

- RAMTEK -

the display company

RAMTEK CORPORATION
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BASEBALL ENGINEERING CHANGES

Board #1 (550185)

1. Jumper wire from Pin 10 to Pin 16 of 8H. (Vcc) Trace correction.
2. Jumper wire from Pin 13 of 9A to Pin 13 of 5A. (ITQ10) Cut traces from Pin 13 of 5A, 1 topside, 1 underside. Trace correction.
3. Jumper wire from Pin 1 of 5A to trace that was cut from Pin 13 of 5A. (Underside of Board) (2TQ10) Trace correction.
4. Jumper wire from Pin 9 of 5C to Pin 2 of 4C. (5GNRS) Cut trace between Pins 1 & 2 of 4C. Trace correction.
5. Jumper wire from Pin 6 of 5C to Pin 9 of 2D. (5EQTL) Trace correction.
6. Jumper wire from Pin 5 of 5C to Pin 4 of 2B. (7FBCO) Cut trace from Pin 5 of 5C underside of board. Trace correction.
7. Jumper together Pins 2 & 3 of 2B. Jumper wire from Pin 2 of 2B to trace that was cut from Pin 5 of 5C. (6FBCO) Trace correction.
8. Jumper wire from Pin 1 of 1F to Pin 1 of 2F. (1BREA) Trace correction.
9. Jumper wire from Pin 2 of 10B to open end of .01 mfd capacitor-CK05. Trace correction.
10. Change 9B to 74S37. Corrects flashing numbers.

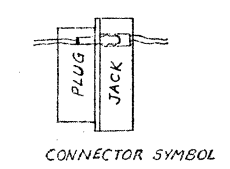
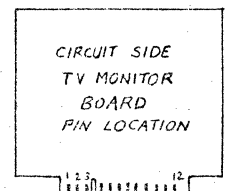
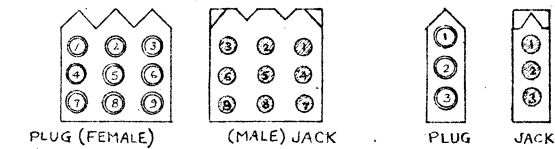
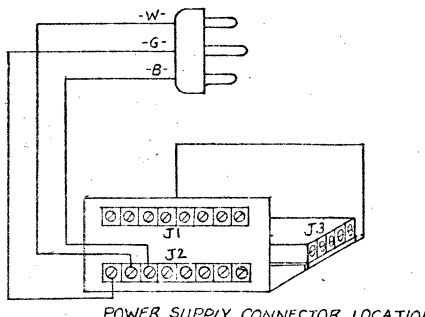
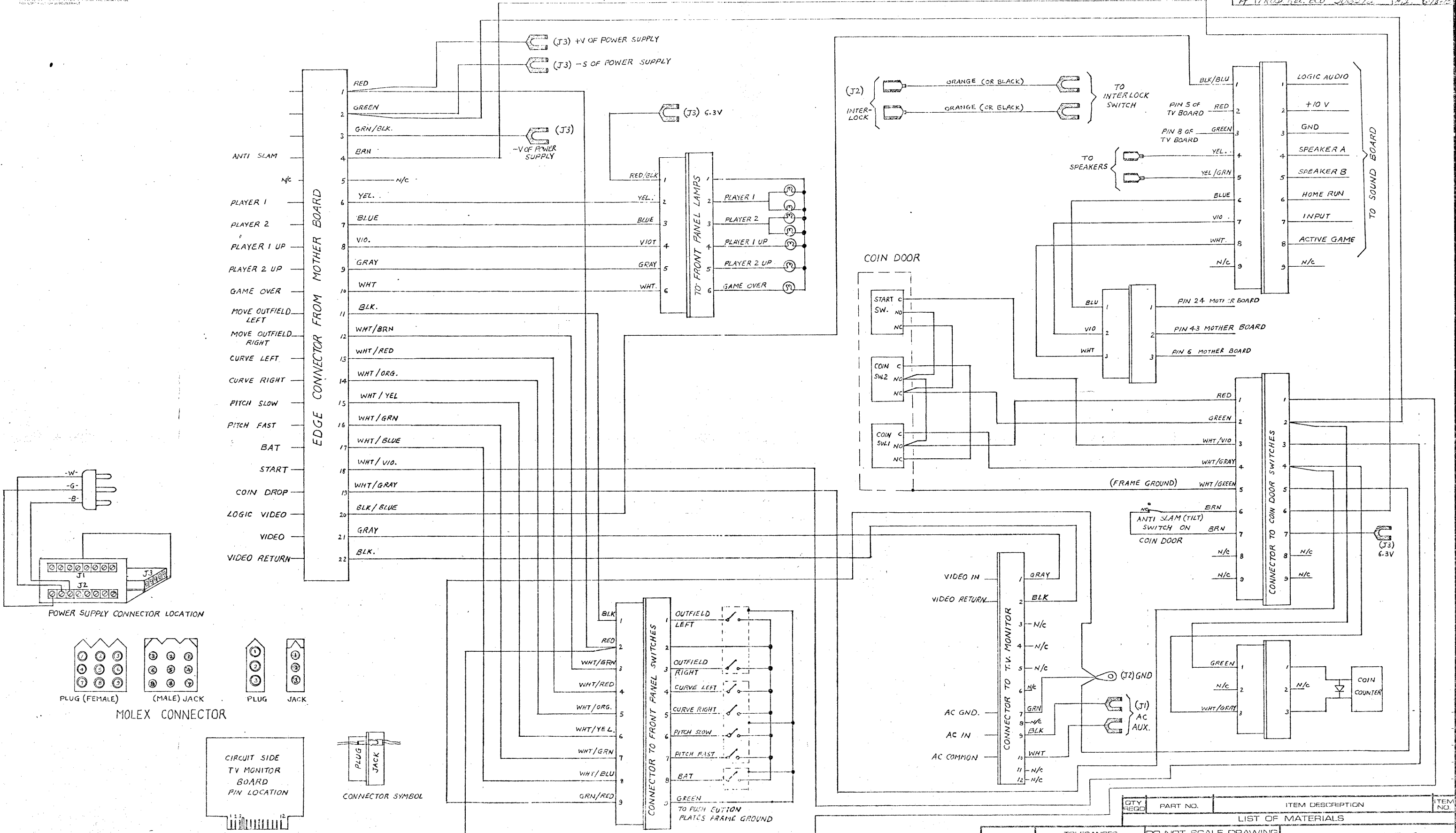
4/8/75

Baseball Engineering Changes (Con't.)

