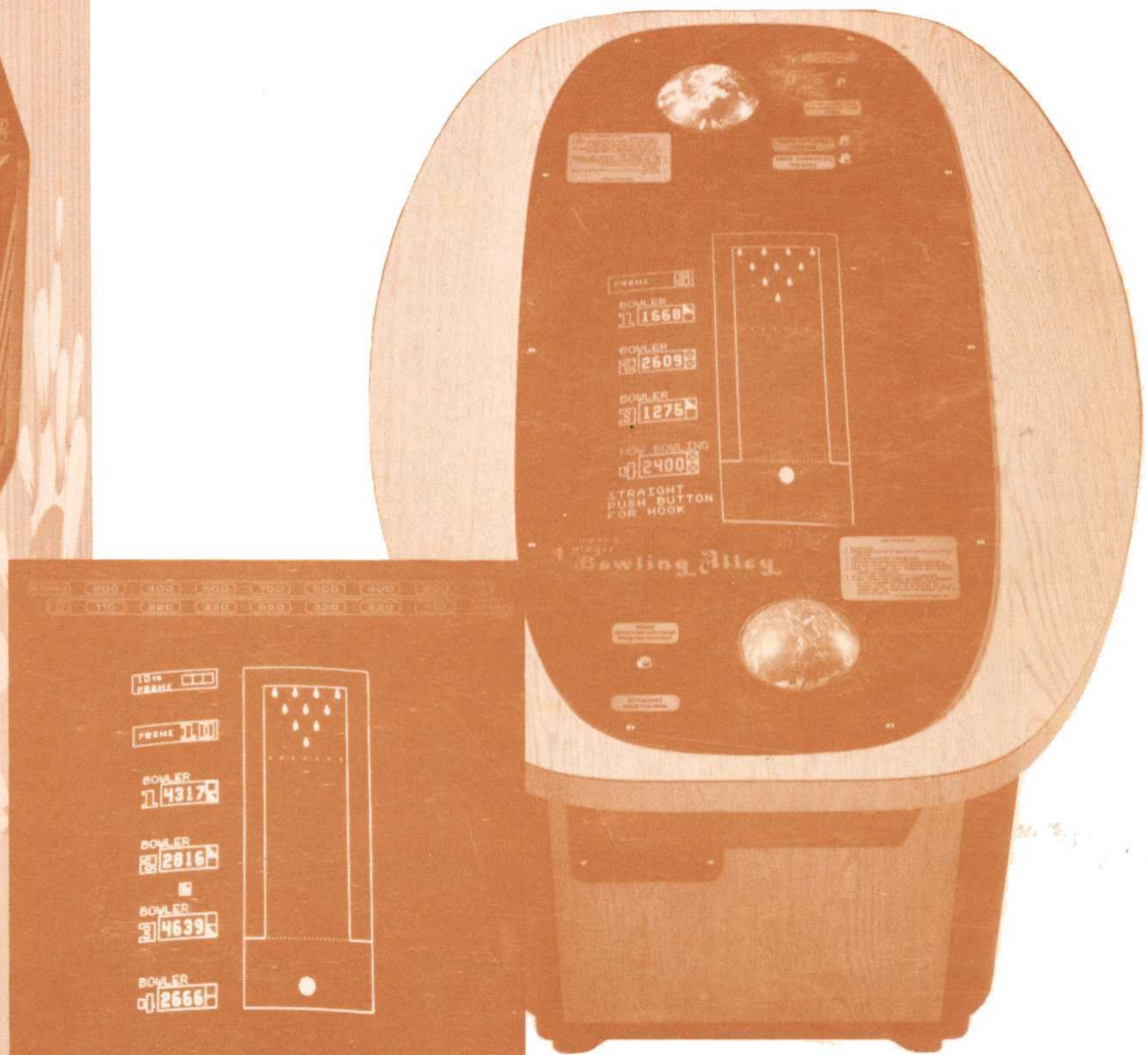


MIDWAY'S BOWLING ALLEY PARTS CATALOG



NO. 730 UPRIGHT



NO. 749 COCKTAIL TABLE



MIDWAY MFG. CO.

A BALLY COMPANY

10750 WEST GRAND AVENUE
FRANKLIN PARK, ILLINOIS 60131
U.S.A.

TABLE OF CONTENTS

	Page No.
GENERAL INSTRUCTIONS — UPRIGHT	1
GENERAL INSTRUCTIONS — COCKTAIL	2
SWITCH ADJUSTMENTS	3
NO. 730 BOWLING ALLEY UPRIGHT — PICTURE	4—6
ADDITIONAL PARTS LIST — UPRIGHT	7
NO. 749 BOWLING ALLEY COCKTAIL — PICTURE	8—10
PLAYER CONTROL ASSEMBLY	12—15
FRONT DOOR ASSEMBLY	16—17
TRANSFORMER BOARD ASSEMBLY	18—19
GAME BOARD COMPONENTS LAYOUT — C VERSION	20
GAME BOARD COMPONENTS LAYOUT — D VERSION	21
GAME BOARD COMPONENTS LAYOUT — A VERSION	22
MOTHER BOARD COMPONENTS LAYOUT	23
POWER SUPPLY COMPONENTS LAYOUT	24
POWER SUPPLY SCHEMATIC	25
MONITOR SCHEMATIC (MOTOROLA)	26
MONITOR SCHEMATIC (WELLS-GARDNER)	27
WELLS-GARDNER REPLACEMENT PARTS LIST	28—29

WARNING

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

GENERAL INSTRUCTIONS FOR "BOWLING ALLEY"

INSTALLATION:

1. Remove shipping cleats located on bottom of cabinet.
2. Install 4 provided leg levelers to bottom of cabinet and level cabinet.
3. The power is controlled by a switch located on top of the cabinet. Plug into A.C. only, 115 volts, 60 cycles. In low line areas (105 volts or less), a boost in the output voltage of the transformer may be obtained by removing the wire from the 115 volt tap of the transformer and rewiring to the 105 volt position.

LINE VOLTAGE SAFETY SWITCH:

A line voltage safety switch has been provided for your protection. It is located on the left rear side of the cabinet in the upper back door area. When the back door is removed, it opens the circuit to the line voltage. To restore power (when servicing), pull switch fully out.

VOLTAGE CONTROL POTS:

Located on Power Supply Board (P.C. A080-90400-F000) and is preset at the factory. These pots should not be tampered with unless the Distributor Service Department is contacted.

VOLUME CONTROL POT:

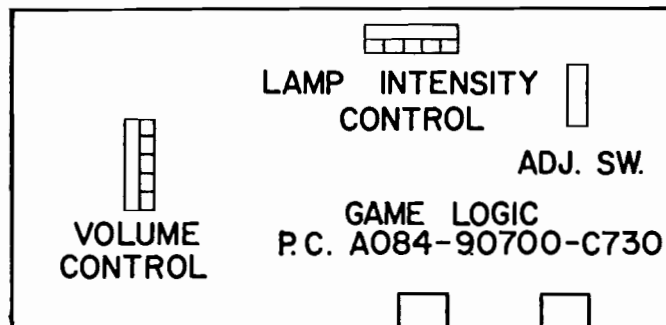
Located on Game Logic Board (P.C. A084-90700-C730) controls the volume of all sounds and may be varied as desired by rotating pot control.

LAMP INTENSITY CONTROL POT:

Located on Game Logic Board (P.C. A084-90700-C730) control the intensity of all Flash Insert and Control Panel lamps and may be varied as desired by rotating pot control.

ADJUSTMENT SWITCHES:

Located on Game Logic Board (P.C. A084-90700-C730) and may be adjusted as indicated on separate instruction sheet in back box area.



TO REMOVE CONTROL PANEL FOR SERVICE:

1. Open Coin Box Door.
2. Disconnect Control Panel jacks located to left of coin box door opening.
3. Unlatch clamp located on each side of cabinet.
4. Remove Control Panel for service.

CAUTION
CLEAN BALL WITH ALCOHOL OR SIMILAR SOLUTION ONLY.
DO NOT LUBRICATE OR WAX BALL, OR THE THREE BALL TRANSFERS.

GENERAL INSTRUCTIONS FOR "BOWLING ALLEY" COCKTAIL TABLE

INSTALLATION:

1. Remove shipping cleats located on bottom of cabinet and level cabinet.
2. Install four (4) provided leg levelers and level cabinet.
3. The power is controlled by a switch located on the bottom of the cabinet. Plus into A.C. only, 115 volts, 60 cycles. In low line areas (105 volts or less) a boost in the output voltage of the transformer may be obtained by removing the wire from the 115 volt tap of the transformer and rewiring it to the 105 volt position.

LINE VOLTAGE SAFETY SWITCH:

A Line Voltage Safety Switch has been provided for your protection. It is located in the cabinet to the left side of the coin door. When the coin door is opened, the circuit to the line voltage is interrupted. To restore power (when servicing), pull switch fully out.

VOLTAGE CONTROL POTS:

Located on Power Supply Board (P.C. A080-90400-H000) and are preset at the factory. These pots should not be tampered with unless the Distributor Service Department is contacted.

MASTER VOLUME CONTROL POT:

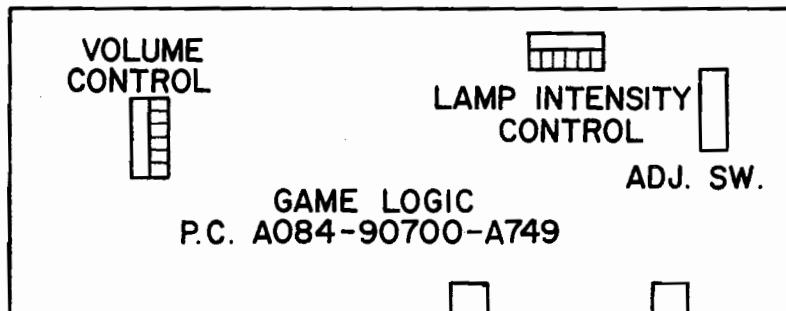
Located on Game Logic Board (P.C. A084-90700-A749) controls the volume of all sounds and may be varied as desired by rotating control pot.

ADJUSTMENT SWITCHES:

Located on Game Logic Board (P.C. A084-90700-A749) and may be adjusted as indicated on separate instruction sheet in cabinet.

LAMP INTENSITY CONTROL POT

Located on Game Logic Board (P.C. A084-90700-A749) control the intensity of Control Panel lamps and may be varied as desired by rotating Control Pot.

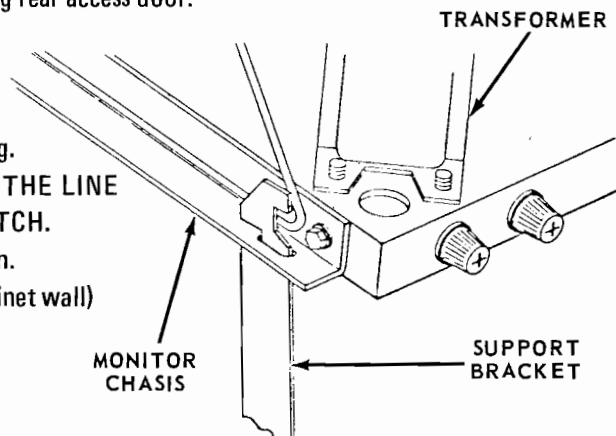


TO SERVICE GAME LOGIC BOARD:

The Game Logic Board is easily serviced by removing rear access door.

