

GAME NO. 742
DECEMBER 1978

MIDWAY'S BLUE SHARK PARTS CATALOG



MIDWAY MFG. CO.

A BALLY COMPANY

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

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PHONE: (312) 451-1360

CABLE ADDRESS: MIDCO

TELEX NO. 721596

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WARNING

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

GENERAL INSTRUCTIONS FOR "BLUE SHARK"

INSTALLATION:

1. Remove shipping cleats located on bottom of cabinet.
2. Install four (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 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 right 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:

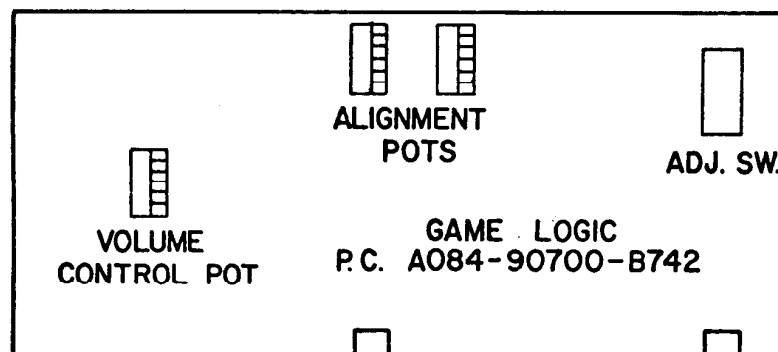
Located on Game Logic Board (P.C. A084-90700-B742) controls the volume of all sounds and may be varied as desired by rotating pot control.

SPEAR GUN ALIGNMENT POTS:

Located on Game Logic Board (P.C. A084-90700-B742) are provided to fine tune the line along which the spear travels. See separate enclosed Alignment Procedure Instructions if adjustment is necessary.

REPLAY AND ALIGNMENT ADJUSTMENT SWITCHES:

Located on Game Logic Board (P.C. A084-90700-B742) and may be adjusted as indicated on separate instruction sheet in back box area.



M051-00792-A000

SPEAR GUN SETTING-UP INSTRUCTIONS

THE SPEAR GUN IS MOUNTED AS SHOWN IN FIG. A FOR THE PURPOSE OF SHIPPING. TO OPERATE THE GAME, THE SPEAR GUN MUST BE TURNED AS IN FIG. B.

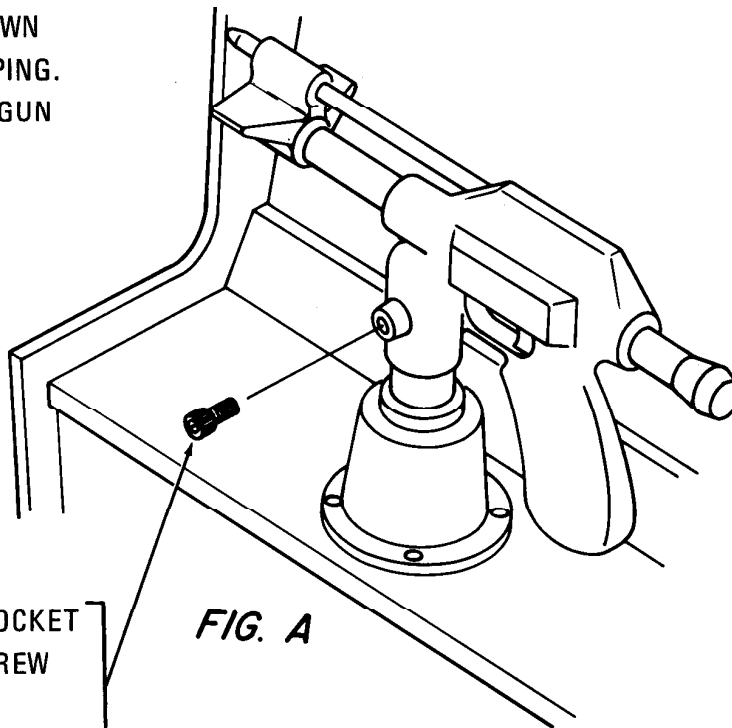


FIG. A

TRU-FLEX 1/4-20X 1/2 SOCKET
HEAD CAP MACHINE SCREW
MIDWAY PART NO.
0017-00101-0795 (2 REQ'D.)

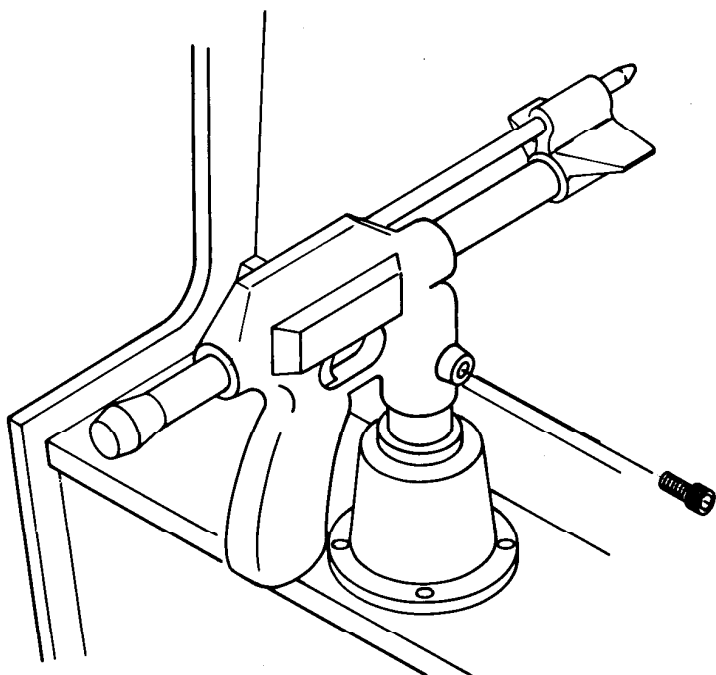
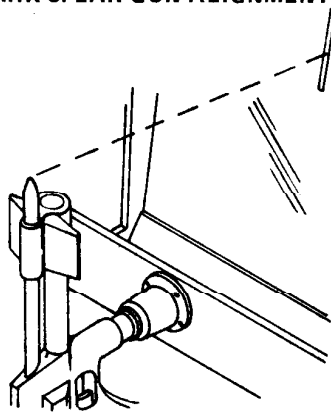


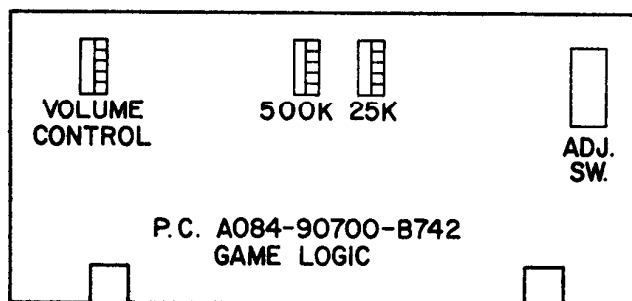
FIG. B

1. REMOVE THE 2 TRU-FLEX 1/4-20x 1/2 SOCKET HEAD CAP MACHINE SCREWS, 1 ON EACH SIDE OF GUN.
2. ROTATE GUN AND POINT TOWARD CENTER OF GLASS AS SHOWN IN FIG. B.
3. REPLACE AND TIGHTEN SCREWS. THE GUN MAY BE MOVED RIGHT OR LEFT TO ALLOW PROPER FITTING OF SCREWS.

BLUE SHARK SPEAR GUN ALIGNMENT PROCEDURE



1. Set adjustment switch #8 located on Game Logic Board (P.C. A084-90700-B742) to "on" position. Energize tilt switch located on coin door assembly. A spear gun marker will appear on the screen.
2. Set pot "A" (25K, left side spear path adjustment) and pot "B" (500K, right side spear path adjustment) located on Game Logic Board (P.C. A084-90700-B742) to approximately center position.
3. Unlatch 2 clamps located on inside cabinet walls. These clamps are accessible through coin door opening. Lift and tilt spear gun panel and support on front of cabinet as shown above.