Board #2 (550186)

1. Jumper wire from Pin 15 of 3H to Pin 15 of 4H. (GMAT)
Trace correction.
2. Jumper wire from Pin 9 of 10K to Pin 1 of 9B. (5OTRS)
Cut trace between Pins 1 & 2 of 9B. Trace correction.
3. Add a 100ohm 1/4 watt resistor from Pin 13 of 10E to ground
trace. (2THSC) Corrects flashing numbers.

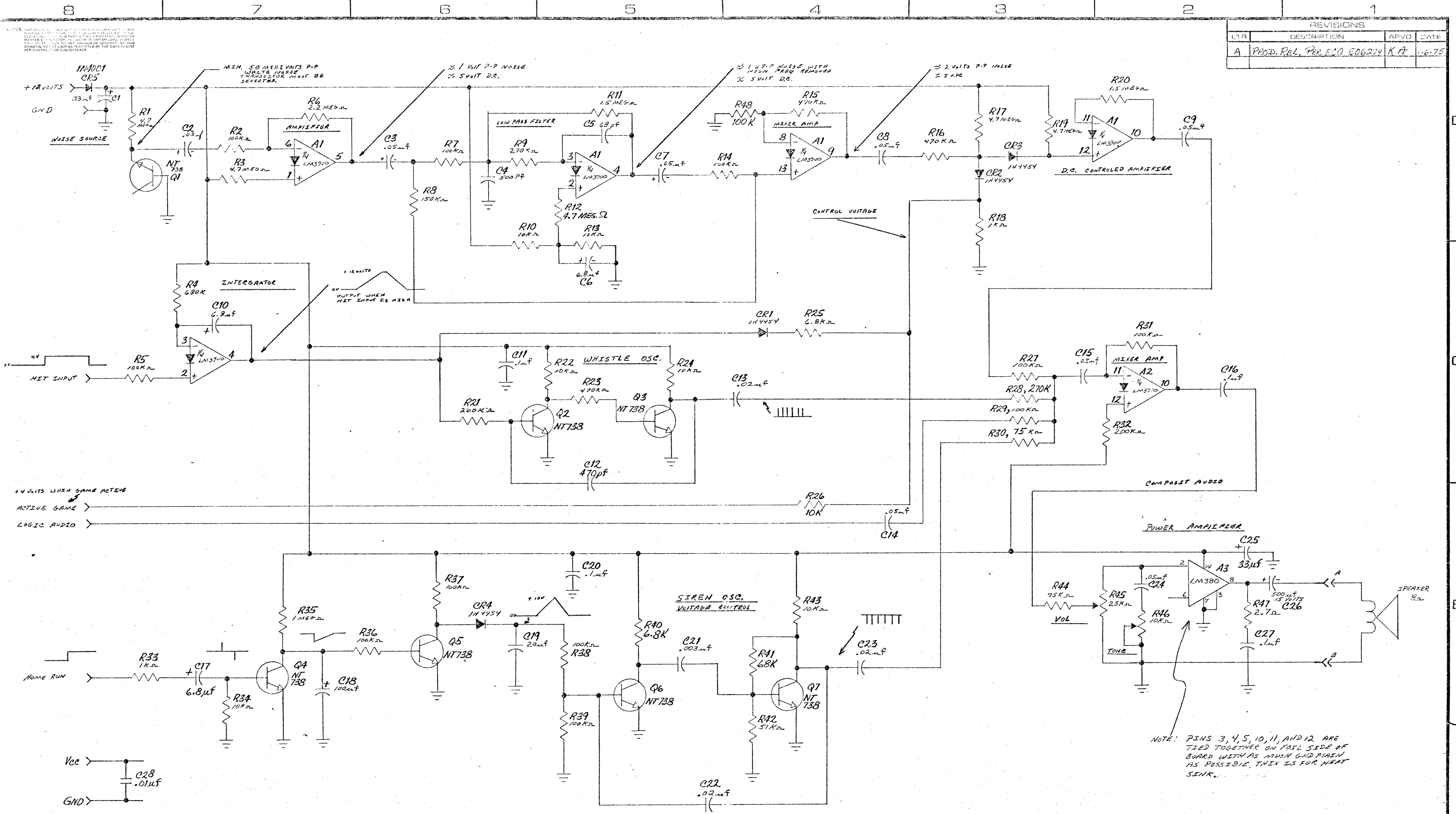
REVISIONS			
LTN	DESCRIPTION	APVD	DATE
1	PROD REL ECD 506512	4/2	6/18/72



NOTES:

- ON A PAIR OF CONNECTORS, WIRES ON JACK SIDE HAS SAME COLOR CODE AS THE PLUG SIDE.
- CONNECTION OF TWO WIRES IS DENOTED BY A HEAVY DOT AT THE CONNECTING POINT; — OR —

QTY	RECD	PART NO.	ITEM DESCRIPTION	ITEM NO.
LIST OF MATERIALS				
TOLERANCES			DO NOT SCALE DRAWING	
550376	UNLESS OTHERWISE SPECIFIED: REMOVE ALL BURRS & BREAK ALL SHARP EDGES.	SIGNATURES	DATE	
550377	.XX .XXX ANG	DWN	6/1/72	
550378	MATL	CHK	6/1/72	
550379	FINISH	ENG	6/1/72	
NEXT ASSY		APVD	6/1/72	
RAMTEK			CABLE SCHEMATIC BASEBALL GAME	
			SCALE	DWG NO. 550457
			SHT 1 OF 1	REV A

