

CRASH 'N SCORE

Operation · Maintenance · Service Manual

(TM-048)

The technical manual for Crash 'N Score was in progress when this game went into production. The manual will be released shortly and will be available through your distributor.

In the meantime, we have enclosed copies of the most vital documentation, to assist in maintaining and servicing this game. Should you have any questions that cannot be answered by this documentation, please contact your distributor or the Atari Customer Service Department, 2175 Martin Avenue, Santa Clara, CA 95050. You may also use our toll-free telephone number: (800) 538-6892. The Customer Service Dept. is open from 7:30 am to 4:30 pm Pacific time, Monday through Friday.

Thank you for your patience.

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CRASH 'N SCORE

INSTRUCTIONS FOR USING EXTENDED-PLAY CARD AND INSTRUCTION PLATE CARD

Enclosed in this game's coin box are two small cards. The extended-play card, after its blank area has been filled in with the applicable number, is placed behind the front plex's bottom edge.

The instruction plate card should be cut apart, and the proper numbers should be taped to two different areas in the silk-screened instructions. One of these areas tells players how many games per quarter will be given (either one or two). The other area tells the player how long the blinking-score period of each game will be. During this part of the game (the last seventh of the game), any player's hit will actually count as twice that flag's indicated value. Procedures for using both cards are as follows:

Instruction plate card: Find the only slide switch on the game's PCB. Its two positions are labeled 1 PLAY and 2 PLAY. Choose one of the positions to structure the game for either one or two games per quarter. [In the two-game case, the player(s) will still have to push either the ONE PLAYER START or TWO PLAYER START button to begin the second game.] Then cut out the "1" or "2" from this card and using transparent tape, attach it to the inside of the silk-screened plexiglass in the appropriate blank area.

Second, cut out the "10" from this card and attach it with transparent tape to the blank area in the phrase "Bonus score value doubles in last _____ seconds." The period in each game during which the player's score blinks is not variable by the operator.

Free play card: If you wish to offer extended play after a certain number of points in each game, you should fill in the appropriate number of points on this card. To set the game correspondingly, find the small switch on the PCB near the end opposite the edge connector. This switch has four small white levers that can be set with their pointed ends facing either up or down.

Point value:	10	20	40	80
Lever number:	1	2	3	4

Push forward (so pointed end faces down) any of the levers, so that their respective point values add up to the desired sum. We suggest total values between 40 and 90 points. For example, to set the game for extended play after 50 points, push forward the levers #1 and 3. On this switch, any values set for 100 or more points means that no free game will be allowed.

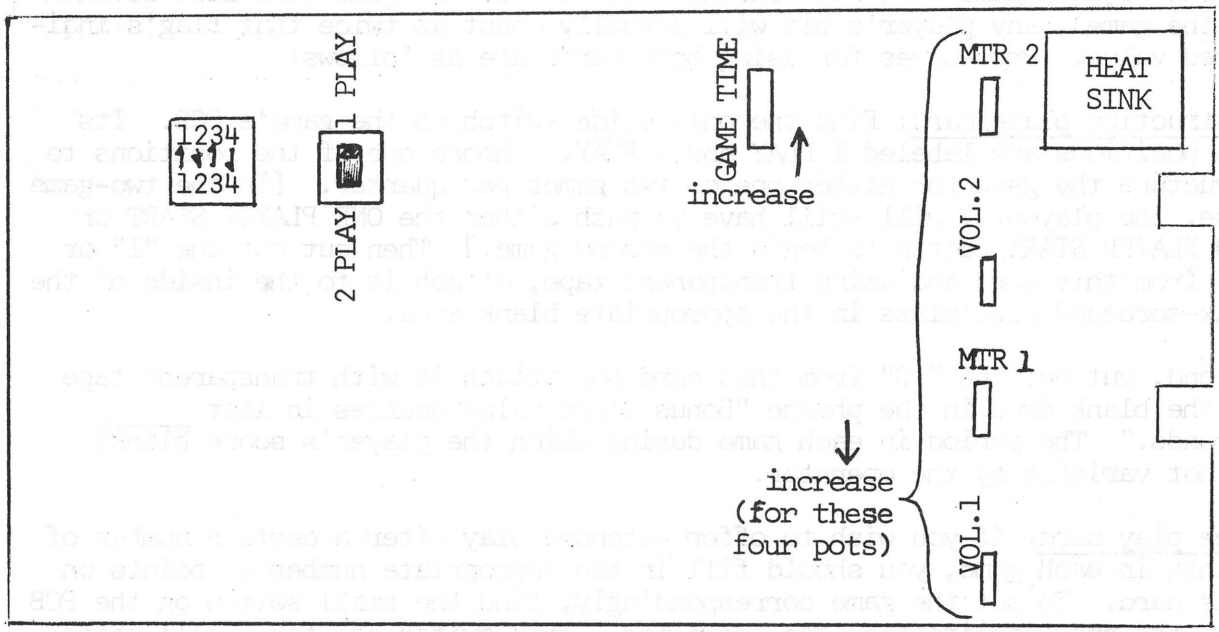
After setting the switch to the appropriate value, place the free play card behind the smoked plex so it rests along the retainer at the plex's bottom edge.

ADJUSTMENTS OF VARIOUS POTENTIOMETERS ON THE PCB (see drawing below)

The game length is controlled by the GAME TIME pot, located near the top center of the PCB. The range is approximately 30 seconds to 3 minutes.

The pitch of each car's motor is varied with the MTR 1 and MTR 2 pots, located near the edge-connector end of the PCB. The former controls the pitch of the white car (left steering wheel); the latter controls the pitch of the black car (right steering wheel).

The volume of each car's motor is varied with the VOL 1 and VOL 2 pots, located inward from the MTR 1 and -2 pots. Similar to the pitch, each volume pot controls one of the cars on the TV screen.



Crash 'N Score:
Operator-Adjustable Controls
for Game Structuring
on Printed Circuit Board

ARCADE
CRASH 'N' SCORE

ATARI
Innovative leisure

ASSEMBLY TITLE / TOP ASSEMBLY **P/L** 004172

PARTS LIST SPECIFICATION

Drawn Wayne Sauter	
Checked M.J. 9/9/75	Mech. Eng. Eli Shachal
Proj. Eng. K.W.D 9/10/75	Elec. Eng

REV. C

Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv.
A	PROD REL	9/30/75					
B	Rev per ECN 1674	10/5/75					
C	Rev per ECN 1701	10/14/75					

