

TARGET INTERFACE BOARD

00-6000-02R

FIG. #	ITEM #	PART #	DESCRIPTION
17	1	10-0020	Connector - 9 Pin
17	2	10-0022	Connector - 13 Pin
17	3	10-0021	Connector - 11 Pin
17	4	15-0144	Ribbon Cable - 16 Wire

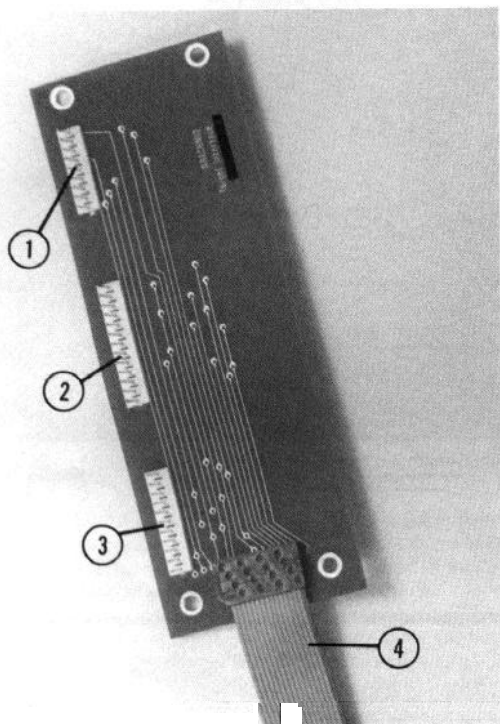


Figure 17. Target interface board

00-6000-04R U.S.A. - 25 cents
 00-6001-04R German - 1 DM
 00-6002-04R French - 1 Franc
 00-6005-04R Spanish - 25 Pesetas

00-6006-04R England - 20p
 00-6008-04R Japan - 100 Yen
 00-6009-04R Kenya - 1 Shilling

FIG. #	ITEM #	PART #	DESCRIPTION
18	5	13-0043	Coin Mechanism - U.S.
18	5	13-0044	Coin Mechanism - Canada
18	6	03-0005	Capacitor .1 mfd 16V (2)
18	7	18-0014	Cash Box
18	8	00-4500-10	Coin Door Harness