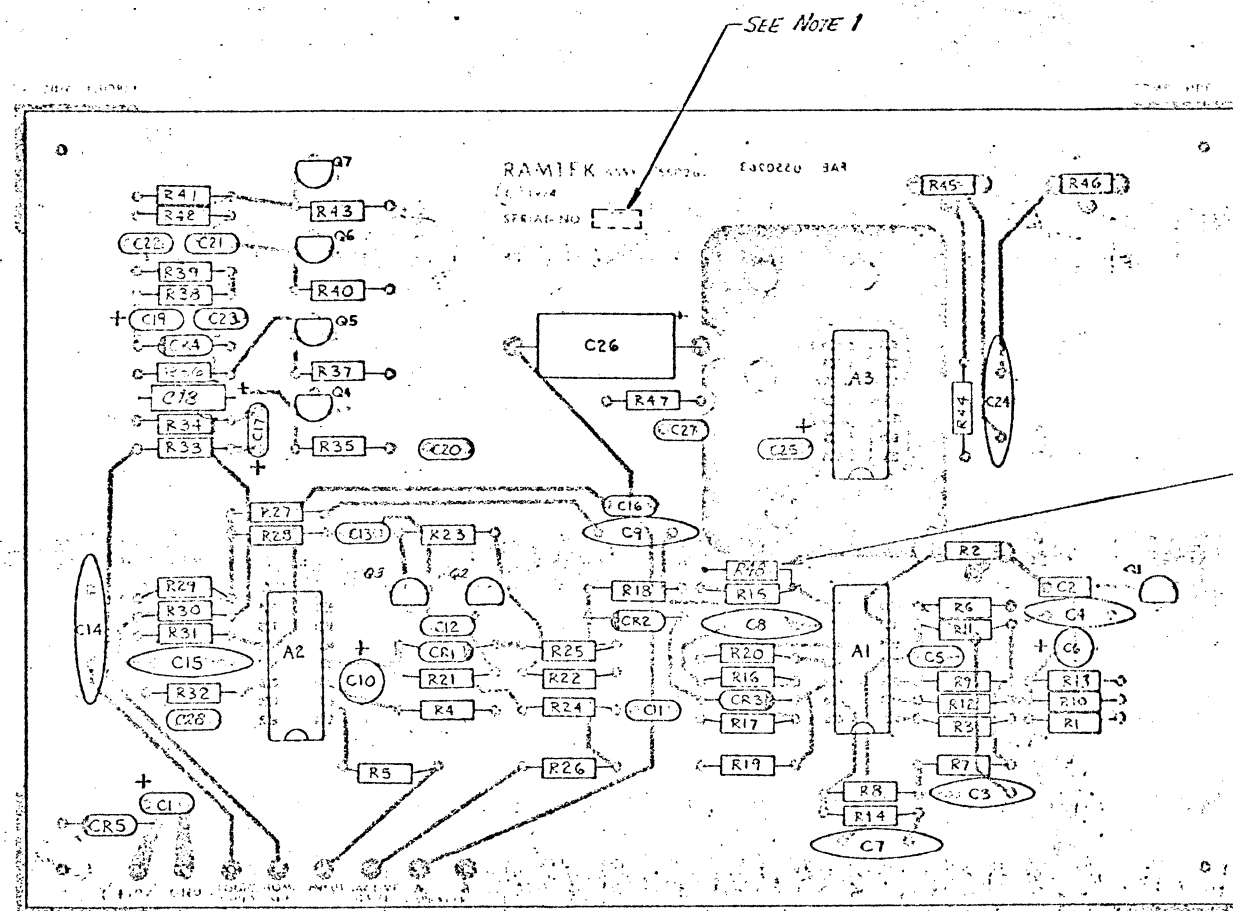


REVISIONS			
LTR	DESCRIPTION	APVD	DATE
A	PROD. REL. PER ECO 500264	K.A.	1-6-75

LAST REF. DTS.
C28
R18
CR4
Q1

NOTE: ① EACH LM 3900 PACKAGE MUST HAVE BYPASS CAP. OF .1μF FROM PIN 14 TO GND
② ALL RESISTORS 1/4 WATT
③ ALL CAPS 15 VOLTS

QTY REQD		PART NO.	ITEM DESCRIPTION		ITEM NO.
LIST OF MATERIALS					
TOLERANCES		DO NOT SCALE DRAWING		RAMTEK	
UNLESS OTHERWISE SPECIFIED: REMOVE ALL BURRS & BREAK ALL SHARP EDGES.		SIGNATURES		DATE	
.XX .XXX ANG		OWN	David A. J...	10-11-75	
MATL		CHK	David A. J...	10-11-75	
FINISH		ENG	David A. J...	10-11-75	
NEXT ASSY		APVD	P. Turner	10-11-75	
				SIZE	SCALE
				DWG NO.	REV
				GHT 2 OF 1	550264 A