TO SERVICE MONITOR:

1. Open Coin Box Door.
2. Release two clamps located above coin door opening.
CAUTION: NEVER RELEASE CLAMPS UNLESS THE LINE VOLTAGE IS INTERRUPTED VIA SAFETY SWITCH.
3. Rotate top panel on its hinges to an upright position.
4. Place Monitor Support Bracket (located on left cabinet wall) in provided hole in Monitor Chasis.
5. To restore power pull safety switch fully out.



ADJUSTMENT SWITCHES

LANGUAGE		
	SW. 1	SW. 2
ENGLISH	OFF	OFF
GERMAN	ON	OFF
GERMAN	ON	ON
FRENCH	OFF	ON

ATTRACT SEQUENCE SOUNDS	
	SW. 3
SOUND ON (EVERY 17 MINUTES)	ON
SOUND OFF	OFF

TIME	
	SW. 4
LIMITS GAME TIME TO 5 MINUTES	ON
NO TIME LIMIT	OFF

COIN	
	SW. 5
2 COINS = 1 PLAYER	ON
1 COIN = 1 PLAYER	OFF

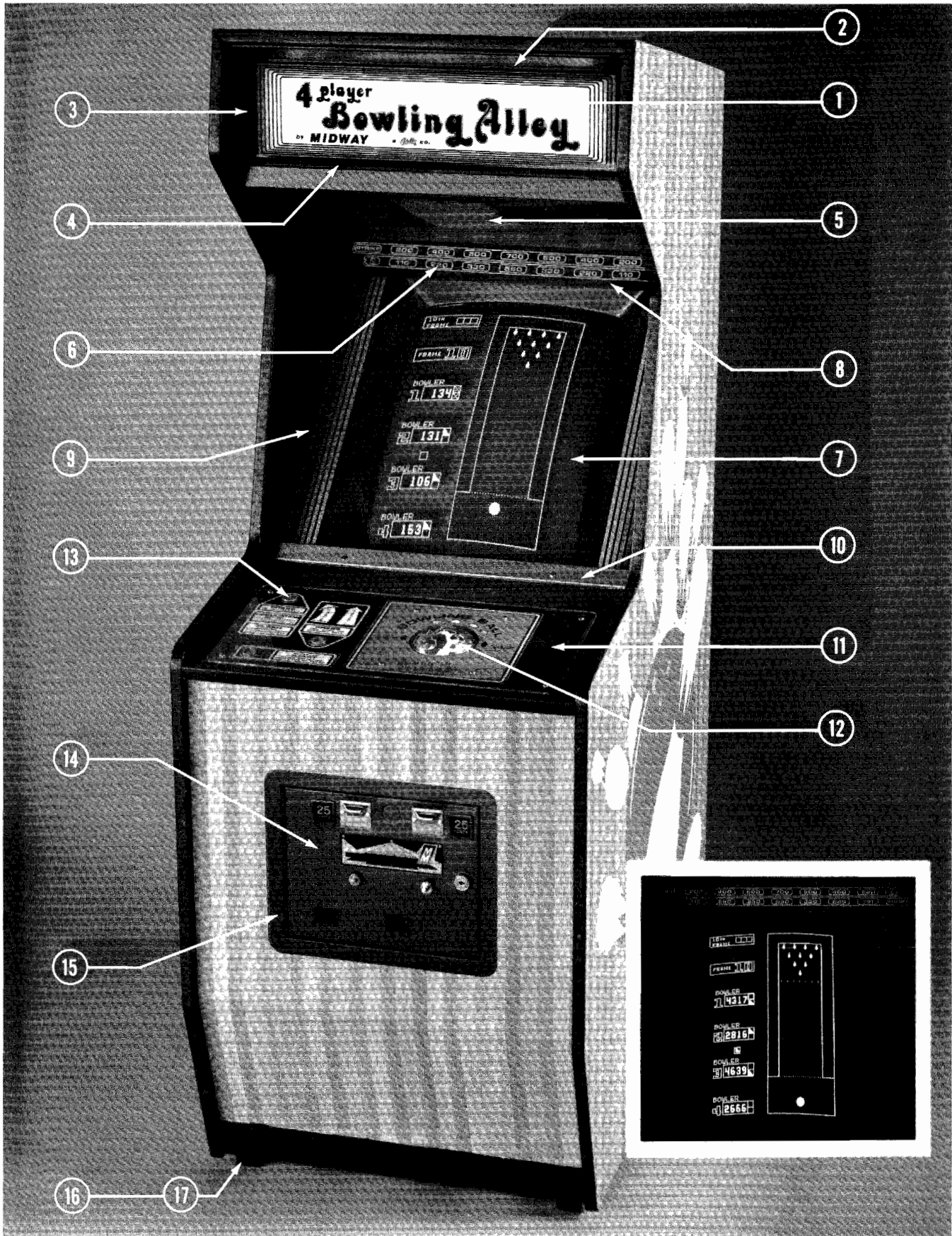
HARD - EASY (STRIKES)	
	SW. 6
EASY	ON
HARD	OFF

GAME SELECT	
	SW. 7
COCKTAIL TABLE MODEL	ON
UPRIGHT MODEL	OFF

TEST	
	SW. 8
RAM/ROM TEST	ON
PLAY MODE	OFF

M051-00730-A011

NO. 730 – BOWLING ALLEY – PICTURE



MIDWAY MFG. CO.
A BALLY COMPANY

NO. 730 - BOWLING ALLEY - PICTURE

ORDER BY PART NUMBER ONLY

ITEM	PART N ^o	DESCRIPTION
1	0643-00903-01SC	UPPER DISPLAY PLEX - 23-1/4 x 6-5/8
2	0537-00903-0007	CYCOLAC EDGEING - 22-3/4" LG.
3	0537-00903-0041	CYCOLAC EDGEING - 6-1/2" LG. (2 REQ'D.)
4	0629-00902-0400	GLASS LIFT CHANNEL - 22-11/16" LG.
5	0017-00009-0393	SPEAKER GRILL & HARDWARE
	0017-00003-0254	SPEAKER
	0017-00101-0642	#8 - 32 x 1-1/2 CARRIAGE BOLTS (4 REQ'D.)
6	0730-00902-00SC	FLASH DISPLAY
	0017-00101-0742	#8 x 1/2 PHIL TRUSS HD. S.M.S. (8 REQ'D.)
	0730-00100-0000	SOCKET BRACKET
	0017-00031-0039	LAMP SOCKET (9 REQ'D.)
	0017-00101-0598	#8 x 5/16 SLOT HEX HD. SEMS. (9 REQ'D.)
	0017-00003-0219	WEDGE BASE LAMP #194 (9 REQ'D.)
7	0643-00900-03SC	LOWER DISPLAY PLEX - 23-1/4 x 22-1/16 x 3/16
8	0537-00903-0034	CYCOLAC EDGEING - 23" LG. (2 REQ'D.)
9	0537-00903-0020	CYCOLAC EDGEING - 21-1/2" LG. (2 REQ'D.)
10	0643-00111-0000	TRIM
	0017-00101-0742	#8 x 1/2 PHIL. TRUSS HD S.M.S. (2 REQ'D.)
11	0730-00900-00SC	CONTROL PLATE
	0730-00102-0000	LAMP PLATE (2 REQ'D.)
	0730-00101-0000	LAMP PLATE
	0017-00031-0039	LAMP SOCKET (5 REQ'D.)
	0017-00003-0219	LAMP (5 REQ'D.)
	0017-00101-0598	#8 - 32 x 5/16 HEX WASH. HD. S.T.M.S. (5 REQ'D.)
	0017-00101-0017	#6 x 1/2 HEX WASH HD. S.M.S. (12 REQ'D.)
12	0017-00041-0614	HARD RUBBER BALL
13	0017-00042-0201	PUSH BUTTON (3 REQ'D.)
	0017-00042-0200	BUTTON HOUSING (3 REQ'D.)
	0017-00009-0366	BUTTON MTG. PLATE (3 REQ'D.)
	A730-00008-0000	SWITCH ASSY. (3 REQ'D.)
	0020-00202-0000	SWITCH PLATE (3 REQ'D.)
	0017-00101-0054	#5 x 1" PHIL. RD. HD. MACH. SCR. (6 REQ'D.)
14	A090-00020-20BR	DOUBLE ENTRY COIN DOOR
15	A090-00002-02BR	COIN DOOR FRAME
	0017-00101-0555	#6 - 32 x 5/16 HEX HD. S.M.S. (3 REQ'D.)
16	0017-00102-0048	LEG LEVELERS (4 REQ'D.)
17	0017-00103-0026	LEG LEVELER NUTS (4 REQ'D.)