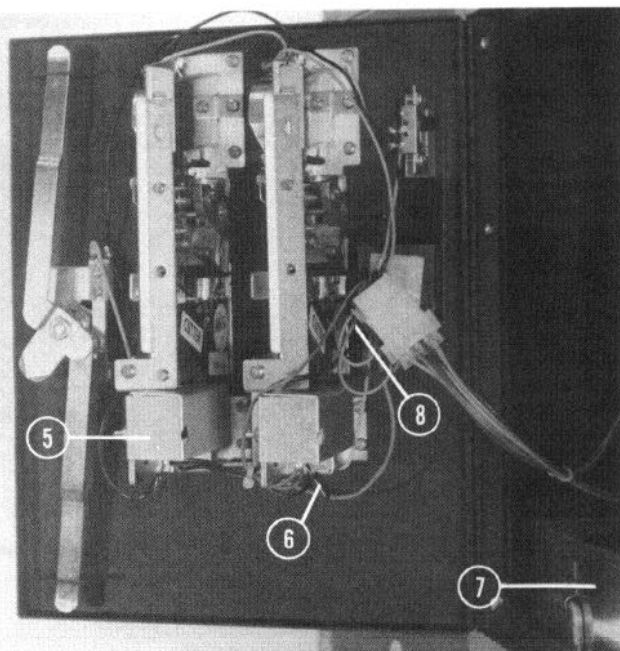


Figure 18. Coin door

MAIN P.C. BOARD ASSEMBLY

00-6000-01 R

FIG. #	ITEM #	PART #	DESCRIPTION	FIG. #	ITEM #	PART #	DESCRIPTION
19	9	01-0014	74LS04	19	29	02-0003	Resistor - 2.2 ohm 1/4 W
19	10	01-0035	556	19	30	02-0055	Resistor - 75 ohm 1/4 W
19	11	01-0056	6809	19	31	02-0011	Resistor - 220 ohm 1/4 W
19	12	01-0037	6821 (2)	19	32	02-0056	Resistor - 470 ohm 1/4 W
19	13	01-0015	74LS13	19	33	02-0017	Resistor - 1K ohm 1/4 W (10)
19	14	01-0052	TMS4416 Memory (2)	19	34	02-0047	Resistor - 3.3K ohm 1/4 W (5)
19	15	01-0053	TMS9118 Video	19	35	02-0021	Resistor - 10K ohm 1/4 W (3)
19	16	01-0054	74LS32	19	36	02-0048	Resistor - 12K ohm 1/4 W
19	17	01-0055	MK48202 Memory w/Battery	19	37	02-0049	Resistor - 510K ohm 1/4 W
19	18	01-0068	Eprom-U.S.A.-Spider Writer	19	38	02-0036	Resistor - 1 MEG ohm 1/4 W (2)
19	18	01-0065	Eprom-Spanish-Spider Writer	19	39	02-0041	Resistor - 10K ohm Variable
19	18	01-0071	Eprom-England-10p/20p-S.W.	19	40	03-0044	Capacitor 33pF, 16V (2)
19	18	01-0072	Eprom-England-20p/40p-S.W.]	19	41	03-0002	Capacitor .01 mfd 50V (23)
19	18	01-0073	Eprom-German-Spider Writer	19	42	03-0005	Capacitor .1 mfd 16V (2)
19	18	01-0074	Eprom-Japan-Spider Writer	19	43	03-0007	Capacitor .22 mfd 16V
19	18	01-0076	Eprom-U.S.A.-SUPER 6 PLUS	19	44	03-0008	Capacitor .33 mfd 100V
19	19	01-0039	6840	19	45	03-0009	Capacitor .47 mfd 16V
19	20	02-0045	Resistor Network - 2K ohm	19	46	03-0012	Capacitor 1 mfd 50V (2)
19	21	02-0001	Resistor Network - 10K ohm (2)	19	47	03-0021	Capacitor 100 mfd 25V
19	22	19-0018	Transistor Network — HLN2003A (3)	19	48	03-0031	Capacitor 1000 mfd 25V (2)
19	23	19-0020	Diode Network — TND903	19	49	03-0032	Capacitor 4.7 mfd 25V Tantalum
19	24	01-0033	MC7815CT	19	50	03-0042	Capacitor Network .01 x 8 (2)
19	25	01-0027	LM383T	19	51	19-0007	Diode 1N4148 (3)
19	26	06-0005	Crystal 10.738635 MHZ	19	52	19-0011	Transistor, 2N4400
19	27	13-0020	Heat Sink	19	53	10-0067	Phono Jack, Panel Mount (2)
19	28	11-0013	Lamp with Socket (4)	19	53	10-0076	Phono Jack, PC Mount
				19	54	00-8000-01	Main P.C. Board Complete

MAIN CABINET ASSEMBLY

FIG. #	ITEM #	PART #	DESCRIPTION
20	55	16-0032	Bottom Decal Lexan
20	56	00-6000-04R	Coin Door Assembly With Cash Box - U.S.A.
20	57	18-0034	Top Cabinet — Unassembled
20	58	16-0031	Top Decal
20			Top Edge Decal
20	58A	16-0036 17-0011	Competitor Strip
20	60	18-0033	Cabinet Bottom — Unassembled
22	61	13-0009	Lock — Back Door
23	62	00-4500-12R	Speaker & Harness
20	63	16-0037	Decal, Instructions. U.S.A.
20	63	16-0041	Decal, Instructions, Spanish
20	63	16-0042	Decal, Instructions, Italian
20	63	16-0043	Decal, Instructions, Dutch
20	63	16-0044	Decal, Instructions, French
20	63	16-0040	Decal, Instructions. German
20	63A	16-0038	Decal, Game List, Super6 U.S.A.
20	63A	16-0045	Decal, Game List, Super6 Dutch
20	63A	16-0046	Decal, Game List, Super6 German
20	63A	16-0047	Decal, Game List, Super6 Spanish
20	63A	16-0048	Decal, Game List, Super6 Italian
20	63A	16-0049	Decal, Game List, Super6 French
21	63A 64	040024 16-0068	Decal, Game List, Super6 PLUS, U.S.A.
21	65		Socket, Lamp, Med. Base (3)
21	66	17-0029-0001	Lamp, 120V. 40W 5-1/2" Long (3)
			Deflectors, Lamp (3)
21	66A	13-0069	Aluminum Foil Light Reflectors
24	67	00-6000-08R	Main Harness
24	68	00-6000-1 4R	Switch & Lamp Harness
24	69	00-6000-27R	Video Harness
20	71	00-6000-29R	Component Tray Assy.
25	72	08-0009	Switch, Illuminated W/O Bulb
25		11-0021	Bulb GE658
24	72A	11-0019	Monitor, 9" Amber
24	72A	09-0026	PC Board, Monitor, Complete
24	72A	11-0022	CRT for Monitor, 9"
2AA	—	00-6000-34R	Arachnid Web Kit
24B	—	00-6000-35	Super 6 Plus Kit - U.S.A.