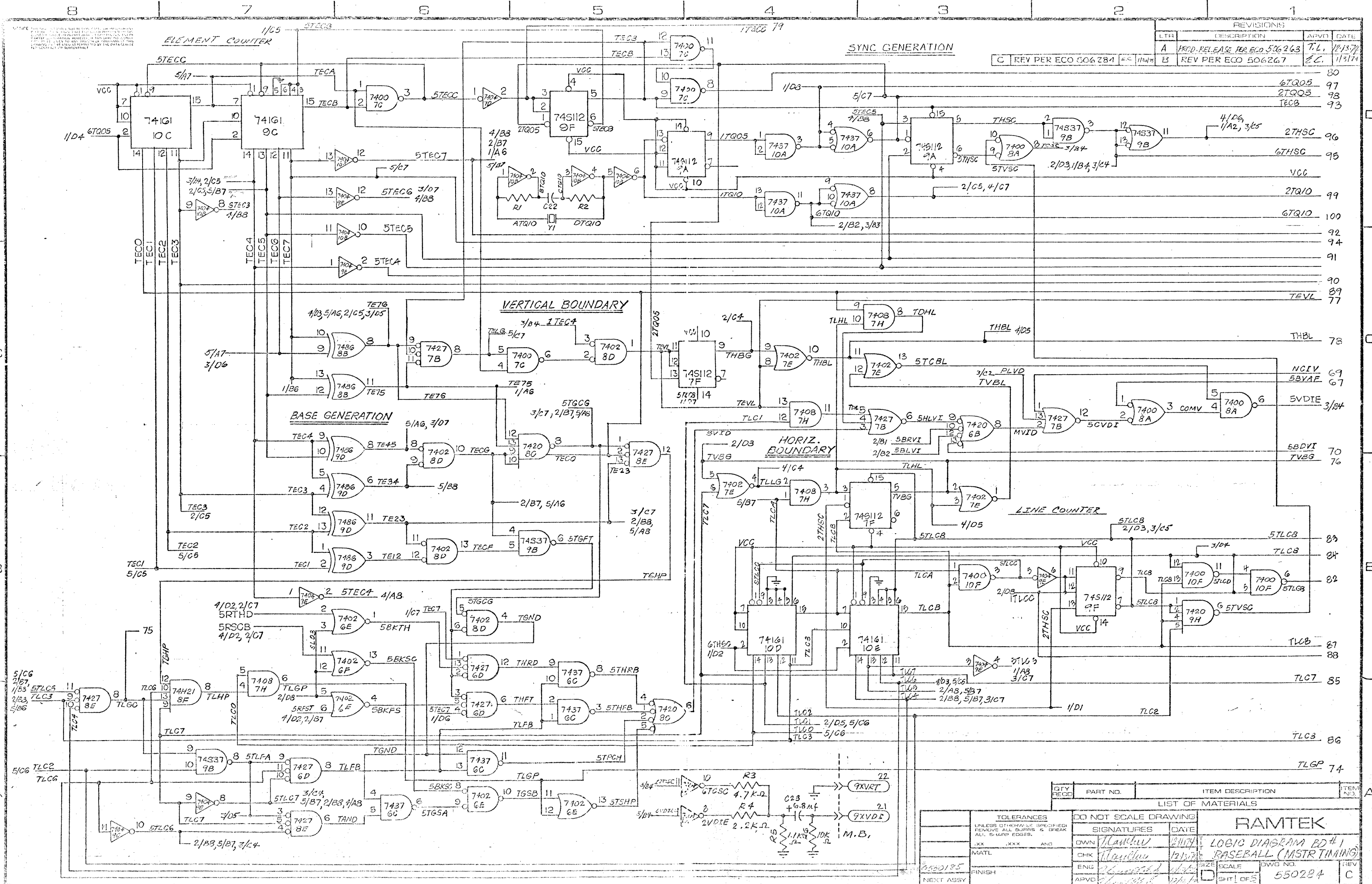
NOTES:

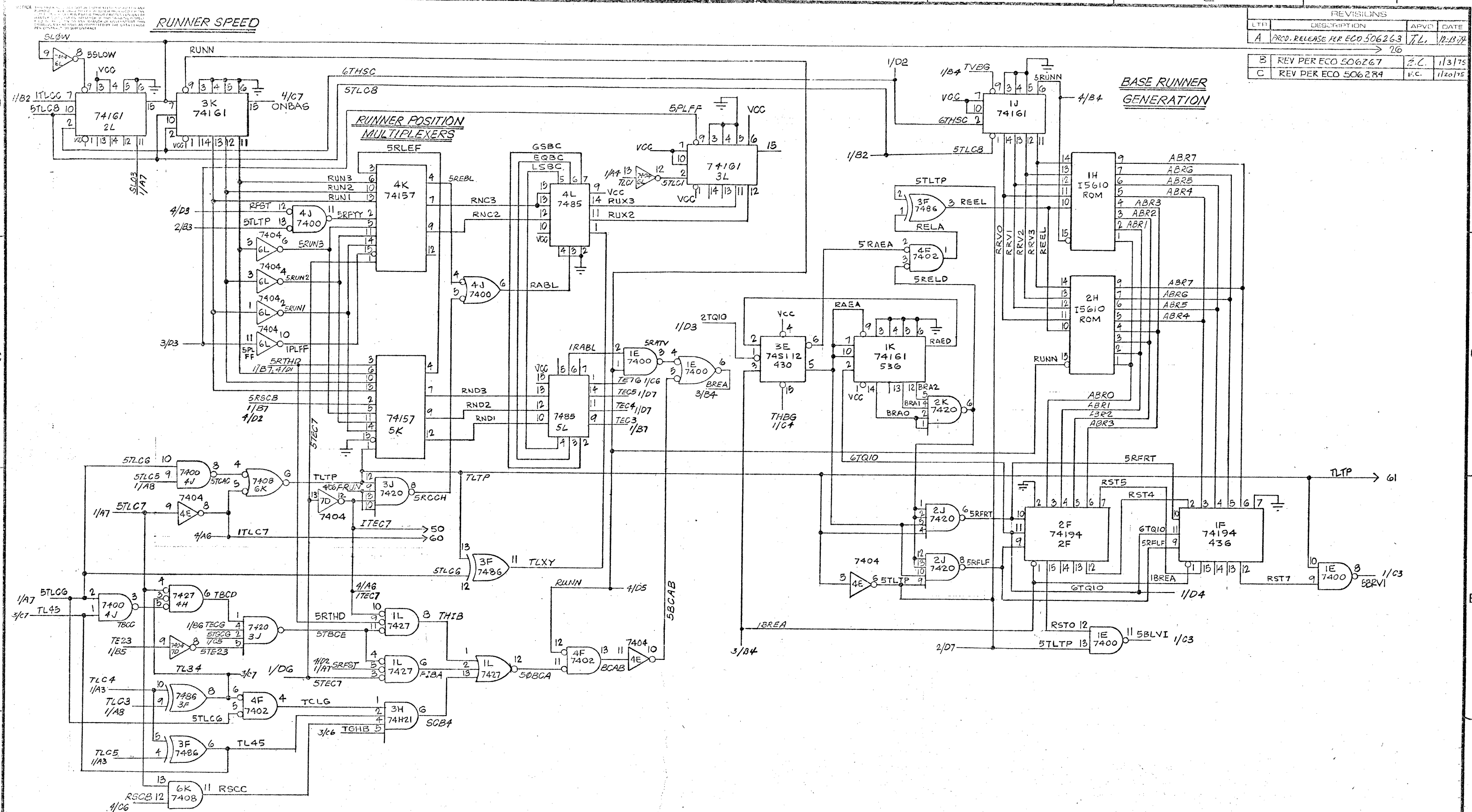
1. MARK APPROPRIATE SERIAL NO. WHERE SHOWN.