4. Aim spear gun to a point approximately in the center of the screen.
5. Align spear gun with marker as follows:
 - A) Disengage pot gear from spear gun gear.
Do not loosen set screws from pot shaft.
 - B) Rotate pot gear till marker lines up with spear gun.
 - C) Engage pot and gun gears.
6. Aim gun to extreme left. (Till gun hits mechanical stop).
7. Rotate pot "A" (25K) till spear marker appears approximately 1/4" inside left screen edge. With the gun in the extreme left position, the spear gun and marker will not line up with one another.
8. Aim gun to extreme right. (Till gun hits mechanical stop).
9. Rotate pot "B" (500K) till spear marker appears approximately 1/4" inside right screen edge. With gun in extreme right position, the spear gun and marker will not line up with one another.
10. Repeat steps 6 through 9 to fine tune alignment.
11. Replace gun panel and fasten clamps.
12. Return switch #8 to "OFF" position (Play mode).

ADJUSTMENT SWITCHES

REPLAY

	SW. 6	SW. 7
NO REPLAY	ON	ON
REPLAY AT 14,000 SCORE	OFF	ON
REPLAY AT 18,000 SCORE	ON	OFF
REPLAY AT 22,000 SCORE	OFF	OFF

REPLAY STARTS AUTOMATICALLY AT
END OF PREVIOUS GAME.

ALIGNMENT – PLAY

	SW. 8
ALIGNMENT PATTERN*	ON
PLAY MODE	OFF

*SEE ALIGNMENT PROCEDURE INSTRUCTIONS

ALL OTHER SWITCHES SHOULD BE IN "OFF" POSITIONS.

COIN SETTINGS

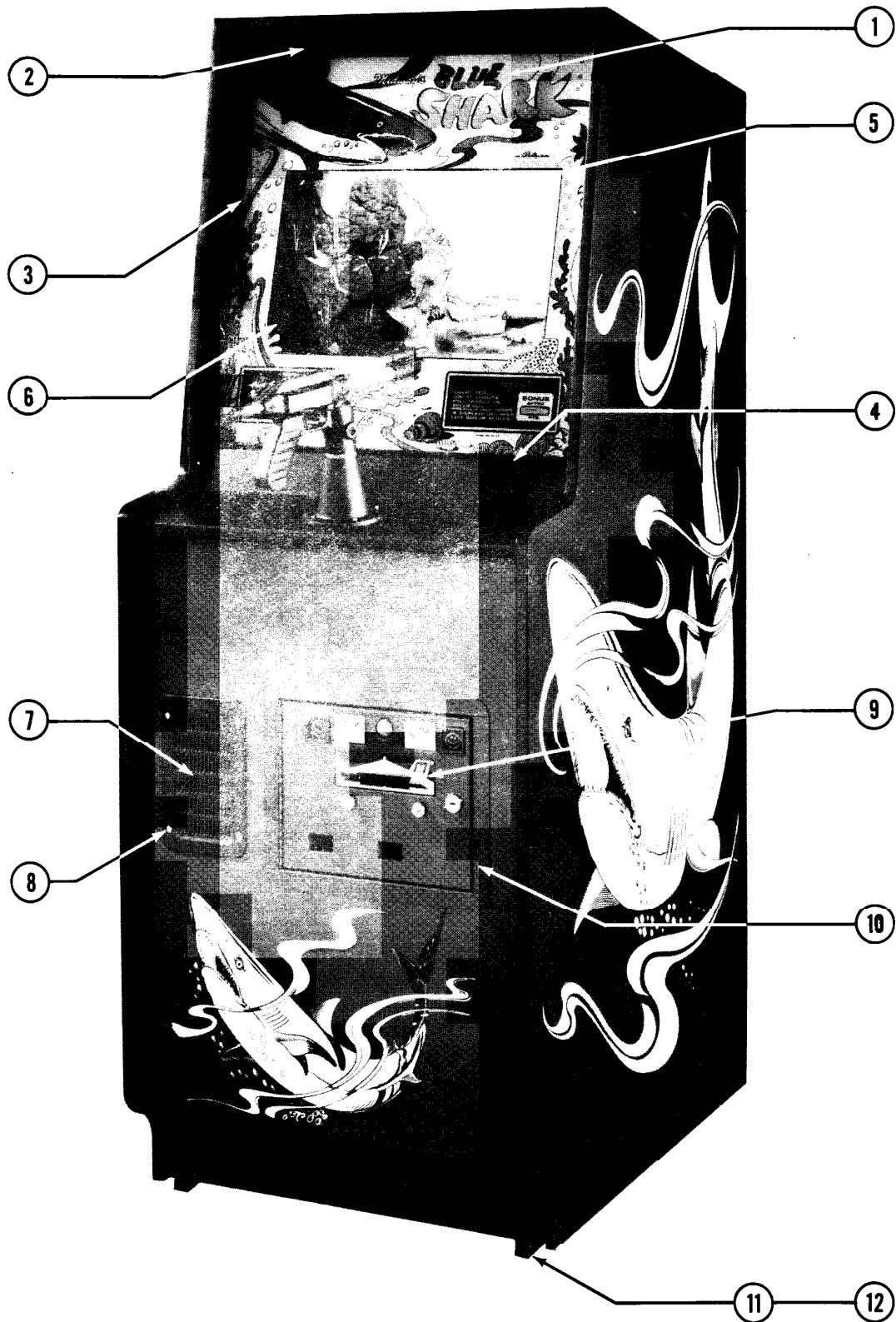
1 COIN 1 PLAY
2 COINS 2 PLAYS

THEIR IS NO RAM ROM TEST.

