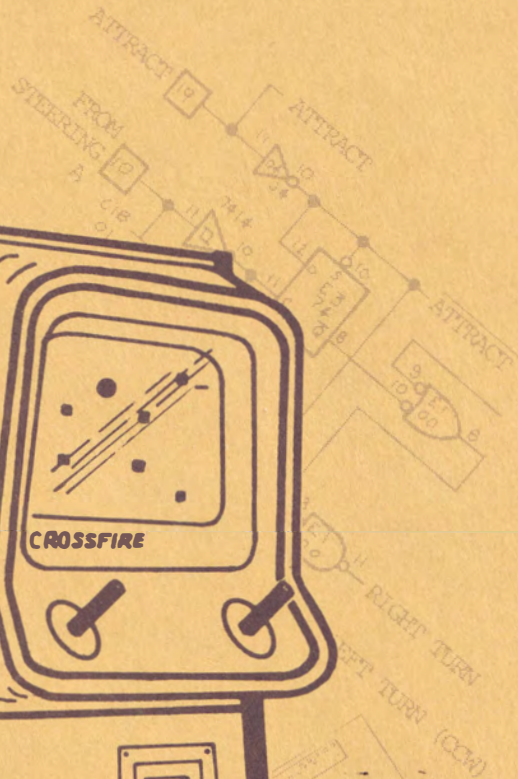
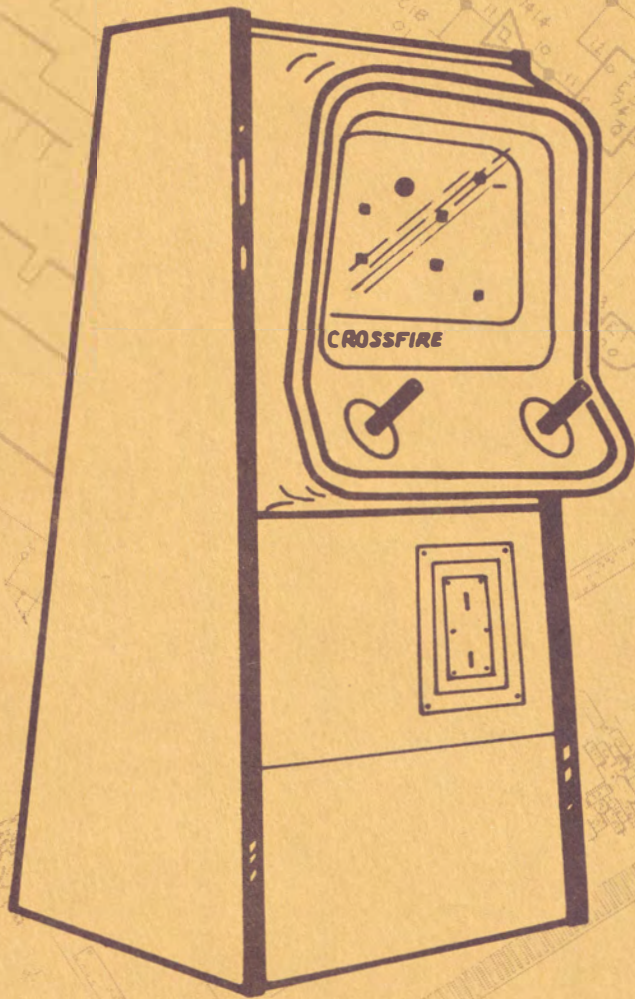


CROSSFIRE

Service Information



1. REAR PANEL
2. FRONT PANEL
3. COIN MECHANISM
4. COIN MECHANISM
5. COIN MECHANISM
6. COIN MECHANISM
7. COIN MECHANISM
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17. COIN MECHANISM
18. COIN MECHANISM
19. COIN MECHANISM
20. COIN MECHANISM

WARRANTY

Seller warrants that its printed circuit boards and parts thereon are free from defects in material and workmanship under normal use and service for a period of ninety (90) days from date of shipment. Seller warrants that its television monitors are free from defects in material and workmanship under normal use and service for a period of thirty (30) days from date of shipment. None of the Seller's other products or parts thereof are warranted.

If the products described in this manual fail to conform to this warranty, Sellers' sole liability shall be, at its option, to repair, replace, or credit Buyer's account for such products which are returned to Seller during said warranty period, provided:

- (a) Seller is promptly notified in writing upon discovery by Buyer that said products are defective;
- (b) Such products are returned prepaid to Sellers' plant; and
- (c) Seller's examination of said products discloses to Seller's satisfaction that such alleged defects existed and were not caused by accident, misuse, neglect, alteration, improper repair, installation or improper testing.

In no event shall Seller be liable for loss of profits, loss of use, incidental or consequential damages.

EXCEPT FOR ANY EXPRESS WARRANTY SET FORTH IN A WRITTEN CONTRACT BETWEEN SELLER AND BUYER WHICH CONTRACT SUPERSEDES THE TERMS OF THIS ORDER, THIS WARRANTY IS EXPRESSED IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE SELLER'S PART, AND IT NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR THE SELLER ANY OTHER LIABILITIES IN CONNECTION WITH THE SALE OF PRODUCTS UNDER THIS ORDER.

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1. GENERAL MAINTENANCE INFORMATION

1-1. INTRODUCTION

Atari video games consist of a cabinet, TV monitor, a printed circuit board (PCB) computer, interconnecting wiring, and various cabinet-mounted circuit components. Except for a schematic, no information about the TV monitor is presented in this manual. The TV monitor is a Motorola XM700 unit. TV circuit malfunctions can be solved using standard TV troubleshooting techniques. However, the PCB computer requires troubleshooting techniques that may be unfamiliar to the average technician. Therefore, the troubleshooting information in the manual is dedicated to the PCB computer and its associated cabinet circuitry.

1-2. WARRANTY

This game has been designed with solid state circuitry to be as maintenance free as possible. However, as with all devices mechanical or electrical, there may be minor problems. If the printed circuit board computer (PCB) fails within the warranty period, contact the distributor from whom the game was originally purchased for repair or replacement instructions.

Any PCB repair attempted by anyone other than authorized Atari Service Center personnel will void the PCB warranty.

For the Atari warranty on the Crossfire game, please see the inside front cover of this manual.

5. Coin insertion should start the game. Check for proper game sequence, making sure that all aspects of the game are functioning correctly.
6. The door locks should turn to the "locked" and "unlocked" positions smoothly and the doors should open and close without binding.
7. The interlock switches must turn off the entire machine when the rear door is opened.

1-5. TV ADJUSTMENT

The adjustment of the TV monitor functions like that of a normal TV set. The only exception to that is the audio portion of the TV is not used. The volume control is located on the PC computer Board. The monitor is adjusted through the rear door.

- a. Brightness: Adjust the brightness before the contrast. Adjust so that the CRT background is as dark as possible.
- b. Contrast: The contrast is adjusted so that the images displayed on the CRT are as bright and clear as possible without being blurred.
- c. Vertical Hold: The vertical hold should only be adjusted if the picture is rolling up or down the screen. Adjust for a stable centered picture.
- c. Horizontal Hold: If the picture is slightly off center horizontally, if the images appear warped or if the picture is broken into a series of diagonal lines, adjust the H Hold.
- e. Vertical Size: Adjust only if the top and bottom of the race course is cut off from the visible portion of the screen or there is too much distance between the edge of the course and the edge of the screen which will appear as an extra set of horizontal dotted lines on the top and bottom of the CRT display. Adjust for maximum picture size.
- f. Vertical Linearity - Change this adjustment only if the top of the picture seems compressed.

- g. The Yoke - The yoke should never need adjustment unless the adjuster has been tampered or damaged. If yoke adjustment is necessary, both yoke rings should be rotated simultaneously for optimum centering of the picture on the CRT.