Item	Part Number	Qty.	DESCRIPTION
1	A004155	1	Cabinet Assembly
2	A004175	1	Control Panel Assembly
3	A004215	1	Electronics Tray Assembly
4	A004174	2	Foot Pedal Assembly
5	004214	1	Playfield Plex Screen, Clear
6	003920-02	2	Plexiglass Retainers
7	004166	1	Bottom Plex Retainer
8	004171	1	ABS Bezel, Black
9	004216-XX	1	Instruction Plate, Number Card
10	000869	2	Speaker Grill
11	000531	2	Control Panel Mntg Bracket
12	A003637	1	Coin Door Assembly
13	A004232	1	Decal Location Diagram
14	48-002	2	Speakers, 4" Motorola
15	92-007	1	23" T.V. Monitor
16	71-2114	1	Hudson Lock
17	72-6810	20	Screws, Self Tapping, #8 x 5/8 Phil Pan Hd
18	75-931	2	Wing Nuts, #10-24
19	75-5124N	10	Carriage Bolts, #10-24 x 1½
20	75-010S	20	#10 Flat Washer
21	75-040	22	#10 Lock Washer
22	75-911S	20	#10-24 Hex Nuts
23	82-8116B	4	Socket Hex, Cap Screws, #10-24 x 1"
24	82-404	2	Eye Bolt, #¼-20 x 3"
25	004212	1	R.H. Side Panel S/Screen
26	004213	1	L.H. Side Panel S/Screen
27	A004217	1	Main Harness
28	004218	Ref	Wiring Diagram
29	004177	1	Shipping Carton
30	TM-048	1	Technical Manual
31	004211	1	Plexiglas, Playfield, Smoked
32	75-915S	2	#¼-20, Hex Nuts
33	75-015S	2	#¼ Flat Washers
34	75-045	2	#¼ Lock Washers
35	75-5120B	10	Carriage Bolts, #10-24 x 1¼
36	73-77004	8	Rivets, 3/16 x .68
37	004355	1	Free Play Card
38	72-6620	6	Screws, Self Tap, #6 x 1¼ Pan Hd Phil
39	A004278	1	Coin Mech Housing Harness
40	72-6616	1	Screw, Self Tap, #6 x 1" Pan Hd Phil

ASSEMBLY TITLE ARCADE CRASH 'N SCORE TOP ASSEMBLY **P/L** 004172

PARTS LIST SPECIFICATION

Item	Part Number	Qty.	DESCRIPTION
41	A004236	1	Fluorescent Light Mounting Assembly
42	A004286-04	1	Final Assy - R.F. Shielding Enclosure
43			
44			
45	75-5132N	2	Carriage Bolts, #10-24 x 2"

CRASH 'N SCORE

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ASSEMBLY TITLE / ASSEMBLY, P.C. BOARD **P/L** 004256

PARTS LIST SPECIFICATION

Drawn D. Storie		
Checked D. Storie	Mech. Eng.	
Proj. Eng.	Elec. Eng	REV. A

Rev.	Description	Date	Apprv.	Rev.	Description	Date	Apprv.
1	PRE-PROD REL	10/13/75					
A	PROD REL	10/21/75					

Item	Part Number	Qty.	DESCRIPTION	
1	004257	1	Printed Circuit Board	
2	37-7400	11	I.C. 7400	A3,B5,C9,E4,F9,H3,J4,K5,L9,P3,P9
3	37-7402	9	I.C. 7402	C8,E6,F1,F4,H2,L4,L8,N4,N6
4	37-7404	12	I.C. 7404	A1,A6,C3,C10,D7,E10,J3,J6,J9,M7,N10,R3
5	37-7406	1	I.C. 7406	L10
6	37-7408	3	I.C. 7408	F3,J8,MN1
7	37-7410	5	I.C. 7410	B6,D3,F10,K6,P2
8	37-7414	1	I.C. 7414	H10
9	37-7420	4	I.C. 7420	C4,E8,N3,N8
10	37-7430	1	I.C. 7430	B1
11	37-7432	1	I.C. 7432	R4
12	37-7448	1	I.C. 7448	J1
13	37-7474	14	I.C. 7474	A5,A7,A8,B3,DE1,H9,J5,J7,K3,K4,M4,N1,R2,R9
14	37-7475	2	I.C. 7475	H7,R7
15	37-7485	3	I.C. 7485	B4,D9,M9
16	37-7486	3	I.C. 7486	D4,M3,L3
17	37-7490	7	I.C. 7490	B8,K8,L1,L2,M1,M2,P10
18	37-7492	2	I.C. 7492	B9,K9
19	37-7493	5	I.C. 7493	A4,D1,D8,E1,M8
20	37-74107	6	I.C. 74107	C7,F5,FH1,L7,P1,P5
21	37-74153	3	I.C. 74153	F2,K1,K2
22	37-74192	1	I.C. 74192	E3
23	37-74193	7	I.C. 74193	E9,F8,H8,N9,P4,P8,R8
24	37-74279	2	I.C. 74279	MN2,N2
25	37-9312	4	I.C. 9312	H1,H5,J2,R5
26	37-9316	13	I.C. 9316	A2,B2,C2,C5,C6,D5,D6,E5,L5,L6,M5,M6,N5
27	37-9602	2	I.C. 9602	H4,R1
28	37-555	5	I.C. 555	B7,D10,K7,M10,R10
29	37-LM323	1	Reg LM323 + 5V	
30	37-LM324	2	I.C. LM324 OP AMP	C11,L11
31	37-LM340T-15	1	Reg LM340T-15 +15V or 7815	Q13
32	37-LM380	2	I.C. LM380 Audio AMP	B10,K10