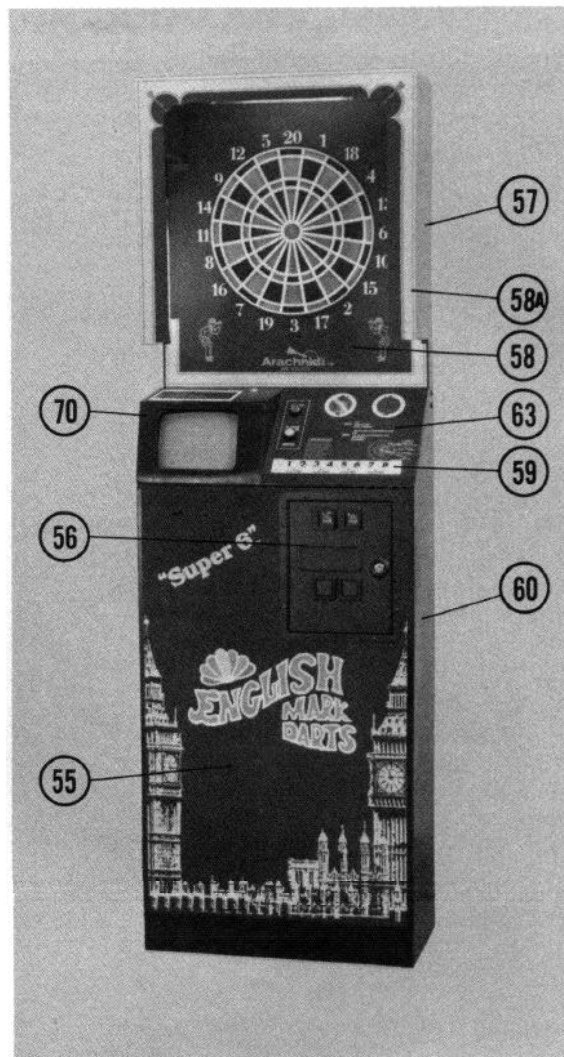


Figure 20.

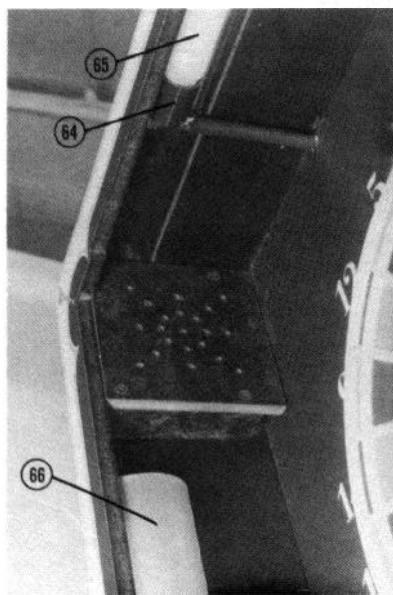


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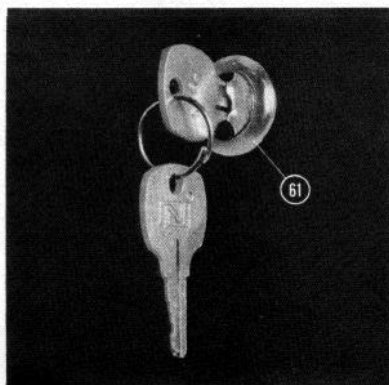


Figure 22.

—NOTE—

THE PART NUMBERS LISTED ARE THE ARACHNID PARTS NUMBERS. PLEASE USE THESE NUMBERS WHEN PLACING YOUR ORDER. SOME DESCRIPTIONS ARE FOLLOWED BY A NUMBER IN PARENTHESES. THIS NUMBER IS THE QUANTITY USED IN THAT ASSEMBLY.