1-6. Q-530 COIN ACCEPTOR: OPERATION, ADJUSTMENT & MAINTENANCE

All coin acceptors leave the factory adjusted for maximum performance. If, however, more critical adjustments are desired, or if the unit has been completely disassembled for service, the following adjustment procedure is suggested. If the coin acceptor has been removed from the machine, place it in a vertical position on a level surface. If the acceptor is still mounted on the coin door, place the coin door in a vertical position on a level surface.

a. Kicker and Separator

1. Set the acceptor with the back of the unit facing you in the test position.
2. Loosen the screws holding the kicker (1) and the separator (3) and move both the kicker (2) and the separator (4) as far to the right as they will go. Tighten the screws.
3. Insert several test coins (both old and new) and note that some are returned by striking the separator.
4. Loosen the separator screw and move the separator a slight amount to the left. Tighten the screw.
5. Insert the test coins again and, if some of them are still returned, repeat Step 4 until all the coins are accepted.
6. Loosen the kicker screw and move the locker as far to the left as it will go. Tighten the screw.
7. Insert the test coins and note that some are returned.
8. Loosen the kicker screw and move the kicker a slight amount to the right. Tighten the screw.
9. Insert the coins again and, if some are still returned, repeat Step 8 until all the coins are accepted.
10. Be sure that both screws are tight after the adjustments have been made.

b. The Magnet Gate

1. Set the acceptor with the front of the unit facing you in the test position.
2. Turn the magnet gate adjusting screw (2) out (counterclockwise) until none of the coins will fit through.
3. With a coin resting in the acceptor, turn the adjuster in (clockwise) until the coin barely passes through the magnet gate.
4. Test this adjustment using several other coins (both old and new) and, if any of them fail to pass the magnet gate, repeat Step 3 until all the coins are accepted.
5. Fix the magnet gate in this position with a drop of glue or lok-tite, if necessary.

c. Acceptor Maintenance

Depending on the environment in which the acceptor is used, periodic preventative maintenance should be performed. The mainplate (5) may be cleaned with any household cleaner. Thorough rinsing and drying are necessary to remove deposits and/or film. Remove all metal particles from the magnet by guiding the point of a screwdriver or similar tool along the edges of the magnet. You will notice that the particles will cling to the point of the tool. Remove the transfer cradle (9) and the undersize lever (10) and clean the bushings and the pivot pins. A pipe cleaner is an effective cleaning tool. Apply powdered graphite or pencil lead to the pivot pins and bushings and reassemble. Spray the entire unit lightly with WD-40, a silicone lubricant.

1-7. GENERAL MACHINE MAINTENANCE

Due to its solid state circuitry, your machine will require very little maintenance other than periodic cleaning, lubrication and T.V. monitor adjustment. The cabinet and plexiglass screen may be cleaned with any non-abrasive household cleaner. The coin acceptor and the rejector linkage should be sprayed lightly once every three months with WD-40 or similar silicone lubricant. The potentiometer shafts must never be lubricated in any way. The T.V. monitor is adjusted only when the CRT picture is distorted, or if the contrast or brightness appear to be out of adjustment.

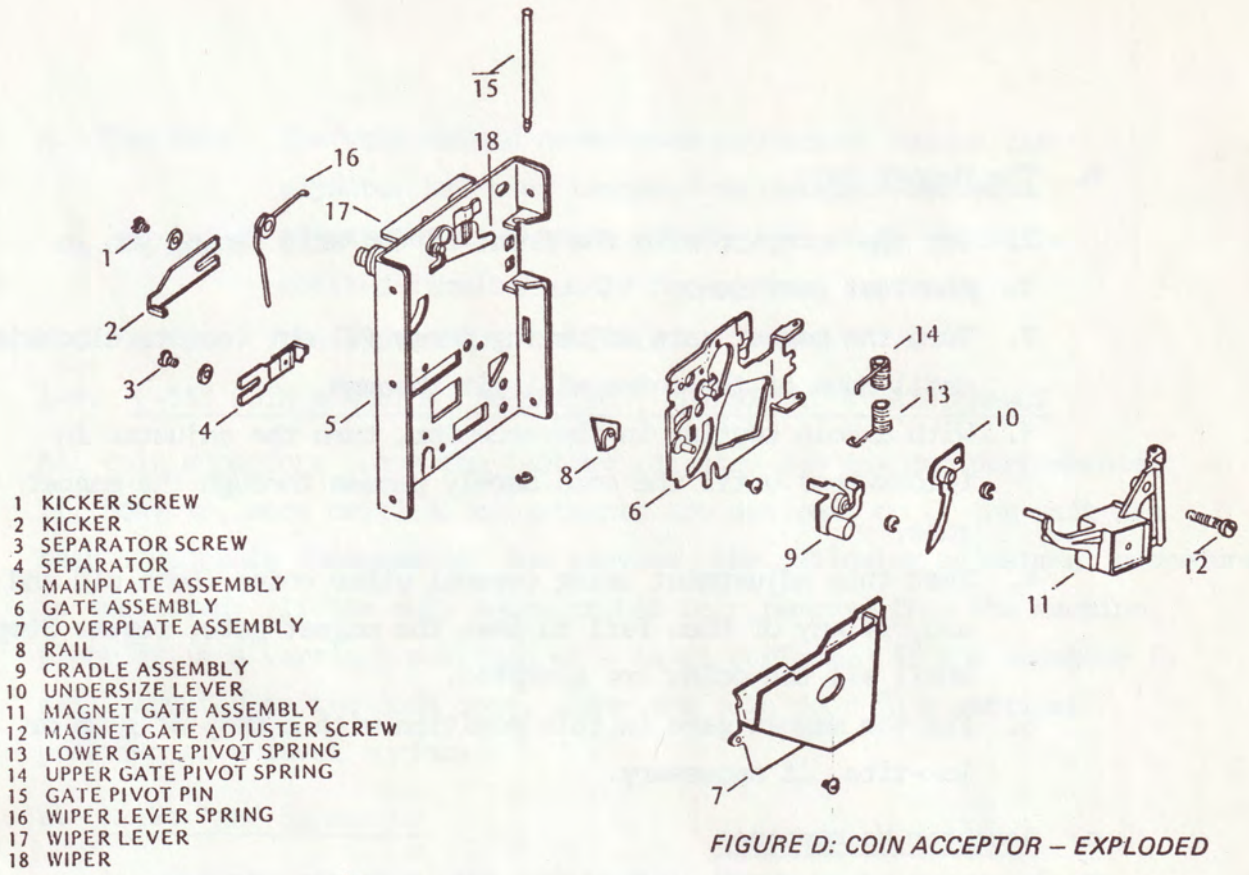


FIGURE D: COIN ACCEPTOR – EXPLODED

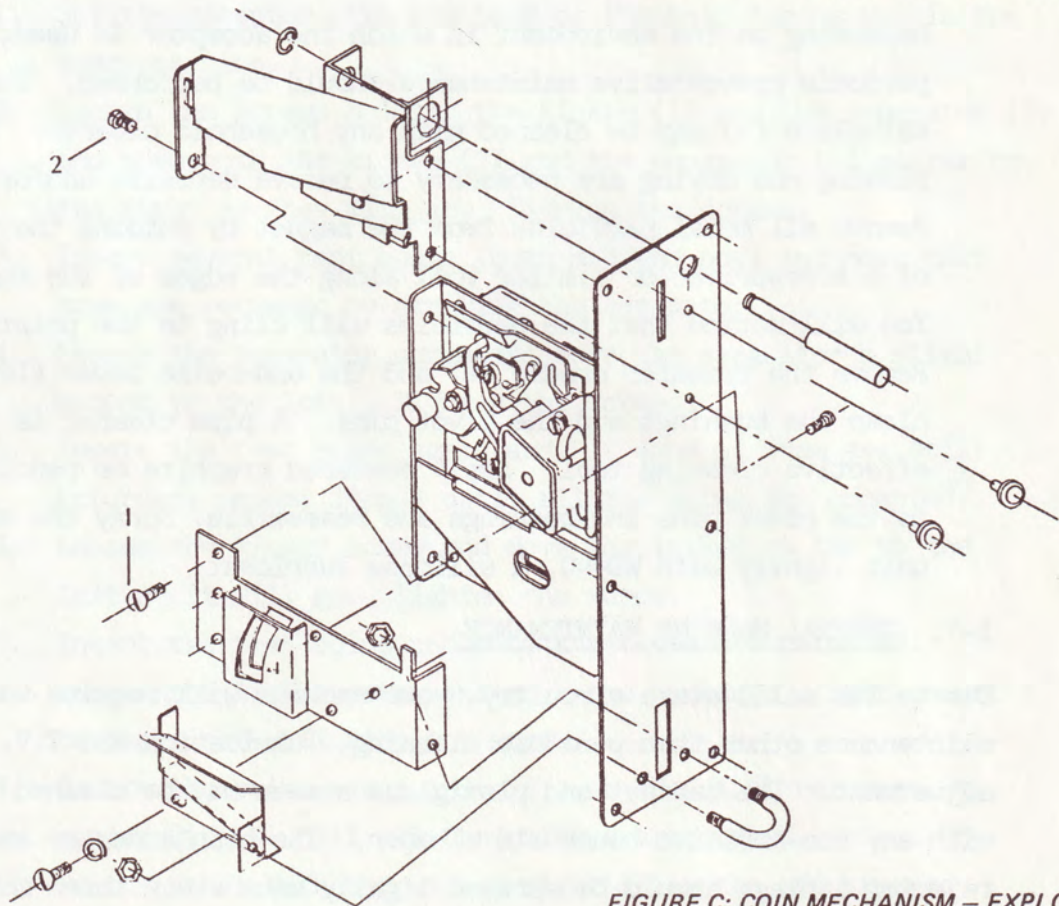


FIGURE C: COIN MECHANISM – EXPLODED

2. OPERATOR ADJUSTMENTS AND CONTROLS

2-1 GAME TIME ADJUSTMENT (see diagram for location of potentiometer on printed circuit board). The game time may be adjusted from approximately one to three minutes by changing the setting of this potentiometer. The game time is increased by moving the marker toward the center of the board (counter-clockwise as seen from the edge connector).