NOTES

This space is provided for personal notes

NO. 742 – BLUE SHARK – PICTURE

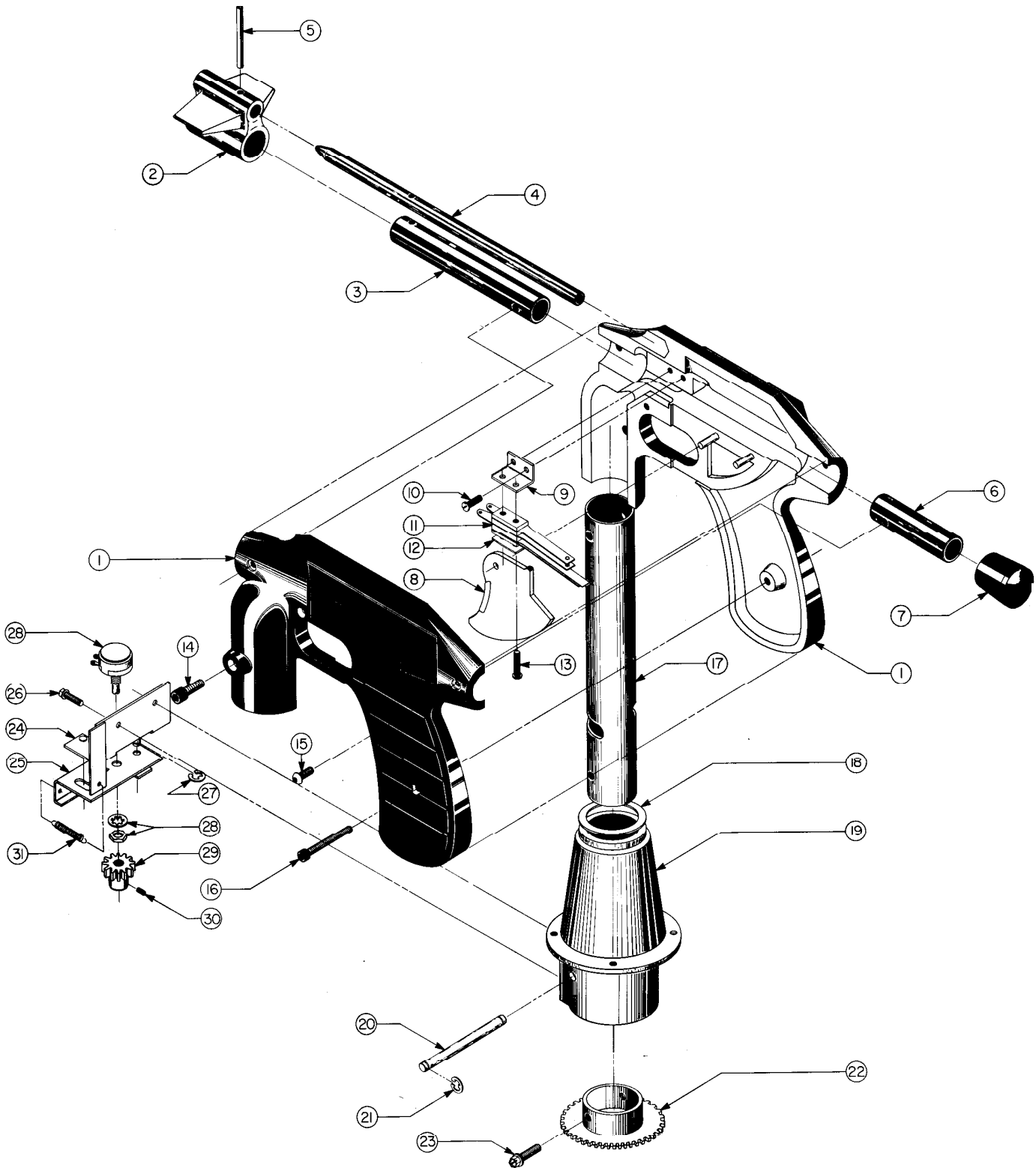


NO. 742 – BLUE SHARK – PICTURE

ORDER BY PART NUMBER ONLY

ITEM	PART NO	DESCRIPTION
1	0742-00902-01SC	DISPLAY PLEX - 24-1/4 x 19-3/4 x 3/16
2	0537-00903-0021	GLASS CHANNEL - 23-3/4" LG.
3	0537-00903-0025	GLASS CHANNEL - 24-7/8" LG. (2 REQ'D.)
4	0629-00902-0200	GLASS LIFT CHANNEL - 23-5/8" LG.
5	0742-00900-00SC	PLAYFIELD
	0742-00106-0000	ANGLE CLAMP
	0017-00101-0025	#8 x 1/2 SLOT HEX HD. WD. SCR. (2 REQ'D.)
6	0742-00904-01SC	INTERIOR CARDBOARD - L.H.
	0742-00904-00SC	INTERIOR CARDBOARD - R.H. - (NOT SHOWN)
7	0017-00009-0393	SPEAKER GRILL & HARDWARE
	0017-00003-0187	SPEAKER
8	0017-00101-0642	#8 - 32 x 1-1/2 CARRIAGE BOLTS M.S. (4 REQ'D.)
9	A090-00020-2001	DOUBLE ENTRY COIN DOOR
10	A090-00002-0200	DOOR FRAME ASSY.
	0017-00003-0102	COIN METER (MOUNTED ON COIN DOOR)
	0017-00101-0555	#6 - 32 x 5/16 HEX HD. BLK. S.M.S. (MOUNTS COIN DOOR TO FRAME) (3 REQ'D.)
11	0017-00102-0048	LEG LEVELERS (4 REQ'D.)
12	0017-00103-0026	LEG LEVELER NUTS (4 REQ'D.)
		<u>NOT SHOWN LIST</u>
	0017-00003-0200	19" CATHODE RAY TUBE (C.R.T.)
	0017-00003-0196	19" MONITOR CHASSIS
	0592-00104-0100	CHASSIS MTG. BRKT. - R.H.
	0592-00104-0200	CHASSIS MTG. BRKT. - L.H.
	0161-00100-0000	T.V. MTG. WASHER (4 REQ'D.)
	0017-00101-0639	#8 - 32 x 1-1/4 CARRIAGE BOLTS (4 TUBE, 4 CHASSIS)
	0017-00104-0022	#8 WASHER (4 TUBE, 4 CHASSIS)
	0017-00103-0061	#8 - 32 HEX LOCK NUT - SEMS (4 TUBE, 4 CHASSIS)
	A739-00010-0000	DAG SPRING ASSY.
	3000-17155-0000	GROUND STRAP
	0080-00101-0000	FISH PAPER SHIELD
	0017-00009-0033	BASSICK CLAMP (2 REQ'D.)
	0742-00906-0000	CARDBOARD BEZEL
	0605-00104-0100	GLASS LOCK BRKTS. (2 REQ'D.)
	0742-00903-0000	MIRROPANE - 24-1/4 x 18-1/8 x 1/4
	A742-00011-0000	INSERT ASSEMBLY
	0017-00031-0005	LIGHT SOCKET (4 REQ'D.)
	0017-00003-0052	LAMP - 12V. #1895 (4 REQ'D.)
	0017-00101-0010	#6 x 3/8 SLOT HEX BLK. S.M.S. (4 REQ'D.)
	0586-00036-0000	ON-OFF SWITCH
	0567-00106-0100	SWITCH MTG. PLATE
	0017-00101-0025	#8 x 1/2 SLOT HEX HD. WD. SCR. (4 REQ'D.)