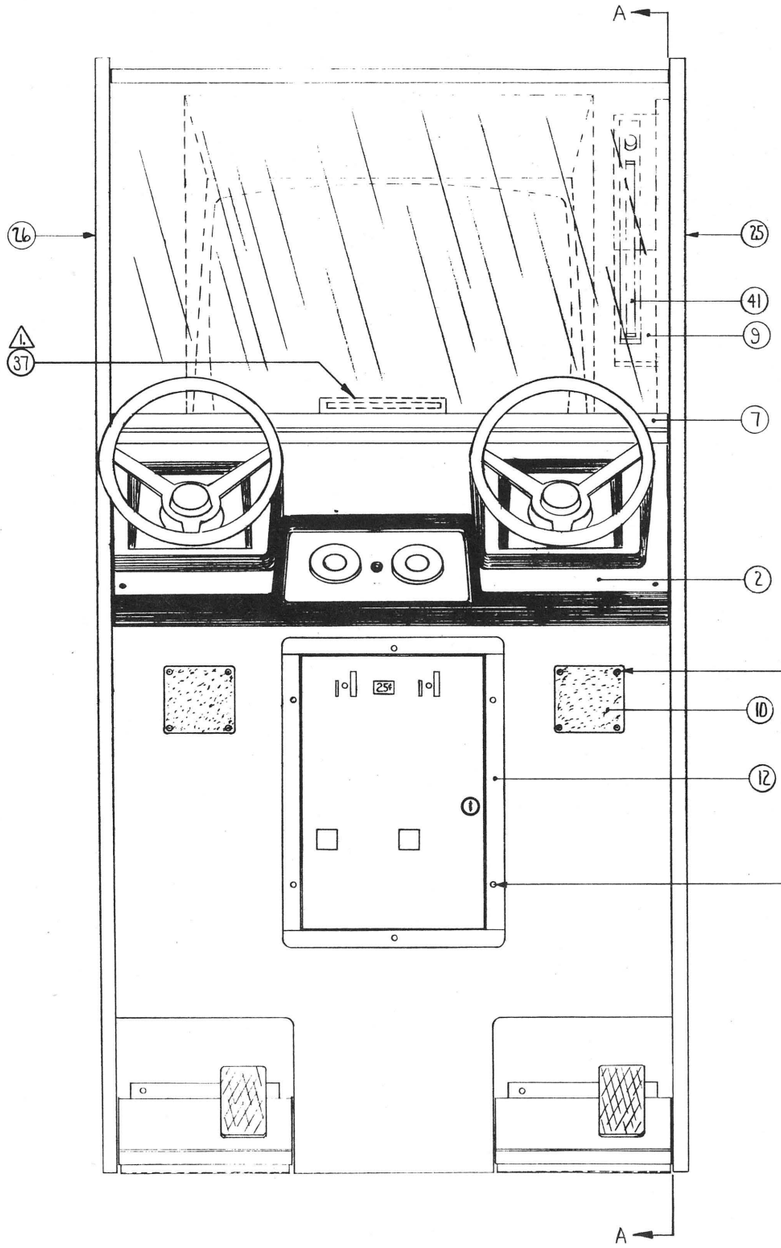
Item	Part Number	Qty.	DESCRIPTION	
33	003186	2	Rom, RT8 Car Video	F6,P6
34	003187	2	P-Rom, RT8, Car Motion Code	F7,P7
35	004248	1	P-Rom, Crash 'N Score, Location Code	D2
36	004247	1	P-Rom, Crash 'N Score, Shape Code	E2
37	79-42424	2	24 pin I.C. Socket	
38	79-42116	4	16 pin I.C. Socket	
39	31-MR501	2	Diode MR501 Power	D10,D11
40	31-A14F	2	Diode A14F Power	D18,D19
41	31-1N4001	2	Diode 1N4001 Power	D27,D28
42	31-1N914	17	Diode 1N914	D3,D5-D9,D12,D15, D16,D17,D20-D26
43	33-2N3644	3	Transistor PNP 2N3644	Q1,Q4,Q9
44	34-2N3643	2	Transistor NPN 2N3643	Q7,Q8
45	34-2N3565	2	Transistor NPN 2N3565	Q3,Q6
46	003629	2	Selected NPN Noise Source 2N3643	Q2,Q5
47	35-MCR106	3	SCR Transistor MCR106	Q10,Q11,Q12
48	38-MV5013	5	Light Emitting Diode, Visible Red	D1,D2,D4,D13,D14
49	21-500103	2	Capacitor, Mylar, .01uf, 50V	C10,C49
50	21-500104	2	Capacitor, Mylar, .1uf, 50V	C15,C52
51	24-160808	1	Capacitor, Elect. 8000uf 16V	C45
52	24-250105	4	Capacitor, Elect. 1uf 25V	C14,C16,C53,C54
53	24-250505	4	Capacitor, Elect. 5uf 25V	C7,C18,C48,C59
54	24-250106	9	Capacitor, Elect. 10uf 25V	C5,C8,C9,C12,C23, C47,C56,C67,C68,
55	24-250107	3	Capacitor, Elect. 100uf 25V	C4,C38,C39
56	24-060257	1	Capacitor, Elect. 250uf 6V	C1
57	24-250507	2	Capacitor, Elect. 500uf 25V	C25,C66
58	24-250478	1	Capacitor, Elect. 4700uf 25V	C57
59	27-250103	10	Capacitor, Ceramic .01uf 25V	C3,C11,C19,C36, C37,C41,C42,C50, C60 ,C69
60	27-250104	21	Capacitor, Ceramic .1uf 25V	C13,C21,C22,C24, C26-C35,C43,C44, C51,C55,C62,C63, C65
61	28-101101	7	Capacitor, Mica 100pf 100V	C2,C17,C20,C40, C58,C61,C64
62	28-101391	2	Capacitor, Mica 390pf 100V	C6,C46
63	10-5101	3	Resistor, Carbon, 5%, 1/4W, 100 ohm	R75,R77,R79
64	10-5151	4	Resistor, " " " 150 ohm	R9,R10,R73,R74
65	10-5221	6	Resistor, " " " 220 ohm	R14,R32,R33,R66, R72,R76
66	10-5331	3	Resistor, " " " 330 ohm	R78,R118,R119
67	10-5471	4	Resistor, " " " 470 ohm	R24,R31,R65,R71
68	10-5102	16	Resistor, " " " 1K	R3,R7,R8,R25,R36, R69,R70,R95,R103,R104,R120,R121,R49,R54,R55,R64

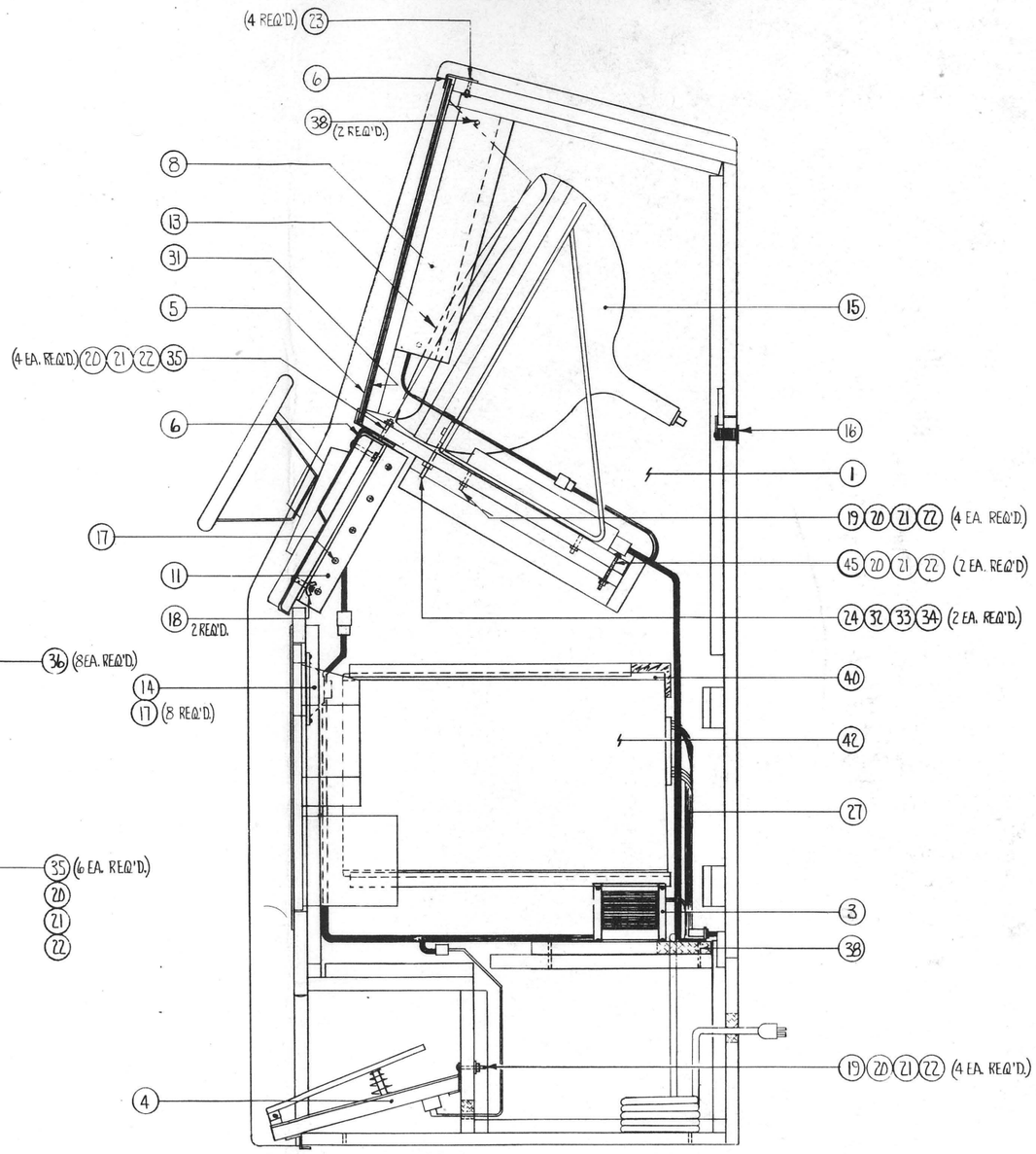
ASSEMBLY TITLE CRASH 'N SCORE P.C. BOARD ASSEMBLY **P/L** 004256 Rev A