NO. 730 - BOWLING ALLEY - PICTURE
ORDER BY PART NUMBER ONLY

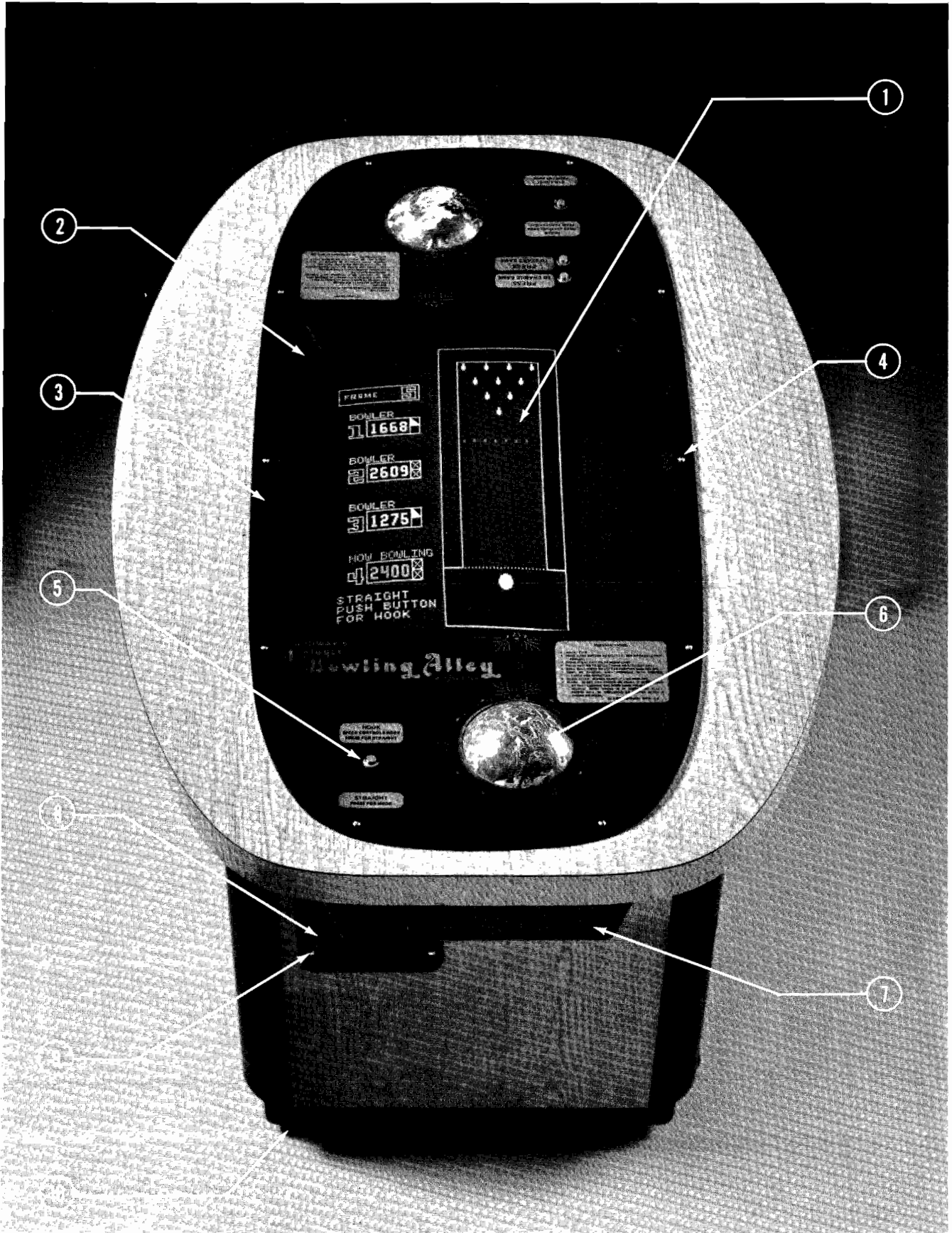
ITEM	PART NO	DESCRIPTION
		NOT SHOWN LIST
	0017-00003-0198	23" MONITOR CHASSIS (MOTOROLA)
	0017-00003-0199	23" CATHODE RAY TUBE - (C.R.T.)
	0592-00104-0100	CHASSIS MTG. BRKT. - R.H.
	0592-00104-0200	CHASSIS MTG. BRKT. - L.H.
	0017-00101-0637	#8 - 32 x 1" CARRIAGE BOLTS (4 REQ'D. - TUBE, 4 REQ'D. - CHASSIS)
	0017-00104-0022	STEEL WASHER (4 REQ'D. - CHASSIS)
	0161-00100-0000	T.V. MTG. WASHER (4 REQ'D. - TUBE)
	0017-00103-0061	#8 - 32 HEX NUT - SEMS (4 REQ'D. - TUBE, 4 REQ'D. - CHASSIS)
	0643-00901-0000	T.V. BEZEL
	0017-00009-0033	BASSICK CLAMPS (2 REQ'D.)
	0017-00101-0028	#8 x 3/4 HEX HD. WD. SCR. (4 REQ'D.)
	3000-17155-0000	GROUND STRAP
	0161-00002-0000	DAG SPRING BRKT. ASSY.
	0603-00131-0000	STRIKE (2 REQ'D.)
	0017-00101-0769	#10 - 3/4 HEX HD. S.M.S. (4 REQ'D.)
	0605-00104-0100	GLASS LOCK BRKTS. (2 REQ'D.)
	0017-00101-0028	#8 x 3/4 HEX HD. WD. SCR. (4 REQ'D.)
	A643-00003-0000	INSERT ASSEMBLY
	0017-00031-0008	LIGHT SOCKET (5 REQ'D.)
	0017-00003-0052	LAMP - 12V. (5 REQ'D.)
	0017-00101-0010	#6 x 3/4 SLOT. HEX HD. BLK. S.M.S. (5 REQ'D.)
	0586-00036-0000	ON-OFF SWITCH
	0587-00106-0100	SWITCH MTG. PLATE
	0017-00101-0025	#8 x 1/2 HEX HD. WD. SCR. (2 REQ'D.)

NO. 730 – BOWLING ALLEY UPRIGHT – ADDITIONAL PARTS LIST

ORDER BY PART NUMBER ONLY

ITEM	PART NO	DESCRIPTION
	A643-00006-0000	UPPER BACK DOOR ASSY.
	A643-00007-0000	LOWER BACK DOOR ASSY.
	A097-00001-0000	LOCK ASSY. (1 UPPER, 1 LOWER)
	A623-00110-0000	COIN BOX ASSY.
	A623-00013-0000	COIN BOX COVER ASSY.
	A624-00001-0000	COIN BOX GUIDE BRKT. ASSY.
	0624-00101-0000	COIN BOX GUIDE BRACKET
	0017-00101-0628	#8 - 32 x 3/4 CARRIAGE BOLTS (4 REQ'D.)
	0017-00104-0022	#8 WASHER (4 REQ'D.)
	0017-00103-0008	#8 - 32 HEX NUT (4 REQ'D.)
	0605-00107-0000	FISHPAPER BARRIER
	0643-00908-0000	SPLASH GUARD
	0017-00009-0009	TURN BUTTON (4 REQ'D.)
	0017-00101-0028	#8 x 3/4 HEX HD. BLK. WD. SCR. (4 REQ'D.)
	0625-00133-0080	INTERLOCK SW. MTG. BRKT.
	0017-00003-0225	"CHEAT" INTERLOCK SWITCH
	A084-90700-D730	GAME BOARD ASSY.
	A084-90000-K730	MOTHER BOARD ASSY.
	A630-00015-0000	TRANSFORMER BOARD ASSY.
	A082-90400-F000	POWER SUPPLY ASSY.
	0597-00012-0100	P.C. SUPPORT BRKT. ASSY. – R.H.
	0597-00012-0200	P.C. SUPPORT BRKT. ASSY. – L.H.
	0624-00902-0100	P.C. SUPPORT BRKT. – 12" (4 REQ'D.)
	0624-00902-0300	P.C. SUPPORT BRKT. – 2-1/2" (2 REQ'D.)
	0017-00101-0025	#8 x 1/2 HEX HD. WD. SCR. (16 REQ'D.)
	0017-00104-0037	#8 WASHER (16 REQ'D.)
	0017-00009-0419	PIN EXTRACTOR TOOL (PIN POPPER) (MOLAX JACKS ONLY)

NO. 749 – BOWLING ALLEY COCKTAIL – PICTURE



NO. 749 – BOWLING ALLEY COCKTAIL – PICTURE
ORDER BY PART NUMBER ONLY

ITEM	PART NO	DESCRIPTION
1	0017-00003-0242	MONITOR W/CHASSIS
	0749-00104-00XF	TUBE BRKT. (4 REQ'D.)
	0017-00101-0082	#10 x 3/4 HEX HD. S.M.S. (8 REQ'D.)
2	0749-00901-0000	T.V. BEZEL
3	0749-00900-00XF	PLASTIC ESCUTCHEON
4	0017-00102-0076	#6 - 32 x 2-1/8 CARRIAGE BOLT - BLK. NICKEL - (10 REQ'D.)
	0017-00103-0005	#6 - 32 HEX. NUT (10 REQ'D.)
	0017-00104-0002	#6 SPLIT LOCKWASHER (10 REQ'D.)
	0017-00104-0026	1/2 x 5/32 x 1/32 STL. WASHER (10 REQ'D.)
5	0017-00032-0051	SWITCH W/MTG. NUT & WASHER (4 REQ'D.)
6	0017-00041-0614	HARD RUBBER BALL (2 REQ'D.)
7	0749-00902-0000	BALL HOUSING COVER (2 REQ'D.)
	0017-00101-0053	#8 x 7/8 PHIL. TRUSS HD. S.M.S. (20 REQ'D.)
8	0017-00009-0393	SPEAKER GRILL & HARDWARE
	0017-00003-0187	SPEAKER
9	0017-00101-0642	#8 - 32 x 1-1/2 CARRIAGE BOLTS (4 REQ'D.)
	0017-00103-0061	#8 - 32 HEX NUT SEMS (12 REQ'D.)
	0017-00009-0393	VENT GRILL (2 REQ'D.)
	0017-00101-0639	#8 - 32 x 1-1/4 CARRIAGE BOLTS (8 REQ'D.)
10	0017-00102-0048	LEG LEVELERS (4 REQ'D.)
	0017-00103-0026	LEG LEVELERS NUTS (4 REQ'D.)
		<u>NOT SHOWN LIST</u>
		<u>FAN ASSY.</u>
	0017-00003-0222	FAN
	0775-00110-00XF	FAN PLATE
	0749-00106-00XF	VENT SCREEN
	0017-00101-0347	#6 - 32 x 1/2 PHIL. R.H. M.S. S.E.M.S. (4 REQ'D.)
	0017-00104-0009	#6 EXT. WASHER (4 REQ'D.)
	0017-00103-0005	#6 - 32 HEX NUT (4 REQ'D.)
	0017-00101-0026	#8 x 5/8 SLOT. HEX HD. S.M.S. (4 REQ'D.)
	0017-00009-0439	HINGE (TOP ASSY.) (2 REQ'D.)
	0017-00101-0082	#10 x 3/4 HEX HD. S.M.S. (4 REQ'D.)
	0017-00101-0014	#6 x 7/8 OVAL HD. WD. SCR. (2 REQ'D.)
	0749-00105-00XF	PROP (SUPPORT)
	0017-00101-0082	#10 x 3/4 HEX HD. S.M.S.
	0017-00104-0038	3/4 x 1/4 x 1/16 STEEL WASHER (2 REQ'D.)
	0603-00132-0000	STRIKE (2 REQ'D.)
	0017-00101-0028	#8 x 3/4 HEX HD. S.M.S. (4 REQ'D.)

