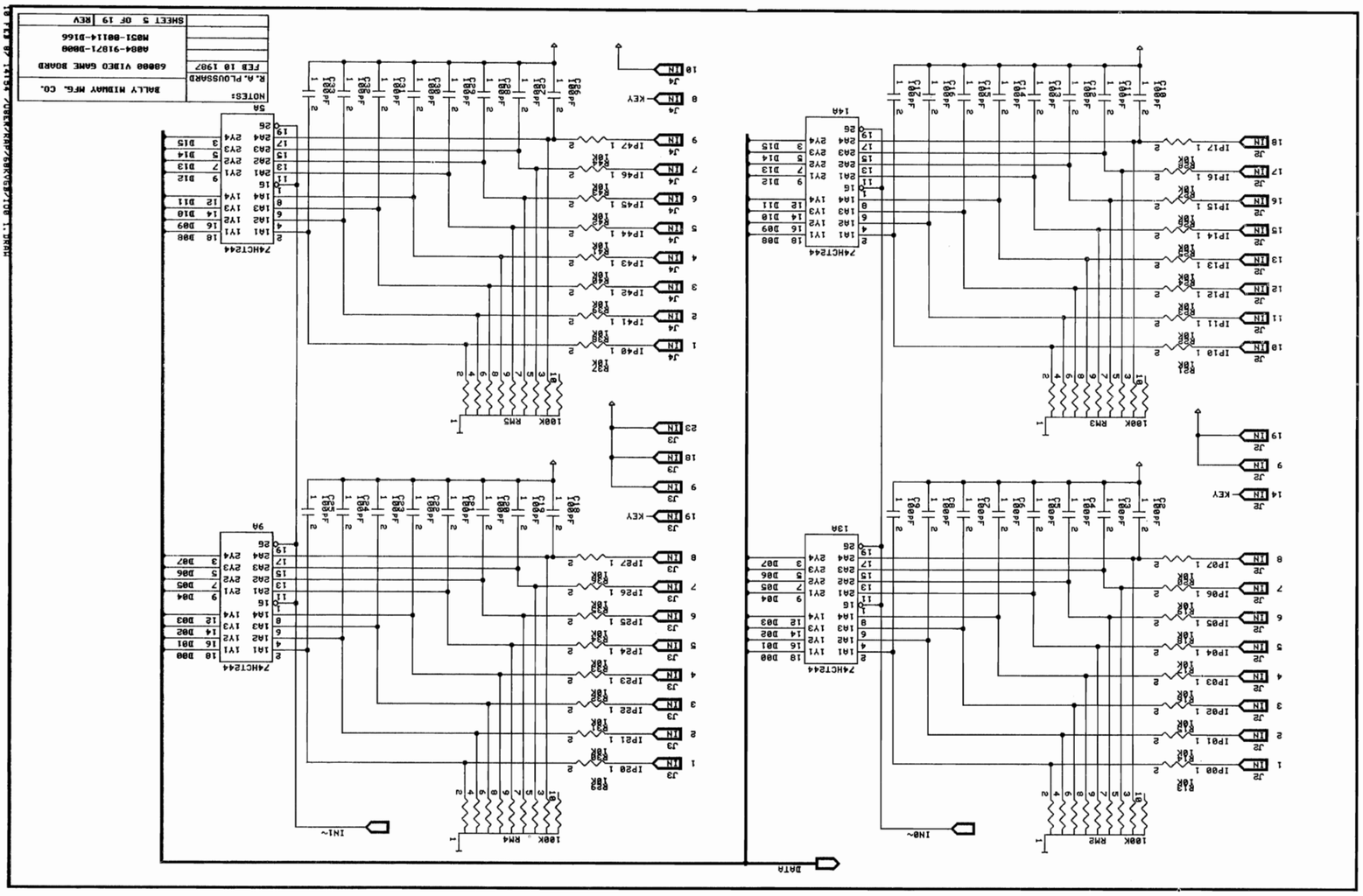
DESIGNATION	DESCRIPTION
FB1-FB18	FERRITE BEAD
PB1-PB2	SWITCH PC MTG.
JW1-JW12	JUMPER WIRE
J1	AUTO INSERT PINS .045
J2-J6	AUTO INSERT PINS .025
Q2,Q10	SNAP
PC BOARD	A000-91871-C000

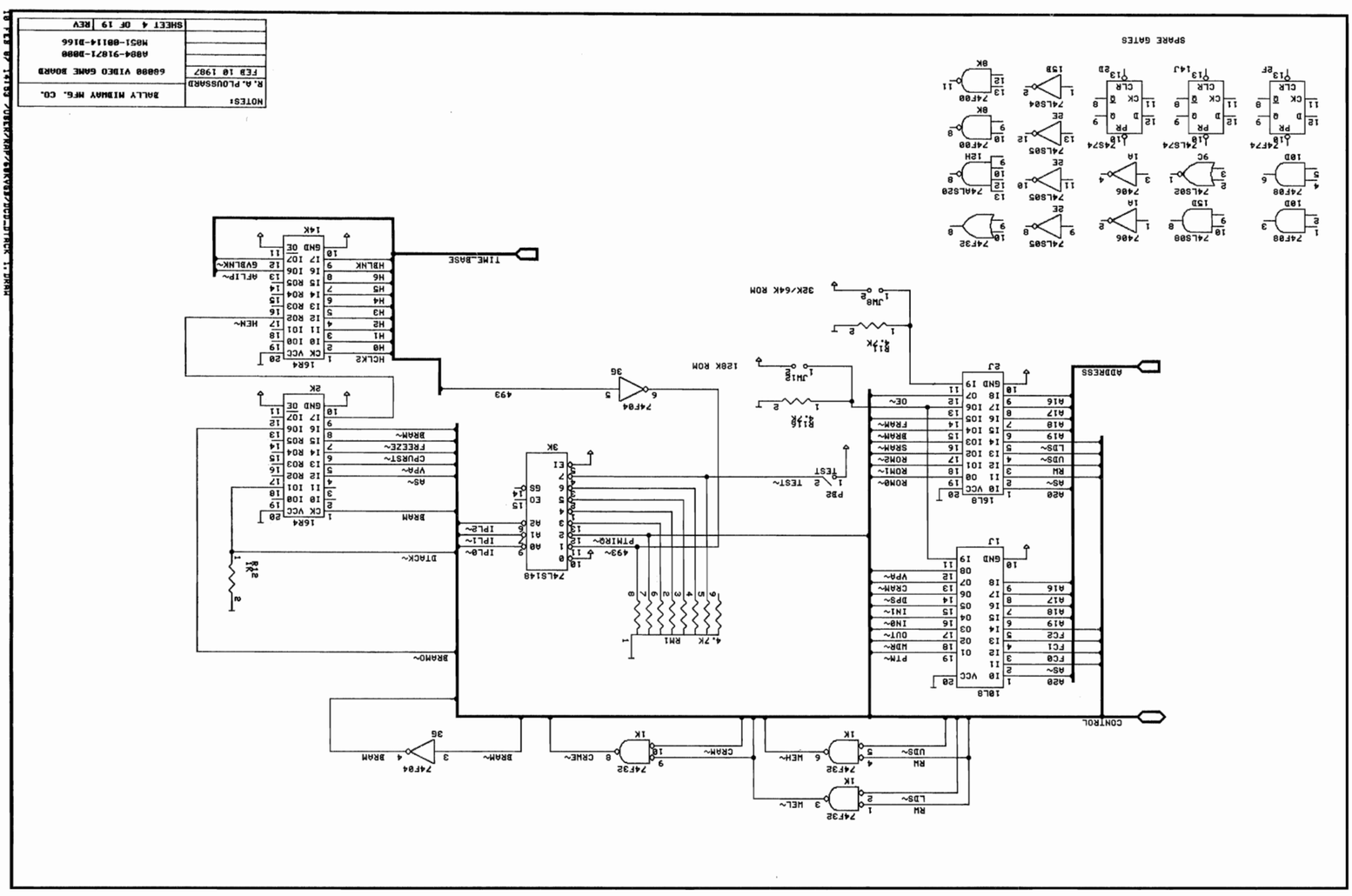
RELEASED 10 FEB 1987 RAP

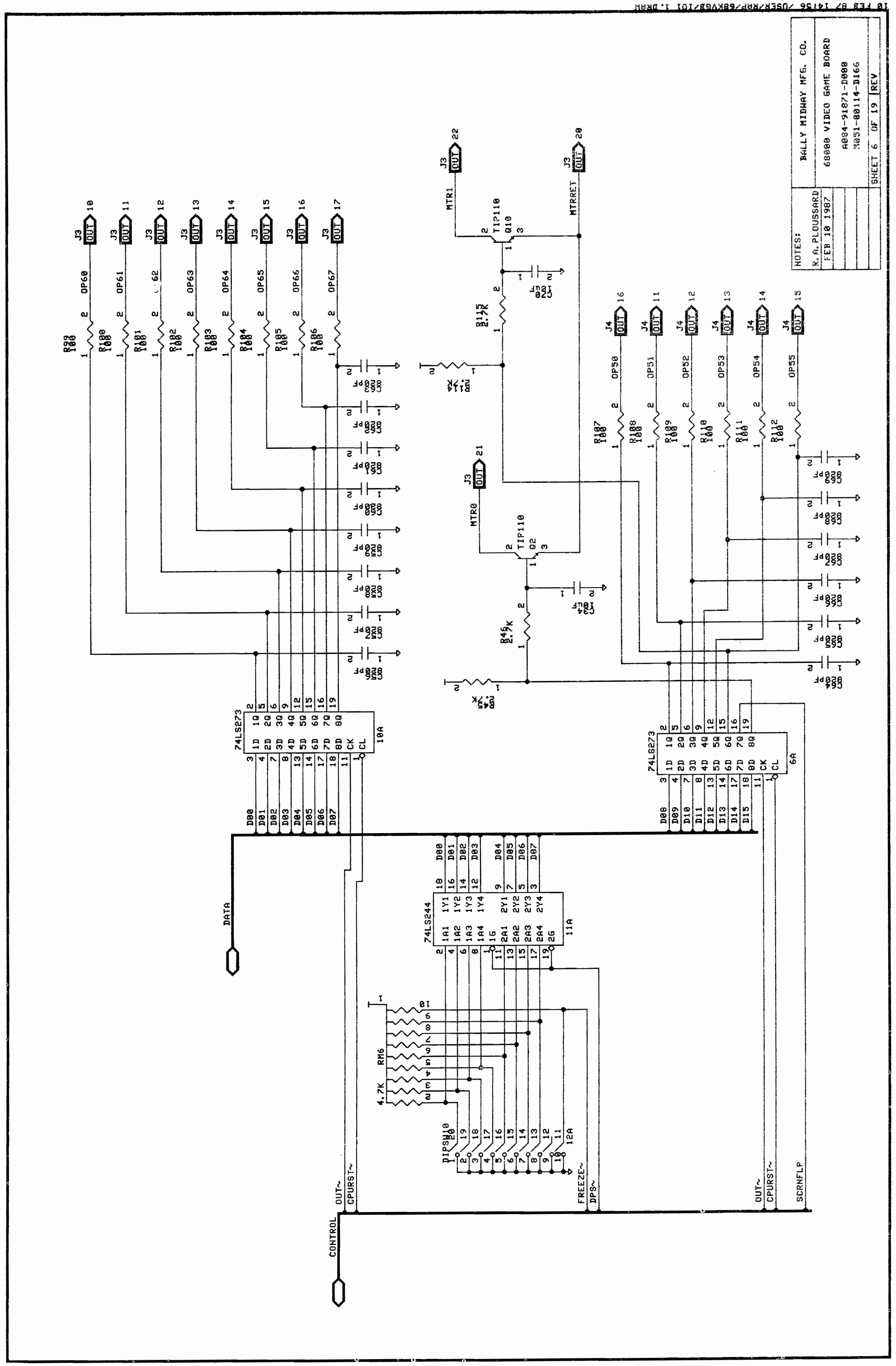


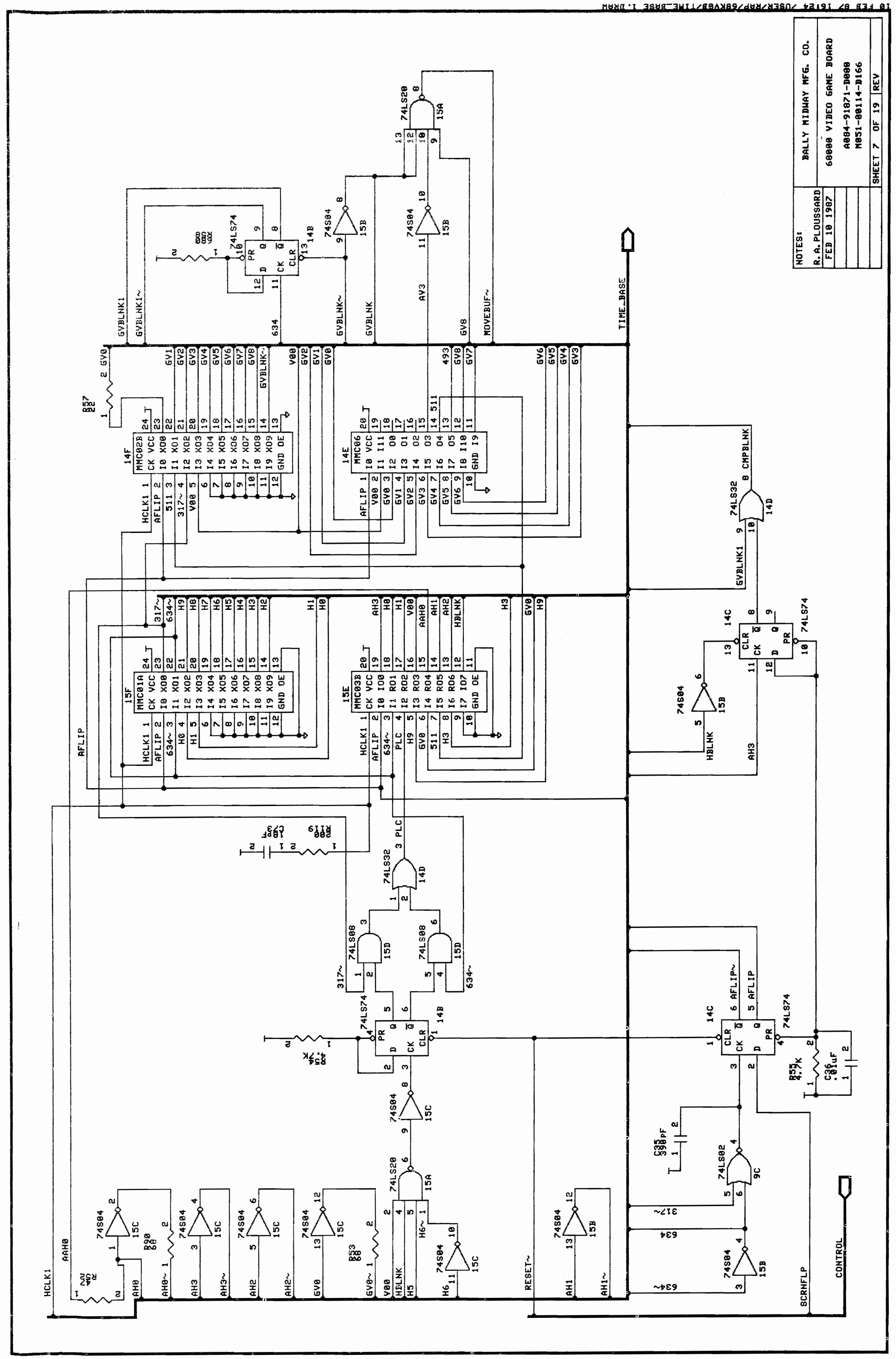

5VCOSC
74LS368
74F74
20 MHZ
HCLK
HCLK1
HCLK2
HCLK~
TIME_BASE
493
GVBLNK~
HBLNK
5VCOSC1
16MHZ
74S74
PCLK
MC68000
ADDRESS
DATA
CONTROL
2N4123
1N4148
74LS161
74LS85
74F04
FREEZE~
493
WDR~
WD DISABLE
CPU_RST
RESET~
HALT~
CPURST~
EXTRST~
VMA~
VMA
MC6840
GVBLNK~
HBLNK
NOTES:
R.A.PLOUSSARD
FEB 10 1987
BALLY MIDWAY MFG. CO.
68000 VIDEO GAME BOARD
A884-91071-B000
A851-00114-B166
SHEET 2 OF 19 REV

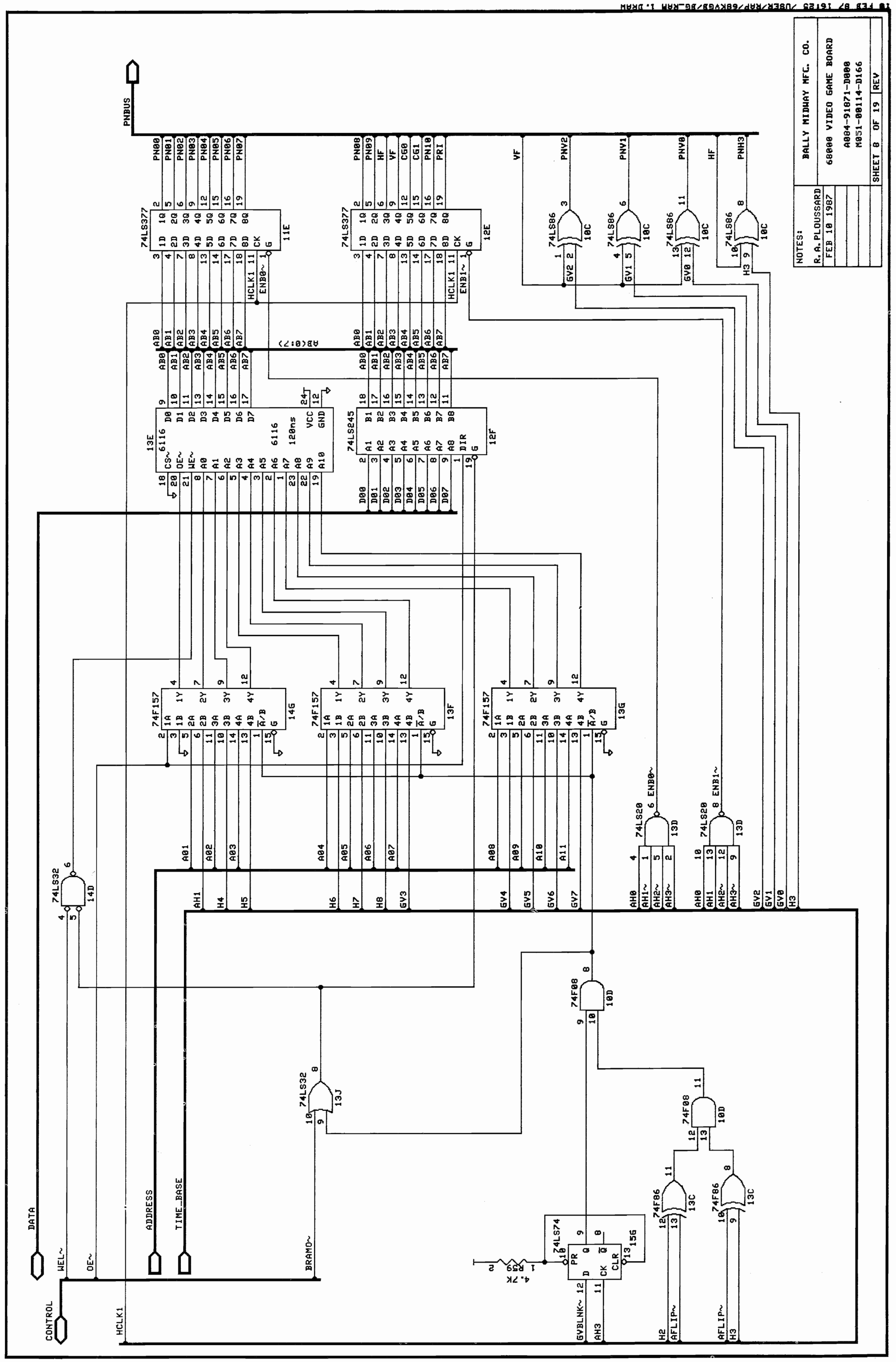

CONTROL
DATA
ADDRESS
2864
27024
WEL~
WEH~
OE~
SRAM~
ROM0~
ROM1~
ROM2~
JA12L
JA12H
JA16
NOTES:
R.A.PLOUSSARD
FEB 10 1987
BALLY MIDWAY MFG. CO.
68000 VIDEO GAME BOARD
A884-91071-B000
A851-00114-B166
SHEET 3 OF 19 REV