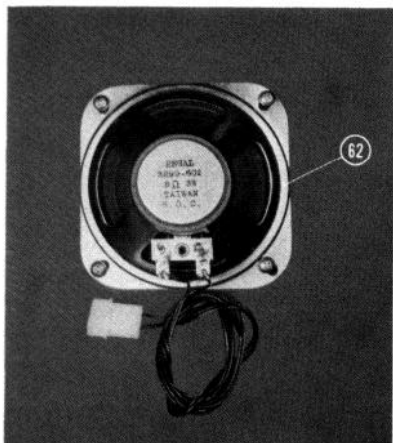


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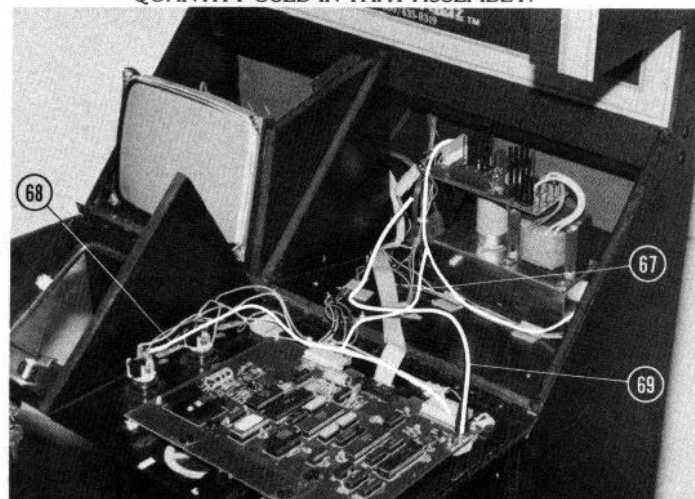


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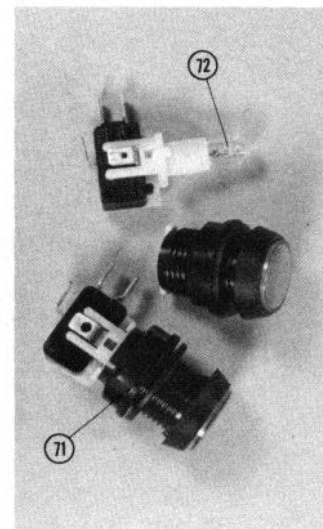


Figure 25.

POWER SUPPLY CHASSIS ASSEMBLY

00-6000-1 7

FIG. #	ITEM #	PART #	DESCRIPTION
26	73	07-0007	Fuse 3/4A 250V Slow Blow
26	74	07-0003	Fuse 5A 250V Slow Blow
26	75	13-0003	Fuse Clips P.C. Mount (4)
26	76	01-0032	Regulator 5V-LM323K
26	77	13-0040	Heat Sink TO3 (2)
26	78	13-0020	Heat Sink
26	79	13-0041	Heat Sink, Square
26	80	19-0021	Bridge Rectifier 8A 200 PIV
26	81	19-0022	Bridge Rectifier 2A 200 PIV
26	82	1 0-0035	Connector 10 PIN
26	83	03-0002	Capacitor .01 mfd 50V (2)
26	84	03-0012	Capacitor 1 mfd 50V
26	a5	03-0008	Capacitor .33 mfd 1 00V (2)
26	86	03-0026	Capacitor 4700 mfd 35V
27	a7	20-0011	Transformer 115V Primary
27	87	20-0015	Transformer 1 00V Primary
27	a7	20-0013	Transformer 230V Primary
27	88	1 0-0009	Connector 6 Pin Chassis Mount
27	89	13-0034	Strain Relief
27	90	15-0002	Power Cord 12'
27	91	08-0004	Switch On/Off
27	92	13-0039	Fuse Holder, Chassis Mount
27	93	07-0008	Fuse 1.5A 250V Slow Blow
27	94	03-0033	Capacitor 8900 mfd 25V
27	95	00-6000-05R	Printed Circuit Assy. Top
29	96	1 Q-001 5	Triad SC 1460
29	97	0-1-0025	Opto Isolator MOC 3030
29	98	02-0010	Resistor 180 ohm 1/4 W
29	99	02-0007	Resistor 120 ohm 1/4 W
29	100	02-0017	Resistor 1 K ohm 1/4 W
29	101	03-0034	Capacitor .022 mfd 600V (2)
29	102	19-0014	Varistor V150LA20A (11 0V units)
29	102	19-0024	Varistor V250LA20A (220V units)
28	103	13-0042	Standoffs 5/8" (3)
29	104	00-6000-24R	Printed Circuit Assy. Bottom
26	105	01-0059	12V Regulator, LAS1 612, TO3-2A
26	106	01-0060	12V Regulator, LM340-12 TO-220
28	107	02-0057	Resistor, 500K Variable
29	108	19-0026	Asymmetrical Bilateral Switch, ST4
28	109	03-0043	Capacitor .1 ufd 600V
29	110	20-0012	Inductor, 50 mh, 3 amp