NO. 749 – BOWLING ALLEY COCKTAIL – PICTURE

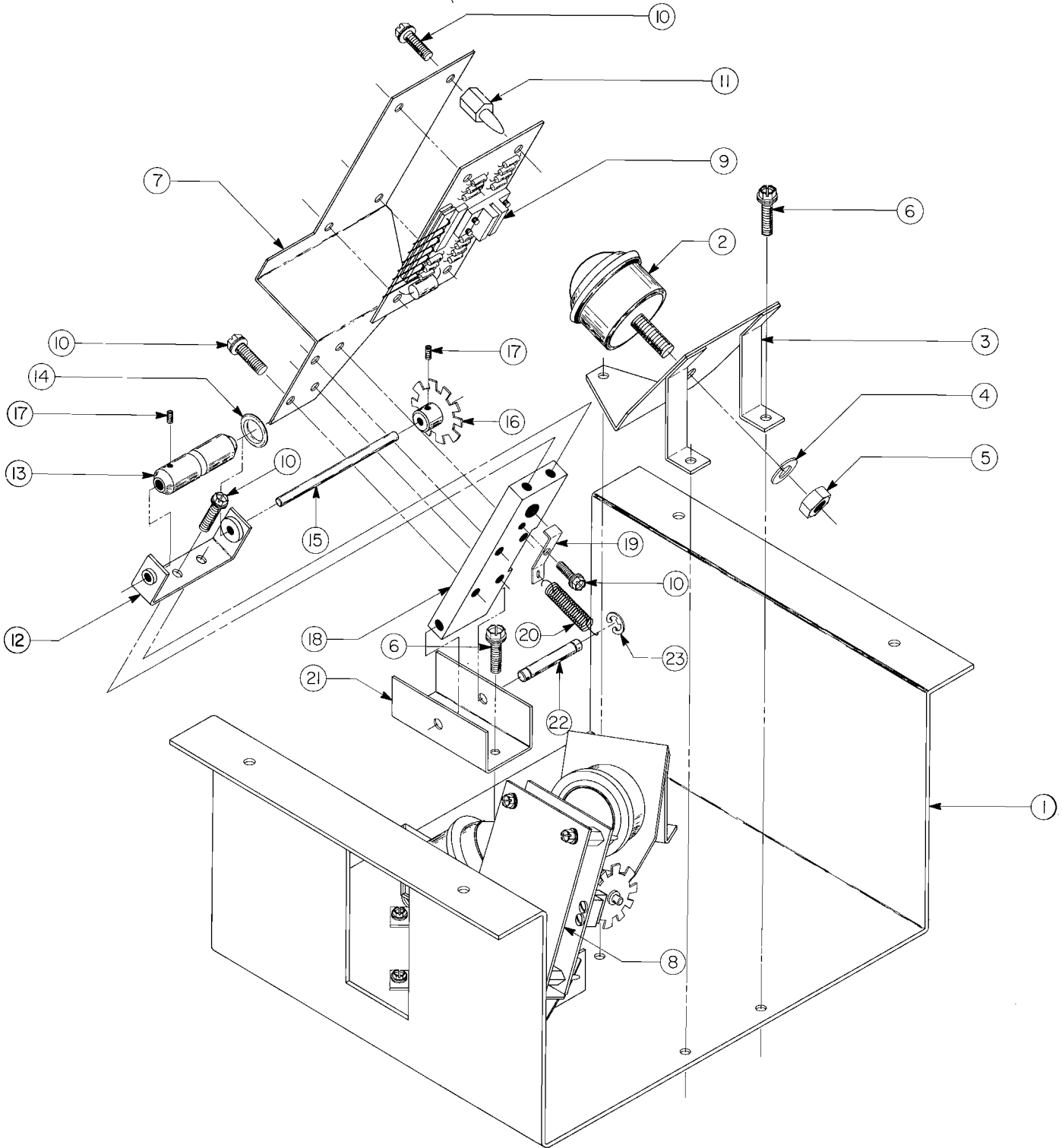
ORDER BY PART NUMBER ONLY

ITEM	PART NO	DESCRIPTION
	0017-00009-0033	BASSICK CLAMP (2 REQ'D.)
	0017-00101-0026	#8 x 5/8 HEX HD. S.M.S. (4 REQ'D.)
	A627-00066-0000	ON-OFF SWITCH ASSY.
	0017-00101-0017	#6 x 1/2 HEX HD. S.M.S. (6 REQ'D.)
	0017-00031-0011	LAMP SOCKET (5 REQ'D.)
	0017-00003-0052	LAMP (5 REQ'D.)
	0017-00101-0017	#6 x 1/2 HEX HD. S.M.S. (5 REQ'D.)
	A090-00058-0000	FRONT DOOR ASSY.
	0017-00101-0555	#6 - 32 x 5/16 HEX HD. S.T.M.S. (3 REQ'D.)
	0090-00002-01BK	FRONT DOOR FRAME
	0017-00103-0010	#10 - 32 HEX NUT (4 REQ'D.)
		<u>ADDITIONAL PARTS LIST</u>
	A749-00003-0000	CASH BOX ASSY.
	A627-00052-0000	CASH BOX COVER ASSY.
	0625-00117-0000	CASH BOX GUIDE
	A625-00024-0000	CASH BOX GUIDE BRKT. ASSY.
	0017-00101-0628	#8 - 32 x 3/4 CARRIAGE BOLTS (4 REQ'D.)
	0017-00103-0008	#8 - 32 HEX NUT (4 REQ'D.)
	0017-00003-0225	INTERLOCK SWITCH
	0749-00103-00XF	SW. BRACKET
	0017-00101-0026	#8 x 5/8 HEX HD. S.M.S. (3 REQ'D.)
	A082-90400-H000	POWER SUPPLY P.C. ASSY.
	A749-00004-0000	TRANSFORMER BOARD ASSY.
	A084-90000-K000	MOTHER BOARD P.C. ASSY.
	A084-90700-A749	GAME BOARD P.C. ASSY.
	0624-00902-0100	P.C. SUPPORT BRKT. - 12" (4 REQ'D.)
	0624-00902-0400	P.C. SUPPORT BRKT. - 4" (4 REQ'D.)
	0624-00902-0500	P.C. SUPPORT BRKT. - 6-1/2"
	0017-00101-0028	#8 x 3/4 HEX HD. S.M.S. (22 REQ'D.)
	0017-00104-0037	3/4 x 3/16 x 1/16 STL. WASHER (22 REQ'D.)
	0017-00009-0419	PIN EXTRACTOR TOOL (PIN POPPER)

NOTES

This space is provided for personal notes

NO. 730 – BOWLING ALLEY – PLAYER CONTROL ASSY.

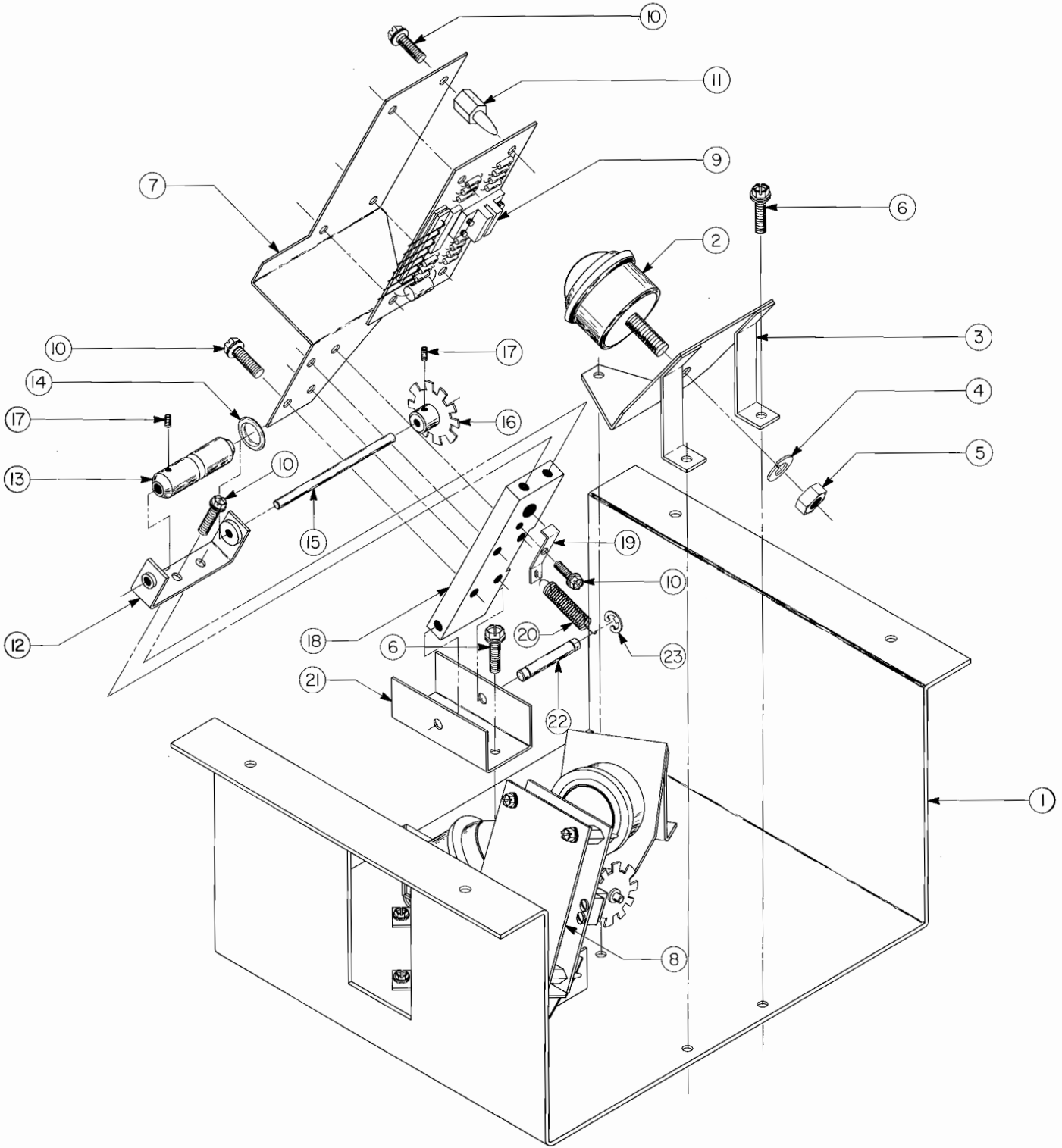


NO. 730 - BOWLING ALLEY - PLAYER CONTROL ASSY.

ORDER BY PART NUMBER ONLY

ITEM	PART NO	DESCRIPTION
1	0643-00107-0000	MAIN BRACKET
2	0017-00009-0436	CASTER (BALL TRANSFER) (3 REQ'D.)
3	A643-00014-0000	CASTER MTG. ASSY. (3 REQ'D.)
4	0017-00104-0005	1/4 LOCK WASHER (3 REQ'D.)
5	0017-00103-0018	1/4 - 20 HEX NUT (3 REQ'D.)
6	0017-00101-0598	#8 - 32 x 5/16 HEX HD. S.T. S.M.S. (16 REQ'D.)
7	0643-00106-0000	P.C. BRACKET - TOP
8	0643-00105-0000	P.C. BRACKET - SIDE
9	A082-91323-E000	BALL CONTROL SENSOR P.C. ASSY. (2 REQ'D.)
10	0017-00101-0555	#6 - 32 x 5/16 HEX HD. S.T. S.M.S. (11 REQ'D.)
11	0017-00007-0143	SPACER (8 REQ'D.)
12	A643-00016-0200	BEARING BRKT. & BEARING ASSY. - HORIZONTAL
	A643-00016-0100	BEARING BRKT. & BEARING ASSY. - VERTICAL - (NOT SHOWN)
13	0643-00701-0000	DRIVE ROLLER (2 REQ'D.)
14	0017-00041-0615	"O" RING - RUBBER (2 REQ'D.)
15	0643-00702-0000	SHAFT (2 REQ'D.)
16	A643-00010-0000	BUSHING & DISC. ASSY. (2 REQ'D.)
17	0017-00101-0301	#6 - 32 x 1/8 ALLEN SET SCREW (8 REQ'D.)
18	0643-00902-0000	PIVOT PLATE (2 REQ'D.)
19	0643-00103-0000	SPRING BRACKET (2 REQ'D.)
20	0010-00253-0000	SPRING (2 REQ'D.)
21	0643-00101-0000	PIVOT BRACKET (2 REQ'D.)
22	0643-00700-0000	PIVOT PIN (2 REQ'D.)
23	0017-00100-0018	"E" RING (4 REQ'D.)
		<u>NOT SHOWN LIST - MOUNTING HARDWARE</u>
	A643-00017-0000	TOP PLATE & WELD SCREW ASSY.
	0017-00103-0011	#10 - 32 STOP NUT (4 REQ'D.)
	0017-00104-0022	STL. WASHER (8 REQ'D.)
	0643-00904-00SC	COVER PLATE
	0017-00101-0572	#6 - 32 x 1/2 CARRIAGE BOLT (4 REQ'D.)
	0017-00103-0007	#6 - 32 WING NUT (4 REQ'D.)
	0017-00104-0027	STL. WASHER (4 REQ'D.)
	0017-00104-0003	#8 LOCK WASHER (4 REQ'D.)
	0017-00101-0639	#8 - 32 x 1-1/4 CARRIAGE BOLT (4 REQ'D.)
	0017-00103-0061	#8 - 32 HEX NUT (4 REQ'D.)

NO. 749 – BOWLING ALLEY – PLAYER CONTROL ASSY.