2-2 AUDIO VOLUME CONTROL (located on the rear of the television monitor). Adjust as desired.

3. SERVICE ADJUSTMENTS

3-1 HSCAN AND VSCAN ADJUSTMENTS (see diagram for location of potentiometers on printed circuit board). Adjustment of the HSCAN or VSCAN potentiometers should be made with an oscilloscope connected to the appropriate signal on the board (HSCAN is at IC C9, pin 6; VSCAN is at IC C9, pin 8). These signals should be sawtooth waveforms. HSCAN should have a period of $63.5 \mu\text{sec}$; VSCAN should be 16 msec in length. They should be adjusted so that the peaks are at maximum without clipping as shown below.



3-2 ANTENNA LENGTH ADJUSTMENT (located in the harness from pin 2 on the edge connector). If the game has too much sensitivity to static sparks (game ends on a small spark) or too little sensitivity (free games with sparks), the length of the antenna wire should be adjusted. Lengthen the wire for increased resistance; shorten for decreased sensitivity.

4. CUSTOMER SERVICE INFORMATION

4-1. TEST EQUIPMENT

In order to test any Atari PCB, some items such as the logic probe are absolutely essential. Others are desirable and will make the test procedure easier but are not absolutely essential. Some of these instruments are available from the Atari Customer Service Department and these are: the Kurz-Kasch 520 Logic Probe, the Atari Video Probe and the Hewlett-Packard 10529A Logic Comparator. Other instruments that are very useful are the HP 10526T Logic Pulser and the Tektronix 465 Oscilloscope. These items are available through your local electronics supply house.

4-2. REQUIRED MINIMUM EQUIPMENT

The following items are absolutely essential to perform the test procedures presented in this manual:

1. Logic Probe: The logic probe is an instrument designed for checking the outputs of integrated circuits. The Kurz-Kasch Logic Probe, Model No. LP-520, which is available through the Atari Customer Service Department or most large electronics supply houses, is recommended. This logic probe indicates if a signal is logic high, logic low, or changing from one state to another. Consult the operating instructions included with the probe for further details about its operation.
2. Video Probe: The video probe is a very simple but extremely useful device and consists of two test clips, a length of rubber-coated, test lead wire, and a 4.7K, $\frac{1}{4}$ -watt carbon resistor. Video probes may be obtained from the Atari Customer Service Department or, if necessary, they can be assembled from standard components available at all electronics supply houses.

4-3. OPTIONAL EQUIPMENT

It is possible to find 90% of the possible PCB computer malfunctions without the following items. However, if a complete set of troubleshooting equipment is desired, Atari recommends:

1. Hewlett-Packard 10529A Logic Comparator

The Hewlett-Packard 10529A Logic Comparator is used to verify correct IC operation. This device simply clips onto in-circuit ICs and instantly displays any logic state difference between the in-circuit test IC and the reference IC in the comparator. Logic differences for each pin of a 14 or 16 dual in-line package are indicated by a lamp on the comparator. If the logic comparator is purchased from the Atari Customer Service Department, it is shipped with 20 preprogrammed reference PCBs. If the device is purchased elsewhere, these PCBs must be specially programmed.

2. Hewlett-Packard 10526T Logic Pulser

The Hewlett-Packard 10526T Logic Pulser is used to stimulate in-circuit ICs so that they are driven to their opposite states. This device is available from the Atari Customer Service Department or can be obtained from most large electronics supply houses.

3. Tektronix 465 Oscilloscope

The Tektronix 465 Oscilloscope is used for viewing various wave forms and should be ordered from Tektronix. Consult the manufacturer's operating instructions for details on oscilloscope operation.

4-4. LOGIC TYPES AND FUNCTIONS

<u>TYPE</u>	<u>FUNCTION</u>
7400	QUAD 2-INPUT NAND GATE
7402	QUAD 2-INPUT NOR GATE
7404	HEX INVERTER
74S04	HEX INVERTER
7408	QUAD 2-INPUT AND GATE
7410	TRIPLE 3-INPUT NAND GATE
7413	DUAL NAND SCHMITT TRIGGER
7420	DUAL 4-INPUT NAND GATE
7425	DUAL 4-INPUT NOR WITH STROBE
7427	TRIPLE 3-INPUT NOR GATE
7430	SINGLE 8-INPUT NAND GATE
7448	BCD TO 7-SEGMENT DECODER
7450	DUAL AND/OR GATE (INVERTER/EXPANDER)
7474	DUAL D FLIP FLOP
7483	4-BIT FULL ADDER
7486	QUAD EXCLUSIVE OR GATE
7490	DECADE COUNTER
7492	DIVIDE-BY-12 COUNTER
7493	4-BIT BINARY COUNTER
74107	DUAL JK M/S FLIP FLOP
74153	DUAL 4-BIT MULTIPLEXER
74157	QUAD 2-INPUT DATA SELECTOR/MULTIPLEXER
74165	PARALLEL-LOAD 8-BIT SHIFT REGISTER
74192	SYNCHRONOUS DECADE UP/DOWN COUNTER

74193	SYNCHRONOUS BINARY UP/DOWN COUNTER
LM380	AMPLIFIER
NE555	TIMER
NE566	FUNCTION GENERATOR
747	DUAL OPERATIONAL AMPLIFIER
RC4136D	QUAD OPERATIONAL AMPLIFIER
MFC6040	VOLTAGE-CONTROLLED OPERATIONAL AMPLIFIER
8098	HYBRID
8103	HYBRID
8099	HYBRID
9311	ONE-OF-SIXTEEN DECODER/DEMULTIPLEXER
9312	8-INPUT MULTIPLEXER
9314	QUAD LATCH
9316	4-BIT BINARY COUNTER
9321	DUAL ONE-OF-FOUR DECODER
9602	DUAL MONOSTABLE MULTIVIBRATOR
74186	ROM

ASSEMBLY TITLE	PL
PARTS LIST SPECIFICATION	
Checked	
Drawn	
Issue No.	
Issue Date	



V SCHEMATICS, PARTS LISTS AND DRAWINGS

Number	Titles
A003084	Parts List and Drawing Top Assembly
A003092	Schematic Harness
A003087	Parts List and Drawing Electronics Tray Assembly
A003022	Schematics, Parts Lists and Drawing Printed Circuit Board



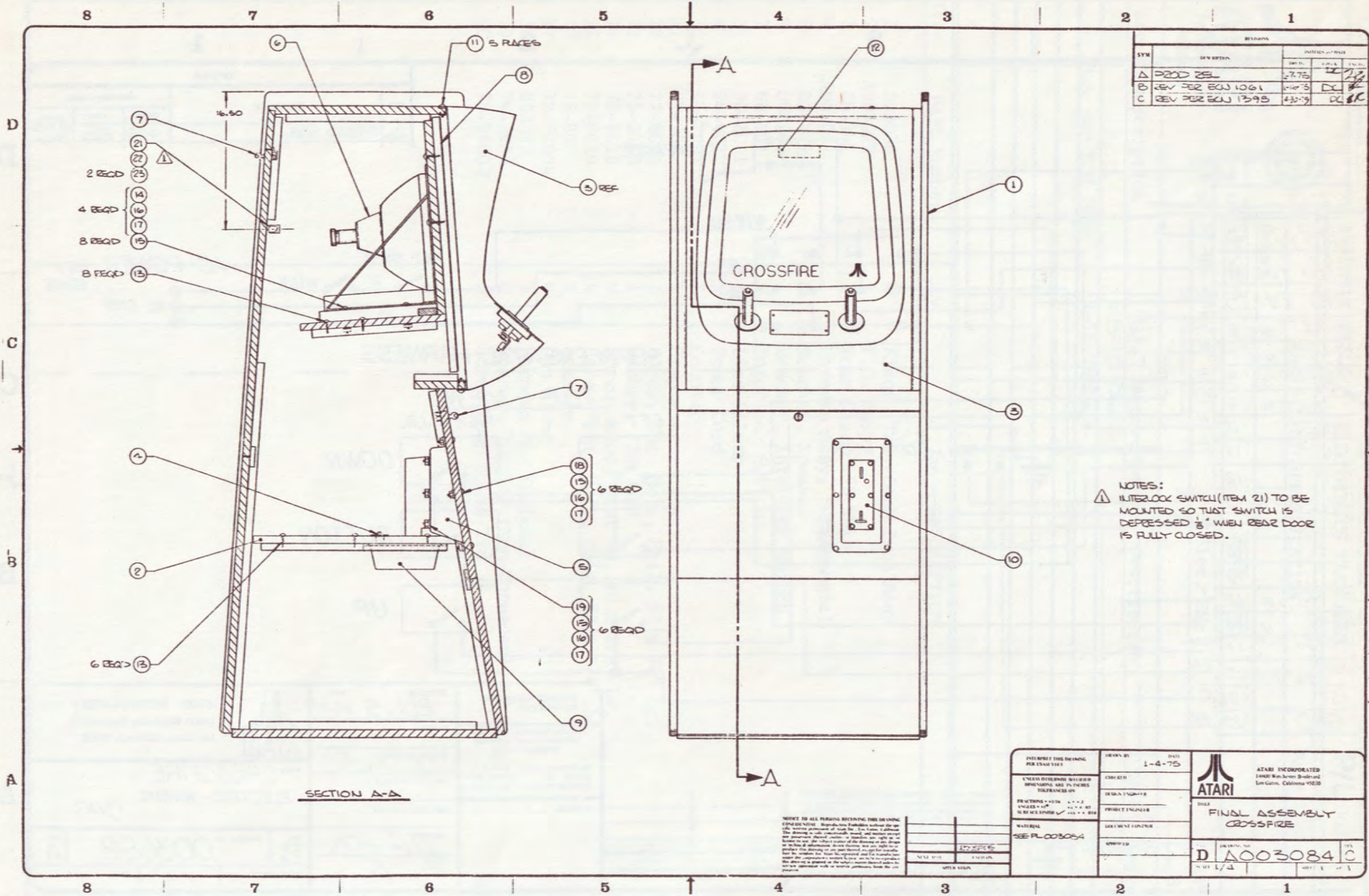
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PARTS LIST SPECIFICATION Page 1 of 1