PARTS LIST SPECIFICATION

Item	Part Number	Qty.	DESCRIPTION	
69	10-5272	4	Resistor, Carbon, 5%, 1/4W, 2.7K	R126-R129
70	10-5152	1	Resistor, " " " 1.5K	R23
71	10-5472	16	Resistor, " " " 4.7K	R15-R22,R80-R87
72	10-5103	15	Resistor, " " " 10K	R2,R12,R37,R46, R56,R58,R59,R60, R93,R98,R105, R110,R111,R112, R122
73	10-5123	2	Resistor, " " " 12K	R62,R114
74	10-5153	2	Resistor, " " " 15K	R38,R99
75	10-5333	3	Resistor, " " " 33K	R1,R48,R107
76	10-5563	3	Resistor, " " " 56K	R67,R68,R123
77	10-5683	2	Resistor, " " " 68K	R34,R96
78	10-5823	2	Resistor, " " " 82K	R50,R108
79	10-5104	17	Resistor, " " " 100K	R5,R11,R39,R41, R47,R51,R52,R53, R61,R100,R102, R106,R113,R115, R116,R117,R124
80	10-5224	4	Resistor, " " " 220K	R30,R35,R92,R97
81	10-5474	4	Resistor, " " " 470K	R29,R40,R91,R101
82	10-5105	4	Resistor, " " " 1 Meg	R26,R63,R88,R125
83	10-5225	2	Resistor, " " " 2.2M	R28,R90
84	10-5475	2	Resistor, " " " 4.7M	R27,R89
85	17-54P0	1	Resistor, WW, 5%, 10W, 4 ohm	R6
86	19-311103	2	Trim Pot, 10K ohm	R57,R109
87	19-311254	2	Trim Pot, 250K ohm	R13,R94
88	19-311105	1	Trim Pot, 1M ohm	R4
89	66-024P1T	1	Dip Switch, 4SPST	S2
90	69-001	1	Switch, DPDT	S1
91	72-1408C	2	Screw, Mach, Pan Hd, Phil 4-40 x 1/2 , CRES	
92	75-016C	2	Washer, Flat #6, CRES	
93	75-914C	2	Nut, Hex 4-40, CRES	
94	75-054	2	Lockwasher, Int Star #4	
95	75-056	2	Lockwasher, Int Star #6	
96	75-916C	2	Nut, Mach, Hex, 6-32, CRES	
97	78-06004	1	Heat Sink, Wakefield #680-.75A	
98	78-16005	1	Silpad, Wafer, Insulator, To-3	
99	90-101	1	Crystal 14.31818	Y1
100	72-1610C	2	Screw, Mach, Pan Hd, Phil, 6-32 x 5/8", CRES	

REVISIONS				
SYM	DESCRIPTION	INITIALS and DATE		
		DRFTG	CHECK	ENGRG
A	PROD. RELEASE	9-29-75	EB	WS.
B	REV. PER ECN 1674	10-3-75	EB	WS.
C	REV. PER ECN 1701	10-14-75	EB	WS.





SEC A-A.

NOTES:

1. ITEM 37, FREE PLAY CARD TO BE INSTALLED BY OWNER BETWEEN SMOKED AND SIS PANEL.

DRAWING NO. | SHEET | REV

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NEXT ASSY	USED ON
APPLICATION	

INTERPRET THIS DRAWING PER USASI Y14.5

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS = ±1/16 x = ±.1
ANGLES = ±1° xx = ±.03
SURFACE FINISH ✓ xxx = ±.010

MATERIAL: SEE P/L 004172

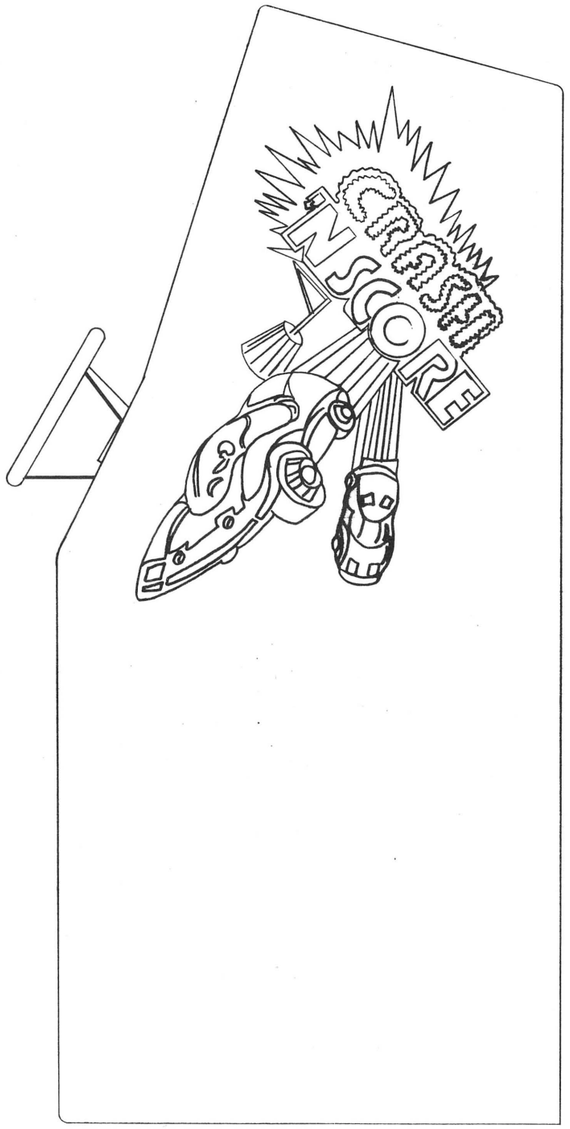
DRAWN BY WS DATE 8-28-75
CHECKED
DESIGN ENGINEER Wayne Santo
PROJECT ENGINEER
DOCUMENT CONTROL
APPROVED E. Bochal