NO. 742 – BLUE SHARK – GUN CONTROL ASSEMBLY

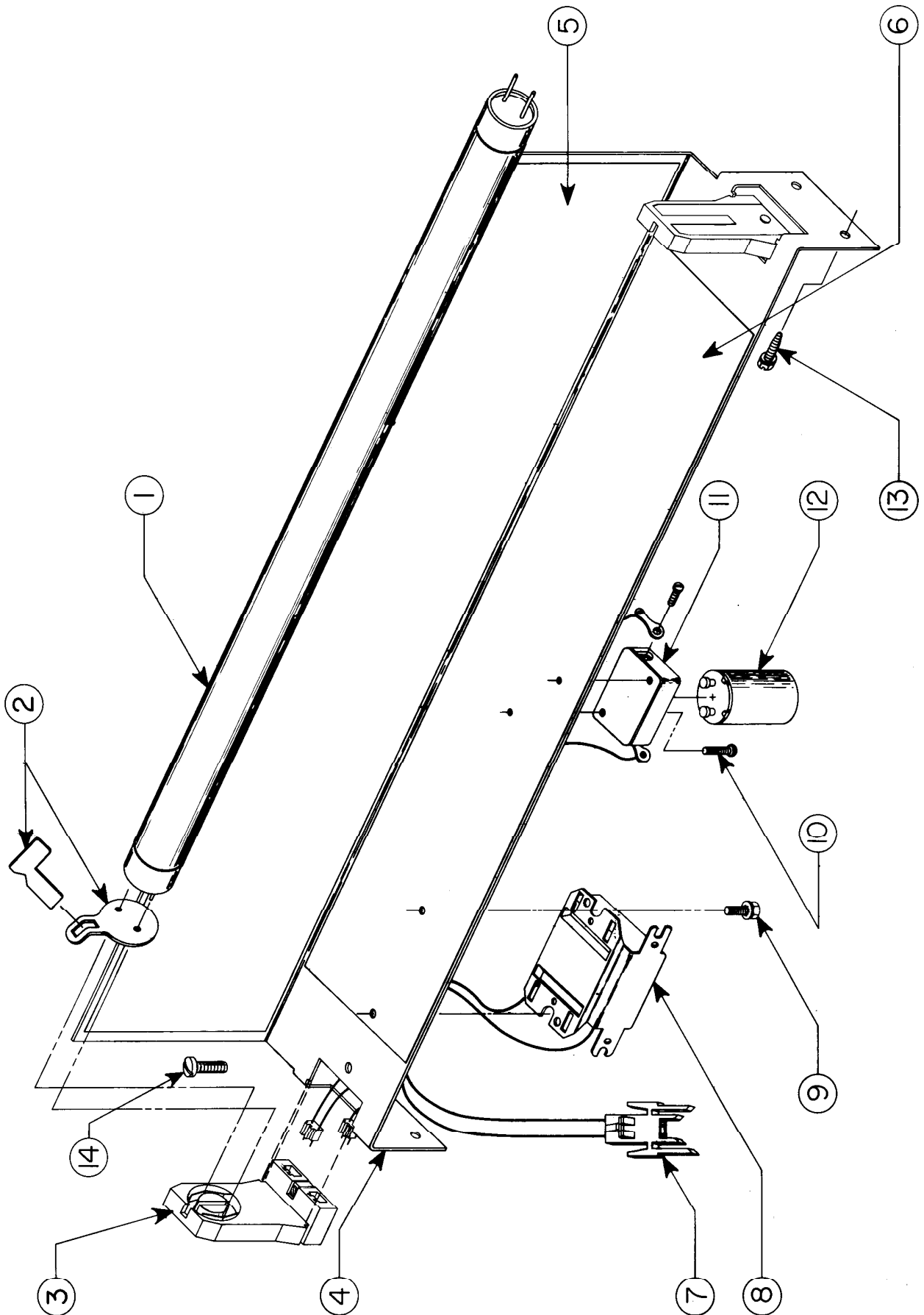


NO. 742 - BLUE SHARK - GUN CONTROL ASSEMBLY

ORDER BY PART NUMBER ONLY

ITEM	PART N ^o	DESCRIPTION
1	A742-00020-0000	GUN TRIGGER, HOUSING SUB - ASSY.
2	0742-00907-0000	GUN TIP
3	0742-00700-0000	FRONT BARREL
4	0742-00701-0000	SPEAR
5	0017-00007-0098	3/16 DIA. x 1-3/4 LG. ROLL PIN
6	0742-00702-0000	REAR BARREL
7	0017-00042-0205	PLASTIC CAP - 3/4"
8	0742-00908-0000	TRIGGER
9	0597-00101-0000	SWITCH BRKT.
10	0017-00101-0554	#6 - 32 x 1/4 PAN HD. W/SEMS. M.S. (2 REQ'D.)
11	A742-00019-0000	TRIGGER SWITCH ASSY.
12	0020-00202-0000	SWITCH PLATE
13	0017-00101-0523	#5 - 40 x 1/2 RD. HD. M.S. (2 REQ'D.)
14	0017-00102-0795	TRU-FLEX 1/4 - 20 x 1/2 SOC. HD. CAP M.S. (2 REQ'D.)
15	0017-00101-0343	#10 - 32 x 3/8 SOC. BUTTON HD. M.S. (4 REQ'D.)
16	0017-00101-0342	#8 - 32 x 3/4 SOC. HD. CAP M.S. (2 REQ'D.)
17	0742-00704-0000	SUPPORT TUBE
18	0618-00111-0000	NYLON WASHER
19	A742-00014-0000	PEDESTAL & BEARING ASSY.
20	0742-00705-0000	STOP PIN
21	0017-00100-0031	'E' RING - 5/16 (2 REQ'D.)
22	A742-00016-0000	GEAR & HUB ASSY.
23	0017-00101-0651	#10 - 32 x 5/16 R.H.M.S. W/SEMS. (2 REQ'D.)
24	A742-00018-0000	POT MOUNTING BRKT. ASSY. - TOP
25	0742-00103-0000	POT MOUNTING BRKT. - BOTTOM
26	0017-00101-0794	#8 - 32 x 5/16 HEX WASH. HD. M.S. (2 REQ'D.)
27	0017-00100-0025	'E' RING - 1/4 (2 REQ'D.)