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Proj. Eng.	Elec. Eng	

Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv.
A	PROD REV	1-8-75					
B	Rev per ECN 1061	1-16-75					
C	Rev per ECN 1398	4/30/75					

Item	Part Number	Qty.	DESCRIPTION
1	003095	1	Cabinet Assy (Mod)
2	A003087	1	Electronic Tray Assy
3	003085	1	Front Panel Assy
4	002481	1	Hasp
5	002479	1	Coin Acceptor Mounting Panel (ABS)
6	A003636	1	T.V., Motorola 19" (XM501) Modified
7	71-2112	2	Lock, Mech., Barrel Cart.
8	000477	1	Bezel (Same as 000452)
9	78-0801	1	Coin Pan
10	71-1425CV	1	Coin Acceptor (25¢)
11	82-8116B	5	Screw, Button Hd, Socket Cap, #10-24 x 1" Lg.
12	003627	REF	Decal Location Dia.
13	72-6620	14	Screw, Sht. Met., Phil. Hd., #6 x 1¼" Lg.
14	75-5140	4	Bolt, Carriage, #10-24 x 2½" Lg.
15	75-010S	16	Washer, Flat #10
16	75-040	16	Washer, Split Lock #10
17	75-911S	16	Nut, Hex, #10-24
18	75-5120B	6	Bolt, Carriage, Blk Oxide, #10-24 x 1¼ Lg.
19	75-5112N	6	Bolt, Carriage, Nickel, #10-24 x 3/4 Lg.
20	003092	REF	Wiring Diagram
21	68-001	1	Switch, Interlock
22	000268	1	Bracket, Interlock Switch
23	72-6608	2	Screw, Sht. Met., Phil Hd., #6 x ½ Lg.



SYM	REV	DATE	BY	CHKD
A	PRD	3/25		
B	REV PER ECJ	10/6/1		DC
C	REV PER ECJ	1/3/95		DC

NOTES:
 ⚠ INTERLOCK SWITCH (ITEM 21) TO BE MOUNTED SO THAT SWITCH IS DEPRESSED $\frac{1}{8}$ " WHEN REAR DOOR IS FULLY CLOSED.

SECTION A-A

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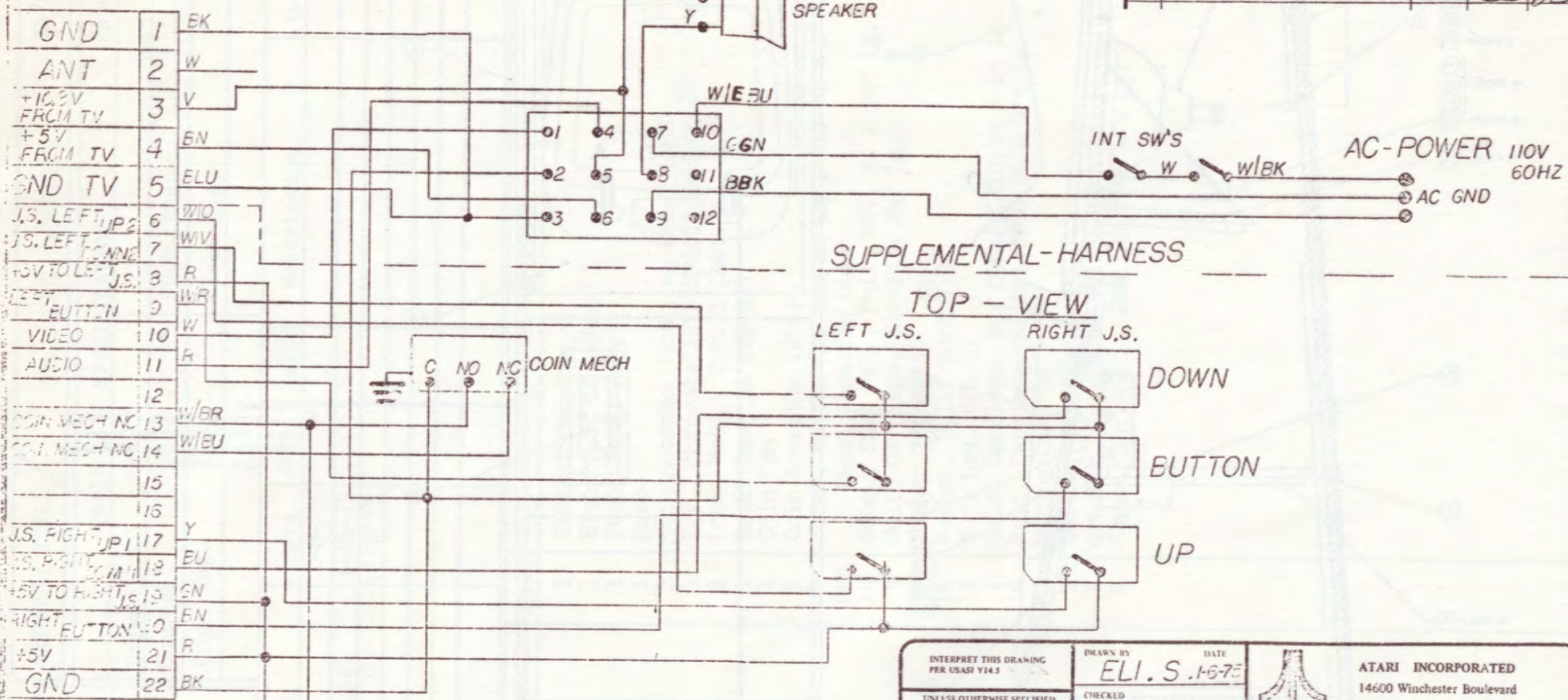
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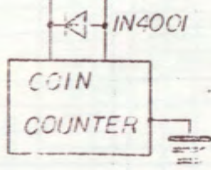
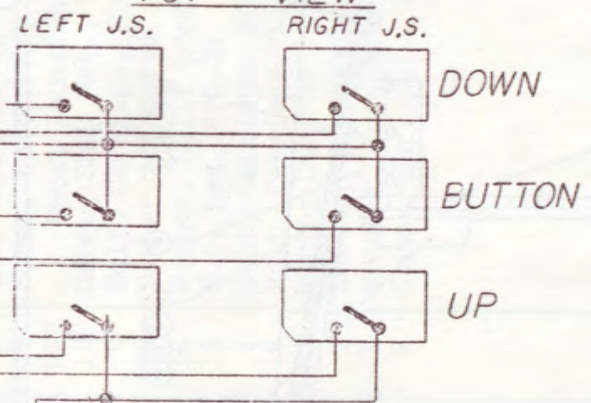
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SUPPLEMENTAL-HARNESS

TOP - VIEW



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DATE	1-16-75
BY	ELI S.
CHECKED	
DESIGN ENGINEER	
PROJECT ENGINEER	
DOCUMENT CONTROL	
APPROVED	
MATERIAL	
OPERATION	

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	PROJECT ENGINEER	DWG
	DOCUMENT CONTROL	
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		SHEET OF