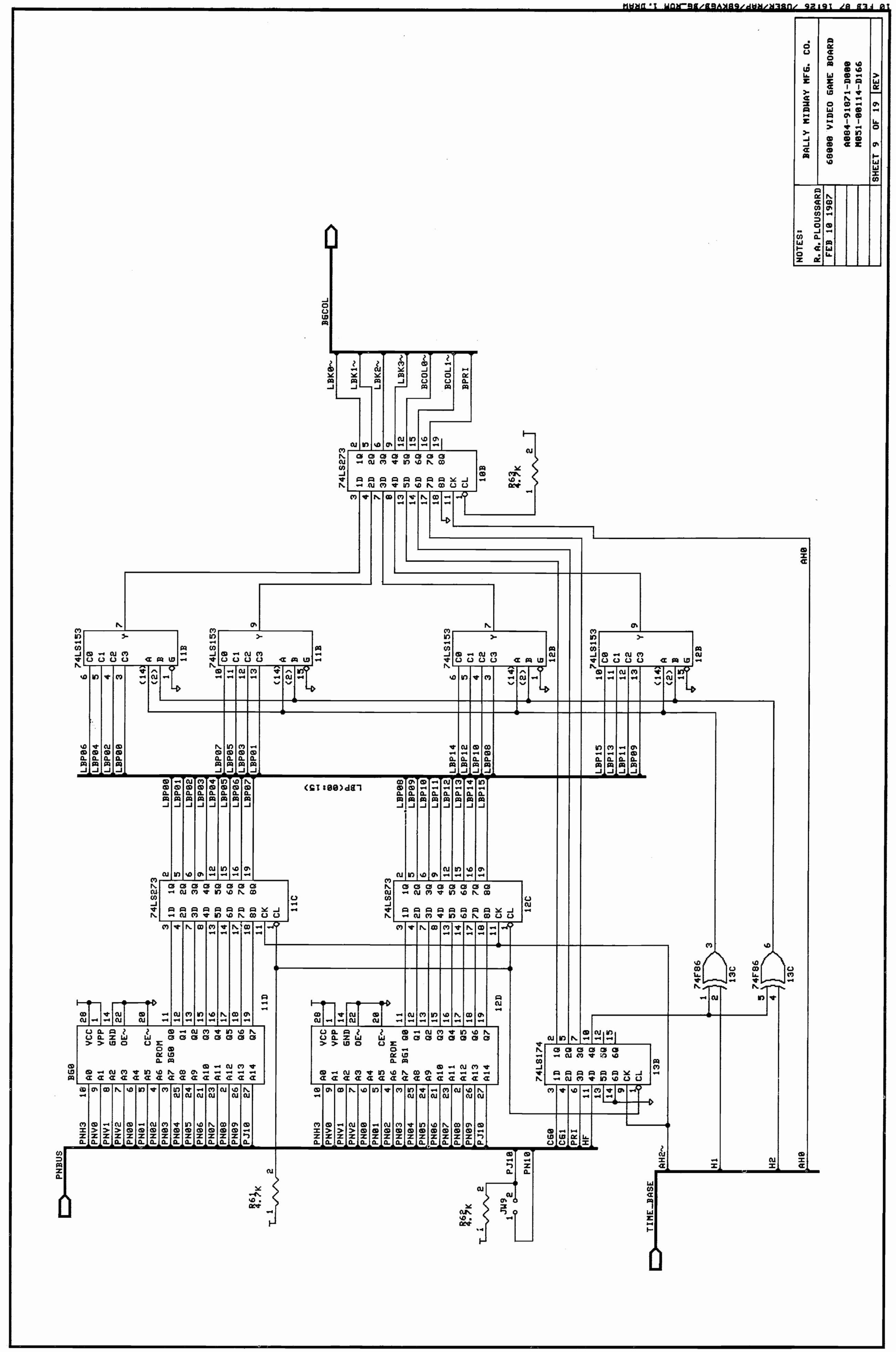


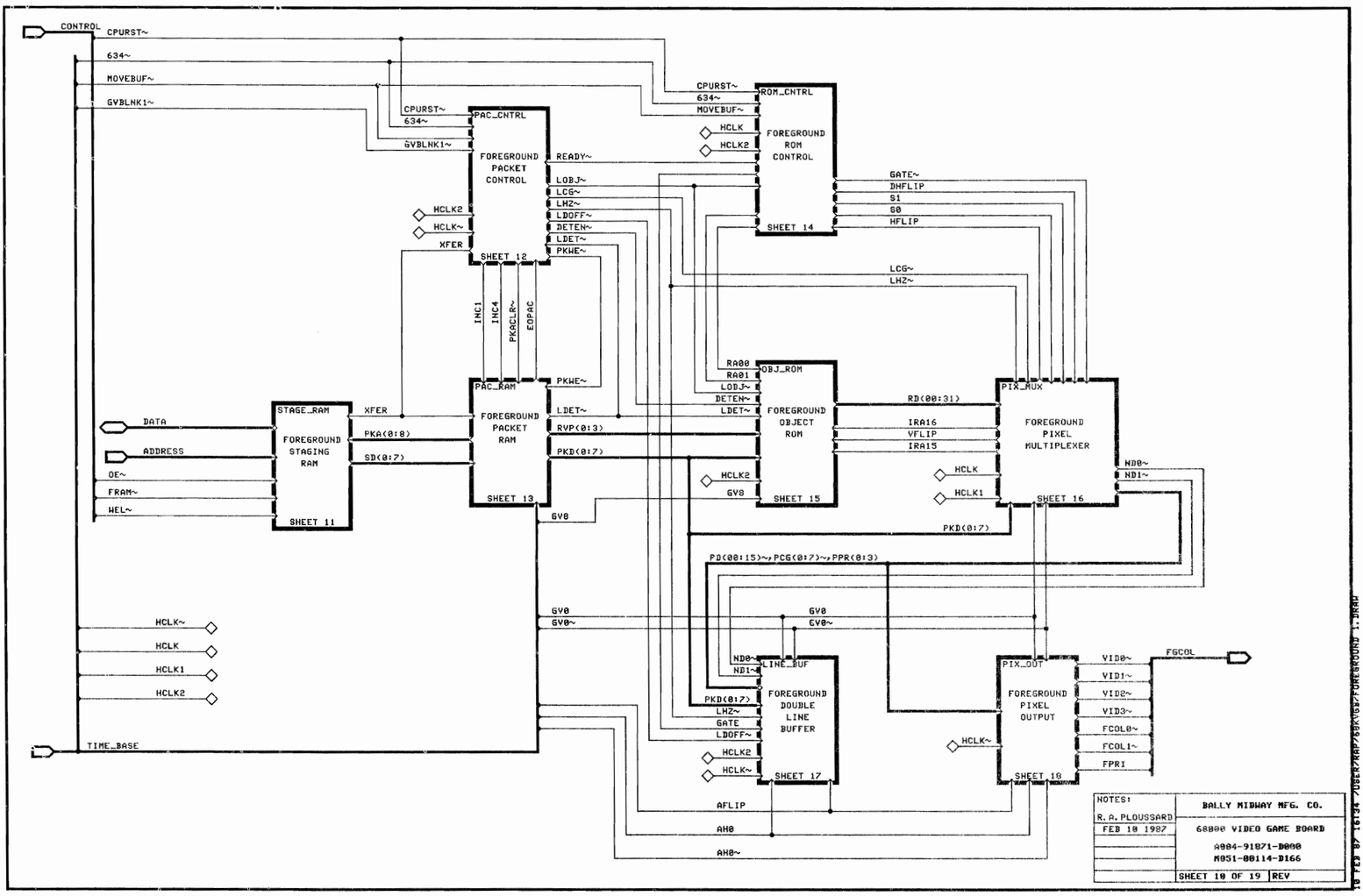



BALLY MIDWAY MFG. CO.
68000 VIDEO GAME BOARD
A084-91071-D000
M051-00114-D166
SHEET 6 OF 19
REV
NOTES:
R.A.PLOUSSARD
FEB 10 1987

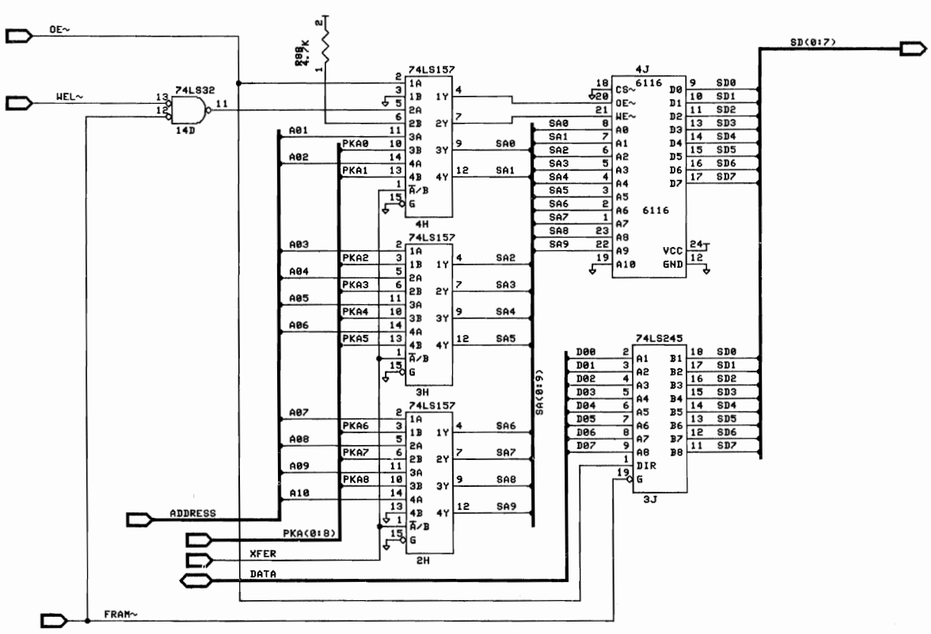

BALLY MIDWAY MFG. CO.
68000 VIDEO GAME BOARD
A084-91071-D000
M051-00114-D166
SHEET 7 OF 19
REV
NOTES:
R.A.PLOUSSARD
FEB 10 1987


BALLY MIDWAY MFG. CO.
68000 VIDEO GAME BOARD
A084-91071-D000
M051-00114-D166
SHEET 8 OF 19
REV
NOTES:
R.A.PLOUSSARD
FEB 10 1987
PNBUS
DATA
CONTROL
ADDRESS
TIME_BASE

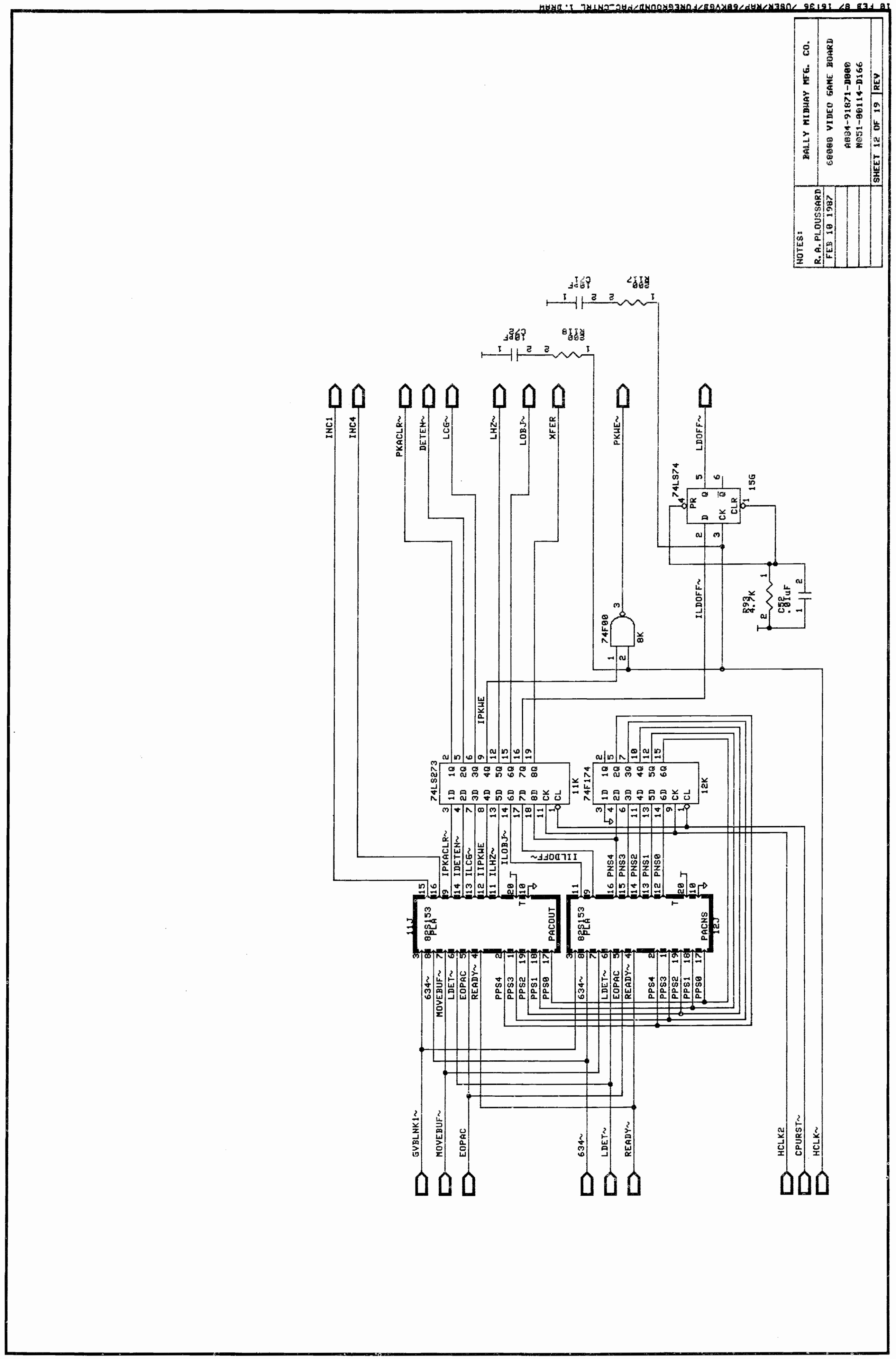

BALLY MIDWAY MFG. CO.
68000 VIDEO GAME BOARD
A084-91071-D000
M051-00114-D166
SHEET 9 OF 19
REV
NOTES:
R.A.PLOUSSARD
FEB 10 1987
BGCOL
PNBUS
TIME_BASE

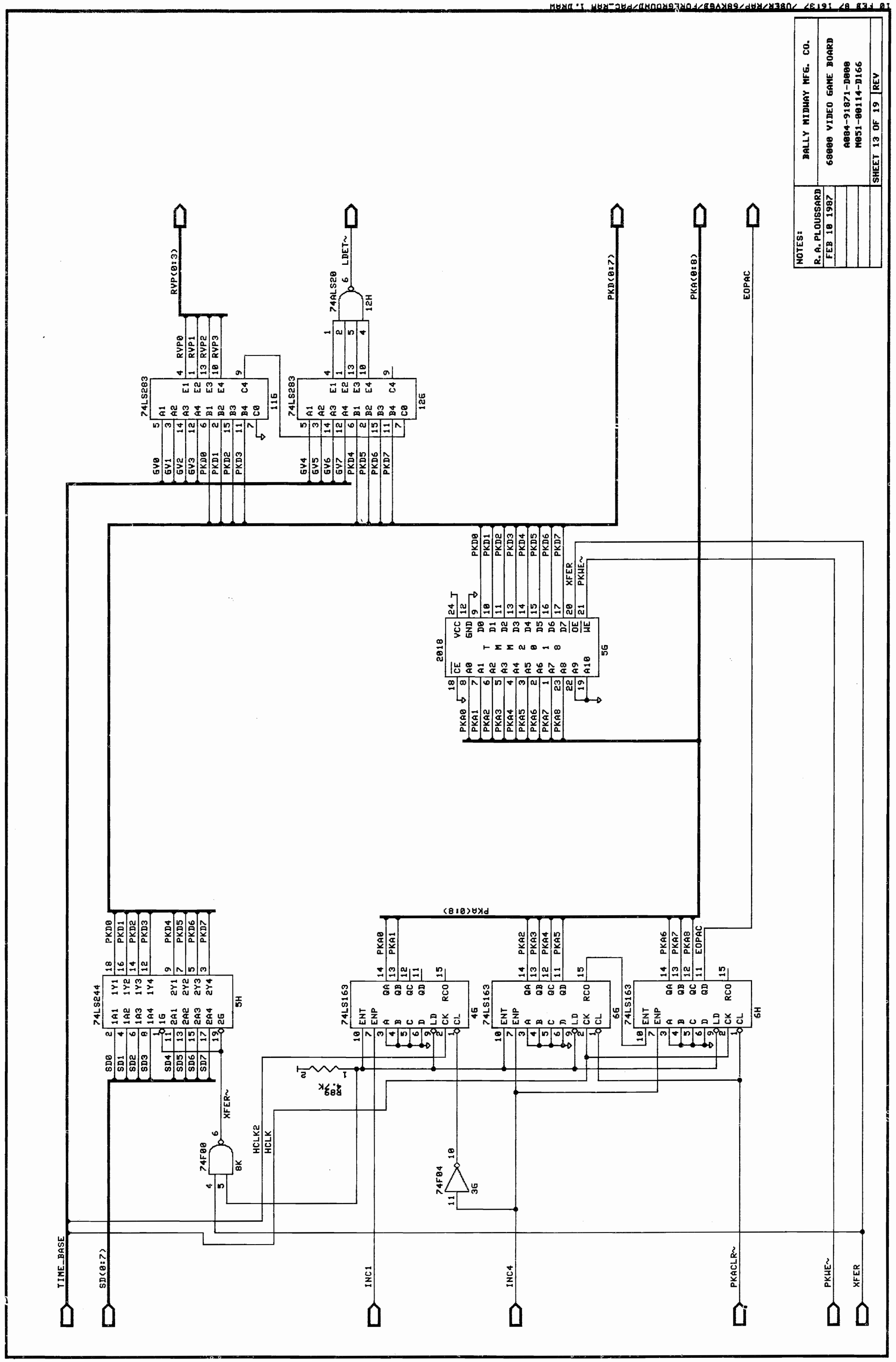


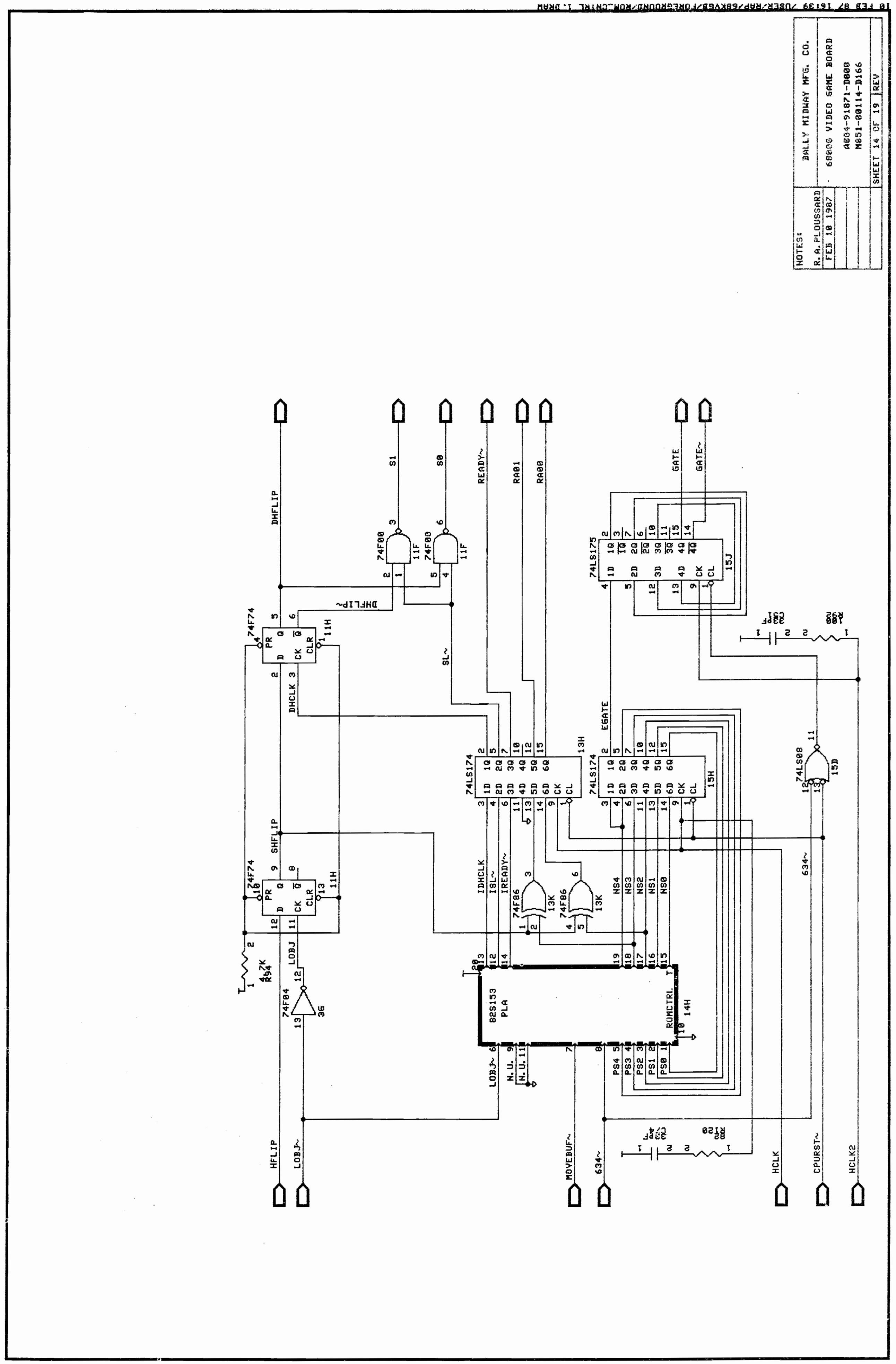
NOTES:	BALLY MIDWAY MFG. CO.
R. A. PLOUSSARD	68000 VIDEO GAME BOARD
FEB 10 1987	A804-91871-D000
	M051-00114-D166
	SHEET 10 OF 19 | REV