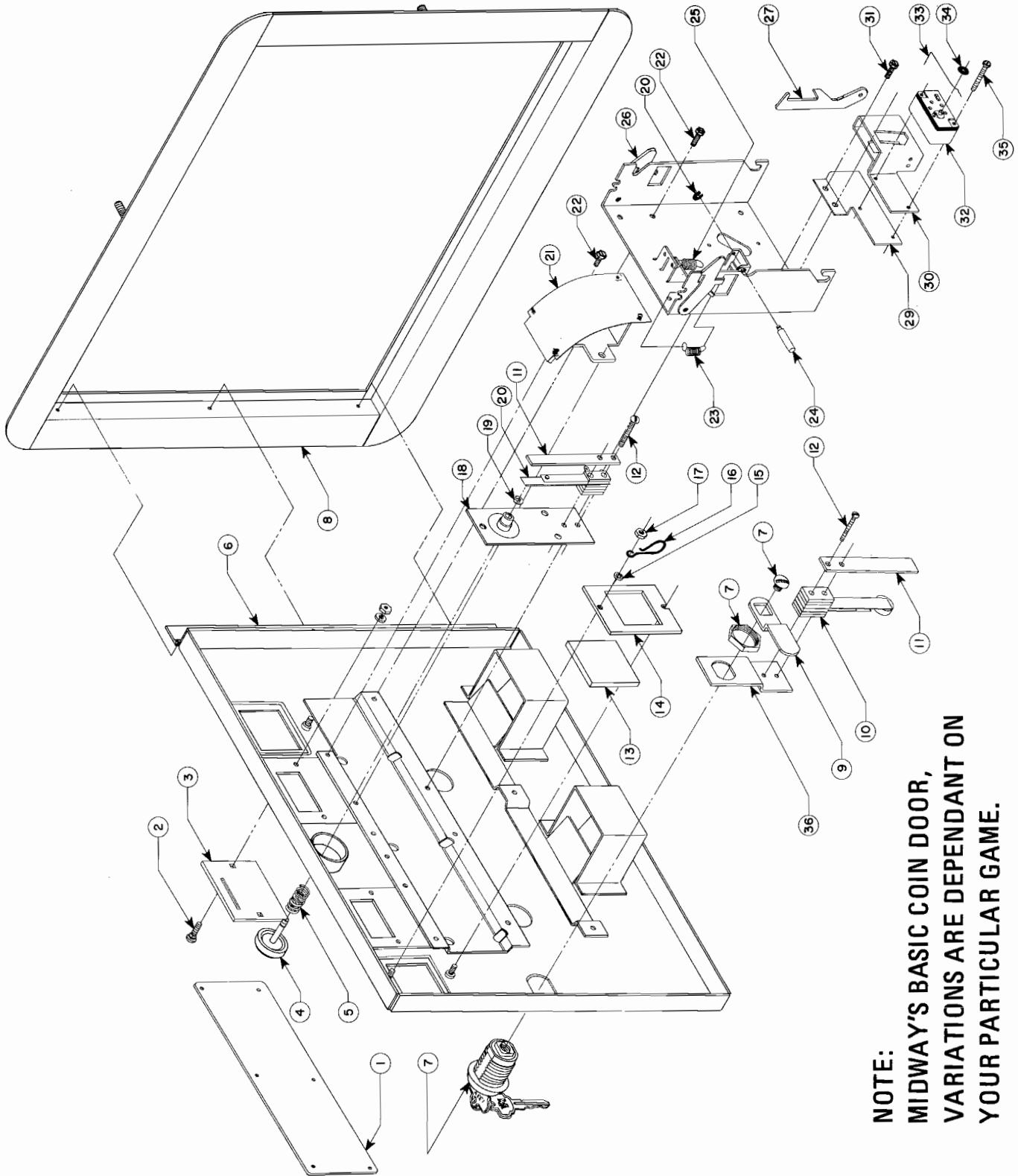


NO. 749 – BOWLING ALLEY COCKTAIL – PLAYER CONTROL ASSY.

ORDER BY PART NUMBER ONLY

ITEM	PART NO	DESCRIPTION
1	0749-00102-00XF	MAIN BRACKET
2	0017-00009-0436	CASTER ASSY. (BALL TRANSFER) - (3 REQ'D.)
3	A643-00014-0000	CASTER MTG. ASSY. (2 REQ'D.)
	0749-00100-00XF	CASTER BRKT. - NOT SHOWN
	0749-00101-00FX	CASTER LEG - NOT SHOWN
4	0017-00104-0005	1/4 LOCK WASHER (3 REQ'D.)
5	0017-00103-0018	1/4 - 20 HEX NUT (3 REQ'D.)
6	0017-00101-0598	#8 - 32 x 5/16 HEX HD. S.T.S. M.S. (16 REQ'D.)
7	0643-00106-0000	P.C. BRACKET - TOP
8	0643-00105-0000	P.C. BRACKET - SIDE
9	A082-91323-E000	BALL CONTROL SENSOR P.C. ASSY. (2 REQ'D.)
10	0017-00101-0555	#6 - 32 x 5/16 HEX HD. S.T.S. M.S. (11 REQ'D.)
11	0017-00007-0143	SPACER (8 REQ'D.)
12	A643-00016-0200	BEARING BRKT. & BEARING ASSY. - HORIZONTAL
	A643-00016-0100	BEARING BRKT. & BEARING ASSY. - VERTICAL - (NOT SHOWN)
13	0643-00701-0000	DRIVE ROLLER (2 REQ'D.)
14	0017-00041-0615	"O" RING - RUBBER (2 REQ'D.)
15	0643-00702-0000	SHAFT (2 REQ'D.)
16	A643-00010-0000	BUSHING & DISC. ASSY. (2 REQ'D.)
17	0017-00101-0301	#6 - 32 x 1/8 ALLEN SET SCREW (8 REQ'D.)
18	0643-00902-0000	PIVOT PLATE (2 REQ'D.)
19	0643-00103-0000	SPRING BRACKET (2 REQ'D.)
20	0010-00253-0000	SPRING (2 REQ'D.)
21	0749-00108-00XF	PIVOT BRACKET (2 REQ'D.)
22	0643-00700-0000	PIVOT PIN (2 REQ'D.)
23	0017-00100-0018	"E" RING (4 REQ'D.)
		<u>MOUNTING HARDWARE - NOT SHOWN</u>
	0017-00101-0641	#8 - 32 x 1-1/2 RD. HD. M.S. (4 REQ'D.)
	0017-00104-0010	#8 EXT. WASHER (4 REQ'D.)
	0017-00104-0037	3/4 x 3/16 x 1/16 WASHER (4 REQ'D.)

NO. 730 – BOWLING ALLEY – FRONT DOOR ASSY.



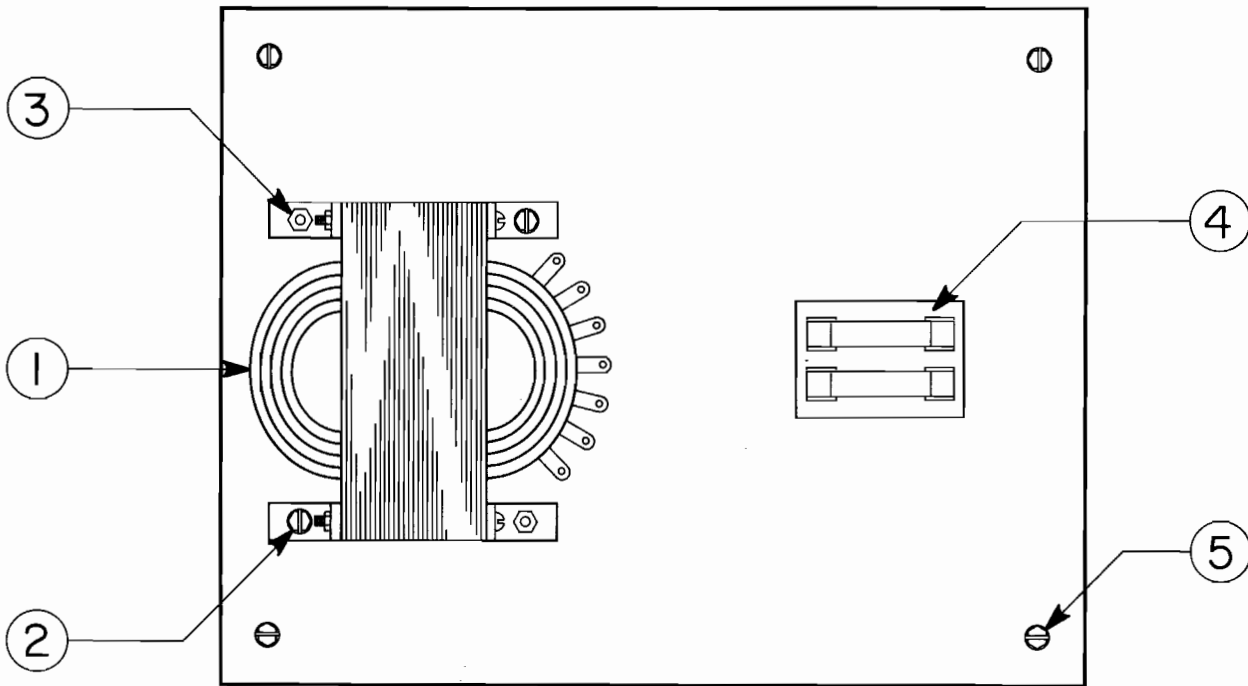
**NOTE:
MIDWAY'S BASIC COIN DOOR,
VARIATIONS ARE DEPENDANT ON
YOUR PARTICULAR GAME.**

NO. 730 – BOWLING ALLEY – FRONT DOOR ASSY.

ORDER BY PART NUMBER ONLY

ITEM	PART NO	DESCRIPTION
1	0090-00902-0000 0090-00902-0100	DRESS PLATE DRESS PLATE (W/O PRESS BUTTON TO START GAME)
2	0017-00101-0552	#6 - 32 x 1/4 CARRIAGE BOLT (2)
3	0090-00117-03XF	COIN ENTRY PLATE (25d)
4	0090-00906-0000	PLASTIC START BUTTON
5	0010-00007-0000	COMPRESSION SPRING
6	0090-00013-0200	DOOR ASSY. DOUBLE ENTRY
7	0017-00005-0050	DOOR LOCK & KEY WITH SCREW & NUT
8	0090-00002-02BR	DOUBLE DOOR FRAME
9	0017-00005-0041	421 N.S. CAM
10	0090-00901-0000	DOOR SWITCH
11	0090-00126-01XF	SWITCH BACKUP PLATE
12	0017-00101-0528	#5 - 40 x 3/4" LNG. M.S.
13	0090-00903-0040	25d WINDOW
14	0090-00143-0000	COIN PLEX RETAINER
15	0017-00104-0002	SPLIT LOCK WASHER
16	0017-00007-0019	KEY HOOK
17	0017-00103-0005	#6 - 32 HEX NUT
18	0090-00010-0000	SW. PLATE & OILLITE ASSY.
19	0017-00100-0018	"E" RING
20	0090-00131-0000	SWITCH
21	0090-00104-0000	TOP & BTM. COIN CHUTE W/BRKT. ASSY.
22	0017-00101-0598	#8 - 32 x 5/16 SCREW
23	0010-00181-0100	SPRING
24	0090-00129-00XF	PIVOT POST
25	0010-00134-0000	SPRING
26	0090-00008-0000	ACCEPTOR FRAME ASSY.
27	0093-00155-00XF	REJECTOR LEVER
28	0017-00100-0012	"E" RING
29	0093-00151-00XF	COIN GUIDE MTG. BRACKET
30	0090-00005-0000	COIN GUIDE ASSY.
31	0017-00101-0555	#6 - 32 x 5/16 SCREW
32	0017-00005-0039	COIN SWITCH
33	0010-00557-2500	TRIP WIRE
34	0017-00007-0132	PUSH-ON RING (BIK)
35	0017-00101-0507	#4 - 36 x 3/4 SCREW
36	0090-00128-00XF	SWITCH BRKT. – DOOR TILT