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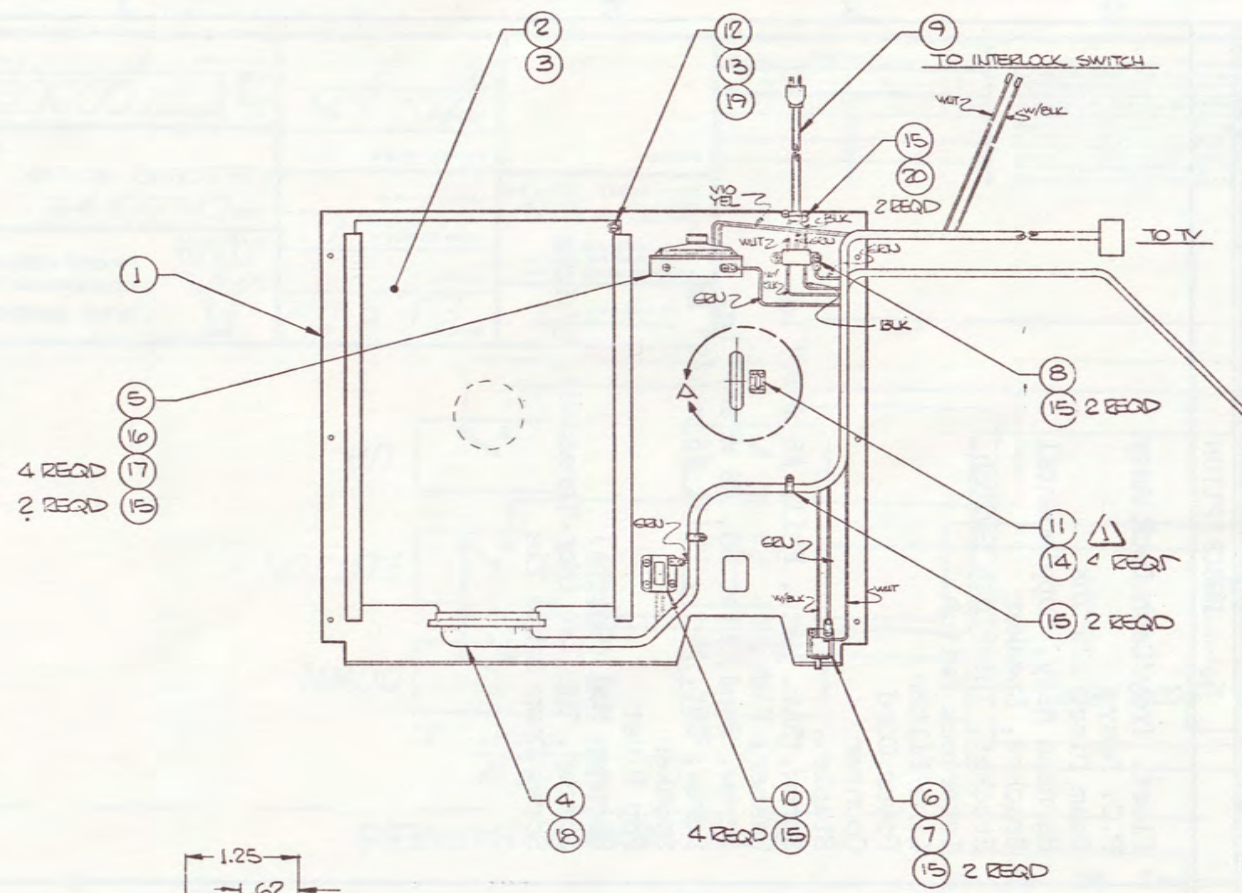
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Proj. Eng.	Elec. Eng.
	REV. B

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B	Rev per ECN 1063	1-16-75	[Signature]				

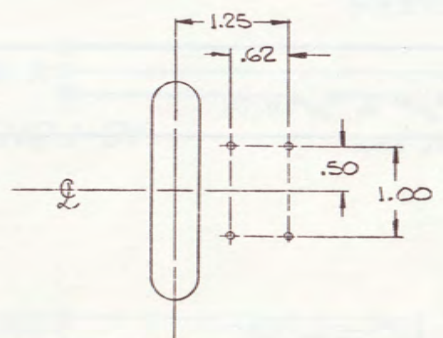
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1	003086	1	Elect. Tray/Cash Deck Assy
2	A003022	1	P.C. Assy
3	001141	1	Foam Disc. .75 Thk
4	A003083	1	Harness Assy, Supplemental
5	000471	1	Bracket, Speaker
6	000268	1	Bracket, Interlock Switch
7	68-001	1	Interlock Switch
8	90-3001	1	Line Filter
9	54-401	1	Power Cord
10	47-1001	1	Counter
11	81-205	1	Staple
12	72-6620	1	Screw, Sht. Met., Phil, #6 x 1 1/4" Lg.
13	75-016S	1	Washer, Flat, #6
14	75-8610	4	Screw, Wood, Flat Hd, #6 x 5/8" Lg.
15	72-6610	14	Screw, Sht. Met., Phil, #6 x 5/8" Lg.
16	48-002	1	Speaker
17	73-77004	4	Pop Rivet
18	003090	1	Harness Mod (Gotcha)
19	74-3608	1	Spacer, Tubular (Non-Threaded), 1/2" Long
20	78-25002	2	Screw Down Cable Tie

REVISIONS				
SYM	DESCRIPTION	INITIALS and DATE		
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A	PROD BBL	1-7-75	g >	///
B	REV PER ECU 1063	1-16-75	DL	///



4 REQD
2 REQD

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DETAIL A
FULL SCALE

NOTES:
⚠ SEE DETAIL A FOR STAPLE MOUNTING DIMENSIONS.

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APPROVAL	CROSSCHECK
NEXT ASSY	USED ON
APPLICATION	

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			SCALE 1/4
			SHEET 1 OF 1

DRAWING NO. A003087

SHEET 1

REV B

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ASSEMBLY TITLE / CROSSFIRE P/L 003022