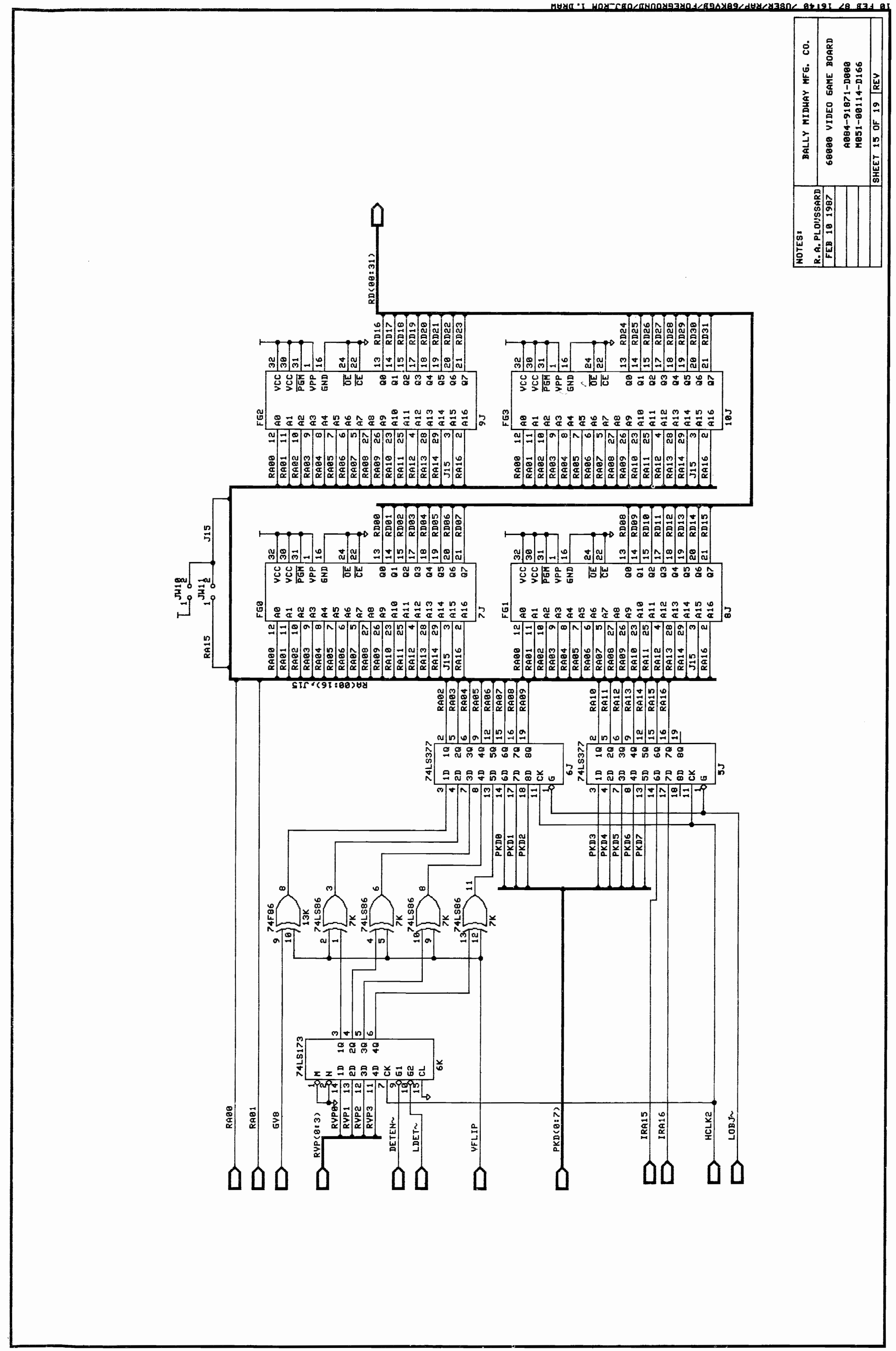


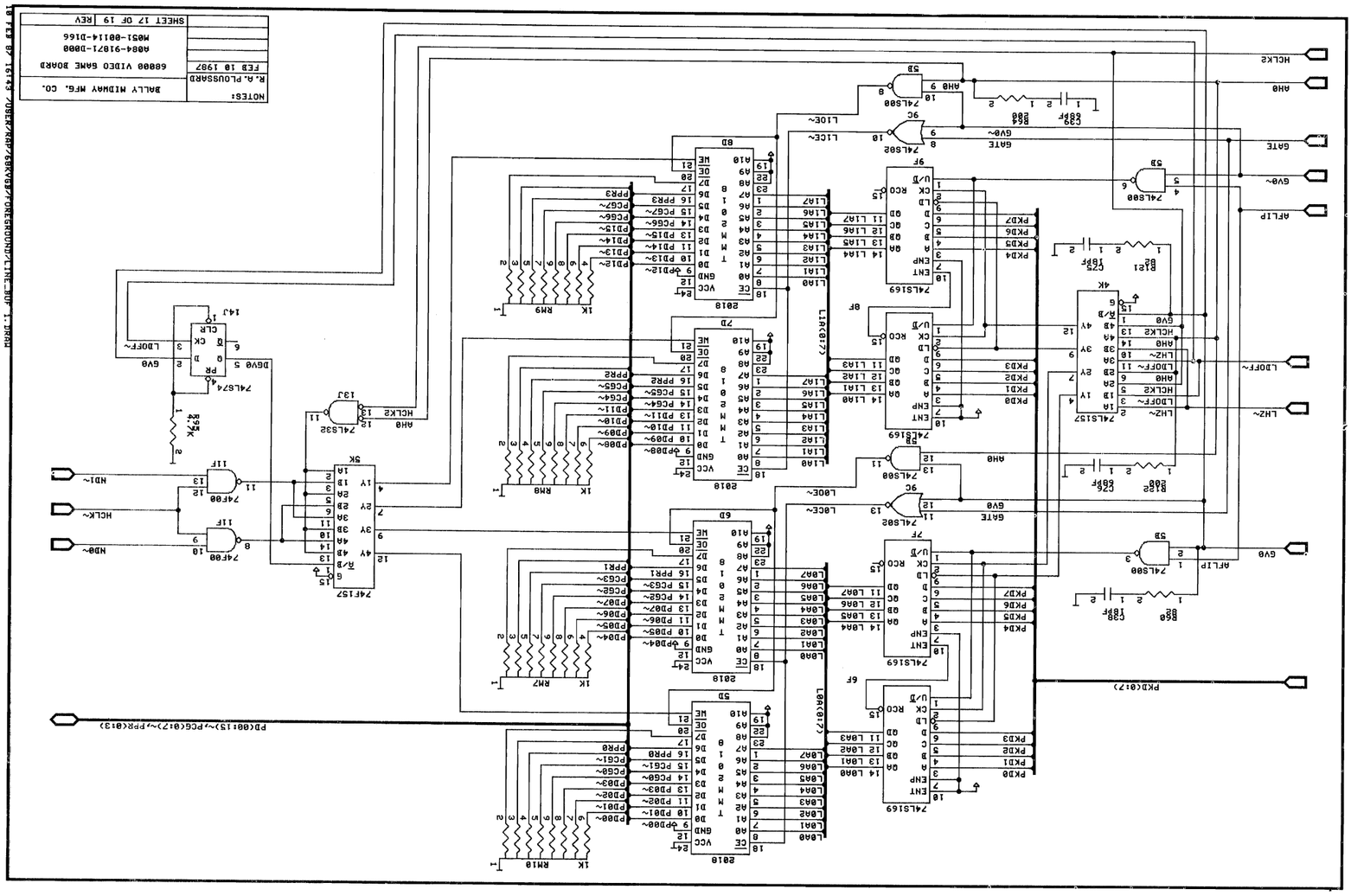
NOTES:	BALLY MIDWAY MFG. CO.
R. A. PLOUSSARD	68000 VIDEO GAME BOARD
FEB 10 1987	A804-91871-D000
	M051-00114-D166
	SHEET 11 OF 19 | REV


BALLY MIDWAY MFG. CO.
68000 VIDEO GAME BOARD
A084-91871-D000
M051-00114-D166
SHEET 12 OF 19
REV
NOTES:
R.A.PLOUSSARD
FEB 10 1987

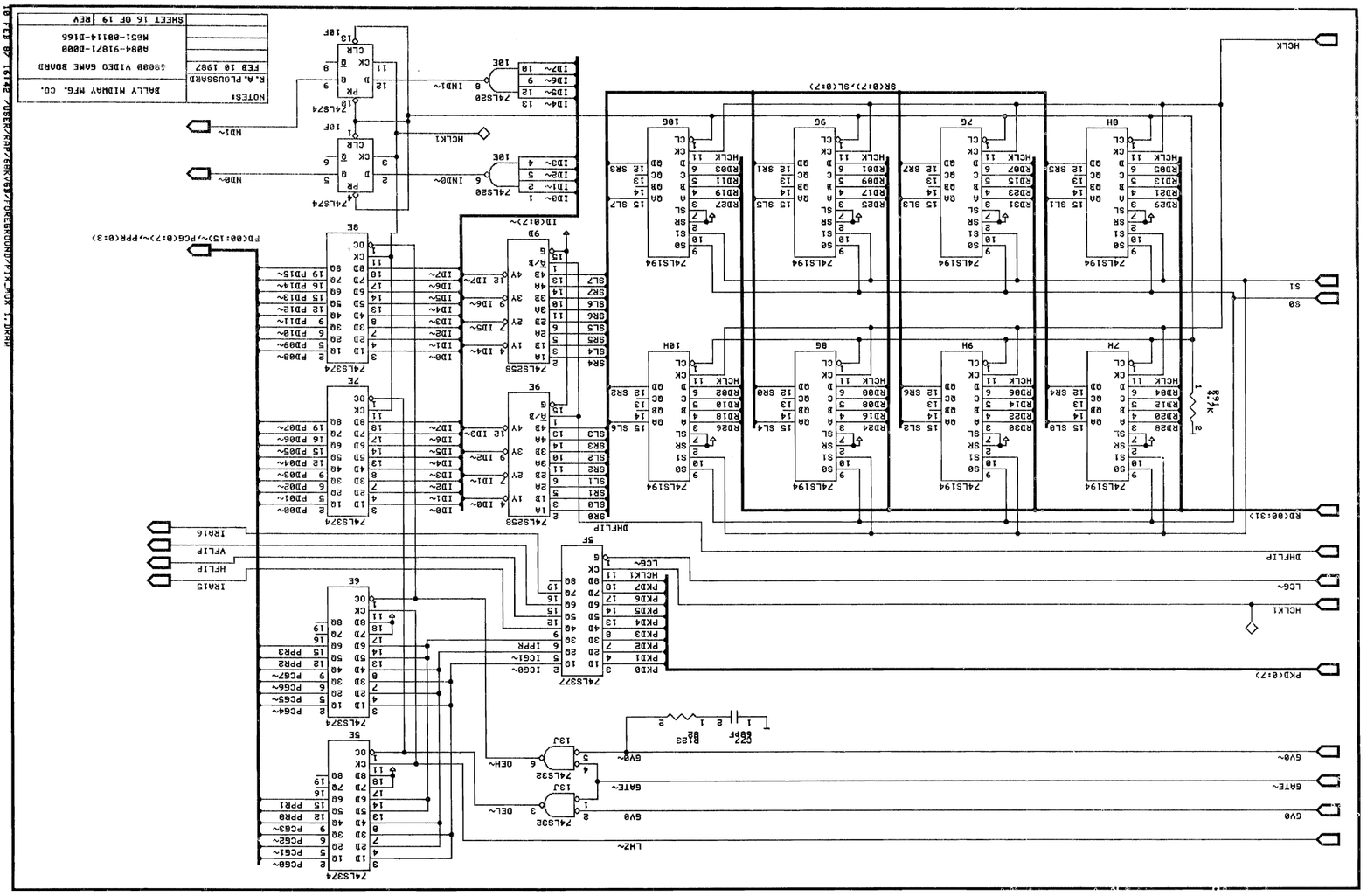

BALLY MIDWAY MFG. CO.
68000 VIDEO GAME BOARD
A084-91871-D000
M051-00114-D166
SHEET 13 OF 19
REV
NOTES:
R.A.PLOUSSARD
FEB 10 1987


NOTES:
R.A.PLOUSSARD
FEB 10 1987
BALLY MIDWAY MFG. CO.
68000 VIDEO GAME BOARD
A004-91871-D000
M051-00114-D166
SHEET 14 OF 19
REV

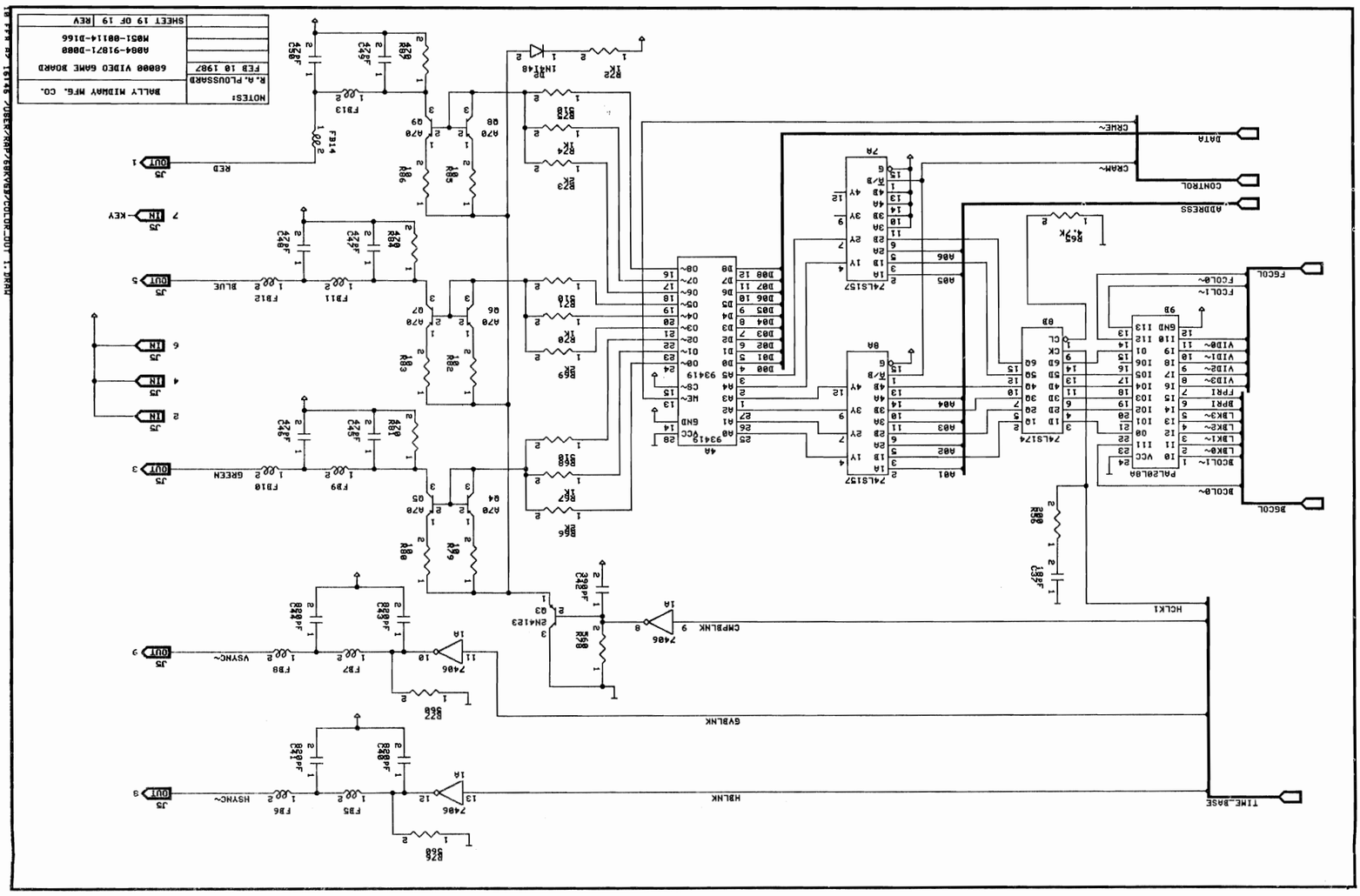

NOTES:
R.A.PLOUSSARD
FEB 10 1987
BALLY MIDWAY MFG. CO.
68000 VIDEO GAME BOARD
A004-91871-D000
M051-00114-D166
SHEET 15 OF 19
REV

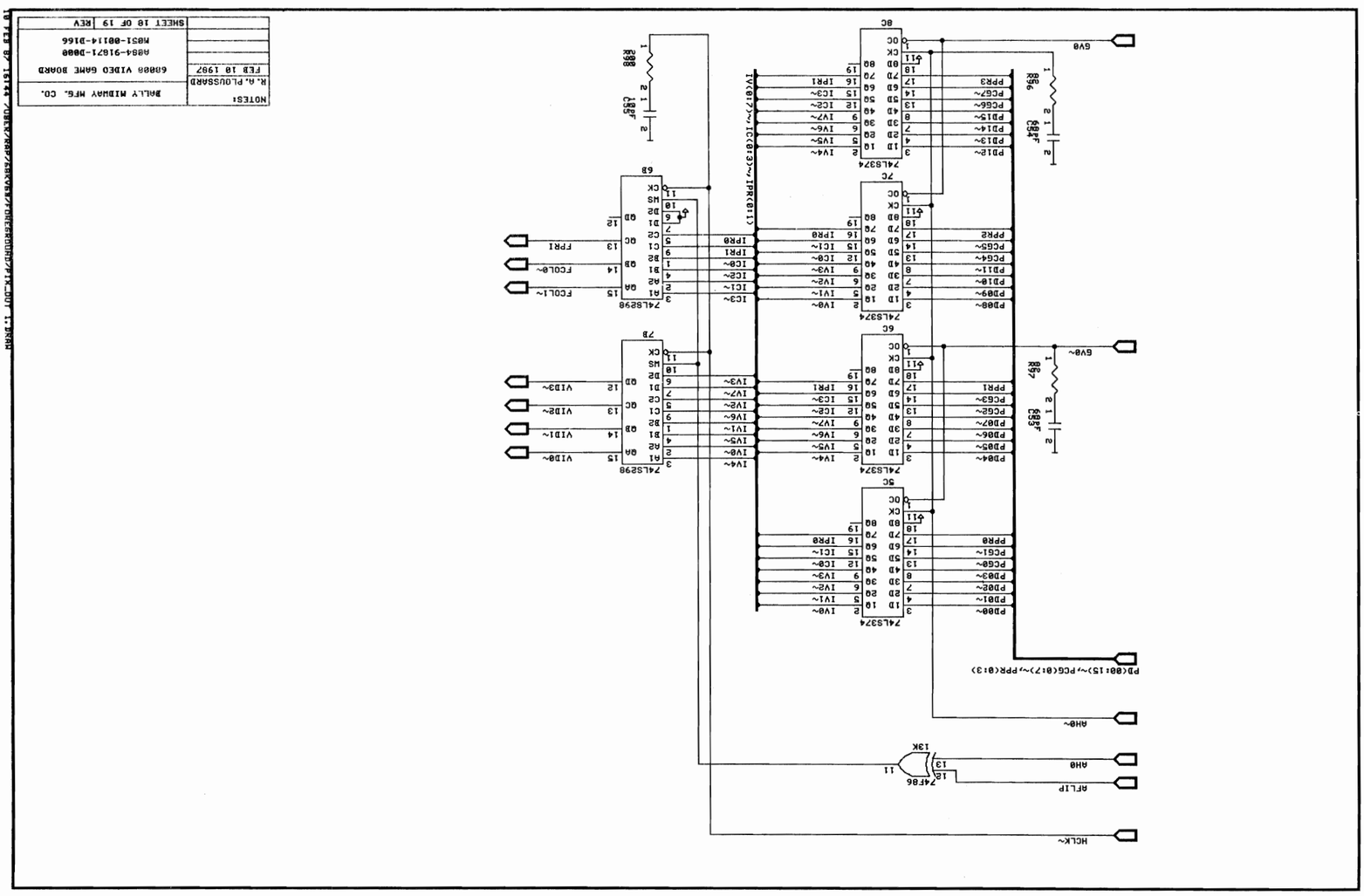


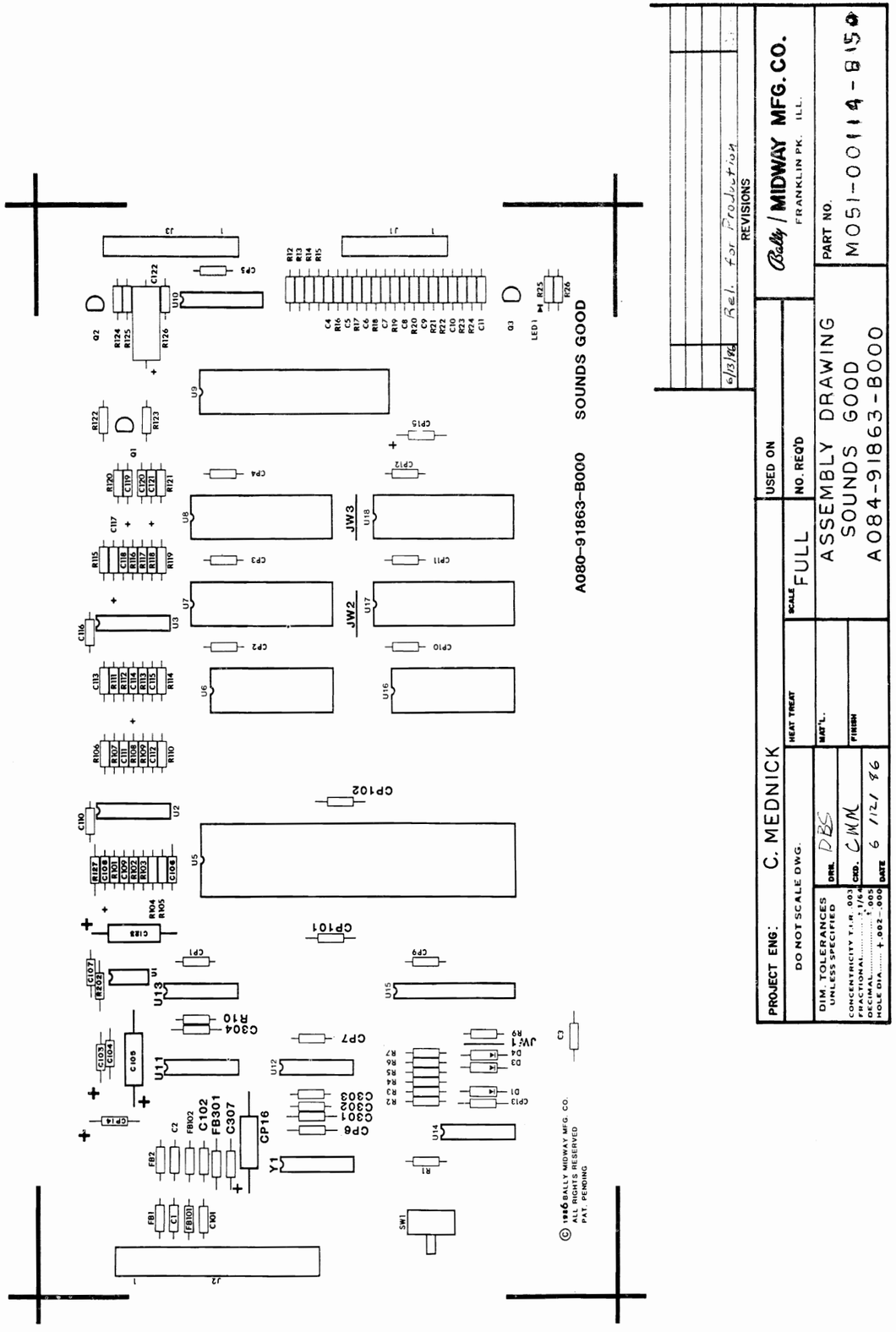
SHEET 17 OF 19	REV
A084-91871-D000	
M031-00114-D166	
FEB 10 1987	68000 VIDEO GAME BOARD
NOTES: R.A. PLOUSSARD	BALLY MIDWAY MFG. CO.