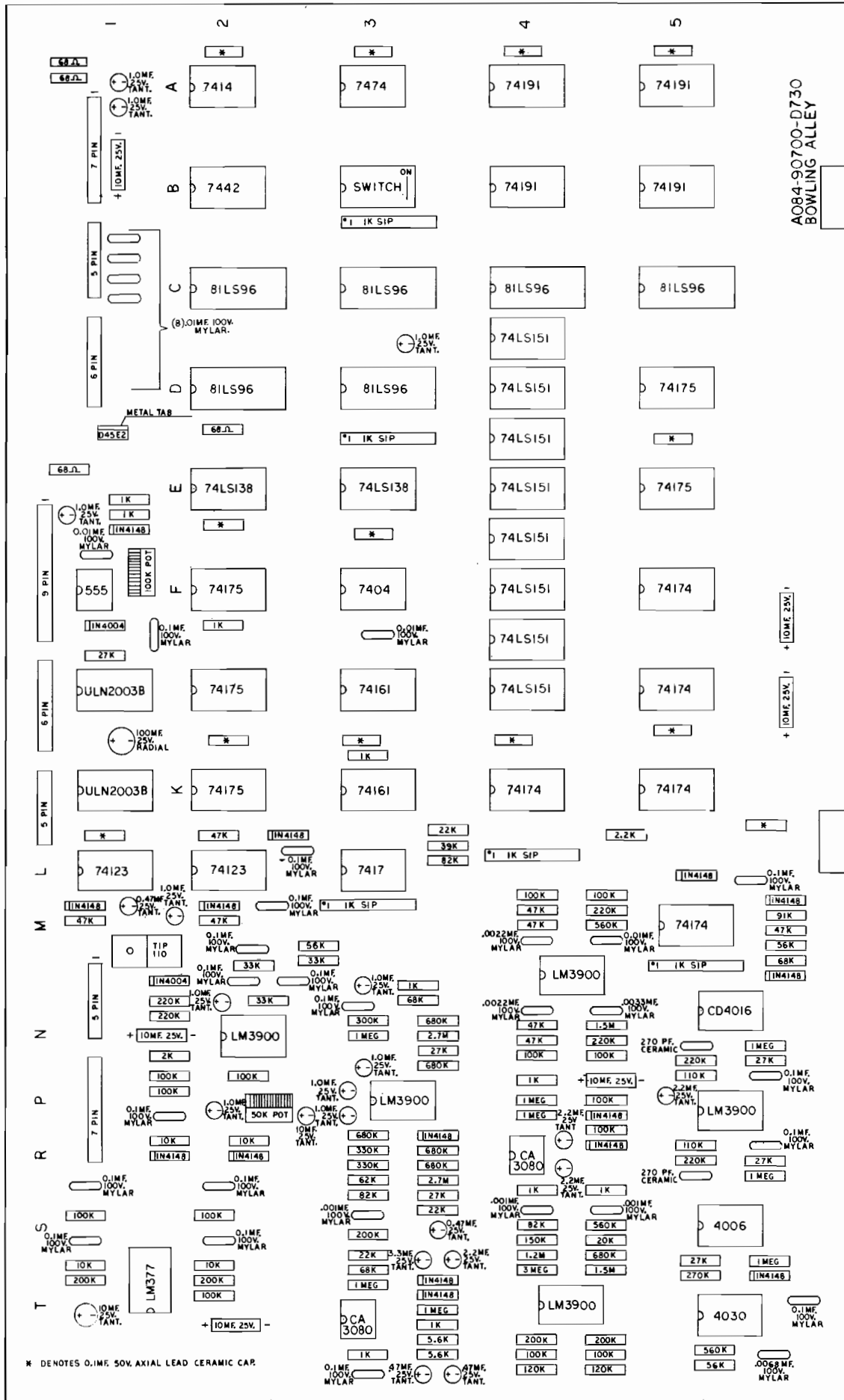
NO. 730 – BOWLING ALLEY – TRANSFORMER BOARD ASSY.



NO. 730 – BOWLING ALLEY – TRANSFORMER BOARD ASSY.

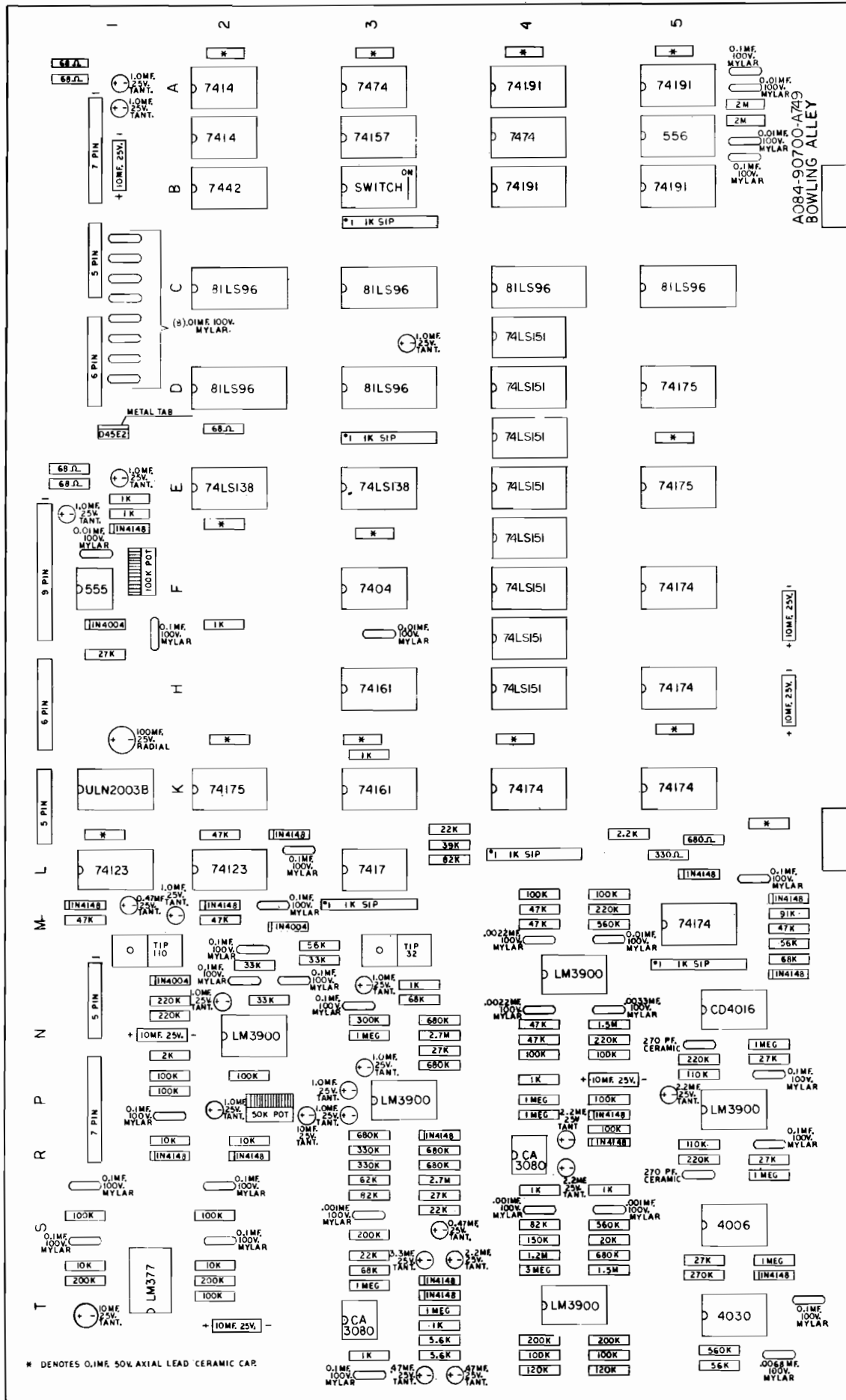
ORDER BY PART NUMBER ONLY

ITEM	PART NO	DESCRIPTION
1	MT00-00058-A000 MT00-00059-A000	TRANSFORMER – 60 CYCLE - OR - TRANSFORMER – 50 CYCLE – (FOREIGN)
2	0017-00101-0025	#8 x 1/2 SLOT. HEX HD. S.M.S. (2 REQ'D.)
3	0017-00101-0692 0017-00103-0008	#8 - 32 x 7/8 CARRIAGE BOLTS (2 REQ'D.) WITH #8 - 32 HEX NUT (2 REQ'D.)
4	0720-00001-0200	FUSE BLOCK ASSY. (2 POSITION)
5	0017-00101-0030 0017-00101-0017	#8 x 1" HEX HD. WD. SCREW (4 REQ'D.) #6 x 1/2 HEX HD. S.M.S. (4 REQ'D.)
		<u>NOT SHOWN</u>
	0017-00003-0064	LINE CORD – NOT SHOWN
	A630-00015-0000	TRANSFORMER BOARD ASSY. – COMPLETE



A084-90700-D730
BOWLING ALLEY

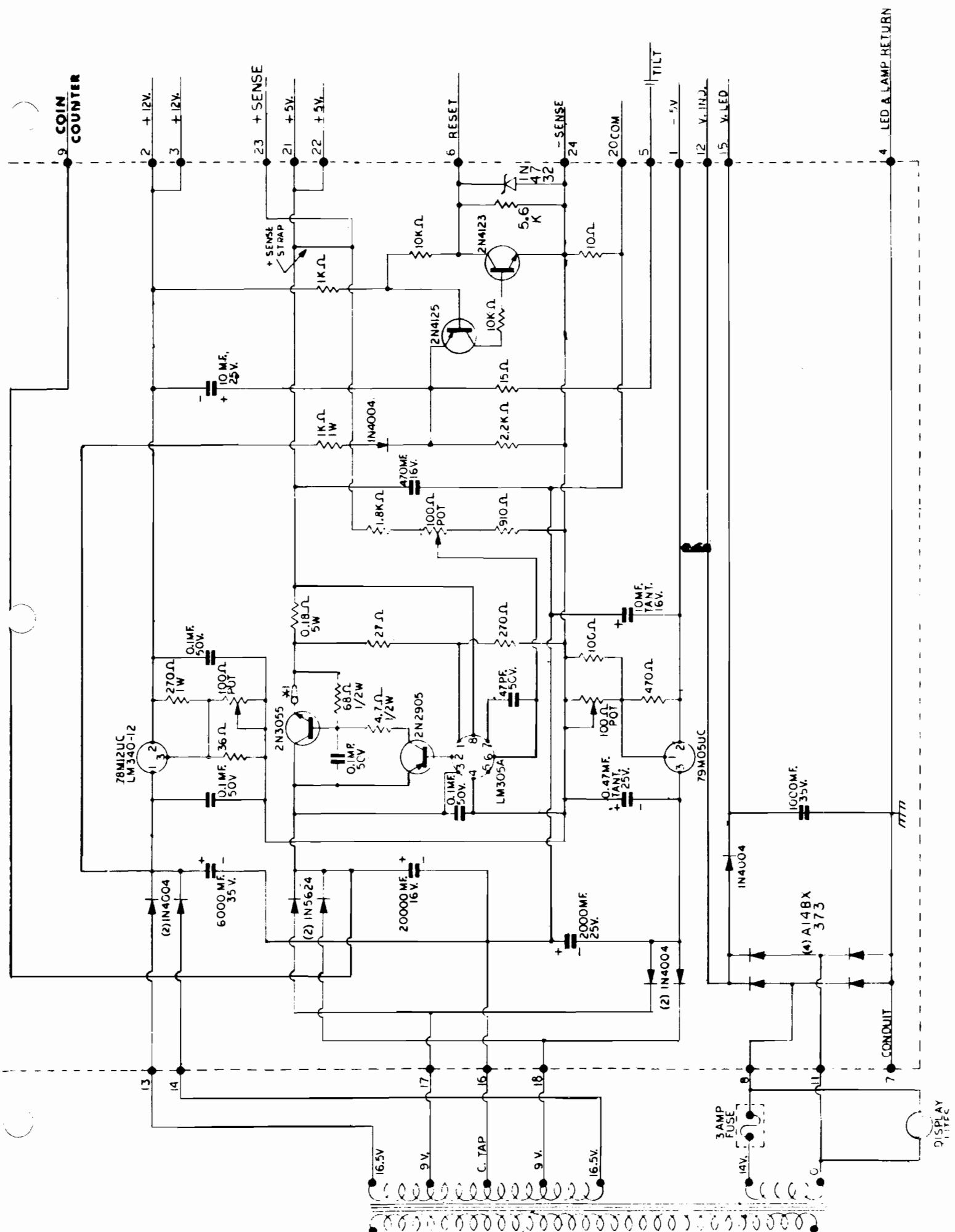
COMPONENT LAYOUT PART NO. M051-00730-B003 UPRIGHT



* DENOTES 0.1MF, 50V, AXIAL LEAD CERAMIC CAP.