PARTS LIST SPECIFICATION Page 1 of 2

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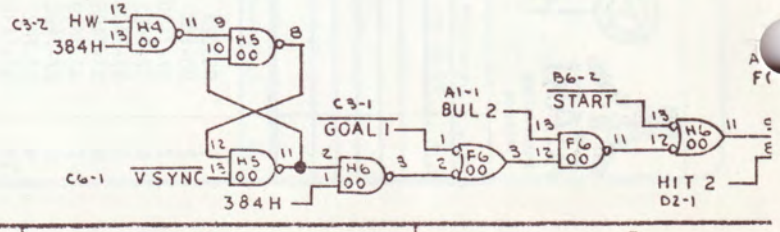
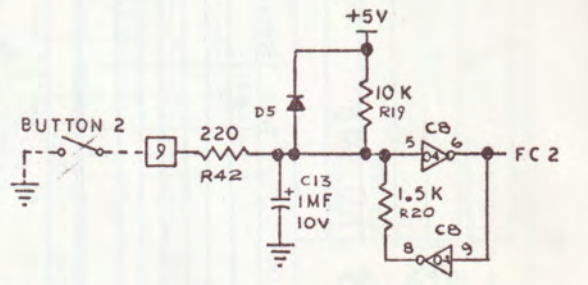
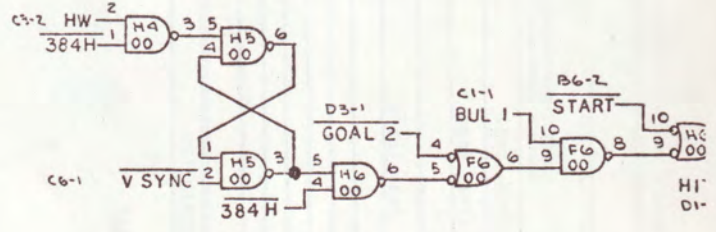
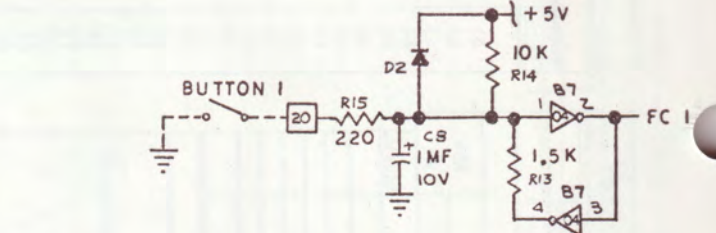
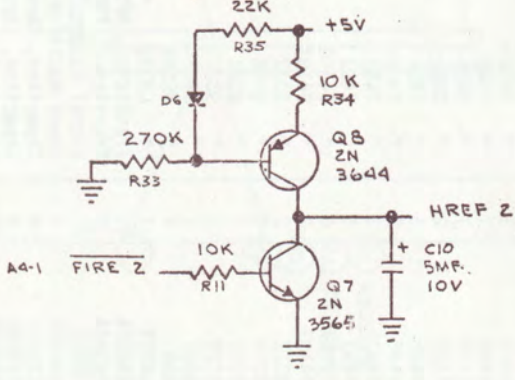
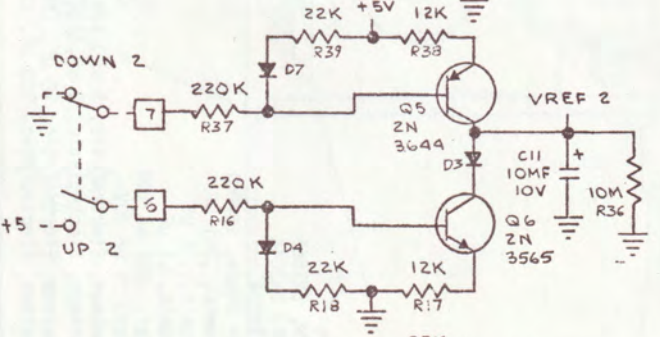
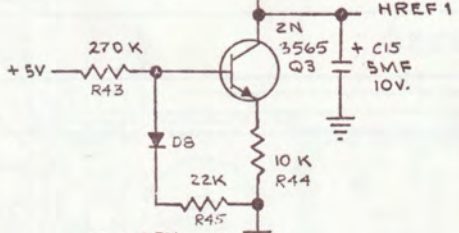
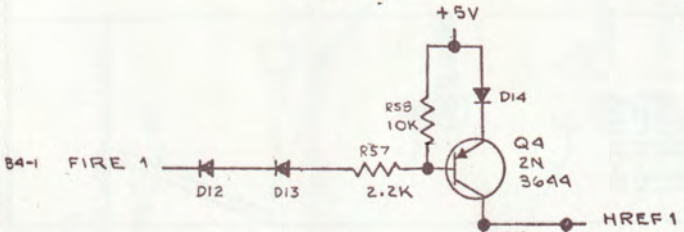
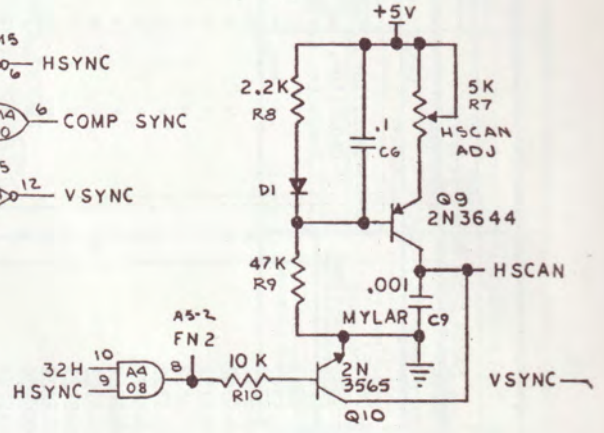
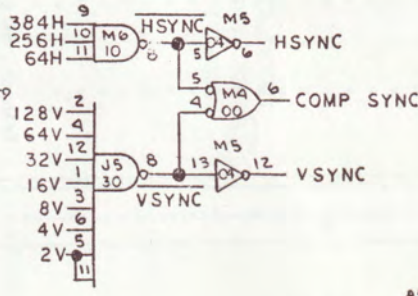
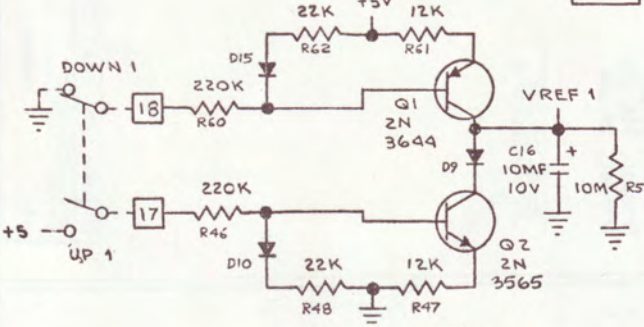
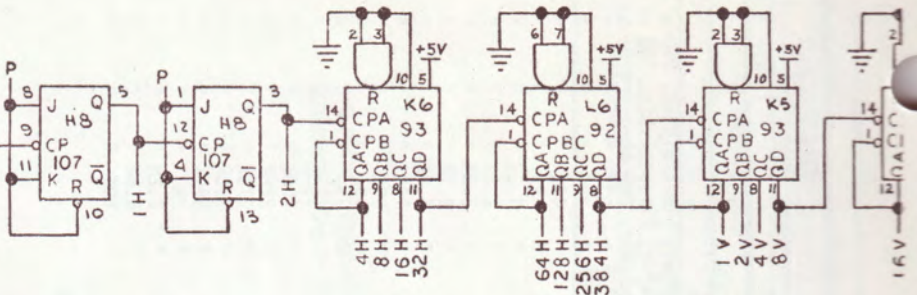
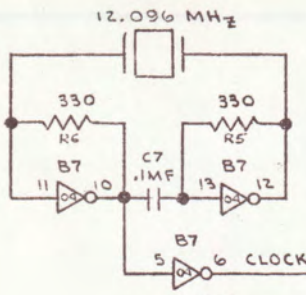
Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv.
A	PROD REL	14 JAN 75					

Item	Part Number	Qty.	DESCRIPTION
1	003023	1	P.C.B.
2	90-102	1	12.096 MHz Crystal
3	37-7400	18	I.C. 7400
4	37-7402	11	" 7402
5	37-7404	6	" 7404
6	37-7408	2	" 7408
7	37-7410	5	" 7410
8	37-7420	4	" 7420
9	37-7427	1	" 7427
10	37-7430	2	" 7430
11	37-7432	1	" 7432
12	37-7448	1	" 7448
13	37-7474	7	" 7474
14	37-7483	2	" 7483
15	37-7486	5	" 7486
16	37-7490	2	" 7490
17	37-7492	1	" 7492
18	37-7493	5	" 7493
19	37-74107	6	" 74107
20	37-74193	2	" 74193
21	37-9312	2	" 9312
22	37-9316	3	" 9316
23	37-9321	1	" 9321
24	37-9322	2	" 9322
25	37-9602	1	" 9602
26	37-555	4	" NE555
27	37-LM339	1	" LM339
28	34-2N3565	10	Transistor, NPN, 2N3565
29	33-2N3644	9	Transistor, PNP, 2N3644
30	31-1N914	23	Signal Diode, 1N914
31	31-1N4001	1	Power Rectifier Diode, 1N4001
32	27-120102	4	Capacitor, Ceramic, .001 uF
33	27-120103	4	Capacitor, Ceramic, .01 uF
34	27-120104	20	Capacitor, Ceramic, .1 uF
35	22-100102	1	Capacitor, Mylar, .001 uF 10V
36	22-100104	1	Capacitor, Mylar, .1 uF 10V
37	24-100105	2	Capacitor, Aluminum, Electrolytic, 1 uF, 10V
38	24-100505	6	Capacitor, Aluminum, Electrolytic, 5 uF, 10V
39	24-100106	3	Capacitor, Aluminum, Electrolytic, 10 uF, 10V
40	24-100107	1	Capacitor, Aluminum, Electrolytic, 100 uF, 10V