28	0063-277DX-1GKX	POTENTIOMETER
29	0742-00911-0000	GEAR (SMALL)
30	0017-00101-0308	#8 - 32 x 3/16 ALLEN SET SCREW (2 REQ'D.)
31	0010-00256-0000	EXTENSION SPRING
		<u>NOT SHOWN - GUN MTG. HARDWARE</u>
	0017-00102-0012	1/4 - 20 x 1-1/4 HEX HD. BOLT (4 REQ'D.)
	0017-00104-0040	3/4 O.D. x 9/32 I.D. x 1/16 WASHER (4 REQ'D.)
	0017-00104-0014	DISHED PERIPHERY WASHER (4 REQ'D.)

NO. 742 – BLUE SHARK – FLUORESCENT FIXTURE ASSEMBLY



NO. 742 – BLUE SHARK – FLUORESCENT FIXTURE ASSEMBLY

ORDER BY PART NUMBER ONLY

ITEM	PART N ^o	DESCRIPTION
1	0017-00003-0047	24" FLUORESCENT LAMP
2	0017-00021-0005	FLUORESCENT LOCKS (2 REQ'D.)
3	0017-00031-0036	LAMP HOLDER (2 REQ'D.)
4	0742-00100-0000	FLUORESCENT BRACKET
5	0742-00910-0100	REFLECTOR STRIP - 24" LG.
6	0742-00910-0200	REFLECTOR STRIP - 22-1/2 LG.
7	0017-00021-0096	2 TERMINAL JACK - FEMALE
8	0017-00003-0026	BALLAST
9	0017-00101-0593	#8 - 32 x 1/4 PAN HD. EXT. SEMS. M.S. (2 REQ'D.)
10	0017-00101-0528	#5 - 40 x 3/4 R.H.M.S. (2 REQ'D.)
11	0017-00021-0079	STARTER HOLDER
12	0017-00003-0019	STARTER
13	0017-00101-0025	#8 x 1/2 HEX HD. WD. SCR. (4 REQ'D.)
14	0017-00101-0573	#6 - 32 x 1/2 R.H.M.S. (2 REQ'D.)

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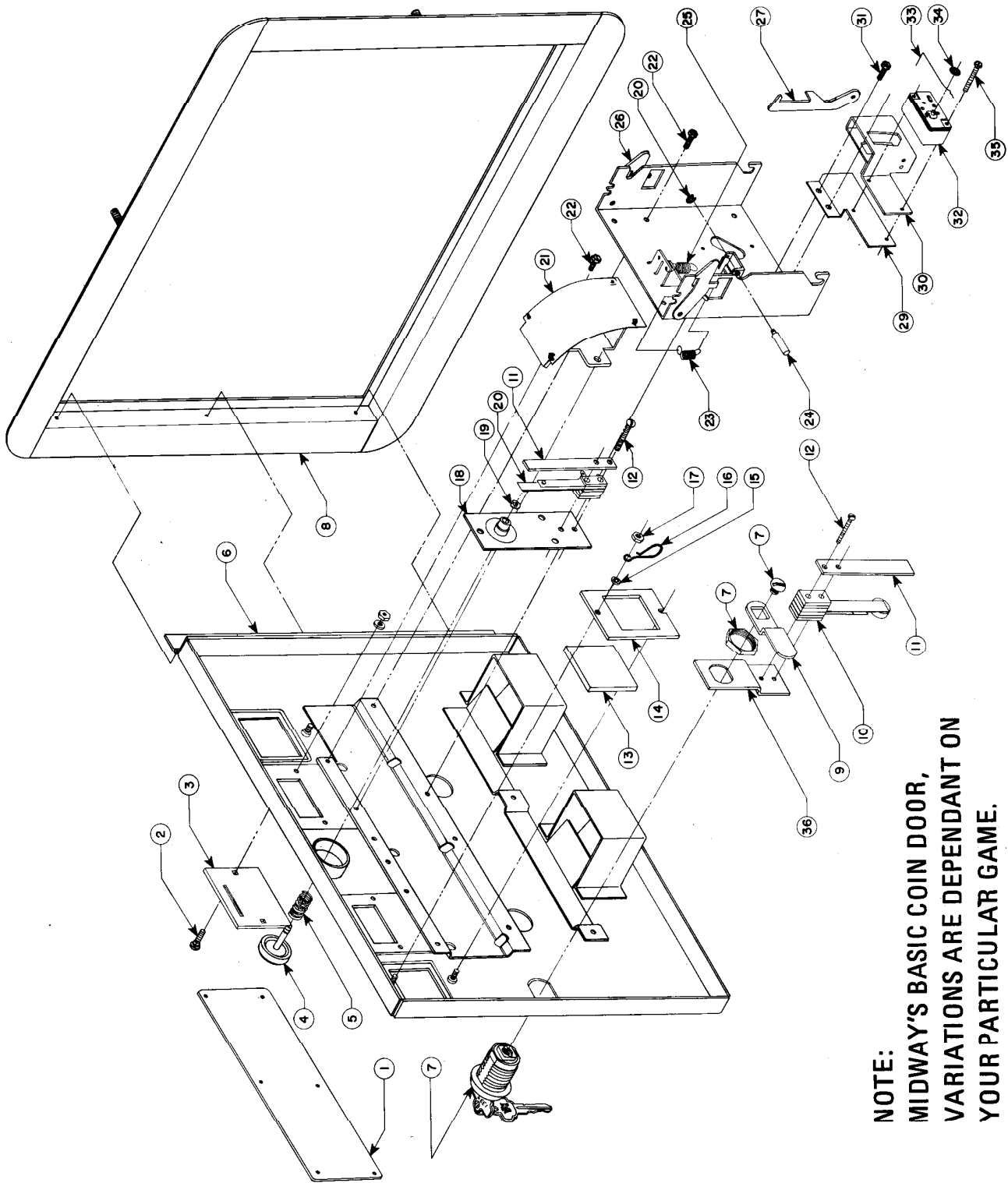
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NO. 742 – BLUE SHARK – FRONT DOOR ASSY.