SEE SEPRATE L/M

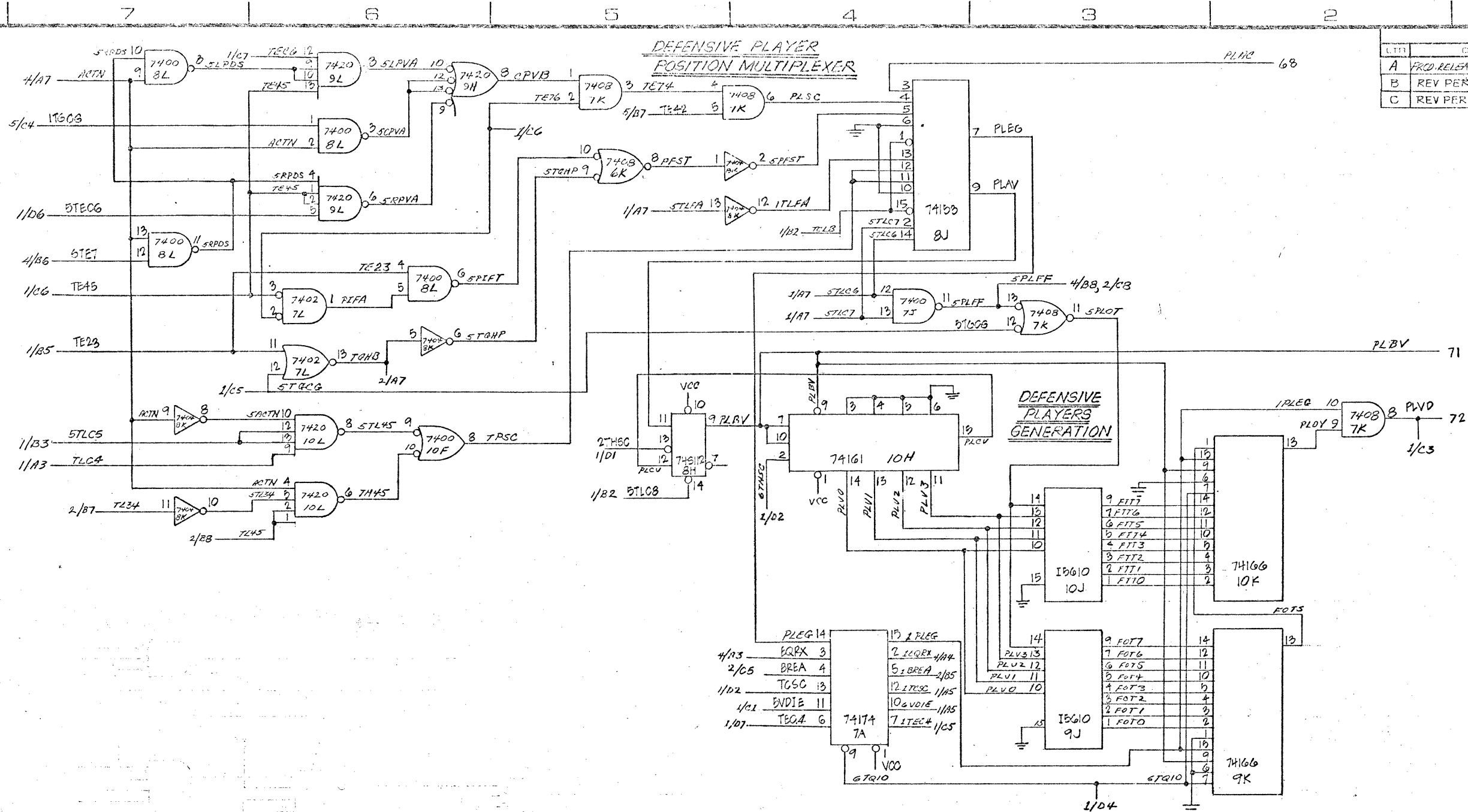
ITEM NO.	PART NO.	DESCRIPTION	REF. DESIG.	QTY
45				
44	LM 3900	I.C. QUAD AMPLIFIER	A1, A2	2
43	LM 380	I.C. POWER AUDIO AMP	A3	1
42	1N4454	DIODE	CR1-4	4
41	VT 733	TRANSISTOR	Q1-7	7
40	10K R23-B	POT 25K VOL.	R45	1
39	10K R43-B	POT 10K TONE	R46	1
38		CAP.		
37				
36	00151D50N	500pf	C4	1
35	00151D65N	68 pf	C5	1
34	00151D47N	470 pf	C12	1
33	DD302	.003uf	C21	1
32	CR05BX103	.01uf	C28	1
31	UK16-223	.02uf	C13, 22, 23	3
30	UK25-503	.05uf	C2, 3, 7, 8, 9, 14, 15, 24	8
29	21206M050N124	.1 uf (1200 SHAWNS)	C11, 16, 20, 27	4
28	1304L8501202AS	6.8 uf	C6, 10, 17	3
27	ETP4	22 uf 20V, 50%	C19	1
26	100-336A1020GL	33 uf	C1, C25	2
25	B4283	100uf	C18	1
24	B1010-500N15	CAP 500uf	C26	1
23		RESCOMP		
22				
21		2.7K, 1/4W, 5%	R47	1
20		1K	R18, 33	2
19		5.8K	R25, 40	2
18		10K	R10, 13, 22, 24, 34, 36	7
17		51K	R42	1
16		75K	R44, R30	2
15		68K	R41	1
14		100K	R7, 14, 27, 30, 31, 35, 37, 38, 39	11
13		100K POT	R2	1
12		150K	R8	1
11		200K	R21, 32	2
10		270K	R9	1
9		470K	R15, 16, 23	3
8		680K	R4	1
7		1 MEGΩ	R35, 28	2
6				
5		1.5 MEGΩ	R11, 20	2
4		4.7 MEGΩ	R1, 3, 17, 19, 2	5
3		RES. COMP 2.2 MEGΩ, 1/4W 5%	R6	1
2	1N4001	DIODE	CR5	1
1	0550263	P.C. FAB. SOUND SYSTEM		1
0				