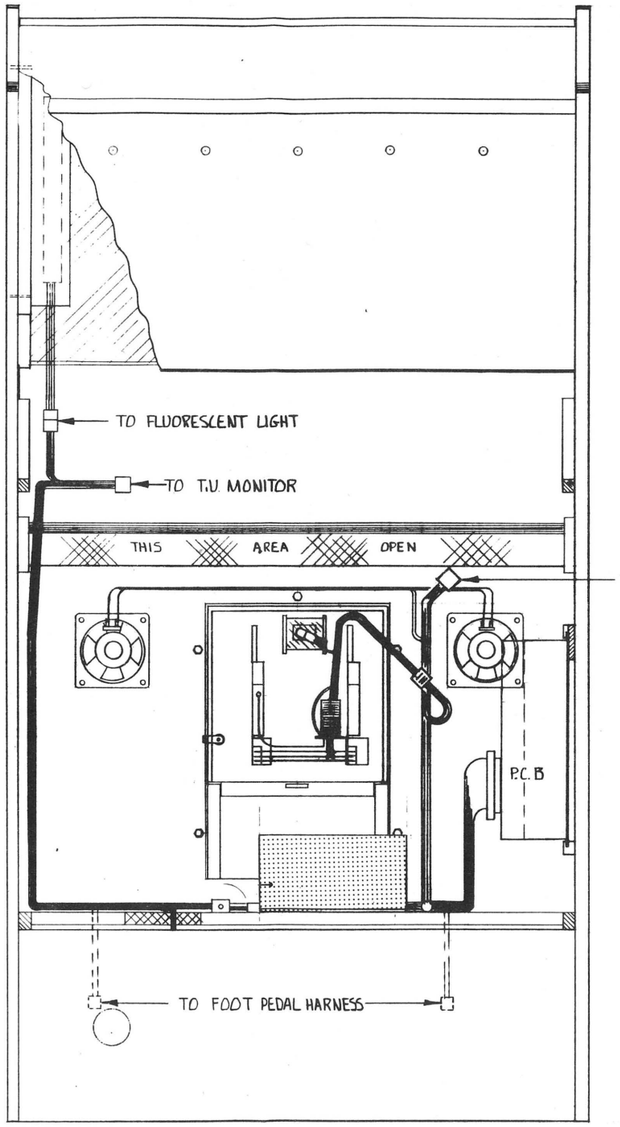
ATARI INCORPORATED
14600 Winchester Boulevard
Los Gatos, California 95030

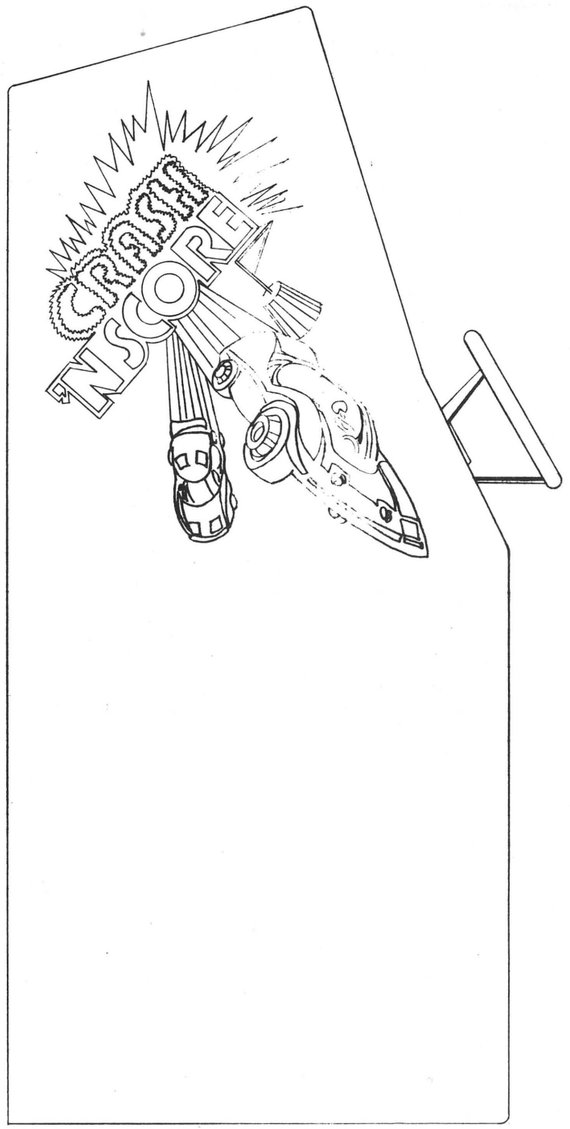
TITLE
ARCADE CRASH 'N' SCORE
CABINETRY - TOP ASSY

SIZE D | DRAWING NO. A004112 | REV C
SCALE | SHEET 1 OF 2

REVISIONS				
SYM	DESCRIPTION	INITIALS and DATE		
		DRFTG	CHECK	ENGRG
	SEE SHEET 1 OF 2		EV	







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NEXT ASSY	USED ON
	ARC CRASH STD.
APPLICATION	

INTERPRET THIS DRAWING PER USASI Y14.5

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON:
FRACTIONS = ±1/16 .x = ±.1
ANGLES = ±1° .xx = ±.03
SURFACE FINISH ✓ .xxx = ±.010

MATERIAL: SEE PIL. 004172

DRAWN BY: WS DATE: 9-29-75
CHECKED:
DESIGN ENGINEER: Wayne Santos
PROJECT ENGINEER:
DOCUMENT CONTROL:
APPROVED:

ATARI INCORPORATED
14600 Winchester Boulevard
Los Gatos, California 95030

TITLE: CABINET-TOP ASS'Y

SIZE	DRAWING NO.	REV
D	A004172	C
SCALE	SHEET 2 OF 2	

DRAWING NO. | SHEET | REV

REVISIONS				
SYM	DESCRIPTION	INITIALS and DATE		
		DRFTG	CHECK	ENGRG
A	PROD. REL.	10/9/75	RS	ERR
B	REV PER ECN 1704	10-15-75	RS	ERR

44 POS EDGE CONNECTOR

GRD	1	GN/W
	A	W/GN
GRD	2	
	B	BU/W
16.5 VAC	3	
	C	W/BU
16.5 VAC	4	
	D	R
+5 V OUT	5	
	E	V
VIDEO	6	
	F	BU
#2 PLAYER ST. N.O.	7	
	H	BK
#1 PLAYER ST. N.O.	8	Y/BK
#1 COIN MECH N.C.	J	BK/Y
#1 COIN MECH N.O.	9	V/BK
BARRIER SW. N.O.	K	W/V
BARRIER SW. N.C.	10	R/BK
SPEAKER #2	L	R
COIN COUNTER	11	
	M	GY/BK
#2 COIN MECH N.O.	12	GY
#2 COIN MECH N.C.	N	W/BU
#2 CREDIT LIGHT	13	BN
GRD	P	W/BK
#1 CREDIT LIGHT	14	
	R	OR
STEERING #1	15	W/OR
STEERING #1	S	Y
STEERING #2	16	W/Y
STEERING #2	T	Y/BK
GAS #2 N.O.	17	OR/BK
GAS #1 N.O.	U	W
ANTENNA	18	BK/R
SPEAKER #1	V	R/W
25 VAC	19	
	W	W/R
25 VAC	20	W/R
25 VAC	X	GN/Y
GRD	21	
	Y	W/GN
GRD	22	W/GN
GRD	Z	