ASSEMBLY TITLE CROSSFIRE P/L 003022

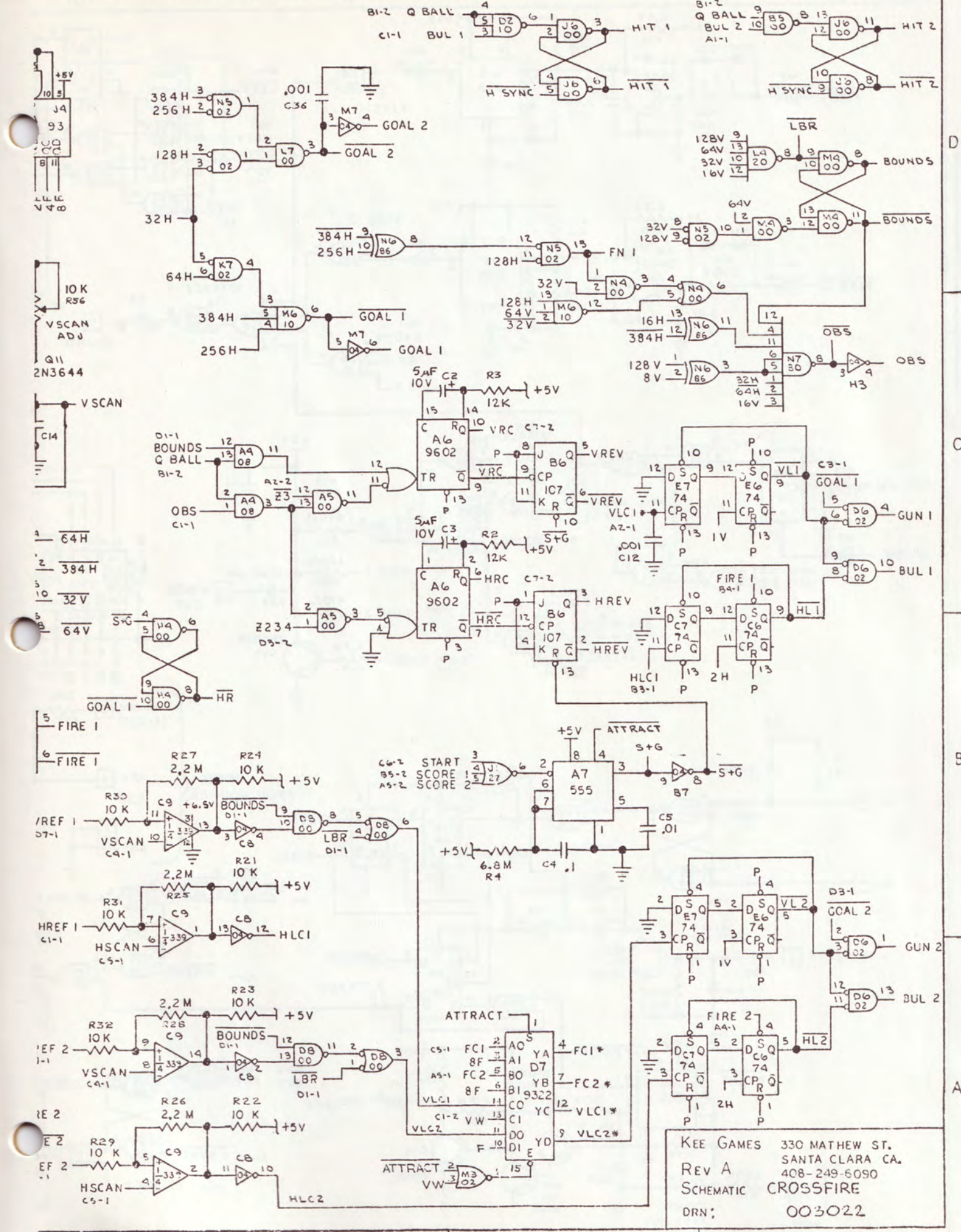
PARTS LIST SPECIFICATION Page 2 of 2

Item	Part Number	Qty.	DESCRIPTION
41	24-060257	1	Capacitor, Aluminum, Electrolytic, 250 uF, 6V
42	29-001	1	Capacitor, Tantalum, Electrolytic, 100 uF, 10V
43	10-5221	2	Resistor, Carbon Comp, 220 ohm, 1/4 W, 5%
44	10-5331	2	" " " 330 " " "
45	10-5391	1	" " " 390 " " "
46	10-5471	4	" " " 470 " " "
47	10-5102	5	" " " 1K " " "
48	10-5152	2	" " " 1.5K " " "
49	10-5222	3	" " " 2.2K " " "
50	10-5332	2	" " " 3.3K " " "
51	10-5472	2	" " " 4.7K " " "
52	10-5682	2	" " " 6.8K " " "
53	10-5103	17	" " " 10K " " "
54	10-5123	6	" " " 12K " " "
55	10-5223	6	" " " 22K " " "
56	10-5473	4	" " " 47K " " "
57	10-5104	1	" " " 100K " " "
58	10-5154	2	" " " 150K " " "
59	10-5224	4	" " " 220K " " "
60	10-5274	2	" " " 270K " " "
61	10-5394	2	" " " 390K " " "
62	10-5684	1	" " " 680K " " "
63	10-5105	1	" " " 1M " " "
64	10-5225	5	" " " 2.2M " " "
65	10-5685	1	" " " 6.8M " " "
66	10-5106	2	" " " 10M " " "
67	19-311502	1	Trimpot, 5K ohm
68	19-311103	1	Trimpot, 10K ohm
69	19-311105	1	Trimpot, 1M ohm

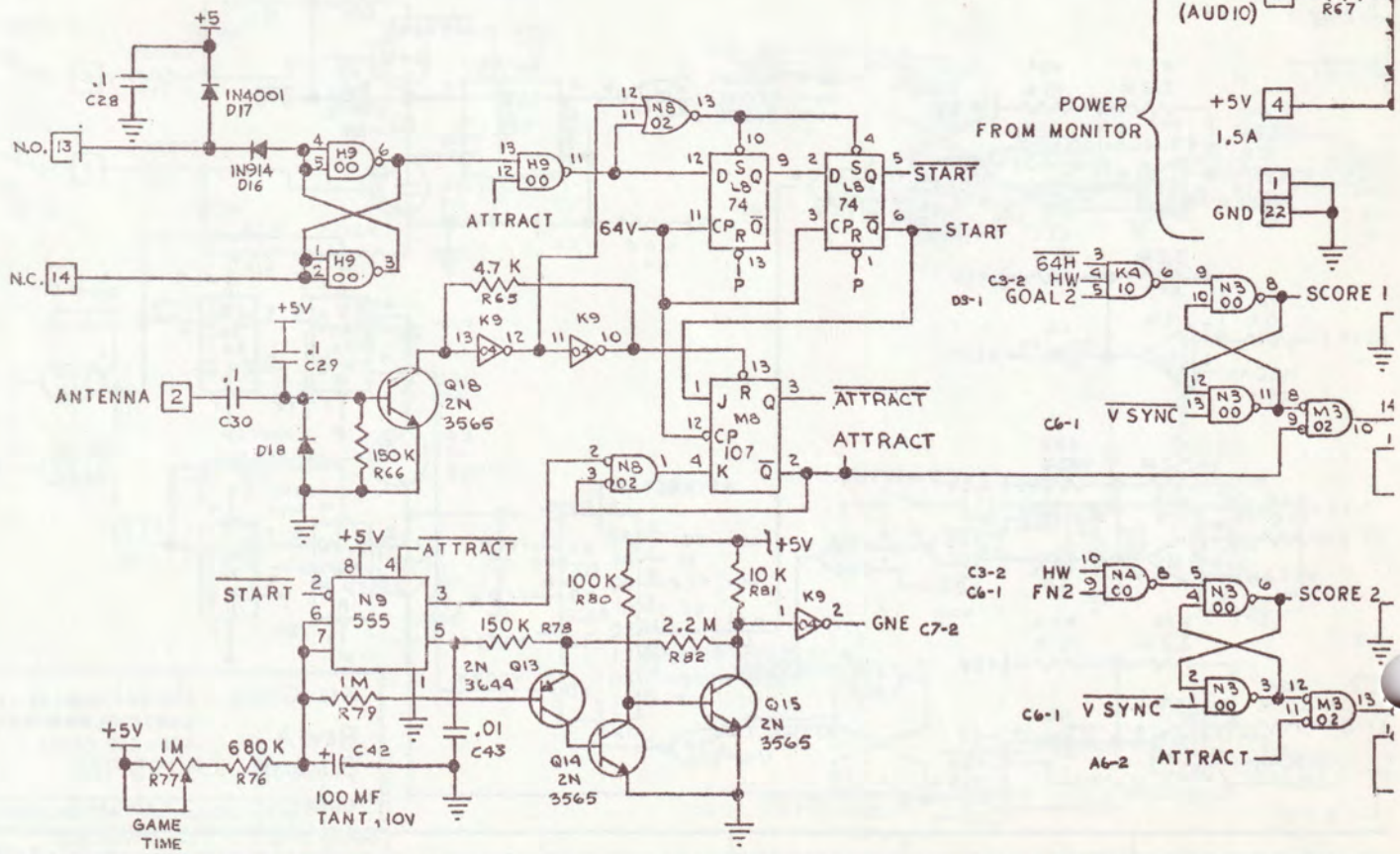
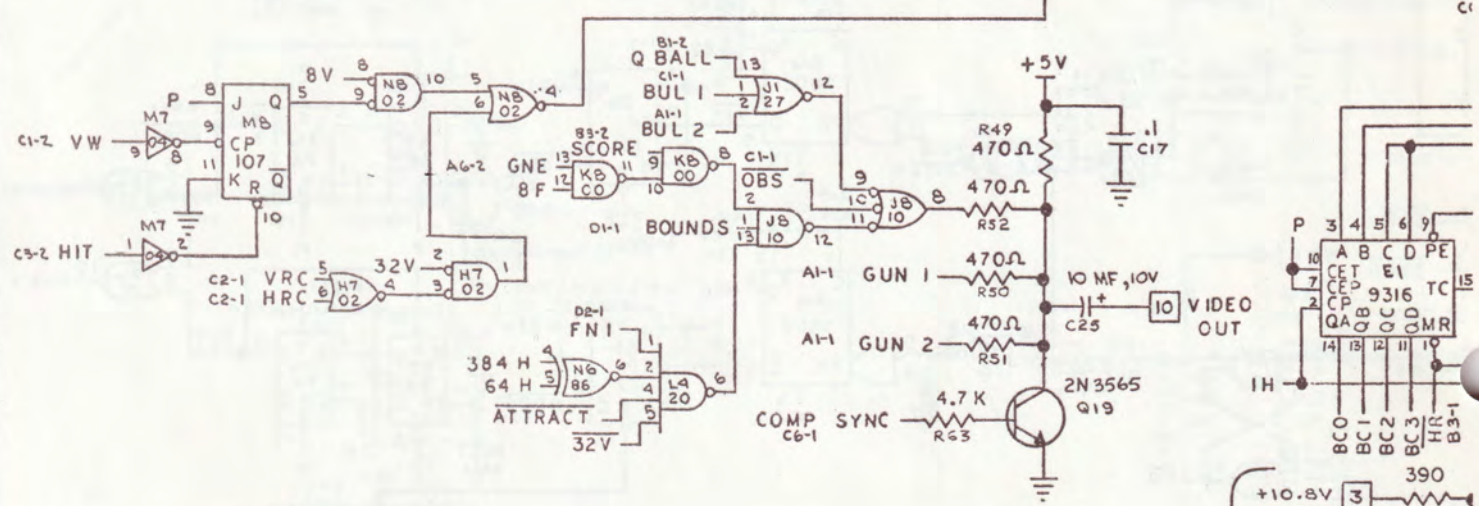
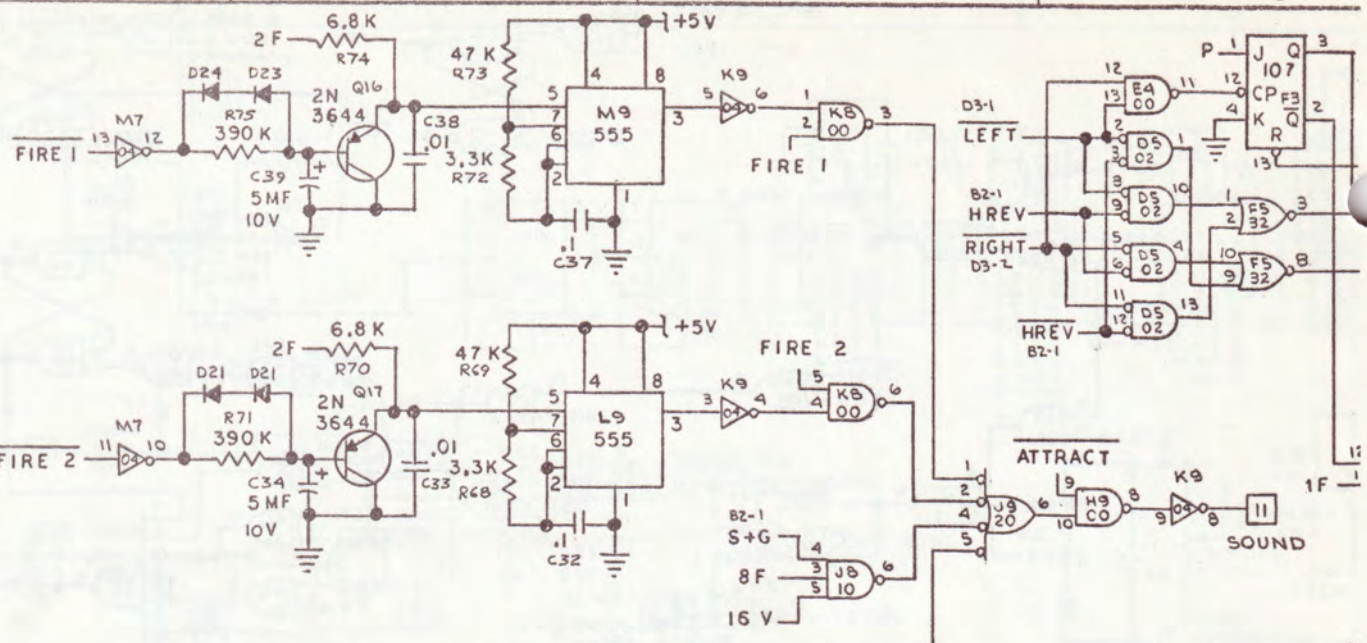