SHEET 16 OF 19	REV
A084-91871-D000	
M031-00114-D166	
FEB 10 1987	68000 VIDEO GAME BOARD
NOTES: R.A. PLOUSSARD	BALLY MIDWAY MFG. CO.







SOUNDS GOOD
A084-91863-B000
M051-00114-B151

DESIGNATION LIST

DESIGNATION	DESCRIPTION
CP1-CP7,CP9-CP13	.01MF AX CER.
CP14,CP15	10MF AX TANT.
CP16	100MF AX ELECT.
CP101,CP102	0.1UF AX CER.
C1,C2	390PF AX CER.
C3-C5	100PF AX CER.
C6,C7	820PF AX CER.
C8-C11	100PF AX CER.
C101,C102	390PF AX CER.
C103	1MF RD TANT.
C104	.01MF AX CER.
C105	47MF AX ELECT.
C106	680PF AX CER.
C107	.01MF AX CER.
C108	1MF RD TANT.
C109	68PF AX CER 10%
C110	.01 MF AX CER.
C111	150PF AX CER 10%
C112	470 PF AX CER 10%
C113	270 PF AX CER 10%
C114	1MF RD TANT.
C115	5600PF AX CER 10%
C116	.01MF AX CER.
C117	1MF RD TANT.
C118	270PF AX CER 10%
C119	10MF RD TANT.
C120	.01MF AX CER.
C121	10MF RD TANT.
C122	47MF AX ELECT.
C123	100MF AX ELECT.
C301	150PF AX CER.
C302,C303	470PF AX CER 10%
C304,C307	0.1UF AX CER.
R1-R3	4.7K OHM 1/4W CRBN.
R4	10K OHM 1/4W CRBN.
R5	100K OHM 1/4W CRBN.
R6-R7,R9	4.7K OHM 1/4W CRBN.
R10	1K OHM 1/4W CRBN.
R12-R14	4.7K OHM 1/4W CRBN.
R15,R16	10K OHM 1/4W CRBN.
R17,R18	100 OHM 1/4W CRBN.
R19-R21	10K OHM 1/4W CRBN.

SOUNDS GOOD
A084-91863-B000

M051-00114-B151

DESIGNATION LIST

DESIGNATION	DESCRIPTION
R22	100K OHM 1/4W CRBN.
R23	10K OHM 1/4W CRBN.
R24	100K OHM 1/4W CRBN.
R25	100 OHM 1/4W CRBN.
R26	47K OHM 1/4W CRBN.
R101	12K OHM 1/4W CRBN.
R102	160K OHM 1/4W CRBN.
R103	100 OHM 1/4W CRBN.
R104	330K OHM 1/4W CRBN.
R105	24K OHM 1/4W CRBN.
R106	3.3K OHM 1/4W CRBN.
R107	24K OHM 1/4W CRBN.
R108	150K OHM 1/4W CRBN.
R109	82K OHM 1/4W CRBN.
R110	510K OHM 1/4W CRBN.
R111,R112	120K OHM 1/4W CRBN.
R113	33K OHM 1/4W CRBN.
R114	330K OHM 1/4W CRBN.
R115	150K OHM 1/4W CRBN.
R116	33K OHM 1/4W CRBN.
R117	18K OHM 1/4W CRBN.
R118	100K OHM 1/4W CRBN.
R119	510K OHM 1/4W CRBN.
R120	47K OHM 1/4W CRBN.
R121	1K OHM 1/4W CRBN.
R122	2.7K OHM 1/4W CRBN.
R123,R124	360 OHM 1/4W CRBN.
R125	180 OHM 1/4W CRBN.
R126	2.7K OHM 1/4W CRBN.
R127	560K OHM 1/4W CRBN.
R202	100 OHM 1/4W CRBN.
D1	NOT INSERTED
D3-D4	1N5817
Q1-Q3	2N5305
U1	MC3340
U2,U3	LM359
U5	68000G8 CPU
U6	RAM 2K X 8
U7,U8	ROM/EPROM
U9	6821 P.I.A.
U10	AD7533JN DAC
U11	14584/40106
U12	74S74
U13	74LS04

DESIGNATION LIST

DESIGNATION	DESCRIPTION
U14	74F32
U15	SG01R0 PAL
U16	RAM 2K X 8
U17,U18	ROM/EPROM
FB1,FB2	FERRITE BEAD
FB101,FB102	FERRITE BEAD
FB301	FERRITE BEAD
ICS U5	64 PIN IC SOCKET
ICS U6	24 PIN IC SOCKET .600
ICS U7,U8	28 PIN IC SOCKET
ICS U9	40 PIN IC SOCKET
ICS U10	16 PIN IC SOCKET
ICS U15	24 PIN IC SOCKET .300
ICS U16	24 PIN IC SOCKET .600
ICS U17,U18	28 PIN IC SOCKET
J1	AUTO INSERT PIN TIN .025 SQ.
J2	AUTO INSERT PIN TIN .045 SQ.
J3	AUTO INSERT PIN TIN .025 SQ.
JW1-JW3	ZERO OHM RESISTOR
LED 1	GREEN LED
SW1	SWITCH PC MTG.
Y1	16 MHZ XSTAL OSC.

CROSS REFERENCE

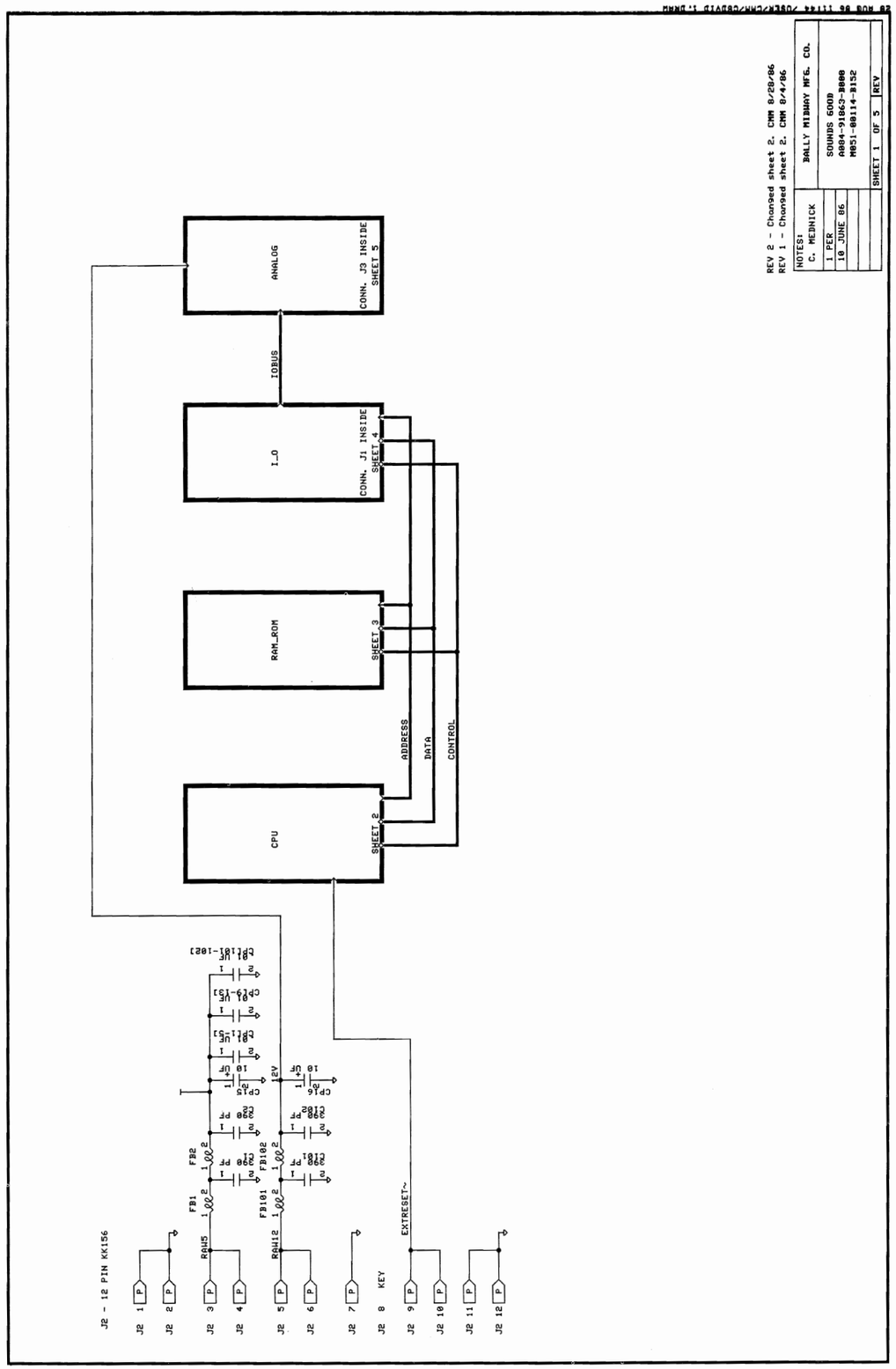
DESCRIPTION	QTY.	DESIGNATION	PART NUMBER
68 PF AX CER 10%	1	C109	0307-00800-0011
100 PF AX CER	7	C3-C5,C8-C11	0304-00800-0001
150 PF AX CER 10%	2	C111,C301	0307-00800-0010
270 PF AX CER 10%	2	C113,C118	0307-00800-0009
390 PF AX CER	4	C1,C2,C101,C102	0986-00800-3000
470 PF AX CER 10%	3	C112,C302,C303	0307-00800-0008
680 PF AX CER	1	C106	0358-00800-0002
820 PF AX CER	2	C6,C7	0304-00800-0002
5600 PF AX CER 10%	1	C115	0307-00800-0007
.01 MF AX CER	17	C104,C107,C110 C116,C120,CP1-CP7, CP9-CP13	0986-00800-2200
0.1 UF AX CER	4	C304,C307,CP101,CP102	0986-00800-0200
1 MF RD TANT	4	C103,C108,C114,C117	0307-00800-0004
10 MF AX TANT	2	CP14,CP15	0986-00800-0700
10 MF RD TANT	2	C119,C121	0307-00800-0005
47 MF AX ELECT	2	C105,C122	0307-00800-0003
100 MF AX ELECT	2	CP16,C123	0307-00800-0006
100 OHM 1/4W CRBN	5	R17,R18,R25,R103, R202	100E-00005-0033
180 OHM 1/4W CRBN	1	R125	100E-00005-0039
360 OHM 1/4W CRBN	2	R123,R124	100E-00005-0048
1K OHM 1/4W CRBN	2	R10,R121	100E-00005-0061
2.7K OHM 1/4W CRBN	2	R122,R126	100E-00005-0071
3.3K OHM 1/4W CRBN	1	R106	100E-00005-0074
4.7K OHM 1/4W CRBN	9	R1-R3,R6-R7,R9 R12-R14	100E-00005-0079
10K OHM 1/4W CRBN	7	R4,R15,R16,R19-R21, R23	100E-00005-0088
12K OHM 1/4W CRBN	1	R101	100E-00005-0090
18K OHM 1/4W CRBN	1	R117	100E-00005-0093
24K OHM 1/4W CRBN	2	R105,R107	100E-00005-0097
33K OHM 1/4W CRBN	2	R113,R116	100E-00005-0100
47K OHM 1/4W CRBN	2	R26,R120	100E-00005-0104
82K OHM 1/4W CRBN	1	R109	100E-00005-0112
100K OHM 1/4W CRBN	4	R5,R22,R24,R118	100E-00005-0115
120K OHM 1/4W CRBN	2	R111,R112	100E-00005-0118
150K OHM 1/4W CRBN	2	R108,R115	100E-00005-0120
160K OHM 1/4W CRBN	1	R102	100E-00005-0121
330K OHM 1/4W CRBN	2	R104,R114	100E-00005-0128
510K OHM 1/4W CRBN	2	R110,R119	100E-00005-0133
560K OHM 1/4W CRBN	1	R127	100E-00005-0134
1N5817	2	D3-D4	103E-00003-0009
2N5305	3	Q1-Q3	0360-00802-0012
74LS04	1	U13	0304-00803-0060
74F32	1	U14	0304-00803-0059

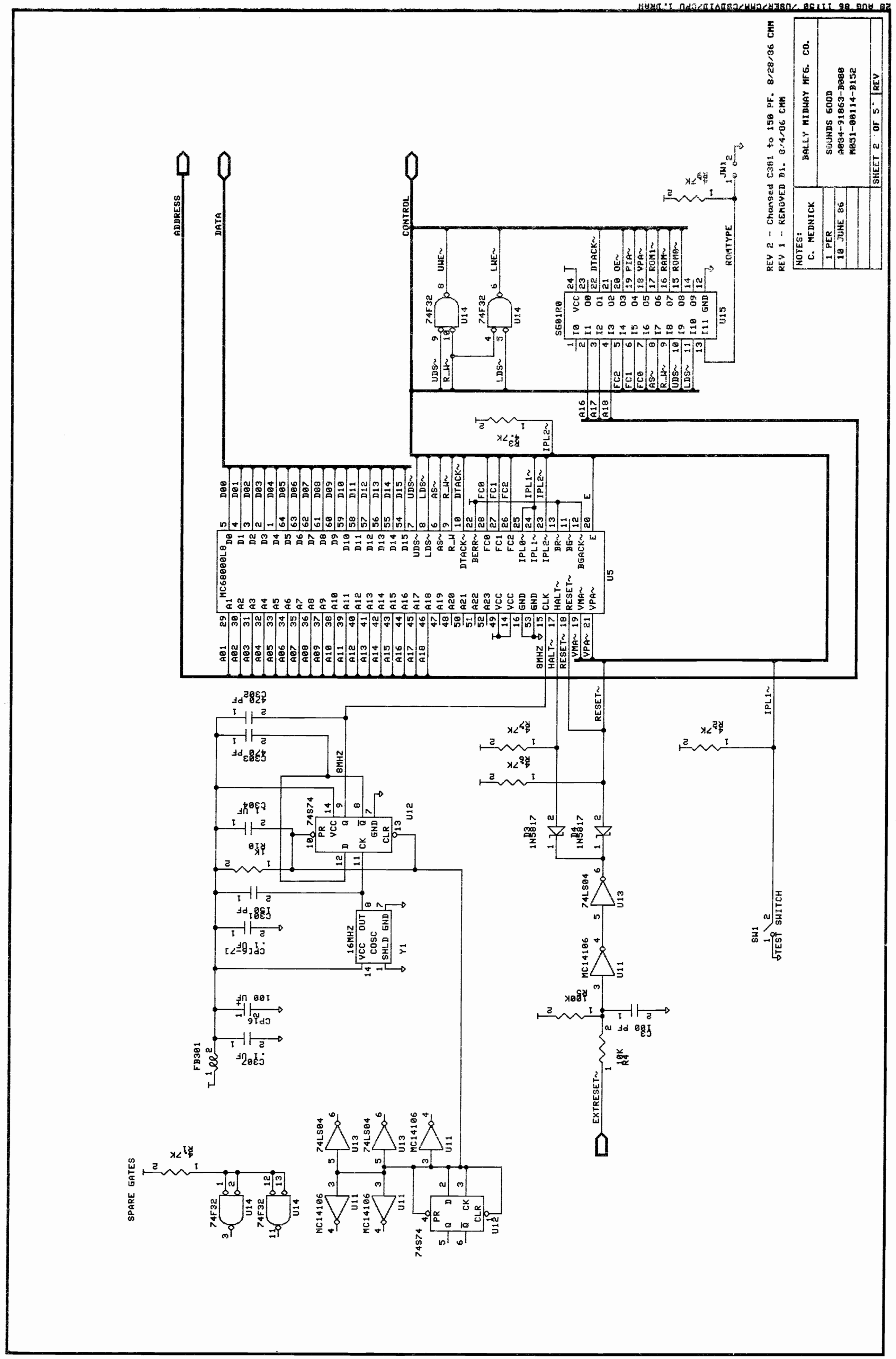
SOUNDS GOOD
A084-91863-B000
M051-00114-B151