TOLERANCES		DO NOT SCALE DRAWING		SIGNATURES		DATE	
RESISTORS	1% 5% 10%	RESISTORS	1% 5% 10%	DESIGNED BY	DATE	DESIGNED BY	DATE
CAPACITORS	1% 5% 10%	CAPACITORS	1% 5% 10%	CHECKED BY	DATE	CHECKED BY	DATE
				RAMTEK PC ASSY. SOUND SYSTEM 0550263			





QTY REQD	PART NO.	ITEM DESCRIPTION	ITEM NO.
LIST OF MATERIALS			
DO NOT SCALE DRAWING		RAMTEK	
SIGNATURES		DATE	
DWN	<i>[Signature]</i>	12/1/74	
CHK	<i>[Signature]</i>	12/13/74	
ENG	<i>[Signature]</i>	1/6/75	
APVD	<i>[Signature]</i>	1/1/75	
TITLE		LOGIC DIAGRAM BD #1	
SIZE		BASEBALL (BASE RUNNERS)	
SCALE		DWG NO.	
SHT 2 OF 5		550284	
		REV C	

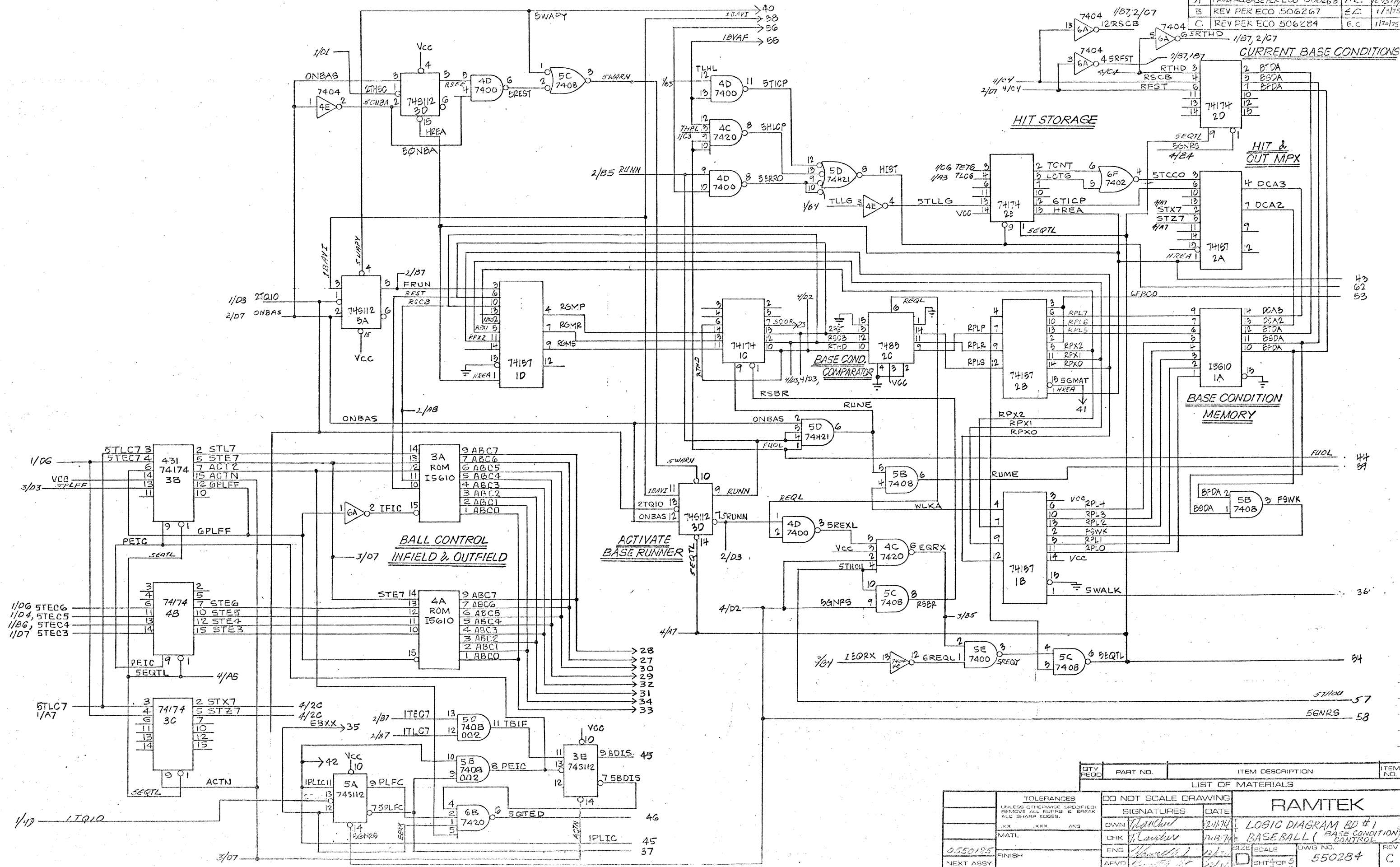


REVISIONS			
LTN	DESCRIPTION	APVD	DATE
A	PROD. RELEASE PER ECO 506268	T.L.	12/13/74
B	REV PER ECO 506267	E.C.	11/17/75
C	REV PER ECO 506284	E.C.	11/20/76