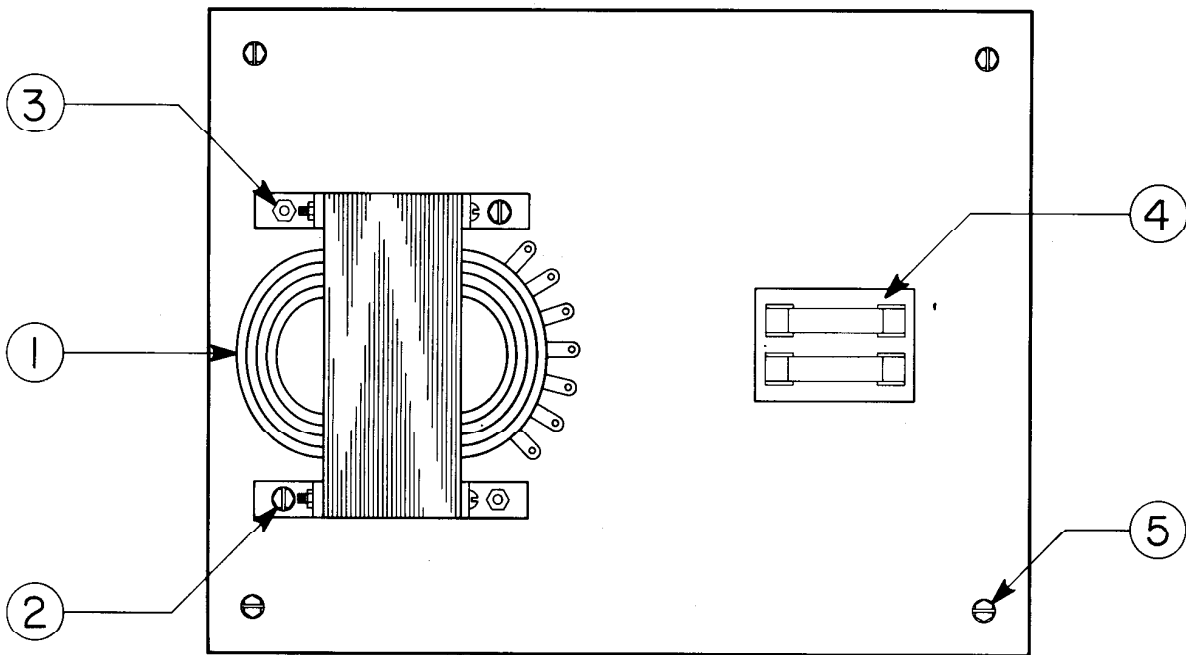


**NOTE:
MIDWAY'S BASIC COIN DOOR,
VARIATIONS ARE DEPENDANT ON
YOUR PARTICULAR GAME.**

NO. 742 – BLUE SHARK – 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	0090-00117-0300	COIN ENTRY PLATE (25¢)
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	0090-00126-0100	SWITCH BACKUP PLATE
12	0017-00101-0528	#5 - 40 x 3/4" LNG. M.S.
13	0090-00903-0040	25¢ 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	0090-00129-0000	PIVOT POST
25	0010-00134-0000	SPRING
26	0090-00008-0000	ACCEPTOR FRAME ASSY.
27	0093-00155-0000	REJECTOR LEVER
28	0017-00100-0012	"E" RING
29	0093-00151-0000	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	0090-00128-0000	SWITCH BRKT. – DOOR TILT

NO. 742 – BLUE SHARK – TRANSFORMER BOARD ASSY.



NO. 742 – BLUE SHARK – 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	#8 - 32 x 7/8 CARRIAGE BOLTS (2 REQ'D.)
	0017-00103-0008	WITH #8 - 32 HEX NUT (2 REQ'D.)
4	0720-00001-0200	FUSE BLOCK ASSY. (2 POSITION)
5	0017-00101-0028	#8 x 3/4 HEX HD. WD. SCREW (4 REQ'D.)
	0017-00101-0017	#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

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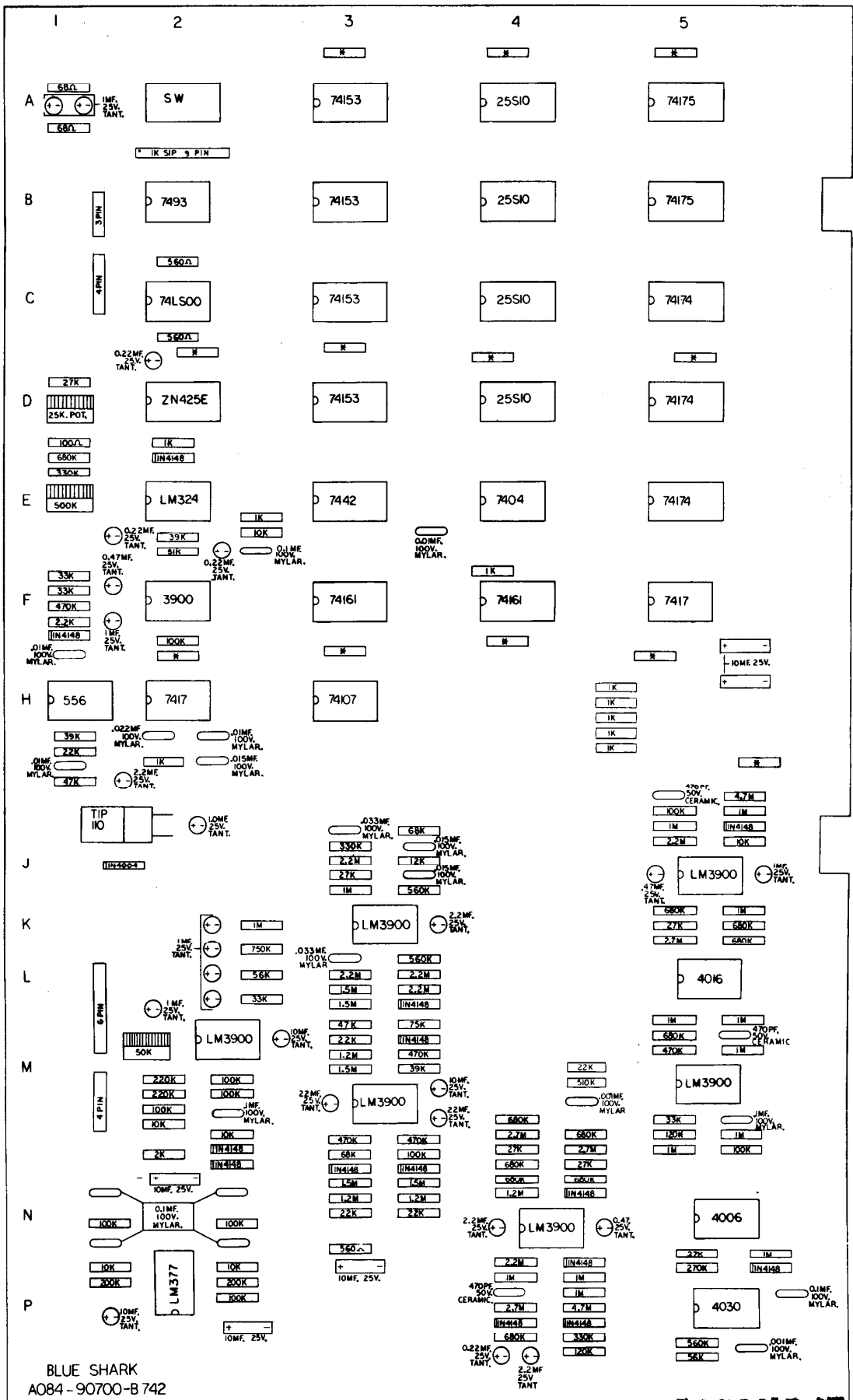
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CLASSIC