TRANS 001551

VOLT SELECT A001920

LINE FILTER

A.C. IN

COIN COUNTER

1 PLAYER ST

2 PLAYER ST

BARRIER SELECT SW

#2 STEERING

#1 STEERING

GAS #1 GAS #2

SPEAKERS

MONITOR

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NEXT ASSY | USED ON

APPLICATION

INTERPRET THIS DRAWING PER USASI Y14.5

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON:
FRACTIONS = ±1/16 .x = ±.1
ANGLES = ±1° .xx = ± .03
SURFACE FINISH ✓ .xxx = ± .010

MATERIAL:

DRAWN BY B.R.R. DATE 10-7-75
CHECKED
DESIGN ENGINEER Bruce R. Lyon
PROJECT ENGINEER
DOCUMENT CONTROL
APPROVED E. Thachal

ATARI INCORPORATED
14600 Winchester Boulevard
Los Gatos, California 95030

TITLE
ARCADE CRASH N SCORE
HARNESS SCHEMATIC

SIZE C | DRAWING NO. 004218 | REV B
SCALE | SHEET 1 OF 1

DRAWING NO. | SHEET | REV

REVISIONS				
SYM	DESCRIPTION	INITIALS and DATE DRFTG	CHECK	ENGRG
1	PREPRODUCTION RELEASE			
A	PRODUCTION RELEASE	10/21/75		

EXTRA GATES
86 — D4, D4
04 — C10,
32 — R4
279 — MN2, MN2, MN2
9602 — R1
08 — MN1
107 — FH1
74 — DE1

EXTRA PINS
R
E
F
H
M
11

LAST REF. DESIG.
D26
Q13
C69
R129
S2
Y1

NOTES: UNLESS OTHERWISE SPECIFIED;
1. ALL RESISTORS VALUES ARE IN OHMS, 1/4W, 10%
2. ALL DIODES ARE IN914.

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NEXT ASSY	USED ON
APPLICATION	CRASH N SCORE

INTERPRET THIS DRAWING PER USASI Y14.5

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS ±1/16 .x ± .1
ANGLES ± 1° .xx ± .03
SURFACE FINISH ✓ .xxx ± .010

MATERIAL:

DRAWN BY C. Uyeno DATE 9/8/75
CHECKED
DESIGN ENGINEER D. Sterne
PROJECT ENGINEER A. Macy
DOCUMENT CONTROL
APPROVED

ATARI INCORPORATED
14600 Winchester Boulevard
Los Gatos, California 95030

TITLE
SCHEMATIC
CRASH N'SCORE

SIZE D | DRAWING NO. [illegible] | REV A
SCALE — | SHEET 1 OF 4

REVISIONS				
SYM	DESCRIPTION	INITIALS and DATE DRFTG	CHECK	ENGRG
	SEE SHT 1			

COIN #1 — N.O. — N.C. — J9 — A7 74 — COIN #1 — 64V — 16V — P

COIN #2 — N.O — N.C. — C10 — A8 74 — COIN #2 — 64V — 16V — P

+5V — RZ 10 K — 2 PLAYS/25¢ — 4V — S1 — P2 — P3 — COIN

+5V — C43 .1 — R75 100 — Q9 2N3644 — R76 220 — R78 330 — 1 OR 2 CREDIT — END GAME — B5 — R77 100 — E10 — Q — Q8 2N3643 — Q7 2N3643 — C49 .1 — 100 R79 — ANT. 18 — IN914 D17 — D25 IN914 — D26 IN914 — COIN #1 — COIN #2

P — BONUS COIN — COIN — CPU P4 193 — TCU — CPD — TCD — MR — P3 — N4 02 — 1 CR START — MN1 — 8V — 2 CR START — R4 — R3 — 2 CREDIT — 1 OR 2 CREDIT

+5V — R5 100 K — R11 100K — R9 1M — GAME TIME — DIS — THR — TRIG — R — Q — CV — 555 R10 — D3 IN914 — C5 10 uf 25V — C3 .01 — GAME TIMER — CPA P10 90 — CPB — START — END GAME — N10 — FREE GAME SELECTOR — C69 .01 — GT1 — GT2 — 8F I — FLO — F10 — FLASH

Q10 — MCR 106-1 — R71 470 — R72 220 — 1 CREDIT LIGHT — 328 — 6.3VAC

2 CREDIT — R65 470 — Q11 — MCR 106-1 — R66 220 — 2 CREDIT LIGHT — 328 — 6.3VAC

P — 6.30 VAC GND

START #1 PLAYER — +5 — R55 1K — N.O. — K9 74 — 64V — 1 OR 2 CREDIT — ATTRACT — L4 — 1 CR START — 1 PLAYER SW. — K5 — START — C10 — J7 74 — ATTRACT — 32V — J8 — ATTRACT I — 2 PLAYER — M4 74 — END GAME — J8

START #2 PLAYER — +5 — R54 1K — N.O. — K9 74 — 64V — ATTRACT — 128V — MN2 — 2 CREDIT — 2 CR START

COIN #1 — COIN #2 — MN1 — R3 — R31 470 — R32 220 — MCR 106-1 Q12 — COIN

SCORE 1 MSB'S — 1E — 1F — 1G — 1H — L3 — N3

SCORE 2 MSB'S — 2E — 2F — 2G — 2H — M3 — N3

2.7 K — R129 — R126 — R127 — R128 — KL3 — N.O. S2 KL3 — Ax Bx Cx Dx

ATTRACT — P1 CK 107 — H RESET — BG1 — BG2 — NZ — N1 74 — 279 — END GAME — BONUS COIN — P3 — FREE GAME TONE

C9 + 25V 100μf — R1 33K — R1 9602 — 4V — MN1

INTERPRET THIS DRAWING PER USASI Y14.5

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON:
FRACTIONS = ±1/16 .x = ±.1
ANGLES = ±1° .xx = ±.03
SURFACE FINISH ✓ .xxx = ±.010

MATERIAL:

DRAWN BY J. Izumi DATE 9/8/75
CHECKED
DESIGN ENGINEER D. Stolz
PROJECT ENGINEER
DOCUMENT CONTROL
APPROVED

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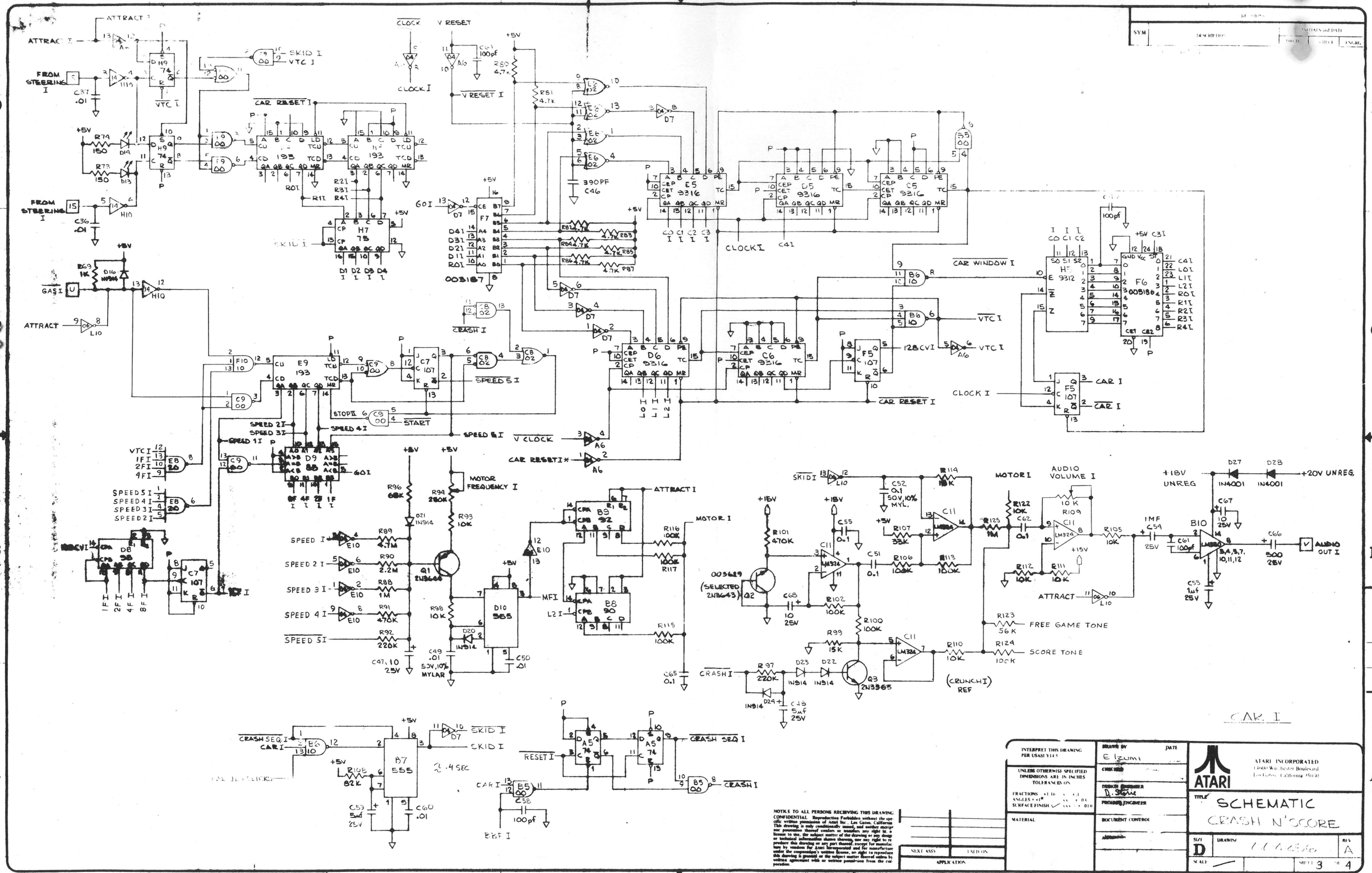
NEXT ASSY | USED ON
APPLICATION

ATARI INCORPORATED
14600 Winchester Boulevard
Los Gatos, California 95030

TITLE: SCHEMATIC
CRASH N' SCORE

SIZE D | DRAWING NO. 034756 | REV A
SCALE — | SHEET 2 OF 4

DRAWING NO. | SHEET | REV.



SYM	DESCRIPTION	INITIALS and DATE

INTERPRET THIS DRAWING PER USASI Y14.5

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON
FRACTIONS
ANGLES
SURFACE FINISH

MATERIAL

NEXT ASSY | USED ON | APPLICATION

DRAWN BY E. Izumi DATE
CHK'D
DESIGN ENGINEER D. Stone
PROJECT ENGINEER
DOCUMENT CONTROL
APPROVED

ATARI INCORPORATED
1265 Borregas Avenue
Sunnyvale, California 94086

TITLE SCHEMATIC
CRASH N' SCORE

SIZE D | DRAWING | REV A
SCALE | SHEET 3 OF 4

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REVISIONS				
SYM	DESCRIPTION	INITIALS and DATE		
		DRFTG	CHECK	ENGRG
	SEE SHT 1			

ATTRACT
FROM STEERING II
C42 .01
VTC II
+15V
R10 150
R9 150
D2
D1
FROM STEERING II
C41 .01
+5V
R30 1K
D15 IN914
GAS II
ATTRACT
SKID II
VTC II
CAR RESET II
CLOCK
V RESET
CLOCK II
V RESET II
+5V
R15 4.7K
R16 4.7K
390 pf C6
+6V
60 II
#003187
P7
D4 II
D3 II
D2 II
D1 II
R0 II
4.7K R17
4.7K R18
4.7K R19
4.7K R20
4.7K R21
4.7K R22
M7
CRASH II
CLOCK II
C4 II
N5 9316
M5 9316
L5 9316
K5 00
K6 10
CAR WINDOW II
VTC II
J6
128CV II
2 PLAYER
P5 C 107
CAR RESET II
C2 100pf
+5V C3 II
R5 9312
P6 003186
C4 II
LO II
L1 II
LZ II
R0 II
R1 II
R2 II
R3 II
R4 II
CAR II
CLOCK II
SPEED 5 II
SPEED 4 II
SPEED 3 II
SPEED 2 II
SPEED 1 II
STOP
START
N9 193
L7 107
L9 00
L8 02
F10 10
VTC II
1F II
2F II
3F II
N8 20
M9 85
A>B
A=B
A<B
BF 4F 2F 1F
60 II
M8 93
CPA
CPB
QA QB QC QD
16 F II
1F II
2F II
4F II
8F II
R34 68K
R13 250K
MOTOR FREQUENCY II
R12 10K
D6 IN914
R27 4.7M
R28 2.2M
R26 1M
R29 470K
R30 220K
C10 .01 50V, 10% MYL.
C8, 10 25V
Q4 2N3644
M10 555
D5 IN914
C11 .01
C24 0.1
ATTRACT
MOTOR II
R53 100K
R52 100K
R51 100K
K8 92
K8 90
L2 II
N10
SKID II
R62 12K
C15 0.1 50V, 10% MYL.
MOTOR II
AUDIO VOLUME II
R56 10K
R57 10K
R60 10K
R59 10K
R63 1M
C21 0.1μf
R46 10K
C19 1MF 25V
C20 100pf
+18V UNREG
K10
C23 10μf 25V
C25 500μf 25V
AUDIO OUT II
C16 1μf 25V
3,9,5,7 10,11,12
+15V
R40 470K
C22 0.1
003629 (SELECTED 2N3643)
Q5
C12 10μf 25V
C13 0.1
R47 100K
R61 100K
R48 33K
LM324
L11
R41 100K
R39 100K
R38 15K
R58 10K
ATTRACT I
2 PLAYER
R4 32
CRASH II
R35 220K
D8 IN914
D7 IN914
Q6 2N3565
D9 IN914
C7 5mf 25V
(CRUNCH II) REF
CRASH SEQ II
CAR II
K6 10
K7 555
R50 82K
C18 5mf 25V
C19 .01
CAR I + CLICKS
≈ .4 SEC
V RESET II
CRASH SEQ II
CRASH II
K5 00
C17 100pf
BBF II