QTY REQD		PART NO.		ITEM DESCRIPTION		ITEM NO.	
LIST OF MATERIALS							
TOLERANCES		DO NOT SCALE DRAWING		RAMTEK			
UNLESS OTHERWISE SPECIFIED, REMOVE ALL BURRS & BREAK ALL SHARP EDGES.		SIGNATURES		DATE		LOGIC DIAGRAM BD #1	
.XX .XXX .AN3		OWN <i>Thornton</i>		12/17/74		BASEBALL (DEFENSIVE PLAYERS)	
MATL		CHK <i>Thornton</i>		12/17/74		SIZE SCALE DWG NO. REV	
0550185		ENG <i>Thornton</i>		12/17/74		1/8" = 1" 550284 C	
NEXT ASSY		APVD <i>Thornton</i>		12/17/74			

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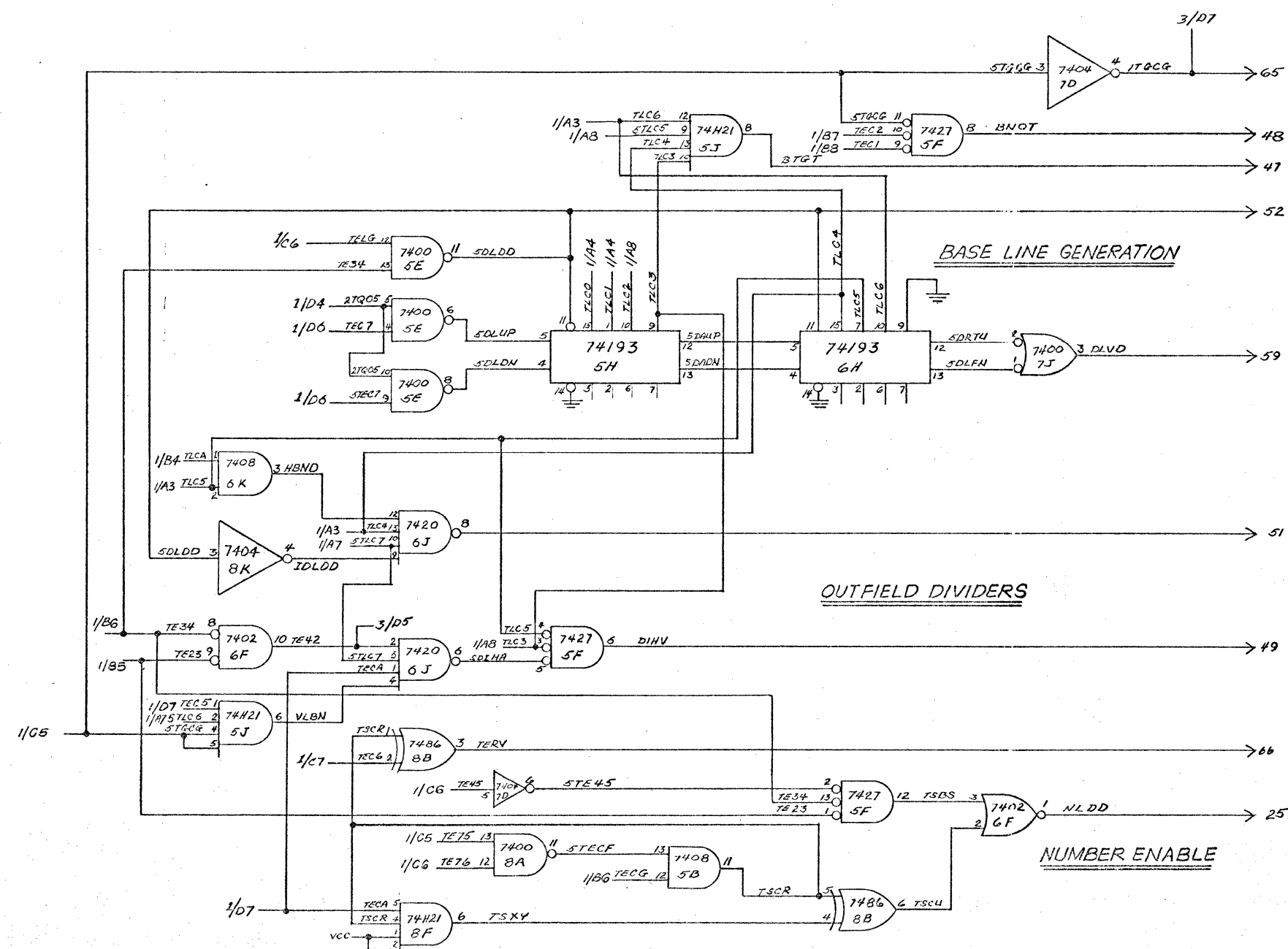
REVISIONS			
LTR	DESCRIPTION	APVD	DATE
A	PROD RELEASE PER ECO 506263	T.L.	12/8/74
B	REV PER ECO 506267	E.C.	11/3/75
C	REV PER ECO 506284	E.C.	11/20/75