NO. 742 – BLUE SHARK – ADDITIONAL PARTS LIST

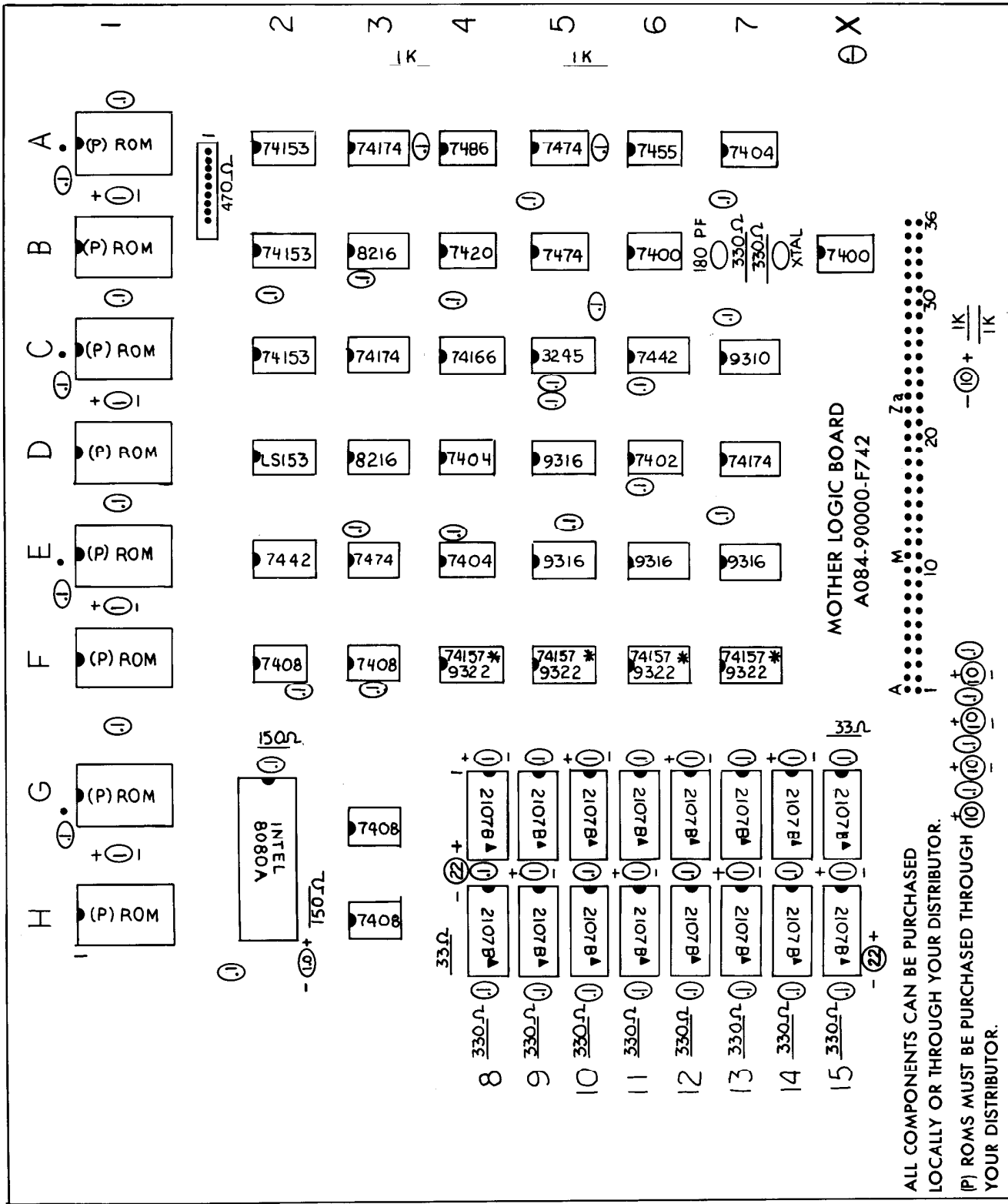
ORDER BY PART NUMBER ONLY

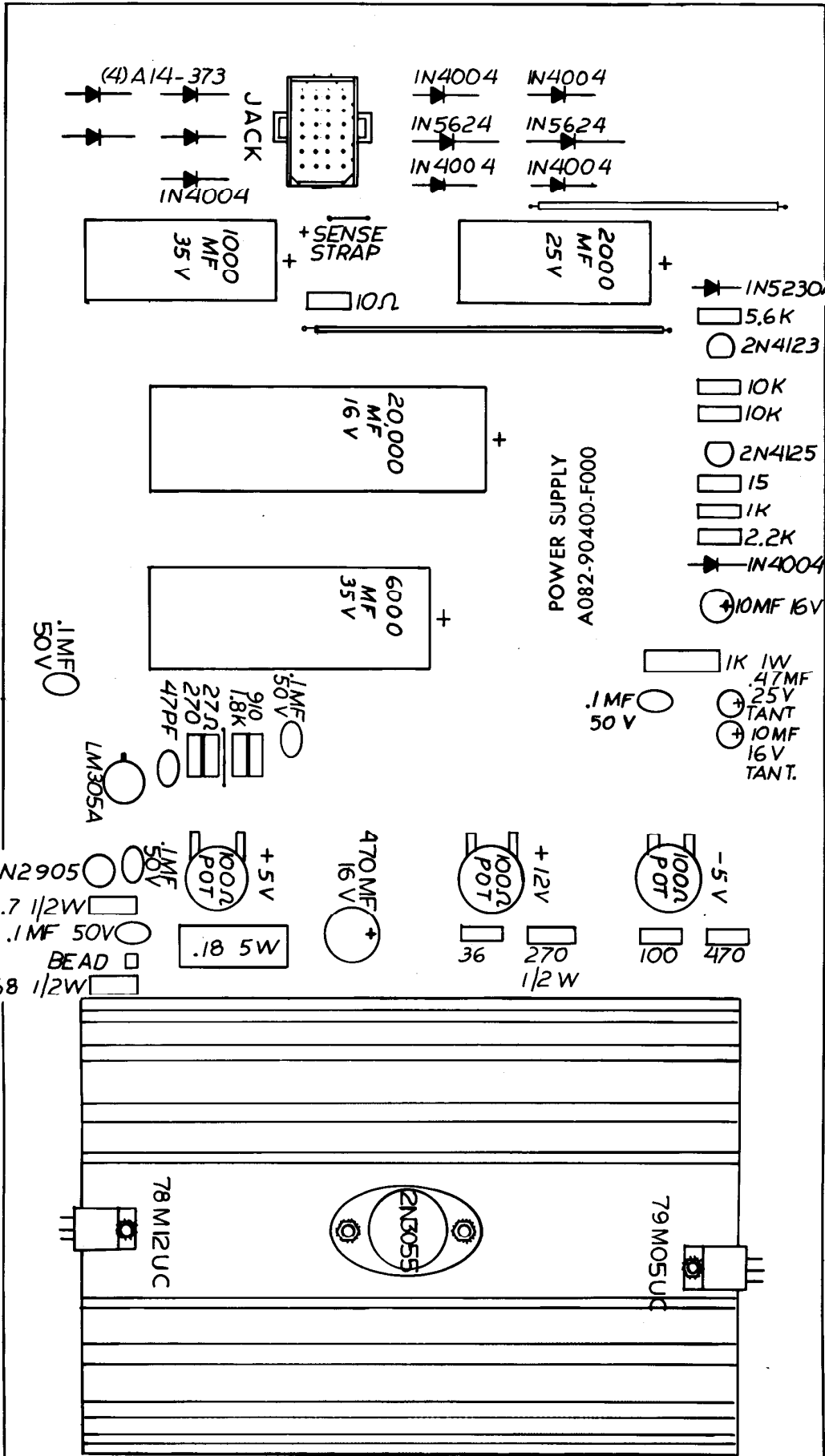
ITEM	PART N ^o	DESCRIPTION
	A742-00012-0000	UPPER BACK DOOR ASSY.
	A742-00013-0000	LOWER BACK DOOR ASSY.
	A097-00001-0000	LOCK ASSY. (1 UPPER, 1 LOWER)
	0618-00117-0000	VENT SCREEN (2 UPPER, 2 LOWER)
	A623-00110-0000	COIN BOX ASSY.
	A623-00013-0000	COIN BOX COVER ASSY.
	A624-00001-0000	COIN BOX GUIDE BRKT. ASSY.
	0624-00101-0000	COIN BOX GUIDE BRKT.
	0017-00101-0628	#8 - 32 x 3/4 CARRIAGE BOLTS (4 REQ'D.)
	0017-00104-0022	#8 STL. WASHER (4 REQ'D.)
	0017-00103-0061	#8 - 32 HEX NUT - SEMS. (4 REQ'D.)
	0603-00131-0000	STRIKE (2 REQ'D.)
	0017-00101-0027	#8 x 3/4 HEX HD. WD. SCR. (4 REQ'D.)
	0017-00009-0008	TURN BUTTONS (2 REQ'D.)
	0017-00101-0017	#6 x 1/2 HEX HD. BLK. WD. SCR. (2 REQ'D.)
	0625-00133-00B0	INTERLOCK SW. MTG. BRKT.
	0017-00003-0225	"CHEAT" INTERLOCK SWITCH
	0017-00101-0028	#8 x 3/4 HEX HD. WOOD SCR. (2 REQ'D.)
	A084-90700-B742	GAME LOGIC BOARD ASSY.
	A084-90000-F742	MOTHER BOARD ASSY.
	A082-90400-F000	POWER SUPPLY ASSY.
	A630-00015-0000	TRANSFORMER BOARD ASSY.
	0597-00012-0100	P.C. SUPPORT BRKT. ASSY. – RIGHT
	0597-00012-0200	P.C. SUPPORT BRKT. ASSY. – LEFT
	0624-00902-0100	P.C. SUPPORT BRKT. – 12" (4 REQ'D.)
	0624-00902-0300	P.C. SUPPORT BRKT. – 2-1/2" (4 REQ'D.)
	0017-00101-0017	#6 x 1/2 HEX HD. BLK. WD. SCR. (20 REQ'D.)
		FOR ALL P.C. SUPPORT BRKTS.)
	0017-00104-0037	3/4 O.D. x 3/16 I.D. x 1/16 WASHER (20 REQ'D.)
		FOR ALL PC SUPPORT BRKTS.)
	0017-00009-0419	PIN EXTRACTOR TOOL (PIN POPPER)
	0017-00009-0068	3/16 ALLEN KEY