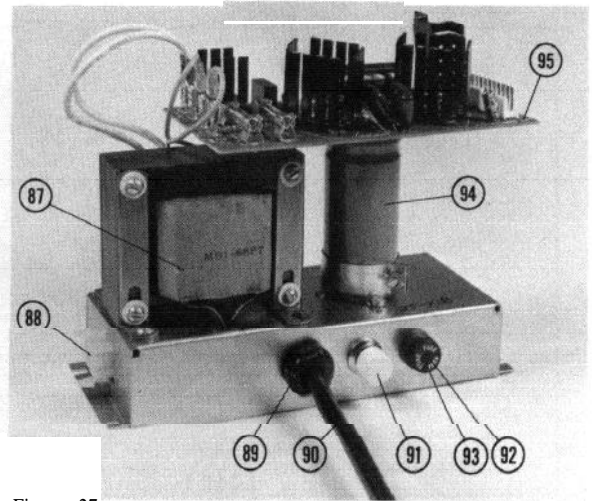


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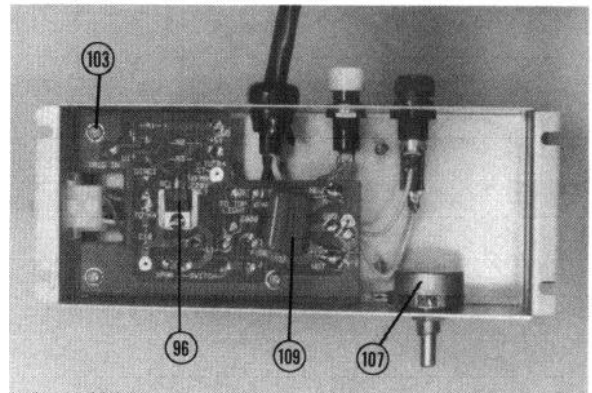


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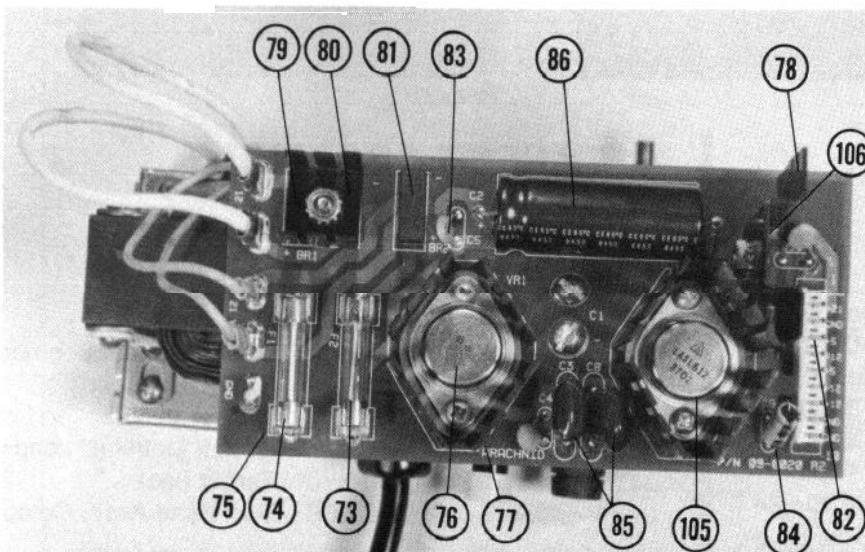


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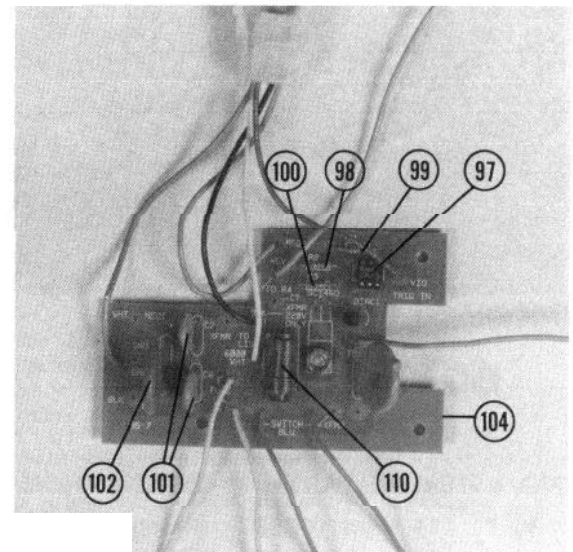