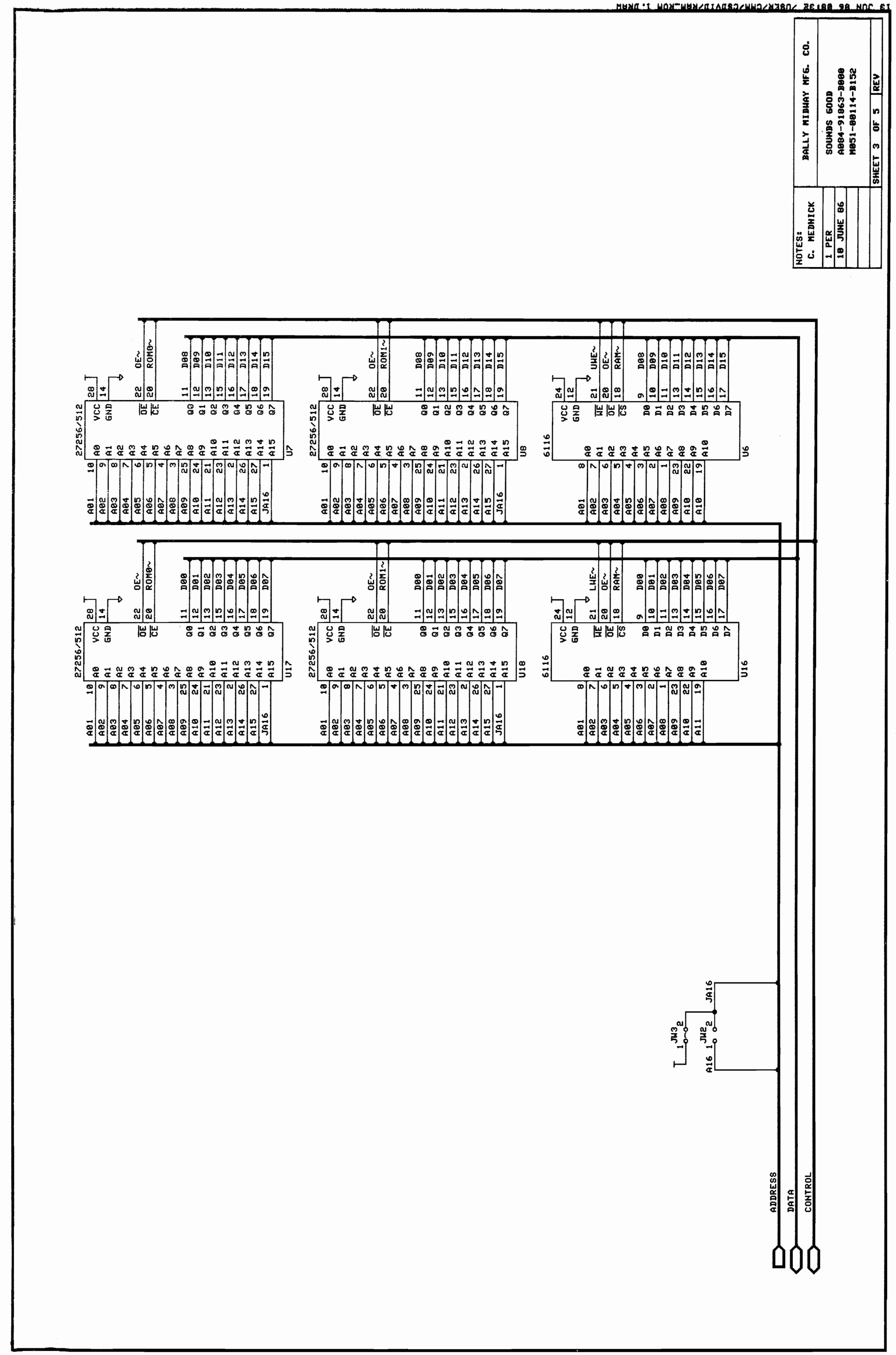
CROSS REFERENCE

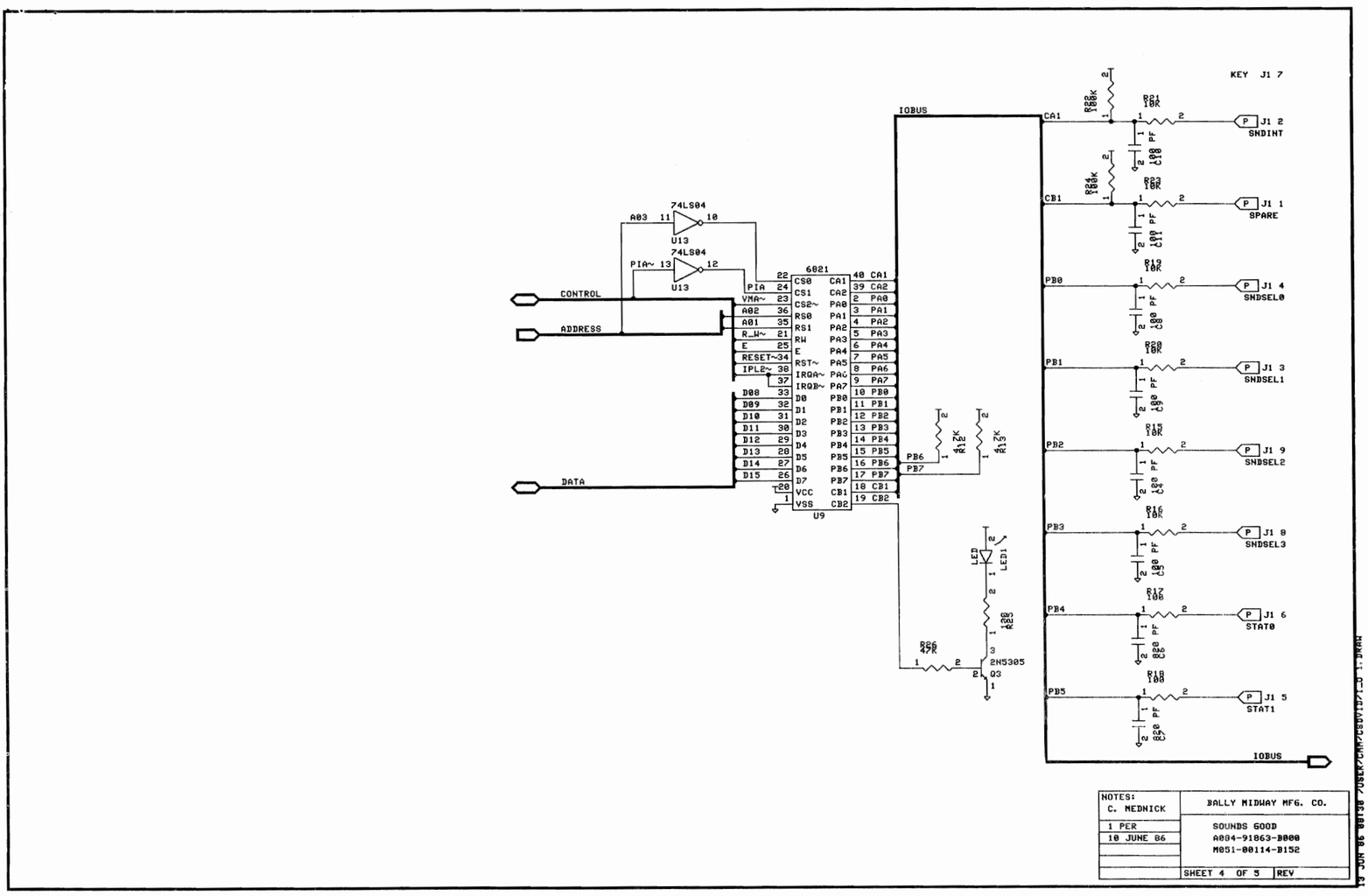
DESCRIPTION	QTY.	DESIGNATION	PART NUMBER
74S74	1	U12	0304-00803-0061
14584/40106	1	U11	0304-00803-0056
6821 PIA	1	U9	0304-00803-0054
68000G8 CPU	1	U5	0304-00803-0051
AD7533JN DAC	1	U10	0304-00803-0055
SG01R0 PAL	1	U15	0E36-00803-0009
LM359	2	U2,U3	0304-00803-0053
MC3340	1	U1	0358-00803-0002
RAM 2KX8	2	U6,U16	0304-00803-0057
ROM/EPROM	1	U7	
ROM/EPROM	1	U8	SEE ROM/EPROM
ROM/EPROM	1	U17	CHART
ROM/EPROM	1	U18	
FERRITE BEAD	5	FB1,FB2,FB101,FB102, FB301	0316-00804-0002
16 PIN IC SOCKET	1	ICS U10	110E-00001-0003
24 PIN IC SOCKET .300	1	ICS U15	110E-00001-0009
24 PIN IC SOCKET .600	2	ICS U6,U16	110E-00001-0007
28 PIN IC SOCKET	4	ICS U7,U8,U17,U18	110E-00001-0010
40 PIN IC SOCKET	1	ICS U9	110E-00001-0011
64 PIN IC SOCKET	1	ICS U5	110E-00001-0016
AUTO INSERT PIN TIN .025 SQ	8	J1	0304-00804-0009
AUTO INSERT PIN TIN .025 SQ	11	J3	0304-00804-0009
AUTO INSERT PIN TIN .045 SQ	11	J2	0304-00804-0010
ZERO OHM RES	3	JW1-JW3	117E-00001-0003
GREEN LED	1	LED 1	119E-00001-0001
SWITCH PC MTG	1	SW1	0986-00804-3100
16 MHZ XSTAL OSC	1	Y1	0304-00804-0008
PC BOARD	1		A080-91671-G000

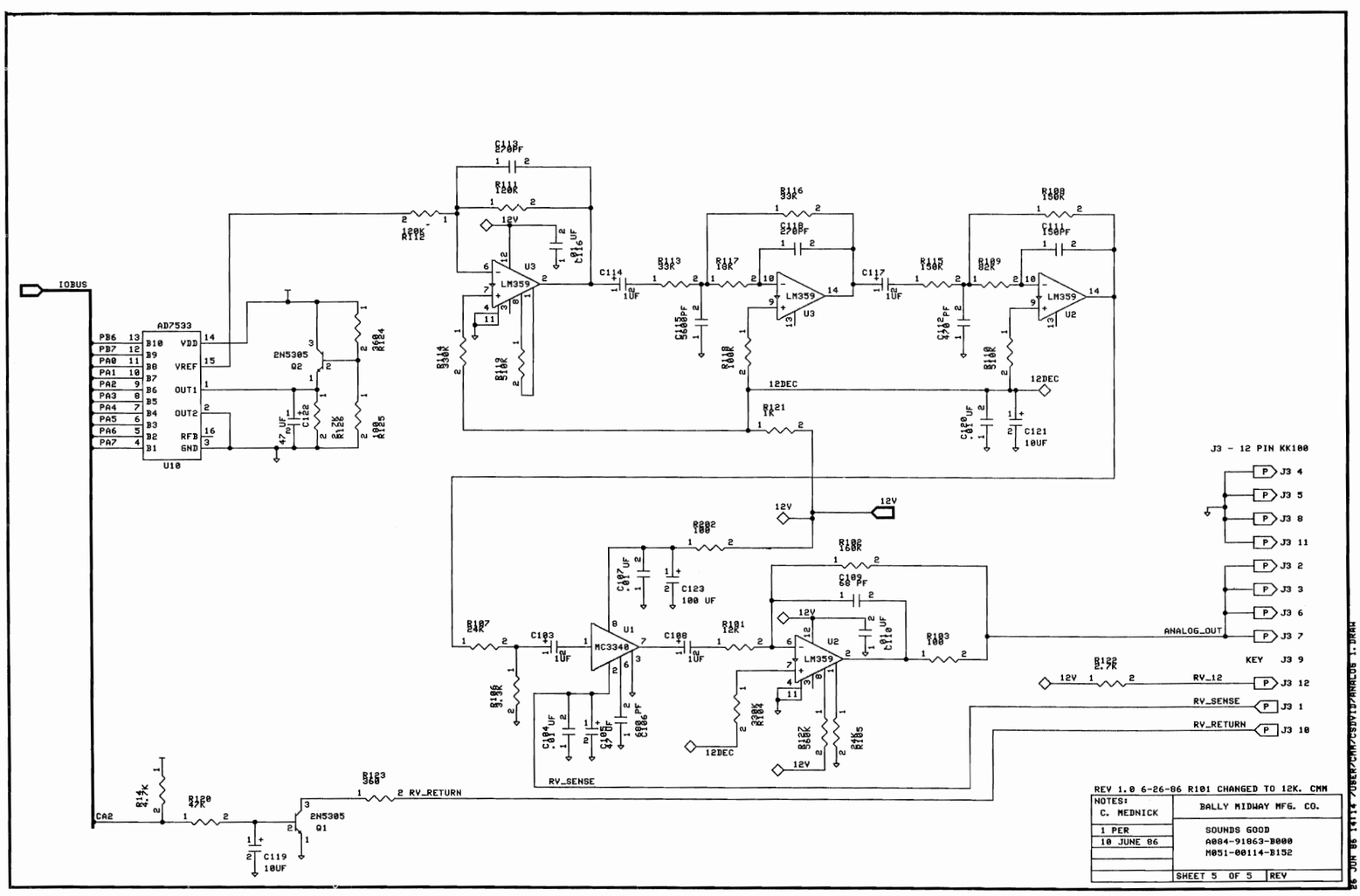
6-13-86 Released for Production, CMM.
6-26-86 Rev. 1.0 CMM - Changed R101 from 24K to 12K.
8-05-86 Rev. 2.0 CMM - Removed D1.
8-28-86 Rev. 3.0 CMM - Changed C301 from 330PF to 150PF.

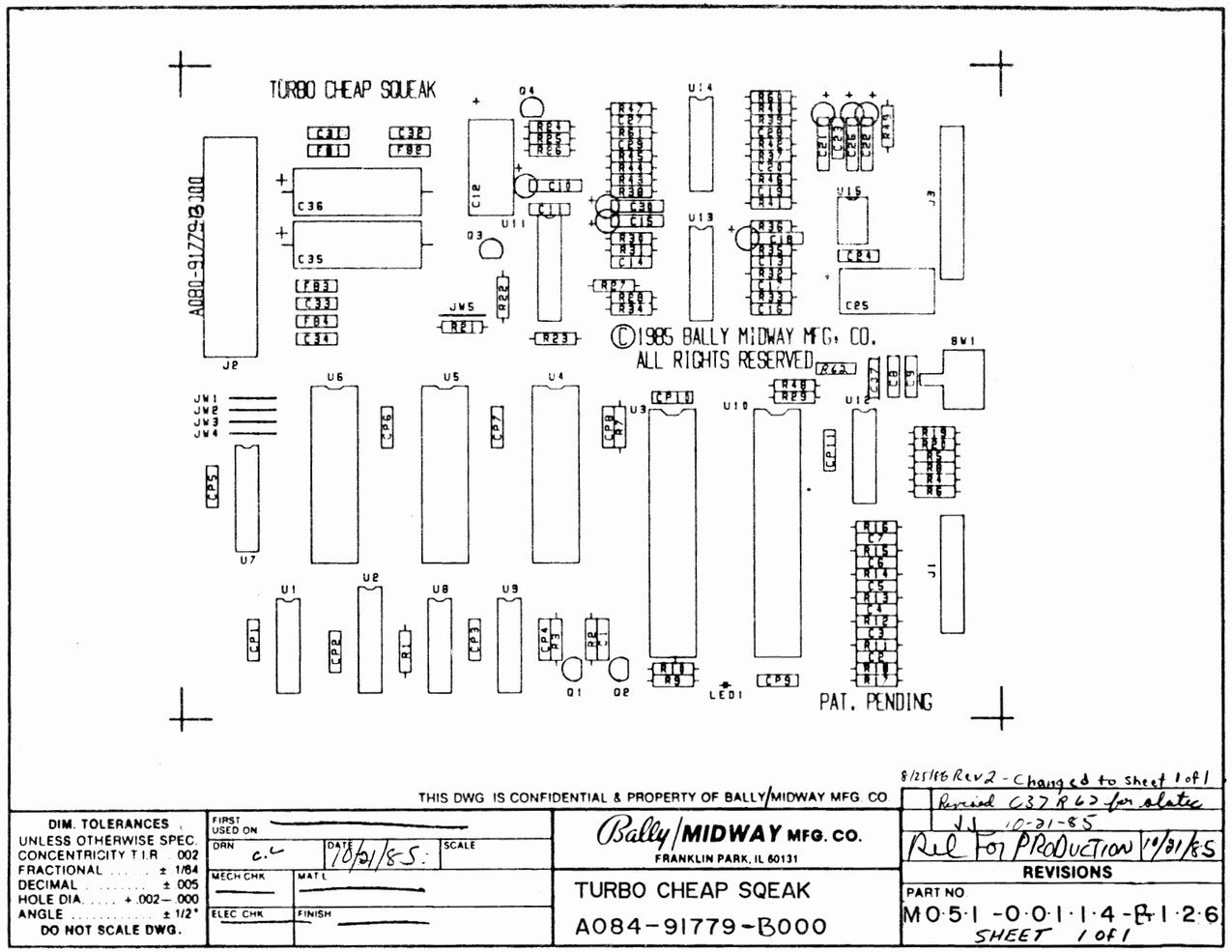



28 AUG 86 11:50 /USER/CMM/CSDVID/CPU_1.DRAW
REV 2 - Changed C301 to 150 PF. 8/28/86 CMM
REV 1 - REMOVED D1. 8/4/86 CMM
NOTES:
C. MEDNICK
1 PER
10 JUNE 86
BALLY MIDWAY MFG. CO.
SOUNDS GOOD
A084-91863-B000
M051-00114-B152
SHEET 2 OF 5
REV
ADDRESS
DATA
CONTROL
MC68000L8
U5
SG01R0
U15
ROMTYPE
74F32
U14
74S74
U12
16MHZ
Y1
74LS04
U13
MC14106
U11
1N5817
EXTRESET~
SW1
TEST SWITCH
SPARE GATES
FB301


19 JUN 86 08:32 /USER/CMM/CSDVID/RAM_ROM_1.DRAW
NOTES:
C. MEDNICK
1 PER
10 JUNE 86
BALLY MIDWAY MFG. CO.
SOUNDS GOOD
A084-91863-B000
M051-00114-B152
SHEET 3 OF 5
REV
27256/512
U7
U8
U17
U18
6116
U6
U16
JW2
JW3
JA16
ADDRESS
DATA
CONTROL


KEY J1 7
IOBUS
74LS04
U13
6821
CONTROL
ADDRESS
DATA
U9
CA1
CA2
CB1
CB2
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
J1 2 SNDINT
J1 1 SPARE
J1 4 SNDSEL0
J1 3 SNDSEL1
J1 9 SNDSEL2
J1 8 SNDSEL3
J1 6 STAT0
J1 5 STAT1
LED
LED1
2N5305
Q3
NOTES:
C. MEDNICK
BALLY MIDWAY MFG. CO.
1 PER
10 JUNE 86
SOUNDS GOOD
A084-91863-B000
M051-00114-B152
SHEET 4 OF 5
REV


IOBUS
AD7533
U10
2N5305
Q2
LM359
U3
U2
MC3340
U1
12V
12DEC
J3 - 12 PIN KK100
ANALOG_OUT
KEY J3 9
RV_12
RV_SENSE
RV_RETURN
CA2
2N5305
Q1
C119 10UF
REV 1.0 6-26-86 R101 CHANGED TO 12K. CMM
NOTES:
C. MEDNICK
BALLY MIDWAY MFG. CO.
1 PER
10 JUNE 86
SOUNDS GOOD
A084-91863-B000
M051-00114-B152
SHEET 5 OF 5
REV



M051-00114-B163
TURBO CHEAP SQUEAK
A084-91779-B000 (Rev. 1)

DESIGNATION LIST

DESIGNATION	DESCRIPTION
CP1-CP11	.01MF AX. CR.
C1	18PF AX. CR.
C2-C3	820PF AX. CR.
C4-C9,C37	100PF AX. CR.
C10	10MF RD TANT
C11	.01MF AX. CR.
C12	47MF AX. ELECT.
C13	.01MF AX. CR.
C14	270PF AX. CR.
C15	1MF RD TANT
C16	.0056MF AX. CR.
C17	270PF AX. CR.
C18	1MF RD TANT
C19	470PF AX. CR.
C20	150PF AX. CR.
C21	1MF RD TANT
C22	10MF AX TANT
C23	680PF AX. CR.
C24	.01MF AX. CR.
C25	47MF AX. ELECT.
C26	1MF RD TANT
C27	68PF AX. CR.
C28-C29	.01MF AX. CR.
C30	10MF RD TANT
C31-C34	390PF AX. CR.
C35-C36	470MF AX. ELECT.
R1	4.7K OHM 1/4W 5%
R2	3.3K OHM 1/4W 5%
R3	150 OHM 1/4W 5%
R4-R8	4.7K OHM 1/4W 5%
R9	100 OHM 1/4W 5%
R10	47K OHM 1/4W 5%
R11-R12	100 OHM 1/4W 5%
R13-R16,R62	10K OHM 1/4W 5%
R17	100K OHM 1/4W 5%
R18	10K OHM 1/4W 5%
R19	100K OHM 1/4W 5%
R20	10K OHM 1/4W 5%
R21	4.7K OHM 1/4W 5%
R22	47K OHM 1/4W 5%
R23	360 OHM 1/4W 5%
R24	2.7K OHM 1/4W 5%
R25	180 OHM 1/4W 5%
R26	360 OHM 1/4W 5%
R27	120K OHM 1/4W 5%
R28	330K OHM 1/4W 5%
R29	4.7K OHM 1/4W 5%
R30	510K OHM 1/4W 5%
R31	120K OHM 1/4W 5%

DESIGNATION	DESCRIPTION
R32	33K OHM 1/4W 5%
R33	18K OHM 1/4W 5%
R34	110K OHM 1/4W 5%
R35	33K OHM 1/4W 5%
R36	150K OHM 1/4W 5%
R37	82K OHM 1/4W 5%
R38	510K OHM 1/4W 5%
R39	150K OHM 1/4W 5%
R40	24K OHM 1/4W 5%
R41	3.3K OHM 1/4W 5%
R42	12K OHM 1/4W 5%
R43	330K OHM 1/4W 5%
R44	160K OHM 1/4W 5%
R45	100 OHM 1/4W 5%
R46	560K OHM 1/4W 5%
R47	24K OHM 1/4W 5%
R48	4.7K OHM 1/4W 5%
R49	2.7K OHM 1/4W 5%
R60	100 OHM 1/4W 5%
R61	1K OHM 1/4W 5%
Q1	MPS3646
Q2-Q4	2N5305
U1	C1K OSC
U2	74LS76
U3	68B09E
U4	EPROM/ROM
U5	EPROM/ROM
U6	2K X 8 RAM
U7	74LS139
U8	74LS02
U9	74LS00
U10	68B21
U11	AD7533
U12	40106
U13	LM359
U14	LM359
U15	3340
ICS U3	40 PIN IC SOCKET
ICS U4-U6	28 PIN IC SOCKET
ICS U10	40 PIN IC SOCKET
ICS U11	16 PIN IC SOCKET
FB1-FB4	FERRITE BEAD
JW1-JW5	JUMPER WIRE
SW1	PCB SWITCH

M051-00114-B163
TURBO CHEAP SQUEAK
A084-91779-B000 (Rev. 1)

DESIGNATION LIST

DESIGNATION	DESCRIPTION
LED 1	GREEN LED
U1	CLOCK OSCILLATOR 8MHZ
J1	9 PIN KK100 R/A
J2	12 PIN KK156 R/A
J3	12 PIN KK100 R/A
MTHW 1-4	SPACERS
PCB	TURBO CHEAP SQUEAK