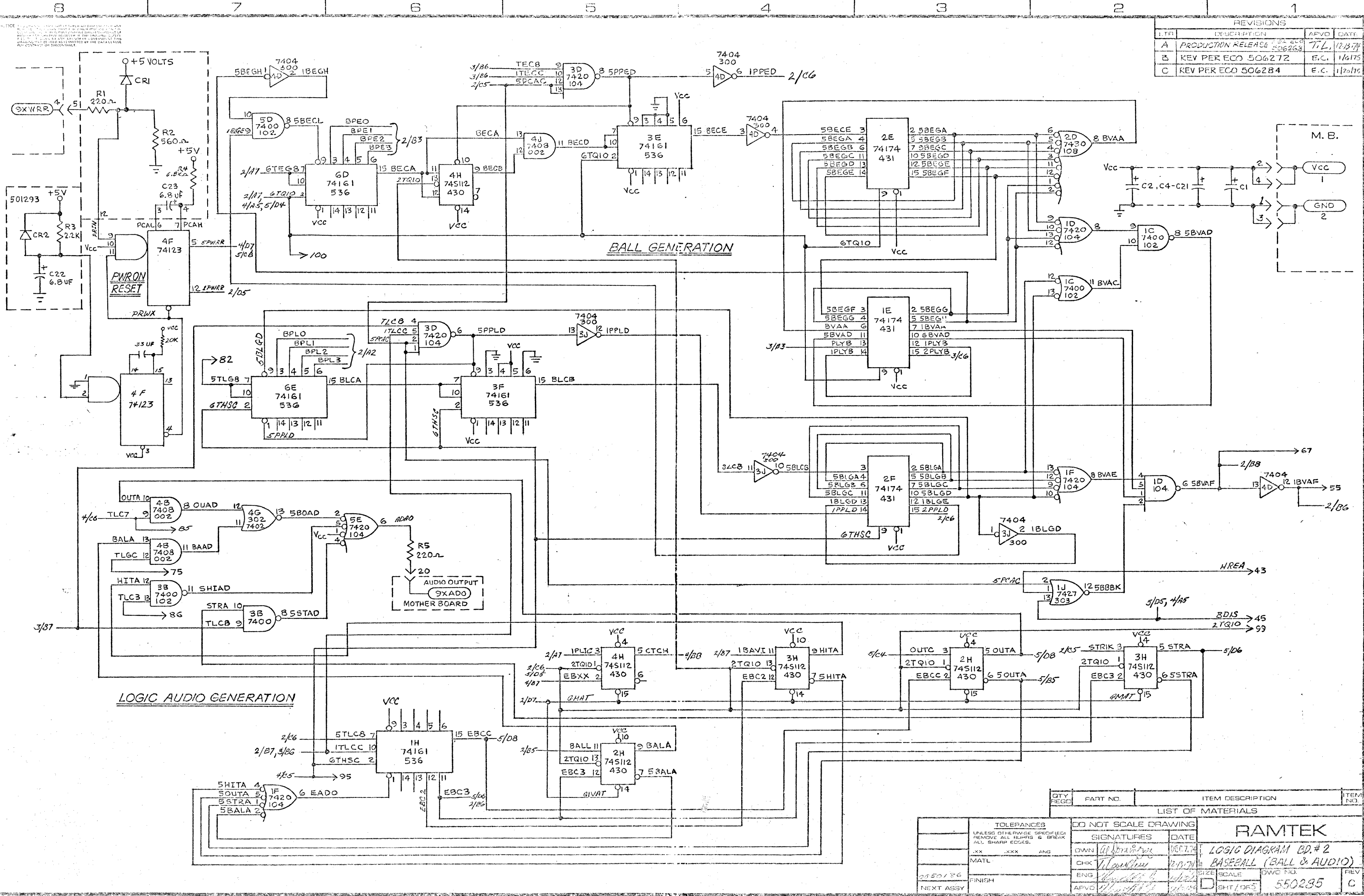
QTY	REQD	PART NO.	ITEM DESCRIPTION	ITEM NO.
LIST OF MATERIALS				
RAMTEK				
LOGIC DIAGRAM BD #1				
BASEBALL (BASE CONDITION CONTROL)				
550284				
C				

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REVISIONS			
LTN	DESCRIPTION	APVD	DATE
A	PROD. RELEASE PER ECO 506263	T.L.	12/18/74
B	REV PER ECO 506267	E.C.	11/31/75
C	REV PER ECO 506284	E.C.	11/21/75



QTY REQD		PART NO.	ITEM DESCRIPTION	ITEM NO.
LIST OF MATERIALS				
TOLERANCES UNLESS OTHERWISE SPECIFIED: REMOVE ALL BURRS & BREAK ALL SHARP EDGES.		DO NOT SCALE DRAWING		
SIGNATURES		DATE		
DWN <i>T. Landrum</i>		12/1/74		
CHK				
ENG <i>Thurmon</i>		12/1/74		
APVD <i>Thurmon</i>		12/1/74		
MATL		LOGIC DIAGRAM BD #1		
FINISH		BASEBALL		
NEXT ASSY		SIZE SCALE DWG NO. REV		
O550185		SHT 8 OF 5 550284 C		



REVISIONS			
REV	DESCRIPTION	APVD	DATE
A	PRODUCTION RELEASE	T.L.	12/15/75
B	REV PER ECO 506272	E.C.	1/16/75
C	REV PER ECO 506284	E.C.	1/20/75

QTY	PART NO.	ITEM DESCRIPTION	ITEM NO.
LIST OF MATERIALS			
RAMTEK			
LOGIC DIAGRAM BD.#2			
BASEBALL (BALL & AUDIO)			
SIZE SCALE DWG NO. REV			
SHT/DRS 550285 C			

REVENUE			
A	DESCRIPTION	AMOUNT	DATE
A	PROD. RELEASE PER ECO 506265	TIL.	12/13/74
B	REV PER ECO 506272	E.C.	1/6/75
C	REV PER ECO 506284	E.C.	1/26/75