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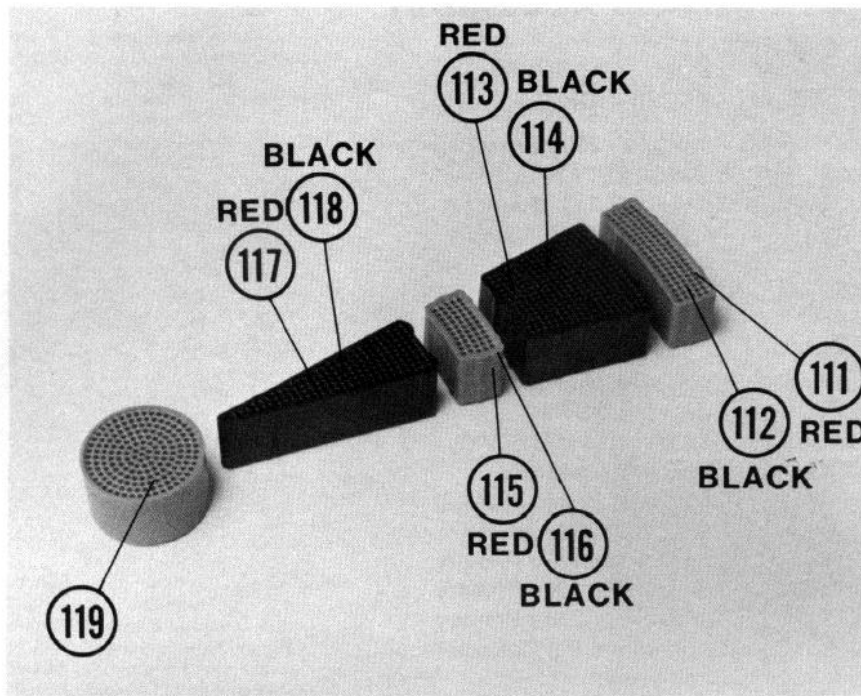


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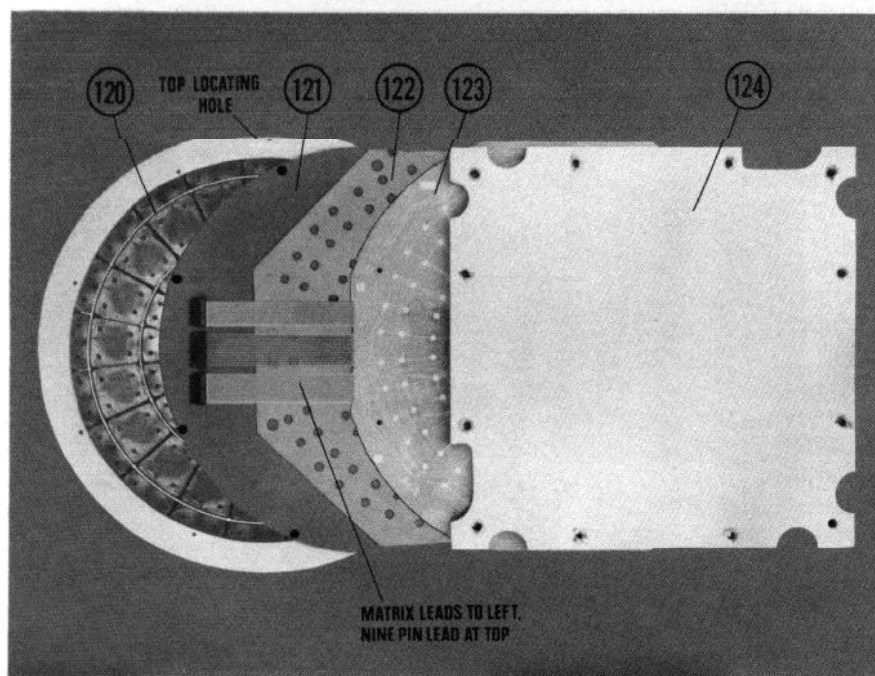