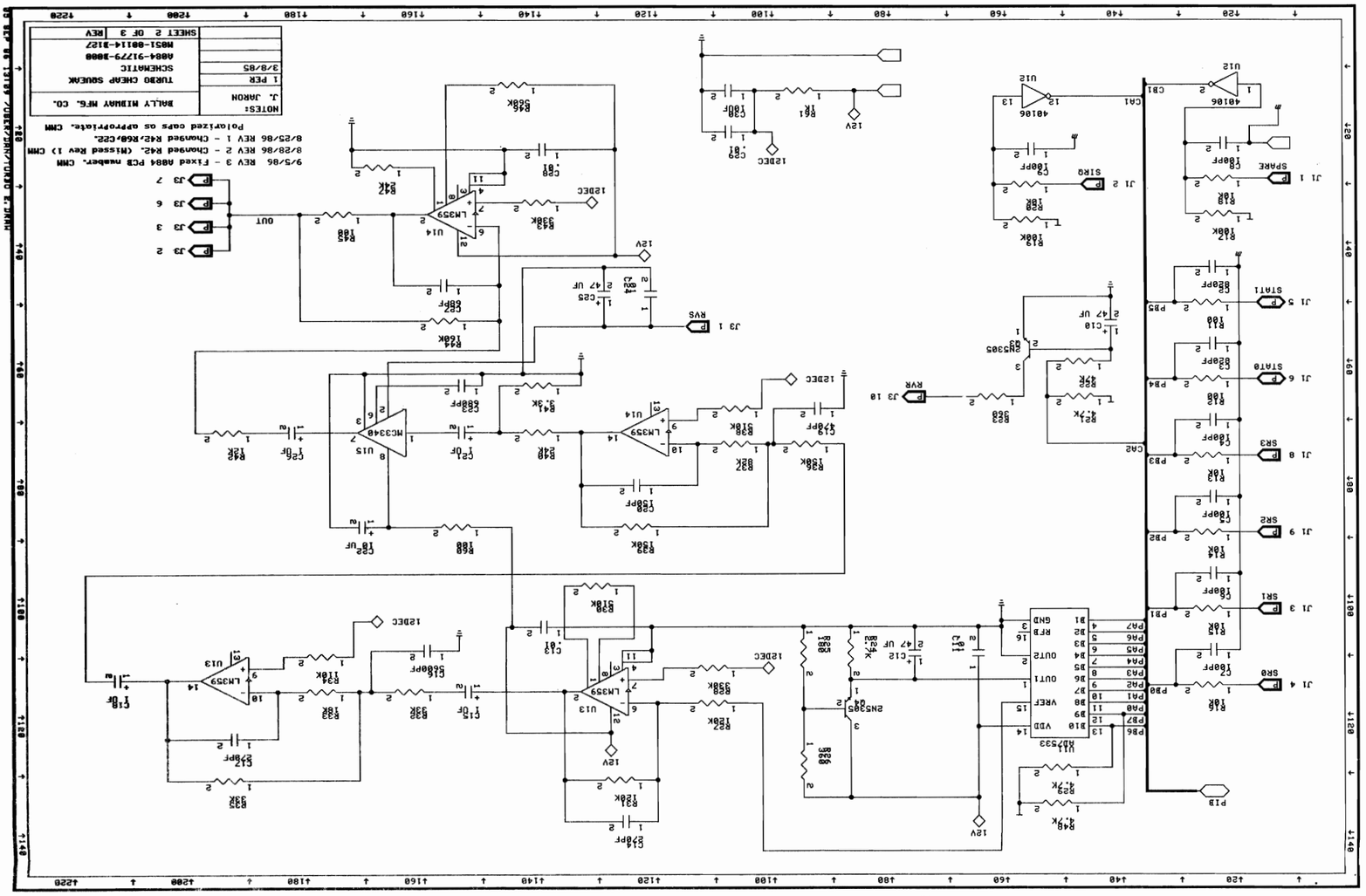
CROSS REFERENCE

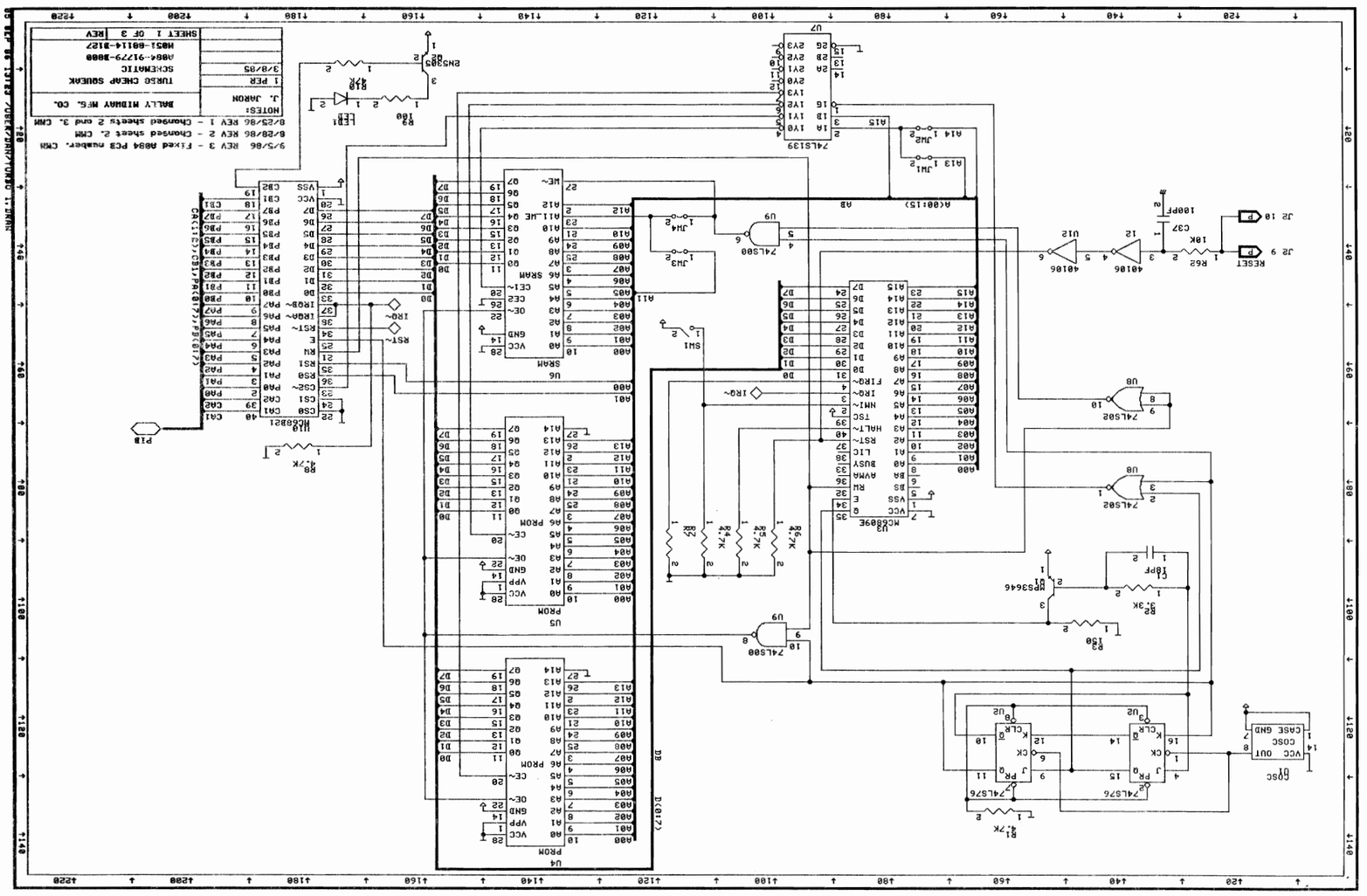
DESCRIPTION	QTY	DESIGNATION NO.	PART NUMBER
18PF AX. CR.	1	C1	0C48-00800-0001
68PF AX. CR.	1	C27	0307-00800-0011
100PF AX. CR.	7	C4,C5,C6,C7,C8,C9,C37	0304-00800-0001
150PF AX. CR.	1	C20	0307-00800-0010
270PF AX. CR.	2	C14,C17	0307-00800-0009
390PF AX. CR.	4	C31,C32,C33,C34	0986-00800-3000
470PF AX. CR.	1	C19	0307-00800-0008
680PF AX. CR.	1	C23	0358-00800-0002
820PF AX. CR.	2	C2,C3	0304-00800-0002
.0056MF AX. CR.	1	C16	0307-00800-0007
.01MF AX. CR.	15	CP1-CP11,C13,C24, C28,C29	0986-00800-2200
1MF RAD TANT	4	C15,C18,C21,C26	0307-00800-0004
10MF AX TANT	1	C22	0986-00800-0700
10MF RAD TANT	2	C10,C30,	0307-00800-0005
47MF AX. ELECT	2	C12,C25	0307-00800-0003
470MF AX. ELECT	2	C35,C36	0A15-00800-0005
100 OHM 1/4WATT 5%	5	R9,R11,R12,R45,R60	100E-00005-0033
150 OHM 1/4WATT 5%	1	R3	100E-00005-0037
180 OHM 1/4WATT 5%	1	R25	100E-00005-0039
360 OHM 1/4WATT 5%	2	R23,R26	100E-00005-0048
1K OHM 1/4WATT 5%	1	R61	100E-00005-0061
2.7K OHM 1/4WATT 5%	2	R24,R49	100E-00005-0071
3.3K OHM 1/4WATT 5%	2	R2,R41	100E-00005-0074
4.7K OHM 1/4WATT 5%	9	R1,R4,R5,R6,R7,R8 R21,R29,R48	100E-00005-0079
10K OHM 1/4WATT 5%	7	R13,R14,R15,R16,R18 R20,R62	100E-00005-0088
12K OHM 1/4WATT 5%	1	R42	100E-00005-0090
18K OHM 1/4WATT 5%	1	R33	100E-00005-0093
24K OHM 1/4WATT 5%	2	R40,R47	100E-00005-0097
33K OHM 1/4WATT 5%	2	R32,R35	100E-00005-0100
47K OHM 1/4WATT 5%	2	R10,R22	100E-00005-0104
82K OHM 1/4WATT 5%	1	R37	100E-00005-0112
100K OHM 1/4WATT 5%	2	R17,R19	100E-00005-0115
110K OHM 1/4WATT 5%	1	R34	100E-00005-0117
120K OHM 1/4WATT 5%	2	R27,R31	100E-00005-0118
150K OHM 1/4WATT 5%	2	R36,R39	100E-00005-0120
160K OHM 1/4WATT 5%	1	R44	100E-00005-0121
330K OHM 1/4WATT 5%	2	R28,R43	100E-00005-0128
510K OHM 1/4WATT 5%	2	R30,R38	100E-00005-0133
560K OHM 1/4WATT 5%	1	R46	100E-00005-0134
MPS3646	1	Q1	104E-00001-0019
2N5305	3	Q2-Q4	104E-00007-0003

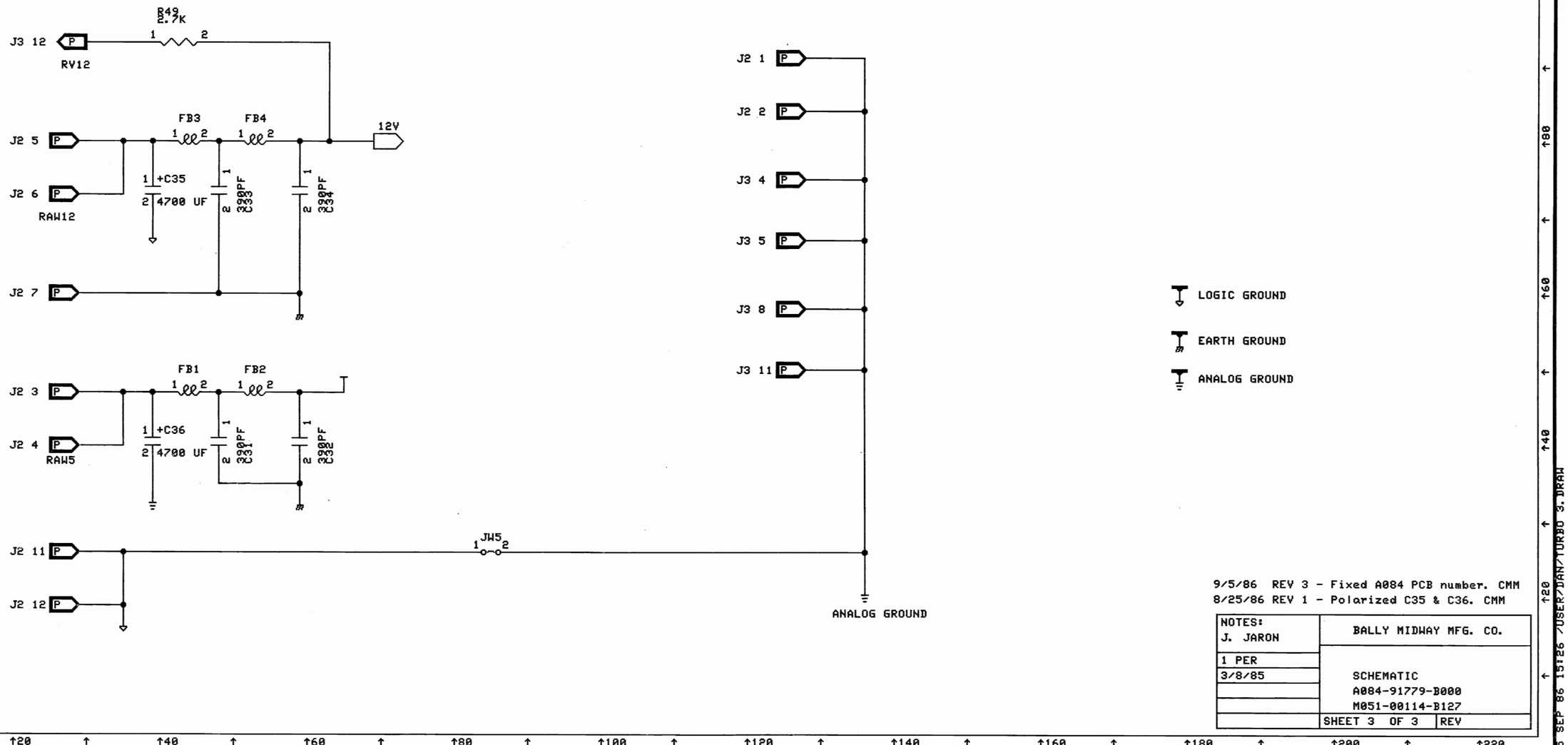
CROSS REFERENCE

DESCRIPTION	QTY	DESIGNATION NO.	PART NUMBER
IC 40106	1	IC U12	0304-00803-0056
IC 74LS00	1	IC U9	0A15-00803-0046
IC 74LS02	1	IC U8	0986-00803-7400
IC 74LS76	1	IC U2	0A15-00803-0072
IC 74LS139	1	IC U7	0A15-00803-0051
IC AD7533	1	IC U11	0304-00803-0055
IC LM359	2	IC U13-U14	0304-00803-0053
IC 3340	1	IC U15	0358-00803-0002
IC 68B09E	1	IC U3	0C48-00803-0001
IC 68B21	1	IC U10	0A15-00803-0074
IC 2K X 8 RAM	1	IC U6	0304-00803-0057
IC EPROM/ROM	2	IC U4-U5	SEE EPROM/ROM CHART
16 PIN IC SOCKET	1	ICS U11	110E-00001-0003
28 PIN IC SOCKET	3	ICS U4-U6	110E-00001-0010
40 PIN IC SOCKET	2	ICS U3,U10	110E-00001-0011
FERRITE BEAD	4	FB1,FB2,FB3,FB4	0316-00804-0002
JUMPER WIRE	5	JW1,JW2,JW3,JW4,JW5	117E-00001-0003
PCB SWITCH	1	SW1	0986-00804-3100
LED GREEN	1	LED 1	119E-00001-0001
CLOCK OSCILLATOR 8MHZ	1	U1	109E-00002-0009
9 PIN KK100 RT ANGLE	1	J1	0017-00021-1269
12 PIN KK156 RT ANGLE	1	J2	0017-00021-1286
12 PIN KK100 RT ANGLE	1	J3	0017-00021-1288
SPACERS	4	MTHW 1-4	0017-00042-0328
TURBO CHEAP SQUEAK	1	PCB	A080-91779-A000

8/25/86 Rev. 1 - Changed M051 Number. Changed R42,R60,and C22. CMM







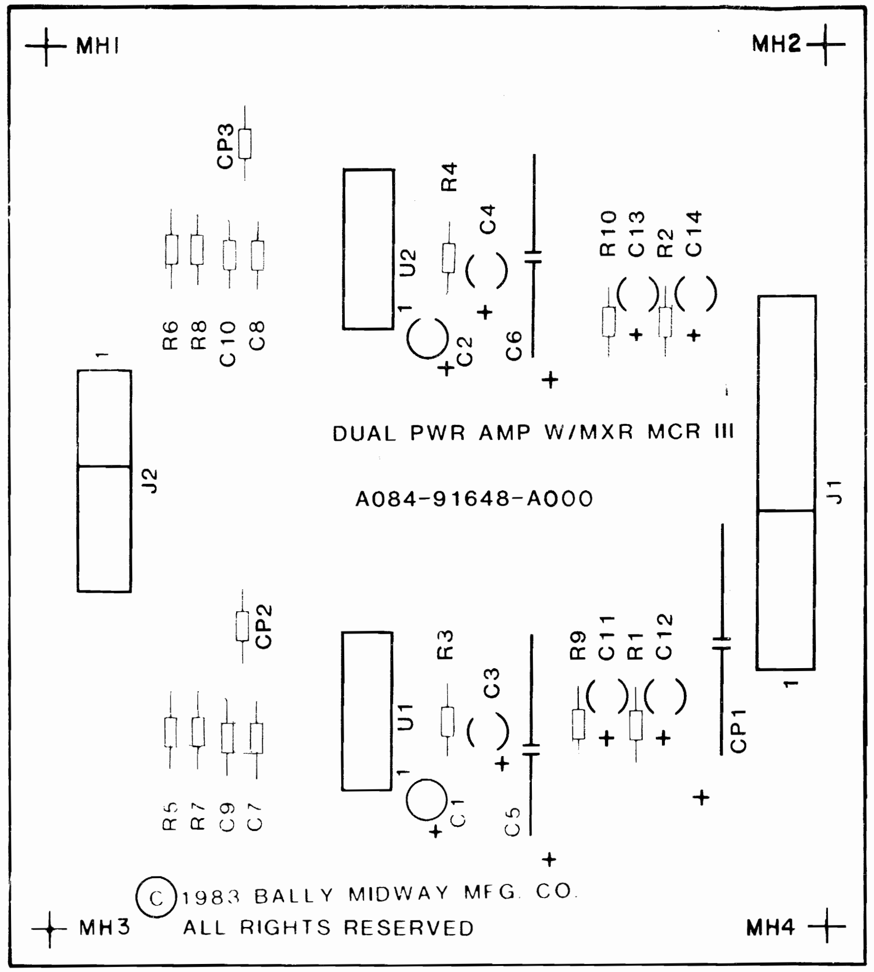
9/5/86 REV 3 - Fixed A084 PCB number. CMM
8/25/86 REV 1 - Polarized C35 & C36. CMM

NOTES: J. JARON	BALLY MIDWAY MFG. CO.
1 PER	
3/8/85	SCHEMATIC A084-91779-B000 M051-00114-B127
	SHEET 3 OF 3 REV

05 SEP 86 15:26 /USER/DAN/TURBO 3.DRAW

DESIGNATION LIST

DESIGNATION NO.	DESCRIPTION
C1,C2	4.7 MF 25V RD TANT.
C3,C4	22 MF 6V RD TANT.
C5,C6	470 MF 6V AX ELECT.
C7-C10	.1 MF 50V AX CR.
C11-C14	4.7 MF 25V RD TANT
CP1	220 MF 25V AX ELECT.
CP2,CP3	.1 MF 50V AX CR.
R1,R2	2.7K OHM 1/4W 5% CRBN.
R3,R4	27 OHM 1/4W 5% CRBN.
R5-R8	1 OHM 1/2W 5% CRBN.
R9,R10	2.7K OHM 1/4W 5%
U1,U2	MB3730
J1	.045 SQ. PIN
J2	.045 SQ. PIN
HSU1,U2	HEATSINK ASSY
DUAL PWR AMP W/MXR	A080-91648-A000



CROSS REFERENCE LIST

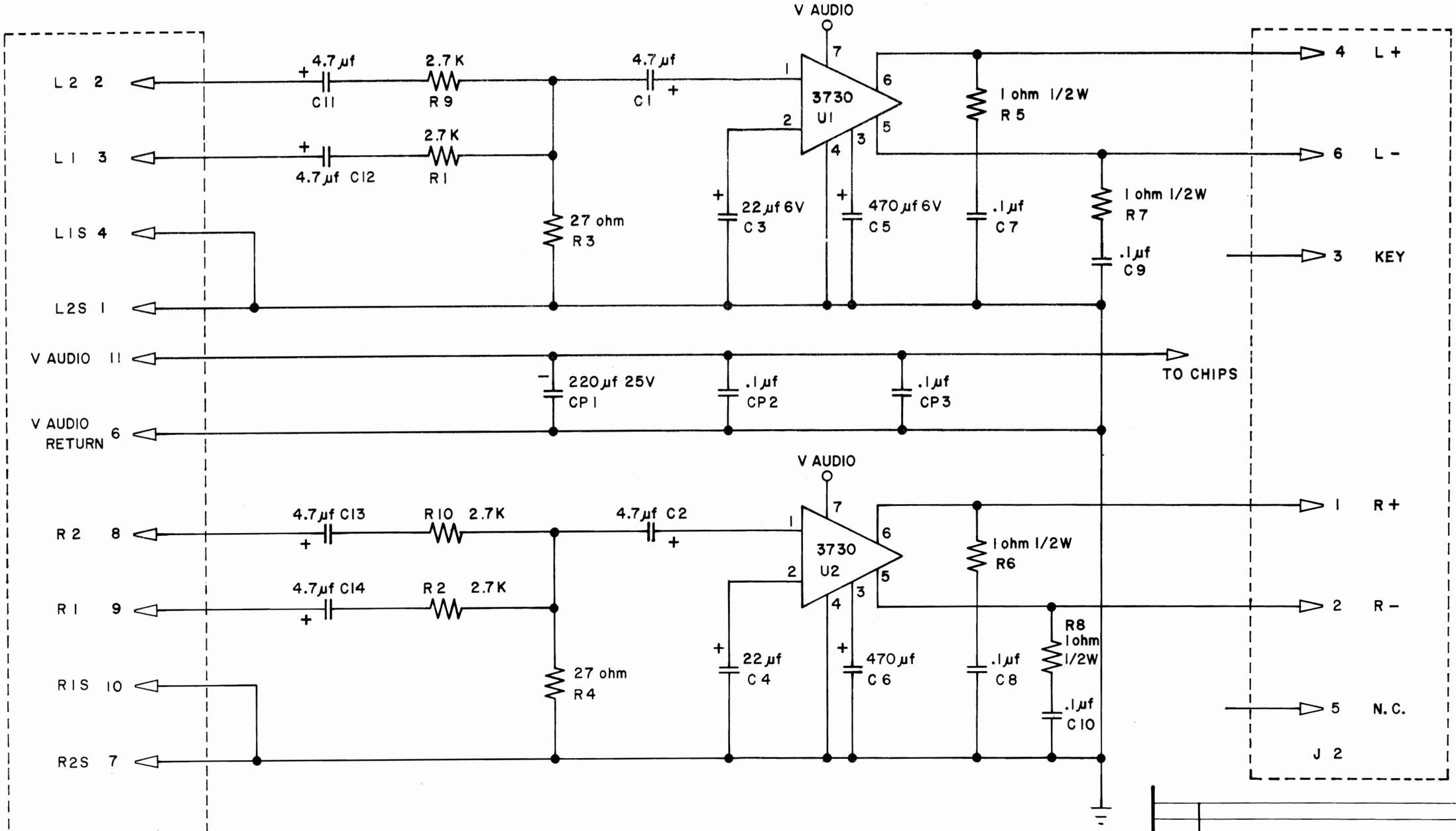
DESCRIPTION	QTY	DESIGNATION NO.	PART NOS.
.1 MF 50V AX CR.	6	C7-C10,CP2,CP3	0986-00800-1100
4.7 MF 25V RD TANT.	6	C1,C2,C11-C14	0986-00800-3100
22 MF 6V RD TANT	2	C3,C4	0986-00800-1600
220 MF 25V AX ELECT.	1	CP1	0986-00800-3200
470 MF 6V AX ELECT.	2	C5,C6	0986-00800-1700
1 OHM 1/2W 5%	4	R5-R8	100E-00006-0002
27 OHM 1/4W 5%	2	R3,R4	100E-00005-0018
2.7K 1/4W 5%	4	R1,R2,R9,R10	100E-00005-0071
MB3730 #	2	U1,U2	0066-188XX-XX4X
.045 SQ. PIN	5	J2	0304-00804-0010
.045 SQ. PIN	10	J1	0304-00804-0010
HEATSINK ASSY	2	HSU1,HSU2	A986-00010-0000
DUAL PWR AMP W/MXR	1		A080-91648-A000

#NOTE: THIS PART IS ACTUALLY PART OF THE HEATSINK ASSY.