A084-90700-A749
BOWLING ALLEY

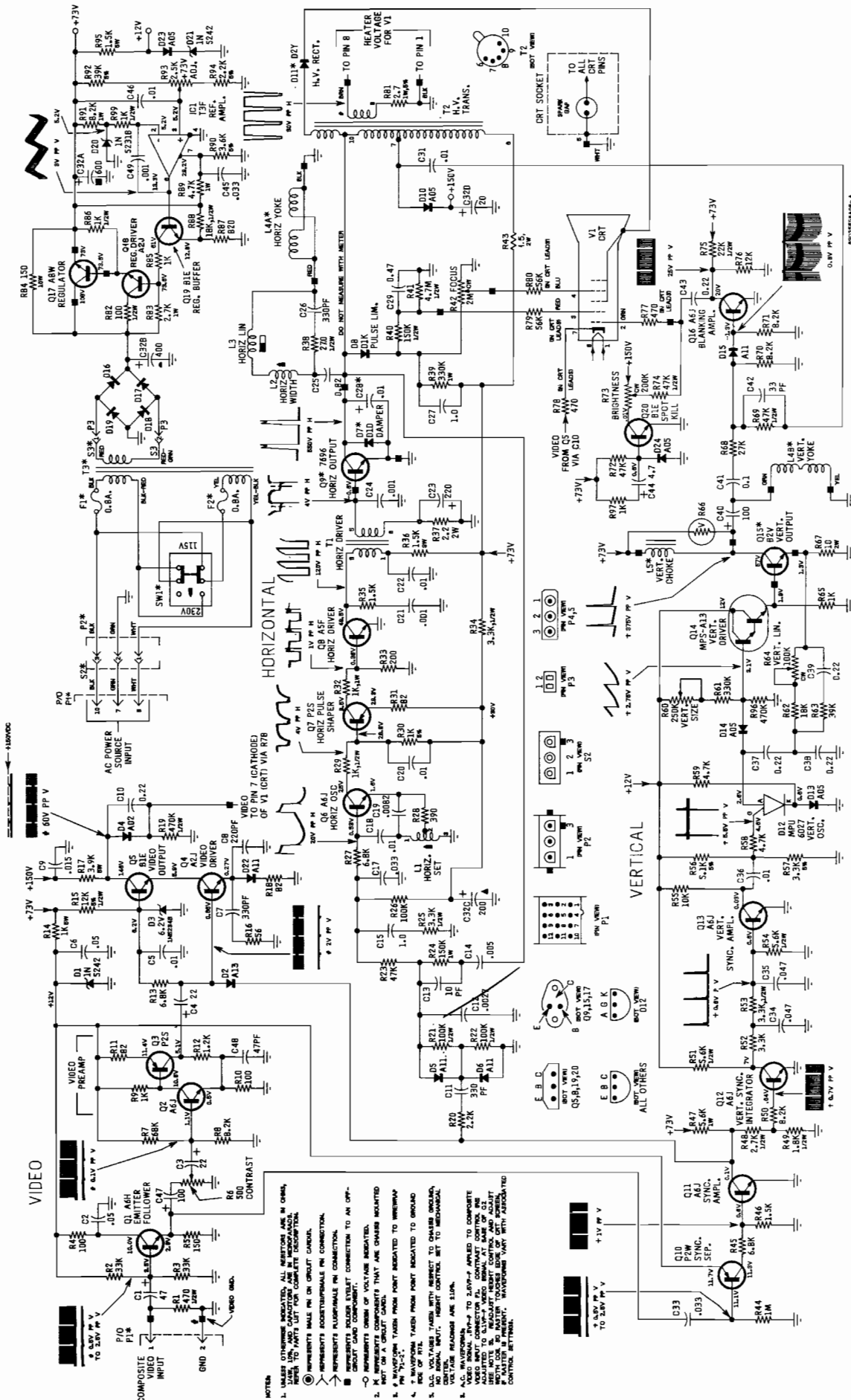
COMPONENT LAYOUT PART NO. M051-00749 - A003 COCKTAIL



POWER SUPPLY

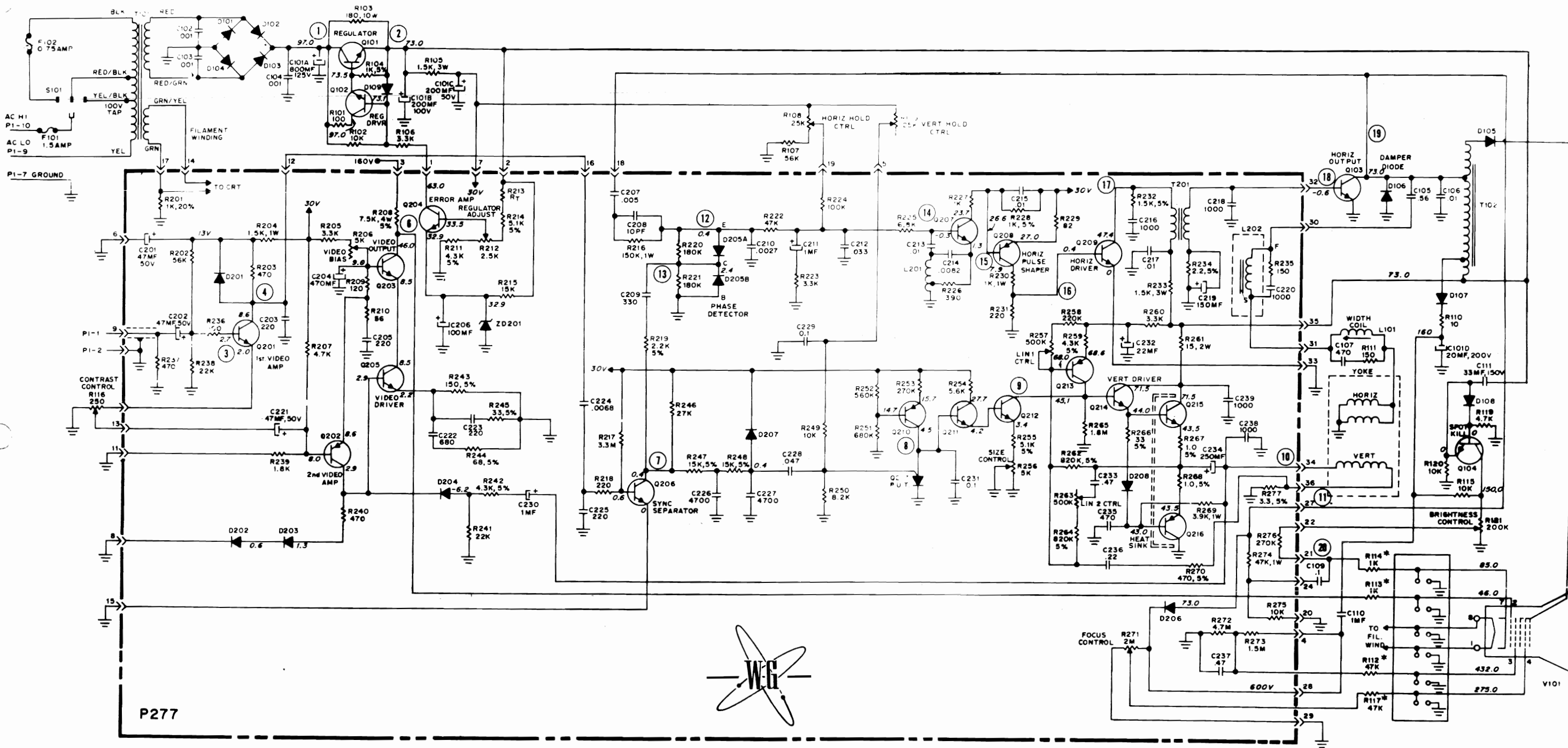
HORIZONTAL

VIDEO



- NOTES**
1. VALUES OTHERWISE INDICATED. ALL RESISTORS ARE IN OHMS, UNLESS OTHERWISE INDICATED. ALL CAPACITORS ARE IN MICROFARADS, UNLESS OTHERWISE INDICATED.
 2. RESISTORS IN PARTS LIST FOR COMPLETE DESCRIPTION.
 3. RESISTORS INDICATED IN OHMS.
 4. REPRESENTS ADJUSTABLE IN CONNECTION.
 5. REPRESENTS PLUGGABLE IN CONNECTION.
 6. REPRESENTS RESISTOR SOCKET CONNECTION TO AN OFF-CIRCUIT POINT.
 7. REPRESENTS COMMON OF VOLTAGE INDICATED.
 8. REPRESENTS COMMONS THAT ARE CHANGES RELATED TO A DIFFERENT MODEL.
 9. MULTIPIN TUBES FROM POINT INDICATED TO WIREMAP TO POINT INDICATED.
 10. ALL VOLTAGES TAKEN FROM POINT INDICATED TO WIREMAP, UNLESS OTHERWISE INDICATED.
 11. VOLTAGE MEASUREMENTS ARE IN OHMS.
 12. VIDEO SIGNAL INPUT TO 2.0V-P-P APPLIED TO COMPONENTS INDICATED BY A WAVEFORM SYMBOL. CONTACT ONE OF THE MANUFACTURERS FOR COMPLETE INFORMATION ON USE OF WAVEFORM SYMBOLS. READ CAREFULLY AND ADAPT TO YOUR OWN EQUIPMENT. WAVEFORMS VARY WITH MANUFACTURER'S PRACTICES.

M5000-155, M7000-155 - Diagram Schematic



P277



WELLS - GARDNER ELECTRONICS

CORPORATION

2701 N. KILDARE AVE. • CHICAGO, ILL. 60639 • ALBANY 2-8220

TELEX 25-3286

NOTES:

1. VOLTAGE MAY VARY WITH CONTROL SETTING.
2. LINE VOLTAGE MAINTAINED AT 120VAC, 50/60 Hz.
3. ALL D.C. VOLTAGES ±10% MEASURED FROM POINT INDICATED TO CHASSIS USING HIGH IMPEDANCE METER WITH NO SIGNAL INPUT. CONTRAST AND BRIGHTNESS CONTROLS AT MAXIMUM; ALL OTHER CONTROLS IN NORMAL OPERATING POSITION.
4. ○ WITH INTERNAL NUMBER INDICATES LOCATION OF WAVE FORM READING.