CAR II

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NEXT ASSY	USED ON
APPLICATION	

INTERPRET THIS DRAWING PER USASI Y14.5

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON:
FRACTIONS = ±1/16 .x = ±.1
ANGLES = ±1° .xx = ±.03
SURFACE FINISH √ .xxx = ±.010

MATERIAL:

DRAWN BY	D. Lyons	DATE 9/8/75
CHECKED		
DESIGN ENGINEER	D. Stout	
PROJECT ENGINEER		
DOCUMENT CONTROL		
APPROVED		

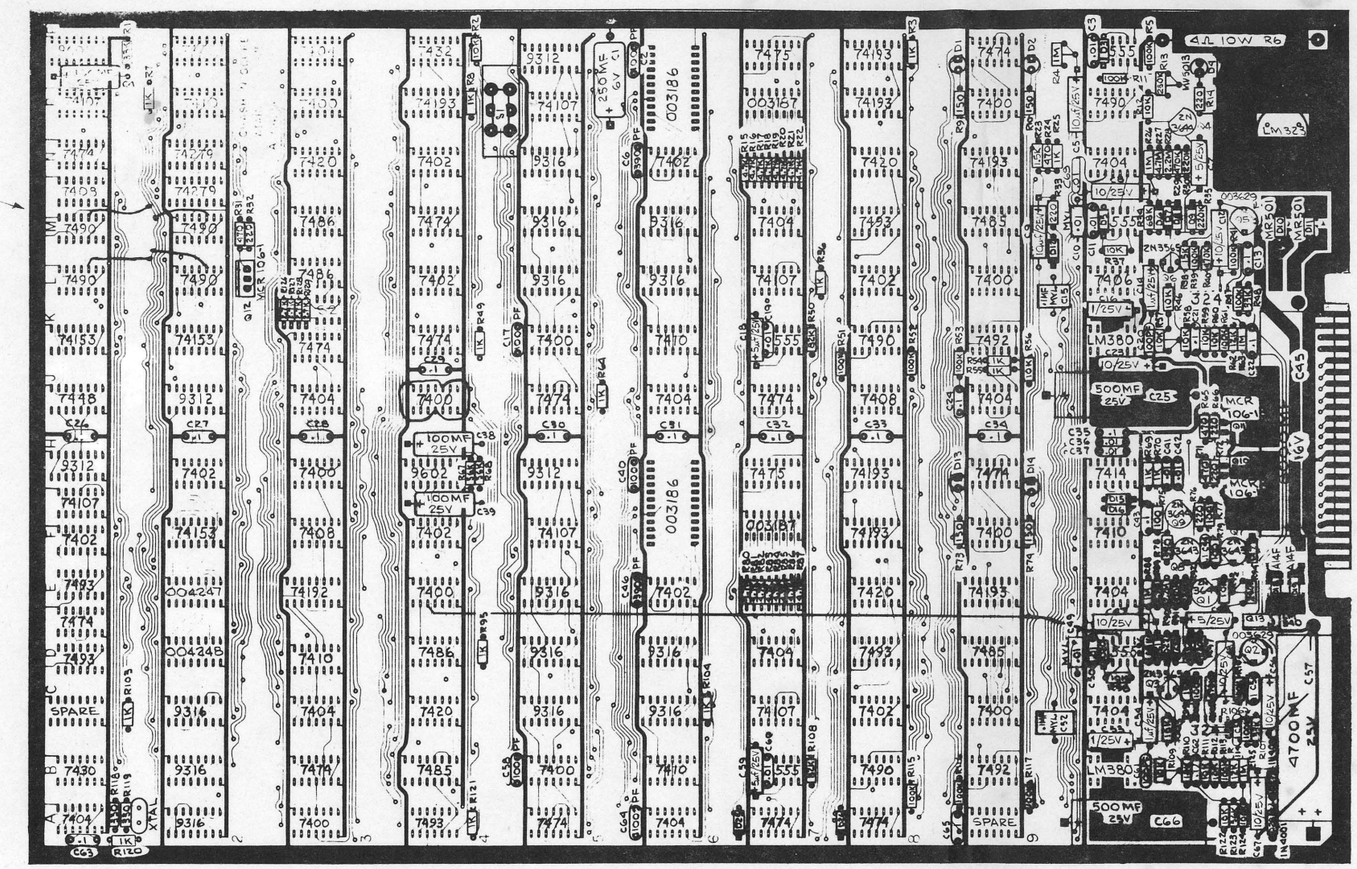
ATARI INCORPORATED
14600 Winchester Boulevard
Los Gatos, California 95030

TITLE
SCHEMATIC
CRASH N' SCORE

SIZE	DRAWING NO.	REV
D	CC1256	A
SCALE		SHEET 4 OF 4

DRAWING NO. | SHEET | REV

REV	DESCRIPTION	DATE	APPROVED
A	PRODUCTION RELEASE	10/21/75	



MODIFICATION LIST TO 004257 REVISION A P.C. BDS:

1. CUT AND LIFT PIN 3 OF L1, L2, M1 & M2. JUMPER FROM THE LIFTED PINS TO THE TRACE RUNNING TO RT, 1K PULL-UP RESISTOR, AS SHOWN.
2. REMOVE 7402 FROM C1, IF INSTALLED.
3. CUT AND LIFT PINS 3 & 11 OF J4. JUMPER LIFTED PIN 3 TO PAD OF PIN 11. JUMPER LIFTED PIN 11 TO PAD OF PIN 3.
4. ON CIRCUIT SIDE OF BOARD BETWEEN R5 & R6, LOCATE TRACE THAT RUNS FROM R5 PIN 4 TO P6 PIN 10. CUT THIS TRACE ON BOTH SIDES OF LARGE PAD TO GND, AND JUMPER THE TRACES TOGETHER.
5. CUT AND LIFT PIN 10 OF E4. JUMPER LIFTED PIN TO PIN 3 OF D10.
6. ADD A .01 CAP (27-250103) FROM PIN 10 OF N10 TO GND.

3. ALL DIODES ARE IN914.
2. ALL CAPACITOR VALUES ARE IN MICRO-FARADS
1. ALL RESISTOR VALUES ARE IN OHMS, 1/4W, 5%.

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CRASH N SCORE

APPLICATION

INTERPRET THIS DRAWING PER USASI Y14.5	DRAWN BY P.C.S. DATE 10/31/75
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON FRACTIONS ± 1/16 .x ± .2 ANGLES ± 1° .xx ± .03 SURFACE FINISH √ .xxx ± .010	CHECKED
MATERIAL SEE P/L 004256	DESIGN ENGINEER D. Storie
	PROJECT ENGINEER M. Tang
	DOCUMENT CONTROL
	APPROVED

ATARI INCORPORATED
1600 Winchester Boulevard
Los Gatos, California 95030

TITLE: ASSEMBLY DWG
CRASH N' SCORE

SIZE D | DRAWING A004256 | REV A

SCALE 1/1 | SHEET 1 OF 2