REVISIONS

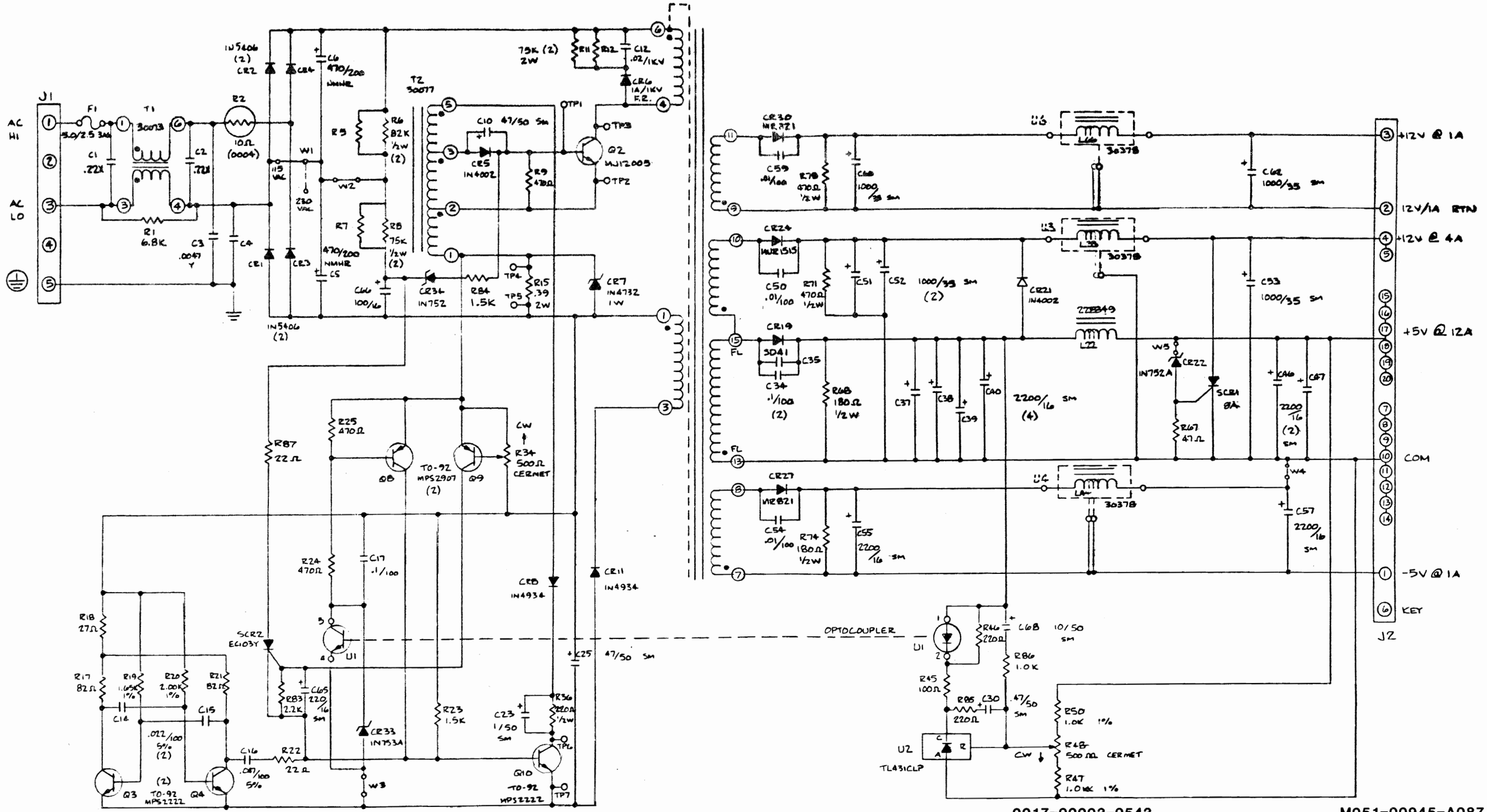
[illegible]	Rev1 - [illegible]	CMW

PROJECT ENG: C. MEDNICK	USED ON MCR III	Bally / MIDWAY MFG. CO. FRANKLIN PK. ILL.
DO NOT SCALE DWG.	NO. REQ'D 1 PER	
HEAT TREAT	SCALE FULL	
DIM. TOLERANCES UNLESS SPECIFIED	DRN RLW	
MAT'L	CKD.	
FINISH	DATE 07/05/83	
ASSEMBLY DWG. DUAL POWER AMP W/ MIXER MCR III A084-91648-A000		PART NO. M051 - 00304 - A012



REVISIONS		

PROJECT ENG: CARY MEDNICK			USED ON MCR/III	Bally / MIDWAY MFG. CO. FRANKLIN PK. ILL.
DO NOT SCALE DWG	HEAT TREAT	SCALE	NO. REQ'D 1 PER	
DIM. TOLERANCES UNLESS SPECIFIED CONCENTRICITY T I R .003 FRACTIONAL ± 1/64 DECIMAL ± .005 HOLE DIA + .002 .000	DRN. F.A.K. CKD. DATE 6/30/83	MAT'L. FINISH	SCHEMATIC DRAWING DUAL PWR AMP W/MXR MCR III A084-91648-A000	PART NO. M051 - 00304 - A013



2. CAPACITOR VALUES IN MICROFARADS / VOLTS.

1. RESISTOR VALUES ARE IN OHMS 1/4W, 5%, C.F.

NOTES: UNLESS OTHERWISE SPECIFIED.

FOR ADDITIONAL ELECTRICAL INFORMATION, REFER TO MECH. DWG. NO. 0017-00003-0543.

0017-00003-0543 **M051-00945-A087**

QTY REQD	FSCM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS ANGLES
.XX ±
.XXX ±

CONTRACT NO.

CONDOR INC.
CAMARILLO, CALIF 93010
(805) 484-2851

APPROVALS	DATE
DRAWN S. WINTERS	5-10-84
CHECKED	
ISSUED	

SCHEMATIC
SP1016

MATERIAL
FINISH
NEXT ASSY | USED ON
APPLICATION
DO NOT SCALE DRAWING

SIZE D | FSCM NO | DWG. NO 31-SP1016

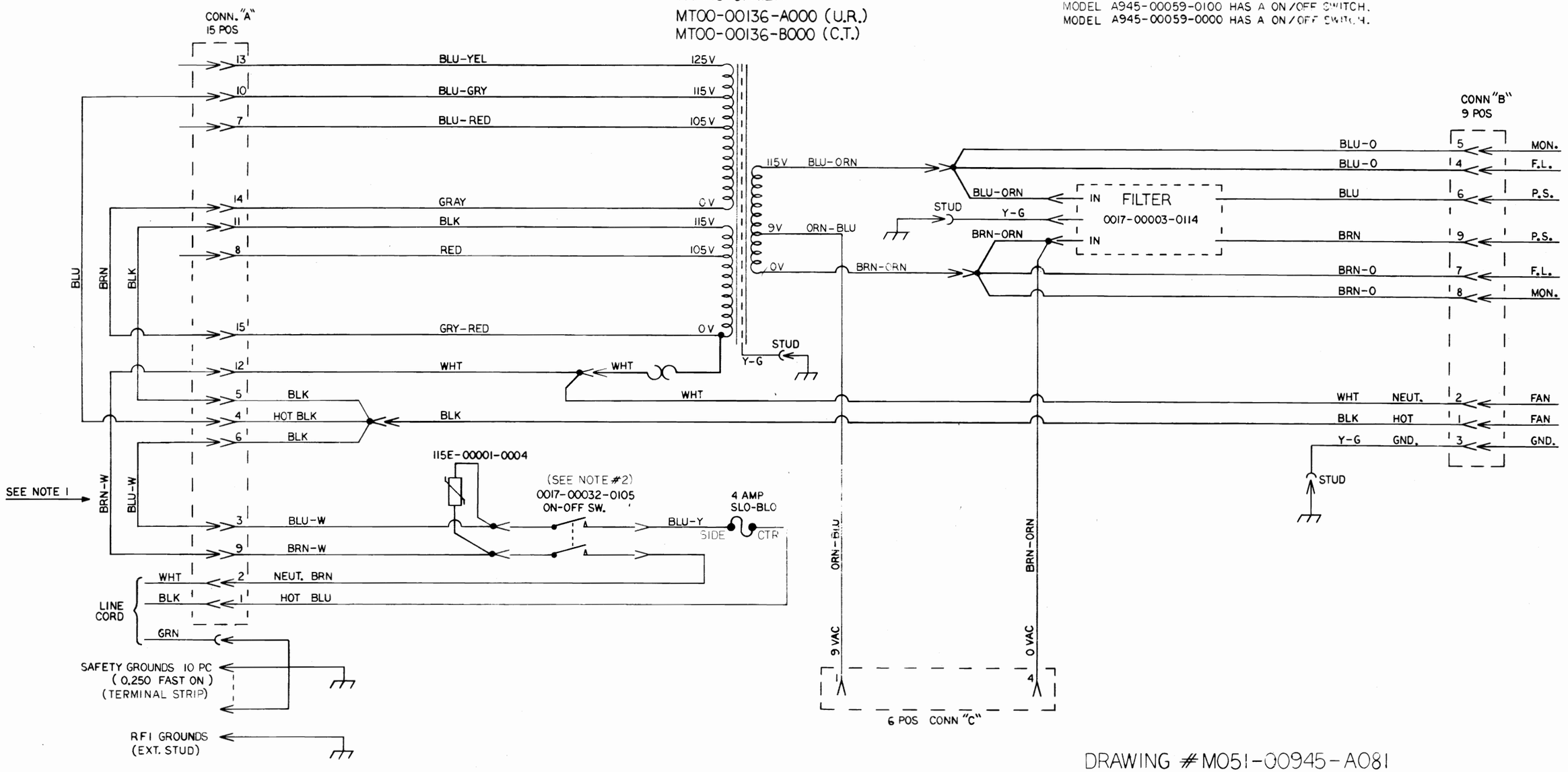
A945-00059-0000/0100/0200

UNI PWR SUPPLY CHASSIS ASS'Y # 125 SWUR + 125 SWCT

	105	115	210	220	230	240
BLK	5-8	5-11	8-14	11-14	11-14	11-14
BRN	14-15	14-15	—	—	—	—
BLU	4-7	4-10	4-7	4-7	4-10	4-13

NOTES: 1. JUMPERS ON CONN "A" 3-6 AND 9-12 CAN BE REPLACED WITH A SAFETY SW. AND/OR AUX. ON OFF SW.

2. MODEL A945-00059-0200 HAS A TERMINAL STRIP.
MODEL A945-00059-0100 HAS A ON/OFF SWITCH.
MODEL A945-00059-0000 HAS A ON/OFF SWITCH.

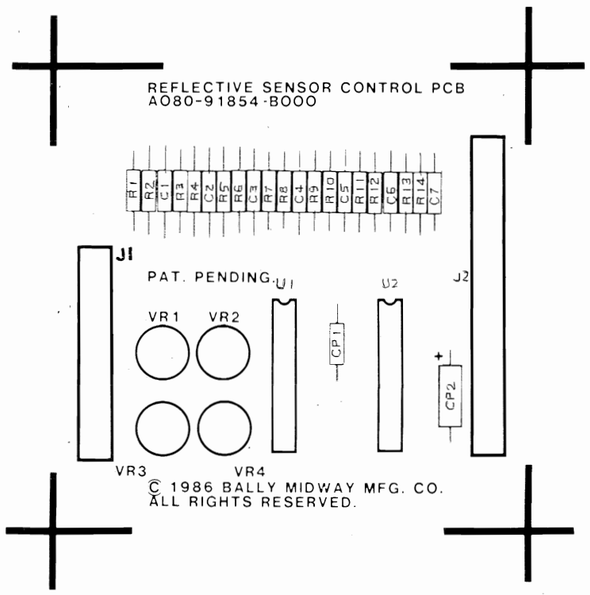


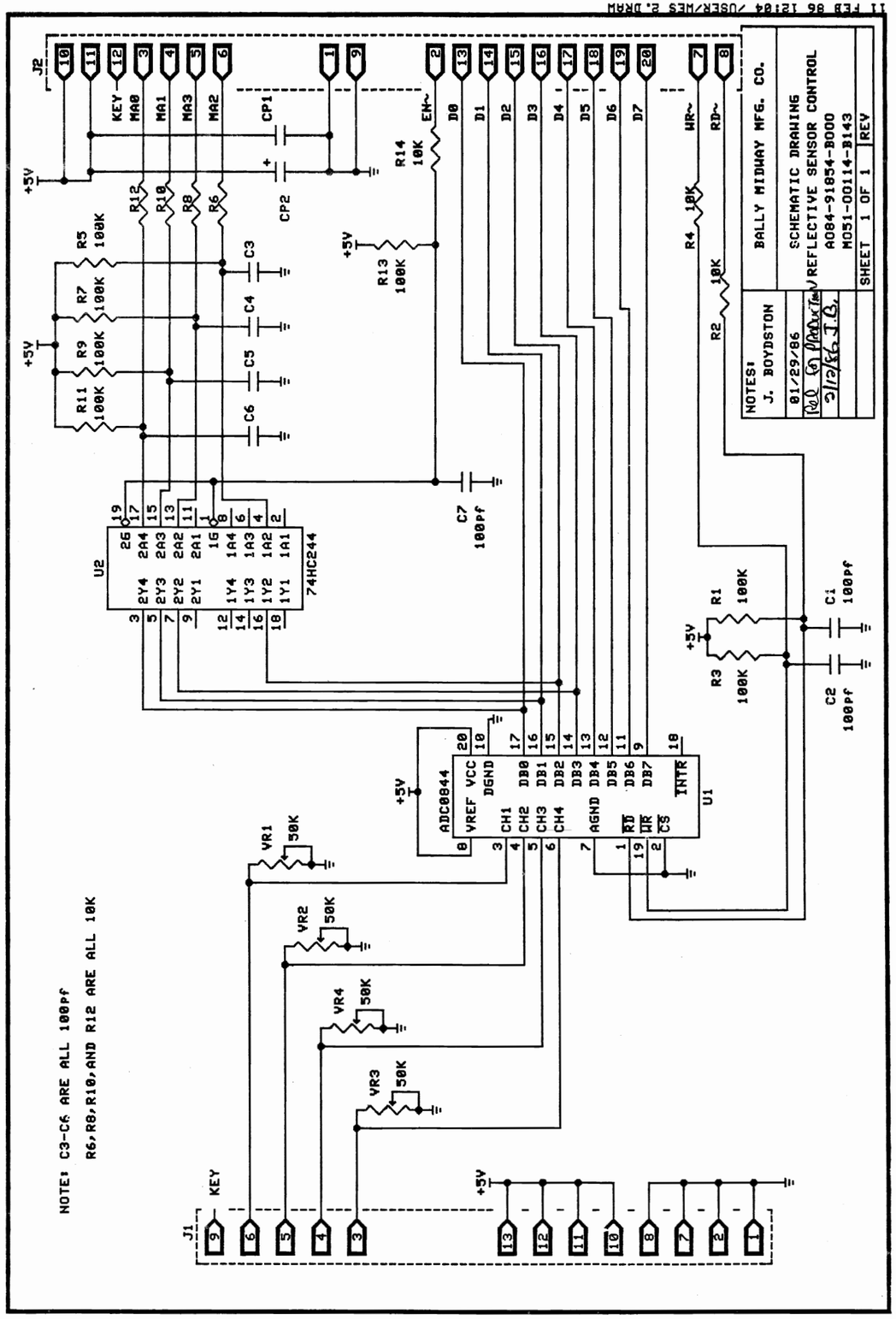
DRAWING # M051-00945-A081

REL FOR PRODUCTION: 4/26/85

M051-00114-B142
REFLECTIVE SENSOR CONTROL BOARD
A084-91854-B000

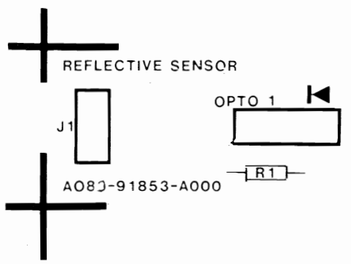
DESIGNATION NO.	DESCRIPTION	PART NUMBER
C1 - C7	100PF AX. CR.	0639-00800-0003
CP1	.01MF AX. CR.	0628-00800-0100
CP2	10MF AX. TANT.	0986-00800-3400
R1,R3,R5,R7,R9,R11,R13	100K OHM	100E-00005-0115
R2,R4,R6,R8,R10,R12,R14	10K OHM	100E-00005-0088
U1	ADC0844	0066-442BX-XXAX
U2	74HC244	0C75-00803-0001
VR1 - VR4	50K POT.	0C75-00804-0001
J1	13 PIN HDR. 100 CTR.	0017-00021-1642
J2	20 PIN HDR. 100 CTR.	0017-00021-1643
PCMH1 - PCMH4	SPACER #8	0017-00042-0320
PCB		A080-91854-B000

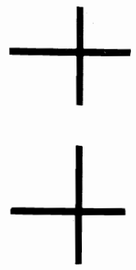


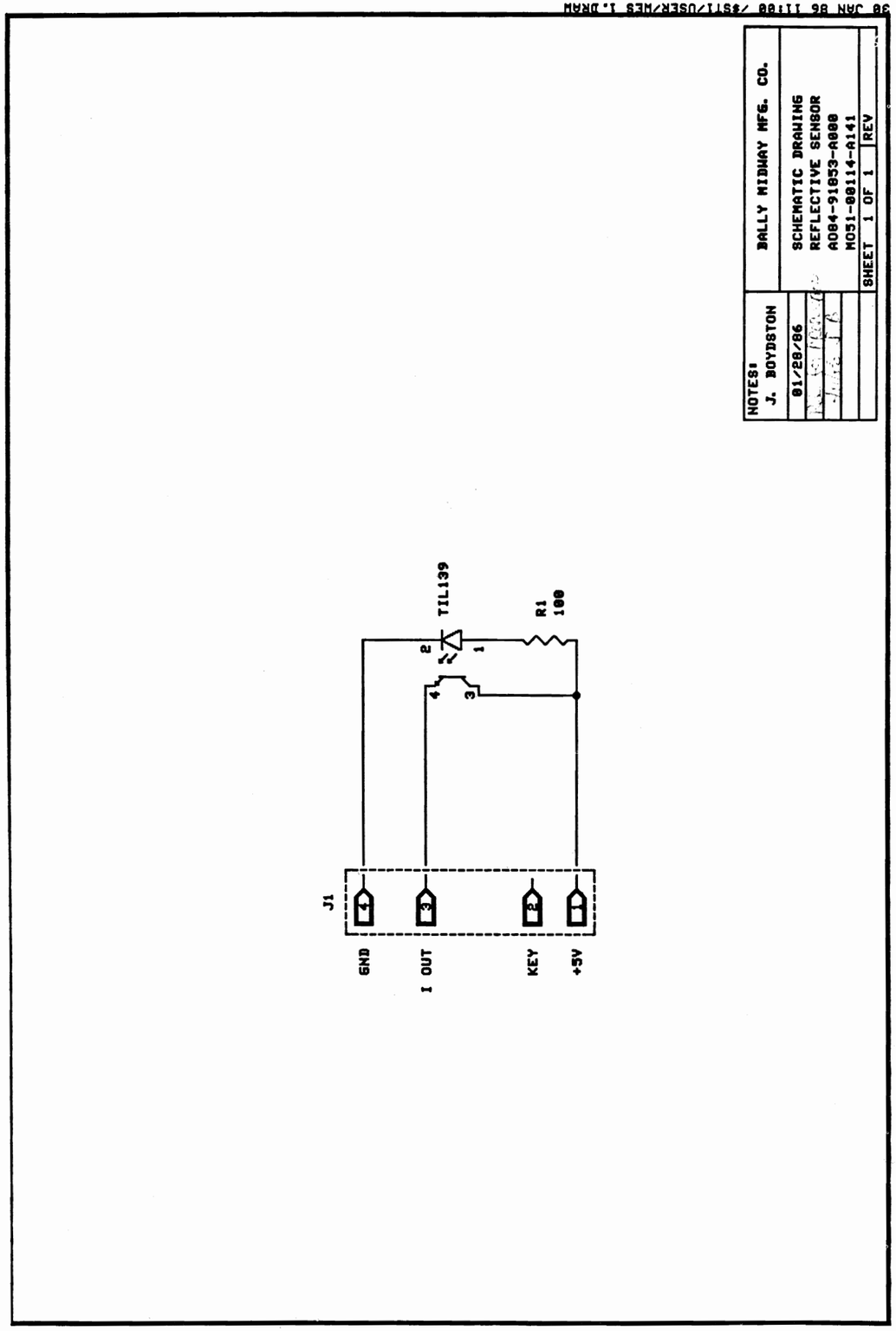


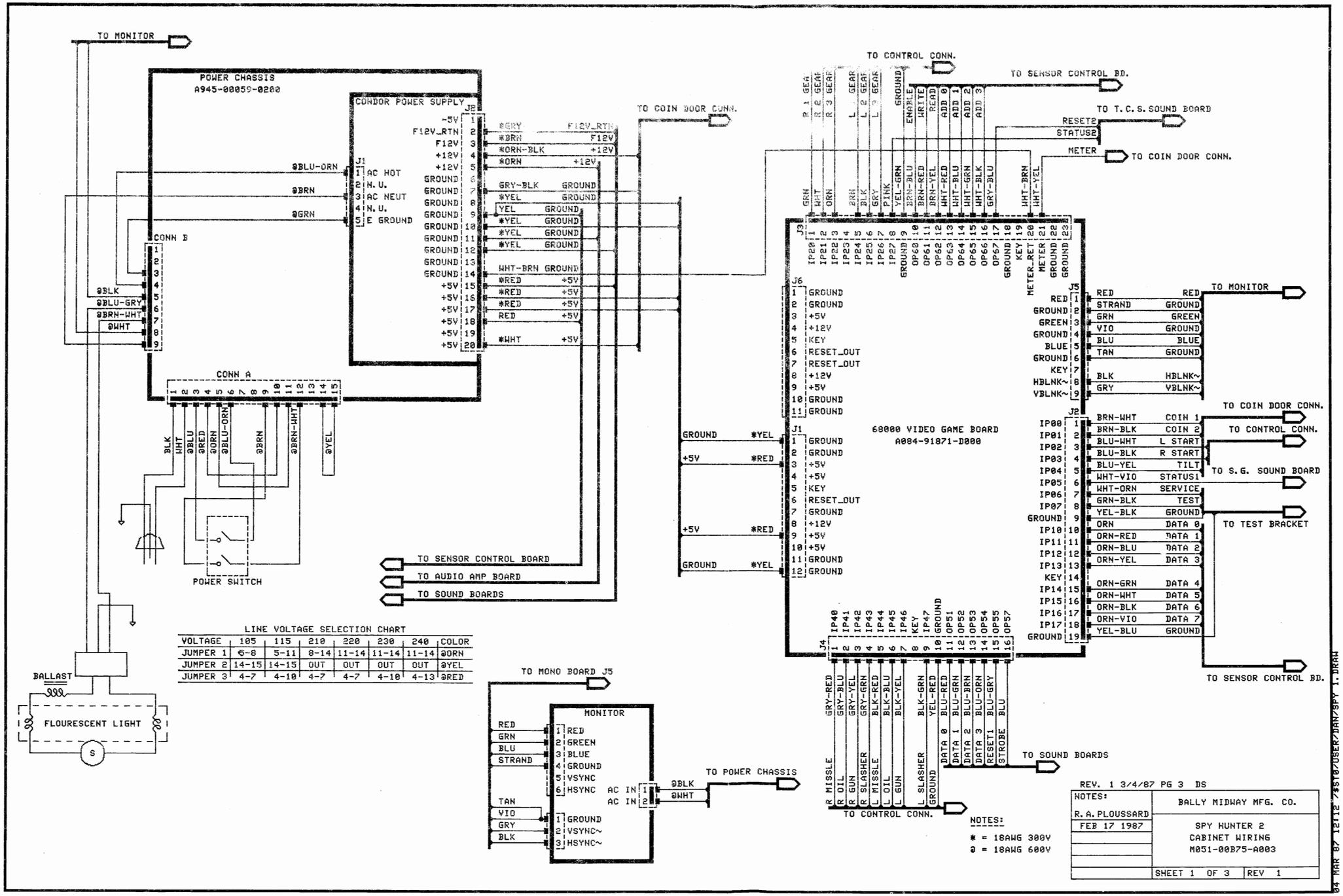
M051-00114-A140
REFLECTIVE SENSOR BOARD
A084-91853-A000