ALL DIODES IN 914 EXCEPT AS NOTED.

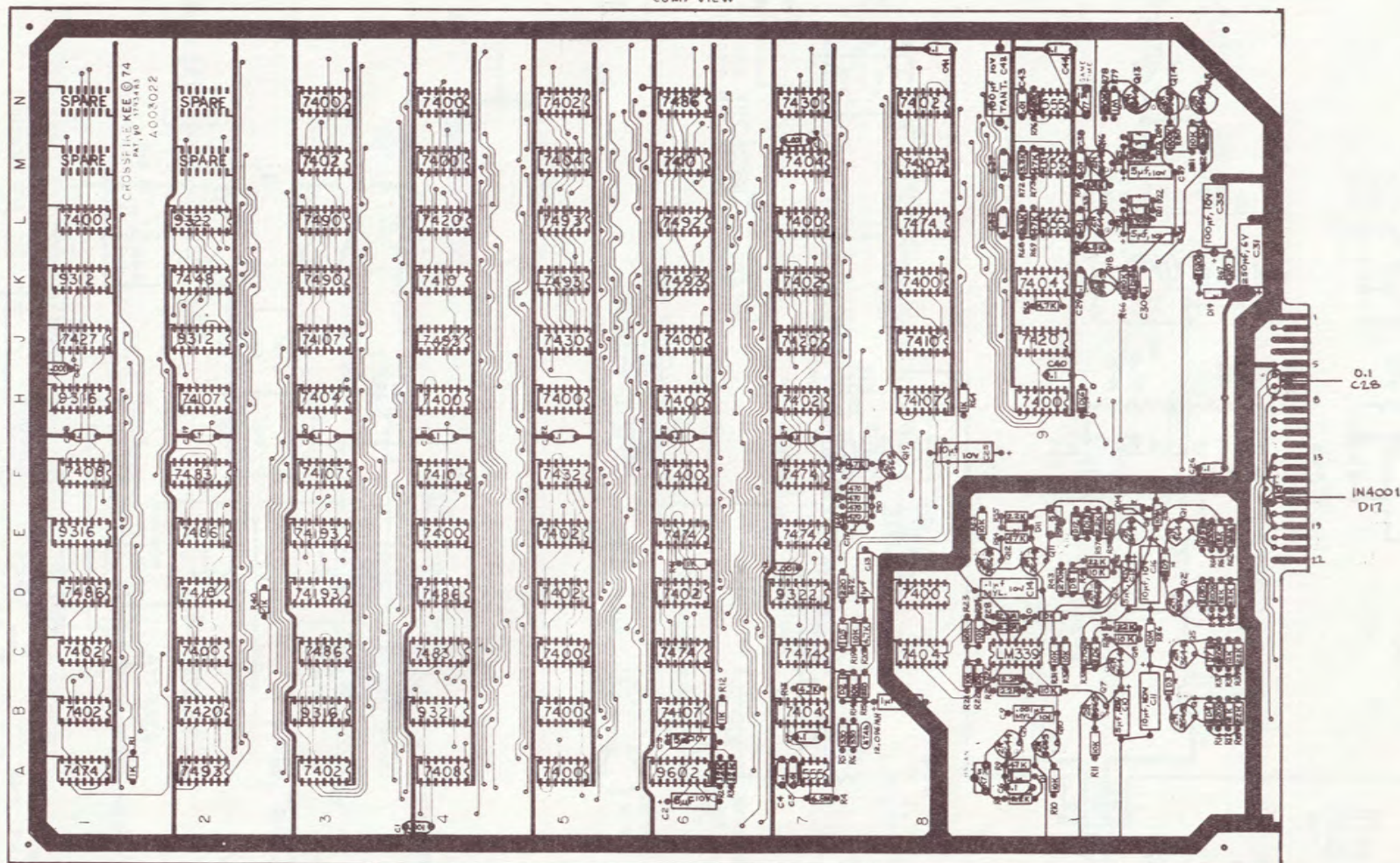
SYM	DESCRIPTION	DATE	APPV
A	PRODUCTION RELEASE	1/16/75	



KEE GAMES 330 MATHEW ST.
 SANTA CLARA CA.
 REV A 408-249-6090
 SCHEMATIC CROSSFIRE
 DRN; 003022



COMP VIEW




NOTES:

- 1) ALL DIODES EXCEPT D17 ARE TYPE IN914.
- 2) I.C. C9 (LM 339) IS INVERTED IN ORIENTATION WITH RESPECT TO THE OTHER I.C.'S.

SYM	DESCRIPTION	DFTG	ADPV
A	PRODUCTION RELEASE	10/1/83	
B	REVISED PER SCW 1453	7/1/83	

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APPLICATION	USED ON

INTERPRET THIS DRAWING PER USAS 7145	DRAWN BY	DATE	 ATARI INCORPORATED 14600 Winchester Boulevard Los Gatos, California 95030
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON	CHECKED		
FRACTIONS - 1/16 1/8 1/4	DESIGN ENGINEER		
ANGLES - 15° 30° 45° 60°	PROJECT	1000117	
SURFACE FINISH - 315 4 810	DOCUMENT CONTROL		TITLE ASSEMBLY, CROSSFIRE
MATERIAL SEE P/L 003022	APPROVED	<input checked="" type="checkbox"/>	REV B
			SIZE DRAWING NO D A003022
			SCALE 1=1
			SHEET 1 OF 1