NOTES:

- * INDICATES RESISTORS LOCATED IN PICTURE TUBE LEAD ASSEMBLY.
- RESISTANCE VALUES IN OHMS, 1/2 WATT, 10% UNLESS OTHERWISE NOTED. K=1,000 M=1,000,000
- CAPACITANCE VALUES OF 1 OR LESS ARE IN MICROFARADS. ABOVE 1 IN PICOFARADS UNLESS OTHERWISE NOTED.

Model No.
V1001-5734

REPLACEMENT PARTS LIST

CHASSIS PARTS

CAPACITORS

C101A, B, C, D	45X0558-001	800 μ F/125V, 200 μ F/100V 200 μ F/50V, 20 μ F/200V Electrolytic
C102, 103 104	80X0001-000	.001 μ F, GMV Z5U Cer. Disc.
★C105	342X5642-049	.56 μ F, 400V, 10% Polypropylene
★C106	46X0536-001	.01 μ F, 1200V, 5% Polypropylene
C107	80X0099-006	470 pF, Z5F, 10%
C109	342X1044-040	0.1 μ F, 400V, 20% Mylar
★C110	46X0540-002	1.0 μ F, 630V, 10% Polyester Film
C111	45X0515-032	33 μ F, 150V, Electrolytic

CONTROLS

R108, 109	40X0585-091	25k Ohm, Horiz. & Vert. Hold
R116	40X0585-090	250 Ohm, Contrast
R121	40X0585-092	200k Ohm, Brightness

COILS & TRANSFORMERS

★L101	9A2787-001	Coil, Width
★T101	53X0475-001	Transformer, Power
★T102	53X0474-001	Transformer, Flyback

RESISTORS

R101	340X3101-941	100 Ohm, 10%, 1/2W
R102, 115, 120	340X3103-941	10k Ohm, 10%, 1/2W
★R103	340X0181-341	180 Ohm, 10%, 10W, WW
R104	340X3102-931	1k Ohm, 5%, 1/2W
★R105	340X6152-341	1.5k Ohm, 10%, 3W, WW
R106	340X3332-941	3.3k Ohm, 10%, 1/2W
R107	340X3563-941	56k Ohm, 10%, 1/2W
R110	340X3100-941	10 Ohm, 10%, 1/2W
R111	340X3151-941	150 Ohm, 10%, 1/2W
R119	340X3472-941	4.7k Ohm, 10%, 1/2W

SEMICONDUCTORS

D101, 102 103, 104	66X0023-009	Rectifier, Silicon 500V 1N444B
★D105	66X0067-001	Rectifier Varo H1802
★D106	66X0068-001	Diode, Damper MR1-1600
D107	66X0053-001	Diode, 350V Amperex BA148
D108, 109	66X0046-001	Diode, Silicon FDH444
★Q101	86X0117-001	Transistor (NPN) 2N5632 Regulator
Q102	86X0071-001	Transistor (NPN) Reg. Driver MPSA06
★Q103	86X0118-001	Transistor (NPN) BU207 Hor. Output
Q104	86X0065-001	Transistor (NPN) D40N5 Spot Kill

MISCELLANEOUS

★F101	16X0171-001	Fuse Holder
★F102	16X0176-001	Fuse, 1.5 Amp, Slo-Blo 3AG
★	16X0175-001	Fuse, 0.75 Amp, Slo-Blo 3AG
★	13X1201-001	HV Lead & Recept. Assy.
★	28X0789-001	Spring, Dag, Grounding
★V101	9A2786-001	Deflection Yoke & Clamp
or	19VARP4	CRT (19V1001)
★V101	22VATP4	CRT (22V1001)

★ Product Safety Device

REPLACEMENT PARTS LIST P277 CIRCUIT BOARD ASSY.

CAPACITORS

C201, 202, 221	45X0524-027	47 μ F, 50V, Electrolytic
C203, 205, 223, 225	80X0099-057	220 pF, 10%, Z5F, Cer. Disc.
C204	45X0524-053	470 μ F, 16V, Electrolytic
C206	45X0524-051	100 μ F, 50V, Electrolytic
C207	80X0099-192	.005 μ F, 20%, 1KV, Cer. Disc.
C208	80X0099-036	10 pF, 10%, 500V, Cer. Disc.
C209	80X0099-013	330 pF, 10%, 500V, Cer. Disc.
C210	349X4722-109	.0027 μ F, 10%, Mylar
C211	45X0524-023	1.0 μ F, 15V, Electrolytic
C212	349X3332-109	.033 μ F, Mylar
C213	46X0537-002	01 μ F, Poly
C214	46X0537-003	0082 μ F, Poly
C215	349X1032-109	01 μ F, 10%, 100V Mylar
C216, 218, 220, 238, 239	80X0099-076	1000 pF, 10%, 500V, Cer. Disc.
C217	349X1032-209	.01 μ F, 10%, 200V, Mylar
C219	45X0524-052	150 μ F, 10V, Electrolytic
C222	80X0099-137	680 pF, 10%, 500V, Cer. Disc.
C224	349X6822-109	.0068 μ F, 10%, 100V, Mylar
C226, 227	80X0099-056	4700 μ F, 10%, 500V, Cer. Disc.
C228	349X4732-109	.047 μ F, 10%, 100V, Mylar
C229	349X1044-109	0.1 μ F, 20%, 100V, Mylar
C230	45X0515-014	1.0 μ F, 50V, Electrolytic
C231	349X1042-109	0.1 μ F, 10%, 100V, Mylar
C232	45X0524-026	22 μ F, 100V, Electrolytic
C233	349X4742-109	.47 μ F, 10%, 100V, Mylar
C234	45X0524-025	250 μ F, 100V, Electrolytic
C235	80X0099-006	470 pF, 10%, Z5F, Cer. Disc.
C236	349X2242-109	22 μ F, 10%, 100V, Mylar
C237	46X0540-001	47 μ F, 10%, 630V, Polyester Film

CONTROLS

R206, 256	40X0592-008	5k Ohm, Video Output, Size
R212	40X0585-093	2.5k Ohm, Reg. Adj.
R257, 263	40X0592-004	500k Ohm, Lin 1 & 2
R271	40X0585-094	2M Ohm, Focus

COILS & TRANSFORMERS

★L201	9A2788-001	Horiz. Osc.
★L202	9A2789-001	Horiz. Lin.
★T201	52X0126-001	Horiz. Driver

RESISTORS

R201	340X3102-954	1k Ohm, 20%, 1/2W
R202	340X3563-944	56k Ohm, 10%, 1/2W
R203, 237, 240	340X3471-944	470 Ohm, 10%, 1/2W
★R204	340X4152-843	1.5k Ohm, 10%, 1.0W
R205, 223, 260	340X3332-944	3.3k Ohm, 10%, 1/2W
R207	340X3472-944	4.7k Ohm, 10%, 1/2W
★R208	340X7752-733	7.5k Ohm, 5%, 4.0W
R209	340X3121-944	120 Ohm, 10%, 1/2W
R210	340X3560-944	56 Ohm, 10%, 1/2W
R211, 242, 259	340X3432-934	4300 Ohm, 5%, 1/2W
R213	43X0467-001	Thermistor
R214, 255	340X3512-934	5.1k Ohm, 5%, 1/2W
R215	340X3153-944	15k Ohm, 10%, 1/2W
★R216	340X4154-843	150k Ohm, 10%, 1.0W
R217	340X3335-944	3.3M Ohm, 10%, 1/2W
R218, 231	340X3221-944	220 Ohm, 10%, 1/2W
R219	340X3222-934	2.2k Ohm, 5%, 1/2W

★ Product Safety Device

RESISTORS (Cont'd.)

R220, 221	340X3184-944	180k Ohm, 10%, 1/2W
R222	340X3473-944	47k Ohm, 10%, 1/2W
R224	340X3104-944	100k Ohm, 10%, 1/2W
R225	340X3682-944	6.8k Ohm, 10%, 1/2W
R226	340X3391-944	390 Ohm, 10%, 1/2W
R227	340X3102-944	1k Ohm, 10%, 1/2W
R228	340X3102-934	1k Ohm, 5%, 1/2W
R229	340X3820-944	82 Ohm, 10%, 1/2W
★R230	340X4102-843	1k Ohm, 10%, 1.0W
R232	340X3152-934	1.5k Ohm, 5%, 1/2W
★R233	340X6152-743	1.5k Ohm, 10%, 3.0W
R234	340X5022-333	2.2 Ohm, 5%, 2.0W
R235	340X3151-944	150 Ohm, 10%, 1/2W
R236	340X3101-944	100 Ohm, 10%, 1/2W
R238, 241	340X3223-944	22k Ohm, 10%, 1/2W
R239	340X3182-944	1.8k Ohm, 10%, 1/2W
R243	340X3151-934	150 Ohm, 5%, 1/2W
R244	340X3680-934	68 Ohm, 5%, 1/2W
R245, 266	340X3330-934	33 Ohm, 5%, 1/2W
R246	340X3273-944	27k Ohm, 10%, 1/2W
R247, 248	340X3153-934	15k Ohm, 5%, 1/2W
R249, 275	340X3103-944	10k Ohm, 10%, 1/2W
R250	340X3822-944	8.2k Ohm, 10%, 1/2W
R251	340X3684-944	680k Ohm, 10%, 1/2W
R252	340X3564-944	560k Ohm, 10%, 1/2W
R253, 276	340X3274-944	270k Ohm, 10%, 1/2W
R254	340X3562-944	5.6k Ohm, 10%, 1/2W
R258	340X3224-944	220k Ohm, 10%, 1/2W
★R261	340X5150-843	15 Ohm, 10%, 2.0W
R262, 264	340X3824-934	820k Ohm, 5%, 1/2W
R265	340X3185-944	1.8M Ohm, 10%, 1/2W
R267, 268	340X3010-934	1 Ohm, 5%, 1/2W
R269	340X4392-843	3.9k Ohm, 10%, 1/2W
R270	340X3471-934	470 Ohm, 5%, 1/2W
R272	340X3475-944	4.7M Ohm, 10%, 1/2W
R273	340X3155-944	1.5M Ohm, 10%, 1/2W
★R274	340X4473-843	47k Ohm, 10%, 1.0W
R277	340X3033-934	3.3 Ohm, 5%, 1/2W

SEMICONDUCTORS

D201, 202, 203, 204, 207, 208	66X0046-001	Diode, Silicon FDH444
D205A, 205B	66X0066-001	Diode, Dual, MSD6102
D206	66X0054-002	Diode, RCA D2102SF
Q201, 205, 206	86X0113-001	Transistor (NPN) 2N3904
Q202, 208	86X0114-001	Transistor (PNP) 2N3906
Q203	86X0071-001	Transistor (NPN)
Q204, 212	86X0071-001	Transistor (NPN) MPSA06
Q207, 211	86X0058-002	Transistor (NPN) MPSA20
Q209	86X0116-001	Transistor Horiz. Driver (NPN) 2N6557
Q210	86X0066-001	Transistor (PNP) MPSA70
Q213	86X0072-001	Transistor (PNP) MPSA56
Q214	86X0073-001	Transistor (NPN) MPSU07
Q215	86X0074-001	Transistor (NPN) 2N5192
Q216	86X0075-001	Transistor (PNP) 2N5195
Q217	86X0070-001	Transistor (P.U.T.) MPU131
ZD201	66X0040-004	Diode, Zener 31V

MISCELLANEOUS

38A5395-000 Pix Socket & Connector Assy.