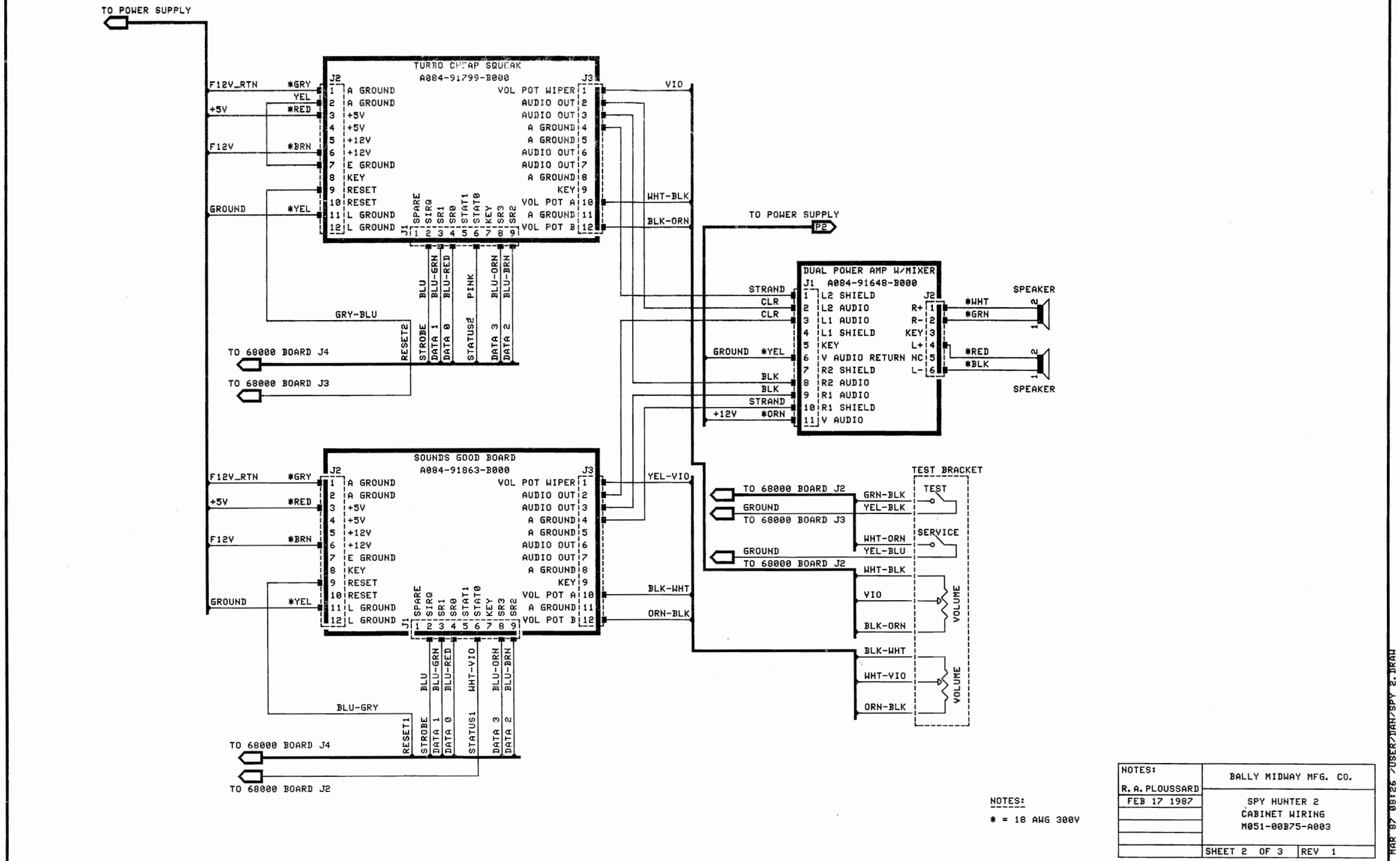
DESIGNATION NO.	DESCRIPTION	PART NUMBER
R1	100 OHM	100E-00005-0033
OPT 1	T1L139	120E-00001-0012
J1	4 PIN HDR. 100 CTR.	0017-00021-1635
PCB		A080-91853-A000

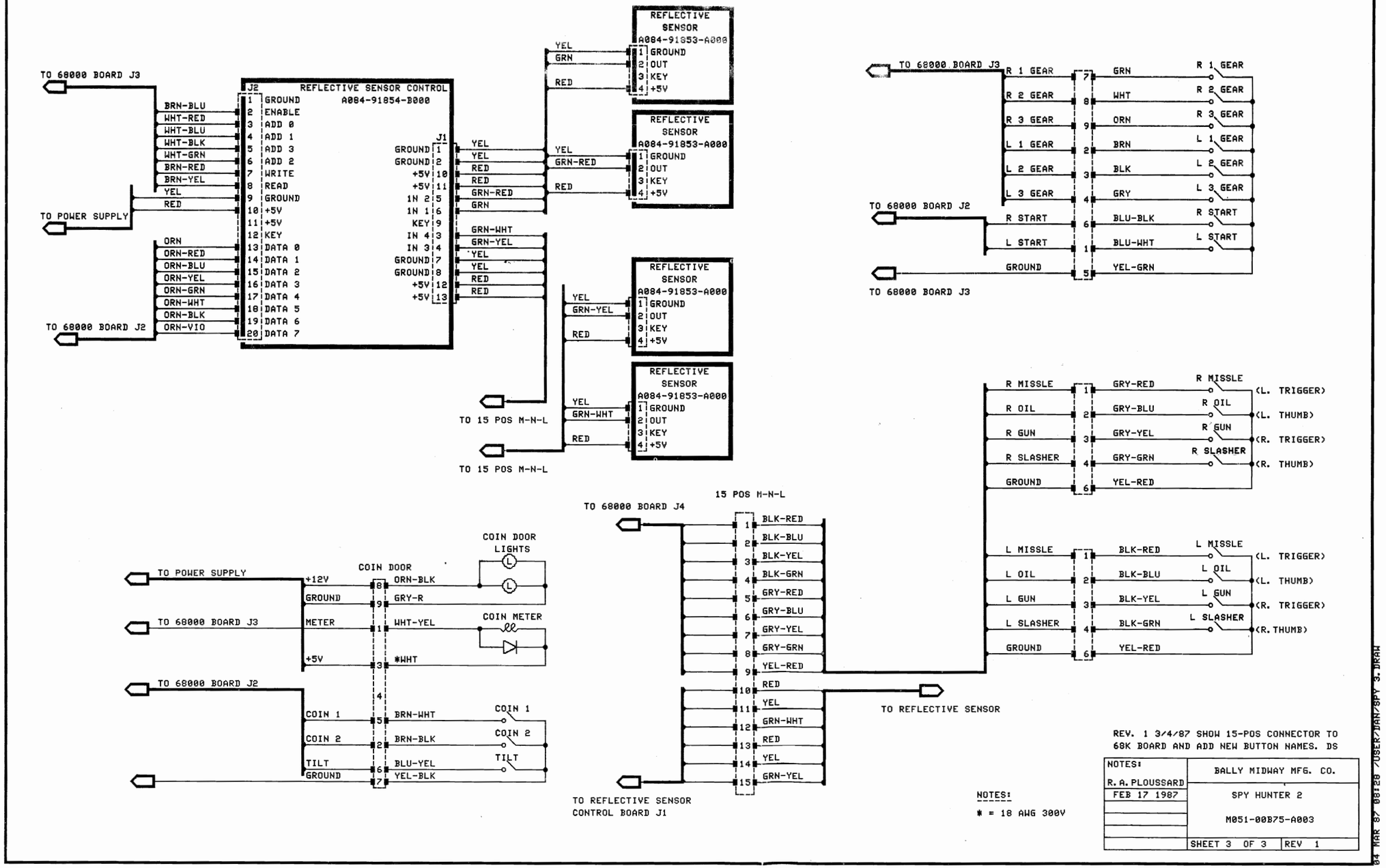







TO MONITOR
POWER CHASSIS
A945-00059-0200
CONDOR POWER SUPPLY
J8
-5V 1
F12V_RTN 2
F12V 3
+12V 4
+12V 5
GROUND 6
GROUND 7
GROUND 8
GROUND 9
GROUND 10
GROUND 11
GROUND 12
GROUND 13
GROUND 14
+5V 15
+5V 16
+5V 17
+5V 18
+5V 19
+5V 20
*GRY F12V_RTN
*BRN F12V
*ORN-BLK +12V
*ORN +12V
GRY-BLK GROUND
*YEL GROUND
YEL GROUND
*YEL GROUND
*YEL GROUND
*YEL GROUND
WHT-BRN GROUND
*RED +5V
*RED +5V
*RED +5V
RED +5V
*WHT +5V
J1
1 AC HOT
2 N.U.
3 AC NEUT
4 N.U.
5 E GROUND
@BLU-ORN
@BRN
@GRN
CONN B
@BLK
@BLU-GRY
@BRN-WHT
@WHT
CONN A
BLK WHT @BLU @RED @ORN @BLU-ORN @BRN @BRN-WHT @YEL
POWER SWITCH
BALLAST
FLOURESCENT LIGHT
S
TO COIN DOOR CONN.
TO SENSOR CONTROL BOARD
TO AUDIO AMP BOARD
TO SOUND BOARDS
TO CONTROL CONN.
TO SENSOR CONTROL BD.
TO T.C.S. SOUND BOARD
RESET2
STATUS2
METER
TO COIN DOOR CONN.
R 1 GEAR
R 2 GEAR
R 3 GEAR
L 1 GEAR
L 2 GEAR
L 3 GEAR
GROUND
ENABLE
WRITE
READ
ADD 0
ADD 1
ADD 2
ADD 3
GRN WHT ORN BRN BLK GRY PINK YEL-GRN BRN-BLU BRN-RED BRN-YEL WHT-RED WHT-BLU WHT-GRN WHT-BLK GRY-BLU WHT-BRN WHT-YEL
J3
IP20 IP21 IP22 IP23 IP24 IP25 IP26 IP27 GROUND OP60 OP61 OP62 OP63 OP64 OP65 OP66 OP67 GROUND KEY METER_RET METER GROUND GROUND
J6
1 GROUND
2 GROUND
3 +5V
4 +12V
5 KEY
6 RESET_OUT
7 RESET_OUT
8 +12V
9 +5V
10 GROUND
11 GROUND
J1
1 GROUND
2 GROUND
3 +5V
4 +5V
5 KEY
6 RESET_OUT
7 GROUND
8 +12V
9 +5V
10 +5V
11 GROUND
12 GROUND
GROUND *YEL
+5V *RED
+5V *RED
GROUND *YEL
68000 VIDEO GAME BOARD
A084-91871-D000
J5
RED 1 RED
GROUND 2 STRAND GROUND
GREEN 3 GRN GREEN
GROUND 4 VIO GROUND
BLUE 5 BLU BLUE
GROUND 6 TAN GROUND
KEY 7
HBLNK~ 8 BLK HBLNK~
VBLNK~ 9 GRY VBLNK~
J2
IP00 1 BRN-WHT COIN 1
IP01 2 BRN-BLK COIN 2
IP02 3 BLU-WHT L START
IP03 4 BLU-BLK R START
IP04 5 BLU-YEL TILT
IP05 6 WHT-VIO STATUS1
IP06 7 WHT-ORN SERVICE
IP07 8 GRN-BLK TEST
GROUND 9 YEL-BLK GROUND
IP10 10 ORN DATA 0
IP11 11 ORN-RED DATA 1
IP12 12 ORN-BLU DATA 2
IP13 13 ORN-YEL DATA 3
KEY 14
IP14 15 ORN-GRN DATA 4
IP15 16 ORN-WHT DATA 5
IP16 17 ORN-BLK DATA 6
IP17 18 ORN-VIO DATA 7
GROUND 19 YEL-BLU GROUND
TO MONITOR
TO COIN DOOR CONN.
TO CONTROL CONN.
TO S.G. SOUND BOARD
TO TEST BRACKET
TO SENSOR CONTROL BD.
J4
IP40 IP41 IP42 IP43 IP44 IP45 IP46 KEY IP47 GROUND OP51 OP52 OP53 OP54 OP55 OP57
GRY-RED GRY-BLU GRY-YEL GRY-GRN BLK-RED BLK-BLU BLK-YEL BLK-GRN YEL-RED BLU-RED BLU-GRN BLU-BRN BLU-ORN BLU-GRY BLU
R MISSLE R OIL R GUN R SLASHER L MISSLE L OIL L GUN L SLASHER GROUND DATA 0 DATA 1 DATA 2 DATA 3 RESET1 STROBE
TO CONTROL CONN.
TO SOUND BOARDS
TO MONO BOARD J5
MONITOR
RED 1 RED
GRN 2 GREEN
BLU 3 BLUE
STRAND 4 GROUND
5 VSYNC
6 HSYNC
AC IN 1
AC IN 2
TAN GROUND
VIO VSYNC~
GRY HSYNC~
BLK
@BLK
@WHT
TO POWER CHASSIS
LINE VOLTAGE SELECTION CHART
VOLTAGE 105 115 210 220 230 240 COLOR
JUMPER 1 6-8 5-11 8-14 11-14 11-14 11-14 @ORN
JUMPER 2 14-15 14-15 OUT OUT OUT OUT @YEL
JUMPER 3 4-7 4-10 4-7 4-7 4-10 4-13 @RED
NOTES:
* = 18AWG 300V
@ = 18AWG 600V
REV. 1 3/4/87 PG 3 DS
NOTES:
R.A. PLOUSSARD
FEB 17 1987
BALLY MIDWAY MFG. CO.
SPY HUNTER 2
CABINET WIRING
M051-00B75-A003
SHEET 1 OF 3
REV 1
04 MAR 87 12:12 /ss10/USER/DAN/SPY 1.DRW


TO POWER SUPPLY
TURBO CHEAP SQUEAK
A084-91799-B000
J2
1 A GROUND
2 A GROUND
3 +5V
4 +5V
5 +12V
6 +12V
7 E GROUND
8 KEY
9 RESET
10 RESET
11 L GROUND
12 L GROUND
J3
VOL POT WIPER 1
AUDIO OUT 2
AUDIO OUT 3
A GROUND 4
A GROUND 5
AUDIO OUT 6
AUDIO OUT 7
A GROUND 8
KEY 9
VOL POT A 10
A GROUND 11
VOL POT B 12
J1
SPARE SIRQ SR1 SR0 STAT1 STAT0 KEY SR3 SR2
F12V_RTN *GRY
YEL
+5V *RED
F12V *BRN
GROUND *YEL
VIO
WHT-BLK
BLK-ORN
BLU BLU-GRN BLU-RED PINK BLU-ORN BLU-BRN
GRY-BLU
RESET2 STROBE DATA 1 DATA 0 STATUS2 DATA 3 DATA 2
TO 68000 BOARD J4
TO 68000 BOARD J3
TO POWER SUPPLY
P2
DUAL POWER AMP W/MIXER
J1 A084-91648-B000
1 L2 SHIELD
2 L2 AUDIO
3 L1 AUDIO
4 L1 SHIELD
5 KEY
6 V AUDIO RETURN
7 R2 SHIELD
8 R2 AUDIO
9 R1 AUDIO
10 R1 SHIELD
11 V AUDIO
J2
R+ 1
R- 2
KEY 3
L+ 4
NC 5
L- 6
STRAND
CLR
CLR
GROUND *YEL
BLK
BLK
STRAND
+12V *ORN
*WHT
*GRN
*RED
*BLK
SPEAKER
SPEAKER
SOUNDS GOOD BOARD
A084-91863-B000
J2
1 A GROUND
2 A GROUND
3 +5V
4 +5V
5 +12V
6 +12V
7 E GROUND
8 KEY
9 RESET
10 RESET
11 L GROUND
12 L GROUND
J3
VOL POT WIPER 1
AUDIO OUT 2
AUDIO OUT 3
A GROUND 4
A GROUND 5
AUDIO OUT 6
AUDIO OUT 7
A GROUND 8
KEY 9
VOL POT A 10
A GROUND 11
VOL POT B 12
J1
SPARE SIRQ SR1 SR0 STAT1 STAT0 KEY SR3 SR2
F12V_RTN *GRY
+5V *RED
F12V *BRN
GROUND *YEL
YEL-VIO
BLK-WHT
ORN-BLK
BLU BLU-GRN BLU-RED WHT-VIO BLU-ORN BLU-BRN
BLU-GRY
RESET1 STROBE DATA 1 DATA 0 STATUS1 DATA 3 DATA 2
TO 68000 BOARD J4
TO 68000 BOARD J2
TEST BRACKET
TO 68000 BOARD J2
GROUND
TO 68000 BOARD J3
GROUND
TO 68000 BOARD J2
GRN-BLK
YEL-BLK
WHT-ORN
YEL-BLU
WHT-BLK
VIO
BLK-ORN
BLK-WHT
WHT-VIO
ORN-BLK
TEST
SERVICE
VOLUME
VOLUME
NOTES:
* = 18 AWG 300V
NOTES:
R. A. PLOUSSARD
FEB 17 1987
BALLY MIDWAY MFG. CO.
SPY HUNTER 2
CABINET WIRING
M051-00B75-A003
SHEET 2 OF 3
REV 1
04 MAR 87 08:26 /USER/DAN/SPY 2.DRAW


TO 68000 BOARD J3
BRN-BLU
WHT-RED
WHT-BLU
WHT-BLK
WHT-GRN
BRN-RED
BRN-YEL
YEL
RED
TO POWER SUPPLY
ORN
ORN-RED
ORN-BLU
ORN-YEL
ORN-GRN
ORN-WHT
ORN-BLK
ORN-VIO
TO 68000 BOARD J2
J2 REFLECTIVE SENSOR CONTROL
A084-91854-B000
1 GROUND
2 ENABLE
3 ADD 0
4 ADD 1
5 ADD 3
6 ADD 2
7 WRITE
8 READ
9 GROUND
10 +5V
11 +5V
12 KEY
13 DATA 0
14 DATA 1
15 DATA 2
16 DATA 3
17 DATA 4
18 DATA 5
19 DATA 6
20 DATA 7
J1
GROUND 1
GROUND 2
+5V 10
+5V 11
IN 2 5
IN 1 6
KEY 9
IN 4 3
IN 3 4
GROUND 7
GROUND 8
+5V 12
+5V 13
YEL
YEL
RED
RED
GRN-RED
GRN
GRN-WHT
GRN-YEL
YEL
YEL
RED
RED
REFLECTIVE SENSOR
A084-91853-A000
1 GROUND
2 OUT
3 KEY
4 +5V
YEL
GRN
RED
YEL
GRN-RED
RED
YEL
GRN-YEL
RED
YEL
GRN-WHT
RED
TO 15 POS M-N-L
TO 15 POS M-N-L
TO 68000 BOARD J3
R 1 GEAR
R 2 GEAR
R 3 GEAR
L 1 GEAR
L 2 GEAR
L 3 GEAR
TO 68000 BOARD J2
R START
L START
GROUND
TO 68000 BOARD J3
7 GRN
8 WHT
9 ORN
2 BRN
3 BLK
4 GRY
6 BLU-BLK
1 BLU-WHT
5 YEL-GRN
R 1 GEAR
R 2 GEAR
R 3 GEAR
L 1 GEAR
L 2 GEAR
L 3 GEAR
R START
L START
R MISSLE
R OIL
R GUN
R SLASHER
GROUND
1 GRY-RED
2 GRY-BLU
3 GRY-YEL
4 GRY-GRN
6 YEL-RED
R MISSLE (L. TRIGGER)
R OIL (L. THUMB)
R GUN (R. TRIGGER)
R SLASHER (R. THUMB)
L MISSLE
L OIL
L GUN
L SLASHER
GROUND
1 BLK-RED
2 BLK-BLU
3 BLK-YEL
4 BLK-GRN
6 YEL-RED
L MISSLE (L. TRIGGER)
L OIL (L. THUMB)
L GUN (R. TRIGGER)
L SLASHER (R. THUMB)
TO 68000 BOARD J4
15 POS M-N-L
1 BLK-RED
2 BLK-BLU
3 BLK-YEL
4 BLK-GRN
5 GRY-RED
6 GRY-BLU
7 GRY-YEL
8 GRY-GRN
9 YEL-RED
10 RED
11 YEL
12 GRN-WHT
13 RED
14 YEL
15 GRN-YEL
TO REFLECTIVE SENSOR
TO REFLECTIVE SENSOR CONTROL BOARD J1
COIN DOOR LIGHTS
COIN DOOR
TO POWER SUPPLY
+12V
GROUND
TO 68000 BOARD J3
METER
+5V
TO 68000 BOARD J2
COIN 1
COIN 2
TILT
GROUND
8 ORN-BLK
9 GRY-R
1 WHT-YEL
3 *WHT
4
5 BRN-WHT
2 BRN-BLK
6 BLU-YEL
7 YEL-BLK
COIN METER
COIN 1
COIN 2
TILT
NOTES:
* = 18 AWG 300V
REV. 1 3/4/87 SHOW 15-POS CONNECTOR TO 68K BOARD AND ADD NEW BUTTON NAMES. DS
NOTES:
R. A. PLOUSSARD
FEB 17 1987
BALLY MIDWAY MFG. CO.
SPY HUNTER 2
M051-00B75-A003
SHEET 3 OF 3
REV 1
04 MAR 87 08:28 /USER/DAN/SPY 3.DRAW