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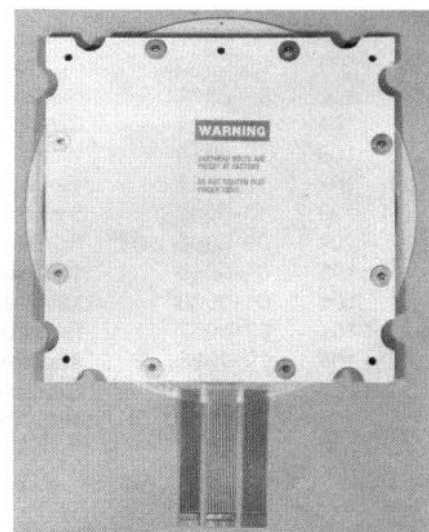


Figure 32.

BOARD SEGMENTS

FIG. #	ITEM #	PART #	DESCRIPTION
30	111	17-0003	A Segment, Red, Double
30	113	17-0008	A Segment, Red, Single
30	114	17-0009	C Segment, Black, Single
30	115	17-0006	D Segment, Red, Triple
30	116	17-0010	D Segment, Black, Triple
30	117	17-0007	E Segment, Red, Pie, Single
30	118	17-0011	E Segment, Black, Pie, Single
30	119	17-0004	B Segment, Red, Bullseye

TARGET ASSEMBLY

FIG. #	ITEM #	PART #	DESCRIPTION
31	120	17-0002	Spider Without Segments
31	121	12-0001	Rubber Damper
31	122	12-0004	Gasket .020"
31	123	08-0001	Switch Matrix 6" Leads
31	124	18-0003	Target Back
32	125	00-4500-06R	Dart Head Assy., Complete

SECTION 7. TROUBLESHOOTING

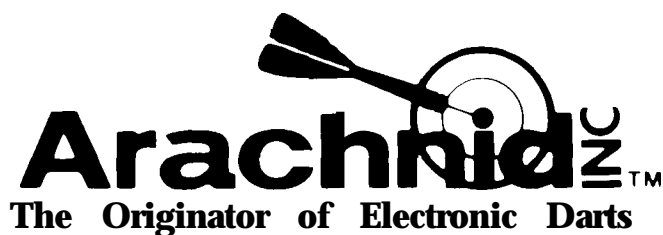
WARNING — UNPLUG POWER TO GAME BEFORE WORKING ON MACHINE

Problem	Probable Cause	Procedure
Nothing lit on game.	<ul style="list-style-type: none"> a. Blown fuse. b. No power at outlet. c. Fuse FS1 on top of power supply blown. d. 5 volt regulator bad. e. Game not turned on. 	<ul style="list-style-type: none"> a. Replace fuse in power supply chassis with 1.5A 250V slow blow fuse. b. Check main breaker in building. c. Replace fuse with 5A 250V slow blow. d. Check for 15V on input to regulator and +5V on output. If input is OK but +5 is not present, replace 5V regulator LM323K. e. Turn on switch located on power supply
Player change and/or game select switches not functioning.	<ul style="list-style-type: none"> a. Bad U17 6821. b. Broken connection from PC board to switches. 	<ul style="list-style-type: none"> a. Replace. b. Check and repair wire harness.
Coin switch and/or test mode not functioning.	<ul style="list-style-type: none"> a. If both are not working, plus lamps on coin door are not lighting, there may be a bad ground to the coin door. b. If both are not working, but the lamps on the coin door are lit, the problem could be U4-6821. c. If just one switch isn't working, check buffer IC U7. 	<ul style="list-style-type: none"> a. Repair ground. NOTE System ground is floating (not connected to power supply chassis) and is connected only to the PC board on top of the power supply. b. Swap U4 with U17 to see if the problem goes away; if so, replace 6821. c. Swap U7 and U24 to see if the problem changes. If so, replace the bad ULN2003.
Small lamps on printed circuit board not lighting.	<ul style="list-style-type: none"> a. Lamp burned out. b. Transistor driver for lamp bad. c. Peripheral interface adapter (PIA) bad. 	<ul style="list-style-type: none"> a. Replace lamp b. Replace drive U7 or U24 c. replace PIA U4
Target lamps won't light at all.	<ul style="list-style-type: none"> a. Lamp burned out. b. Triac bad (if triac were shorted the lamp would be on all the time). c. Opto isolator (MOC3030) bad. d. Buffer U24 is bad. e. PIA U17 bad (6821). 	<ul style="list-style-type: none"> a. Replace lamp b. Replace triac located under power supply chassis c. Replace; located under power supply chassis d. Replace U24 (ULN2003) e. Swap with U4 to check. If problem moves, then replace bad PIA.
Sound problems.	<ul style="list-style-type: none"> a. Blown fuse, FS2, on top of power supply. b. 15V regulator (LM7815CT) faulty on main board. c. Amplifier faulty (LM383T). d. Timer IC U16 (8640). e. Sound is fuzzy or garbled. Bad 4700 mfd 35V capacitor (C2) on power supply board. 	<ul style="list-style-type: none"> a. Replace with 3/4A 250V slow blow b. Check for +24V on pin 1 and +15V on pin 3. If +15V is not present on pin 3 replace regulator. If +24V is zero, replace fuse (FS2 on power supply) or check wiring from power supply to main board. c. Check input (pin 1) with an oscilloscope to see if square waves are coming in (make sure volume is turned up, R22) If no square waves present, see "d" below. If square waves are present, but not coming out of pin 4, replace U21 LM383T amplifier. d. If no square wave is present on pin 27 of U16 (during the time that sound is supposed to be present), replace either U16 or U14 (74LS138 address decoder). e. Resolder connections first to make sure that the problem is not a cold solder joint. If no improvement, replace C2.

SECTION 7. TROUBLESHOOTING (continued)

WARNING — UNPLUG POWER TO GAME BEFORE WORKING ON MACHINE

Problem	Probable Cause	Procedure
No score.	<p>a. Dirt or broken tips in dart head holding a switch in the switch matrix closed (game won't score until switch in the matrix opens).</p> <p>b. If the problem is not in the dart head, may be U4 (6821) on the main board.</p>	<p>a. Clean dart head assembly by disassembling/reassembling and removing any foreign material. When reassembling, make sure to tighten the 8 screws and nuts that hold the target head together only finger tight.</p> <p>b. Swap U4 with U17 to see if problem changes. If it does, replace bad 6821.</p>
Select or player change lamps not working.	<p>a. Lamp burned out.</p> <p>b. Transistor driver for lamp bad.</p> <p>c. Peripheral interface adapter (PIA) bad.</p> <p>d. If coin door lamps also out, check LM340-12 or 12V. Also check for proper lamps GE 658.</p>	<p>a. Replace with GE 658 (do not use a GE 194 or GE 161 lamps).</p> <p>b. Replace U18 ULN2003</p> <p>c. Replace PIA U17.</p> <p>d. Turn off power supply, let cool. If they come on after cooling, then lamps may be drawing too much current. Make sure that the bulbs are NOT GE 194 or GE 161.</p>
Popularity screen has garbage for numbers.	<p>a. Service person has touched main board or wiring going to main board when he was charged with static.</p> <p>b. Batteries in MK48Z02 ram bad.</p> <p>c. Game not grounded properly.</p>	<p>a. Reset popularity screen by pressing bull's eye while popularity screen is being displayed. Discharge static to front coin door before touching electronics in component tray.</p> <p>b. Batteries inside device are not replaceable; replace IC MK48Z02 U23.</p> <p>c. Check that the 3 prong outlet is properly grounded.</p>
Target lamp in off condition doesn't vary in brightness.	<p>a. Variable resistor, DIAC ST-4 or C10 .1 ufd Capacitor bad.</p>	<p>a. With power off, check variable resistor for proper resistance. Replace defective parts.</p>
No video display.	<p>a. No 12V to monitor.</p> <p>b. Transistor TR1 bad</p>	<p>a. Check 12V regulator LAS1612 for 12VDC or plug in external modulator. If external TV works through modulator, then main board circuitry is OK. Problem is with monitor or 12V regulator.</p> <p>b. With an oscilloscope check output of TMS9118 for about 1-1/2V P-P video signal. Then check for same at center connector of video jack. If not present, replace TR1 (2N4400). TR1 is used as a buffer for the TMS9118 for protection against accidental shorting.</p>
Garbage on display.	<p>a. Video memory bad.</p> <p>b. Video chips bad.</p>	<p>a. Replace U12 and U13, TMS4416.</p> <p>b. Replace U11 TMS9118.</p>



6421 Material Avenue
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800/435-8319 or 815/654-0212 in Illinois

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 measure may be required to correct the interference. NOTE: Proper grounding through power cord is necessary for compliance.