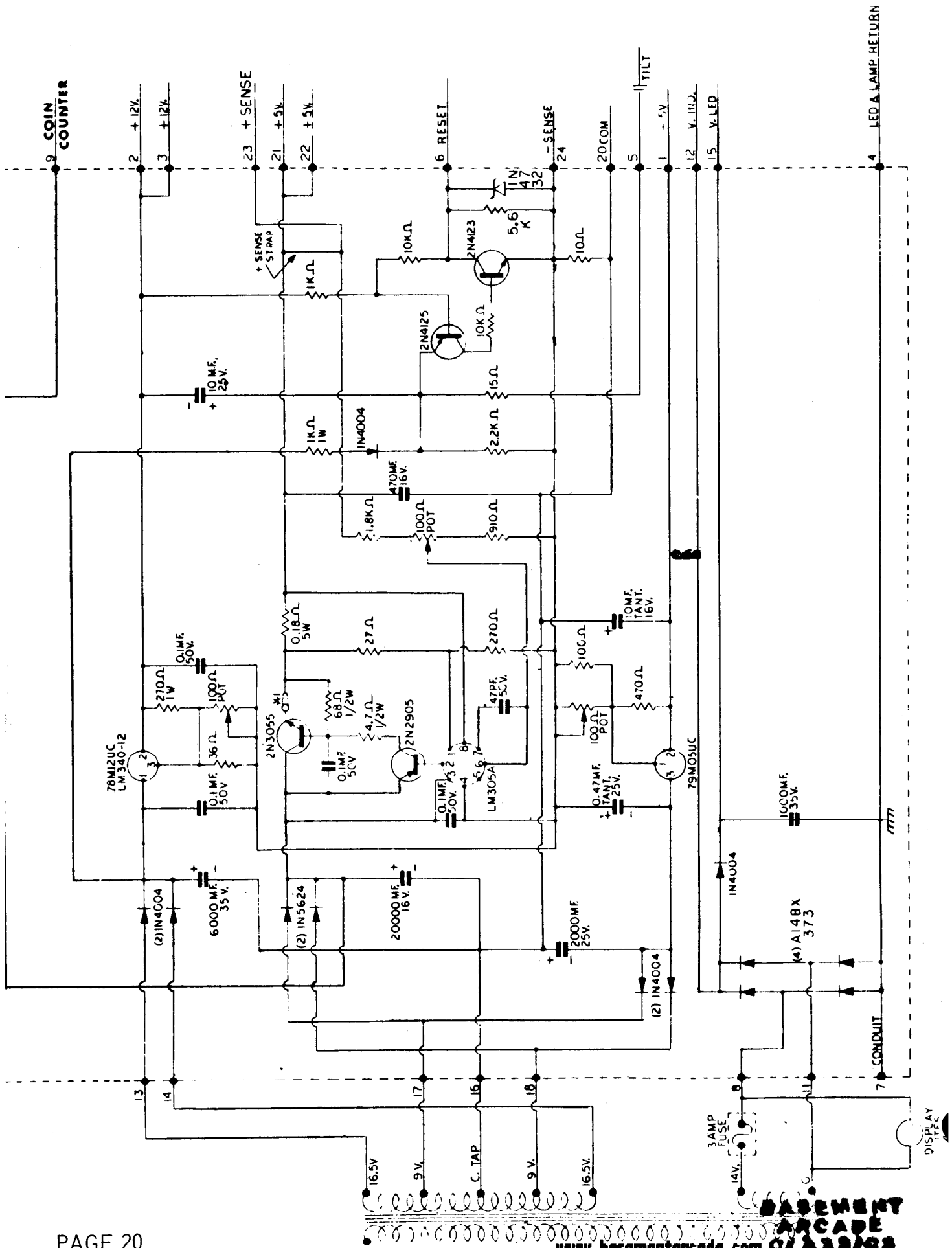
BLUE SHARK
A084 - 90700-B 742

COMPONENT LAYOUT PART NO. M051 - 00742 - A003

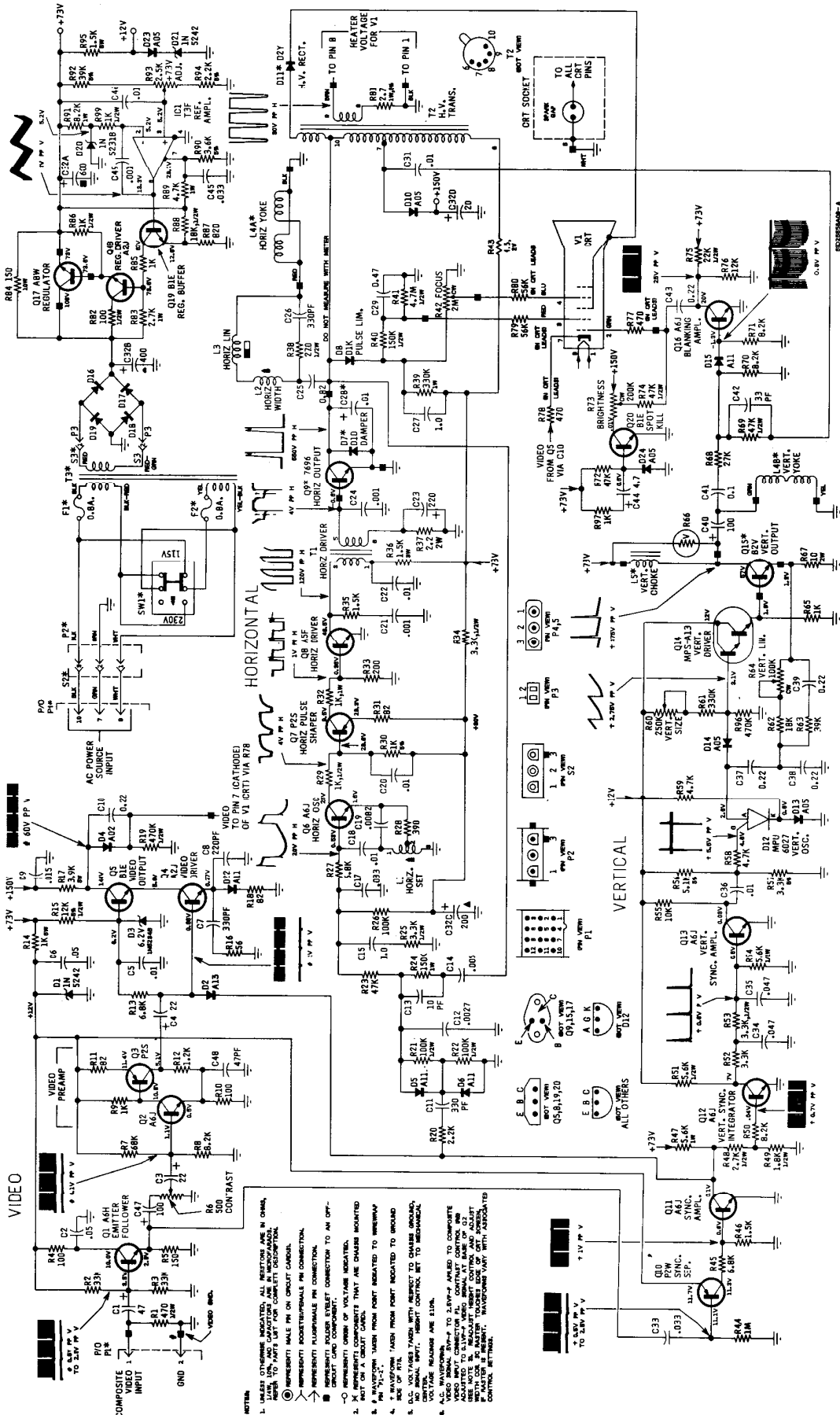




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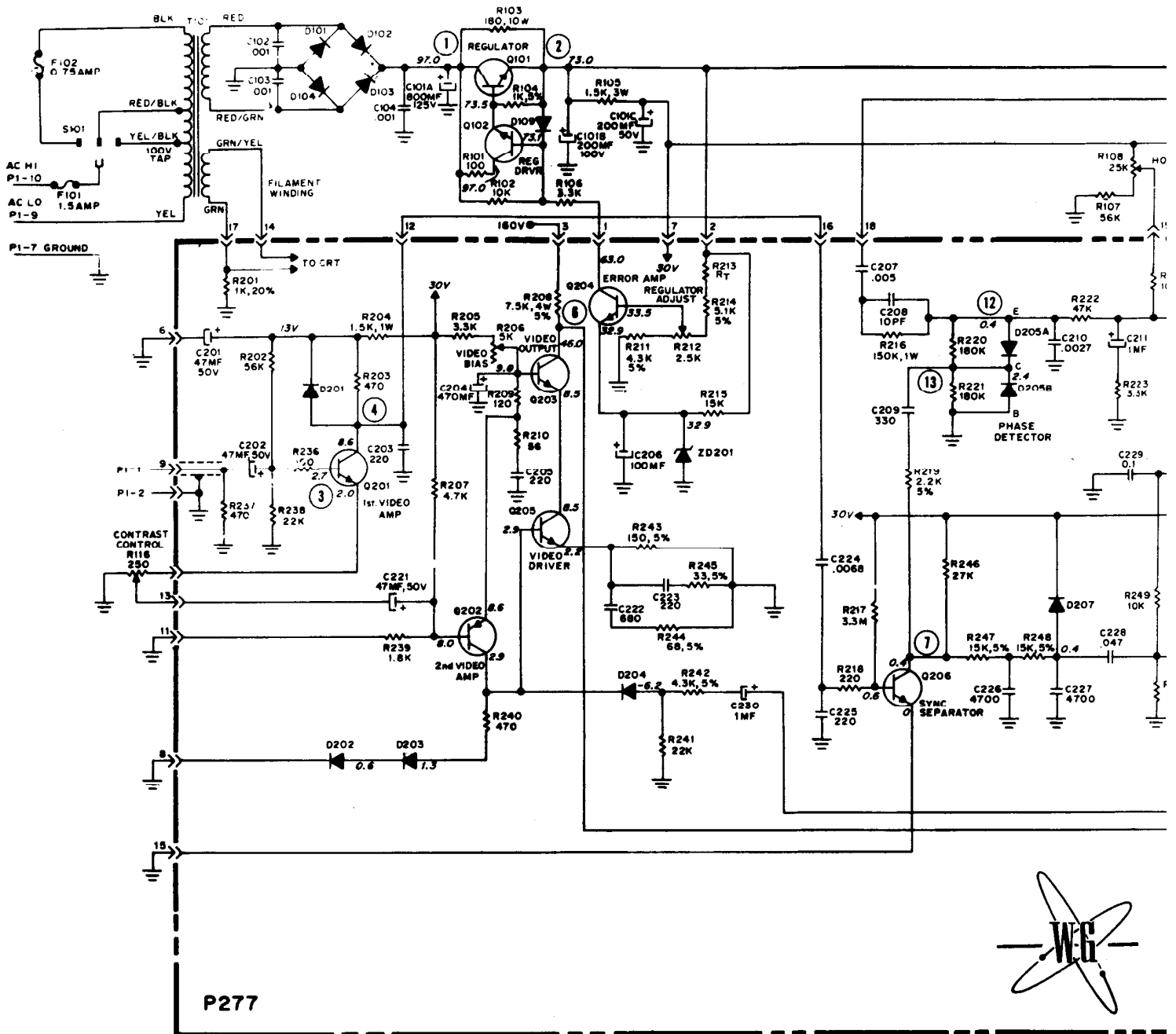



POWER SUPPLY



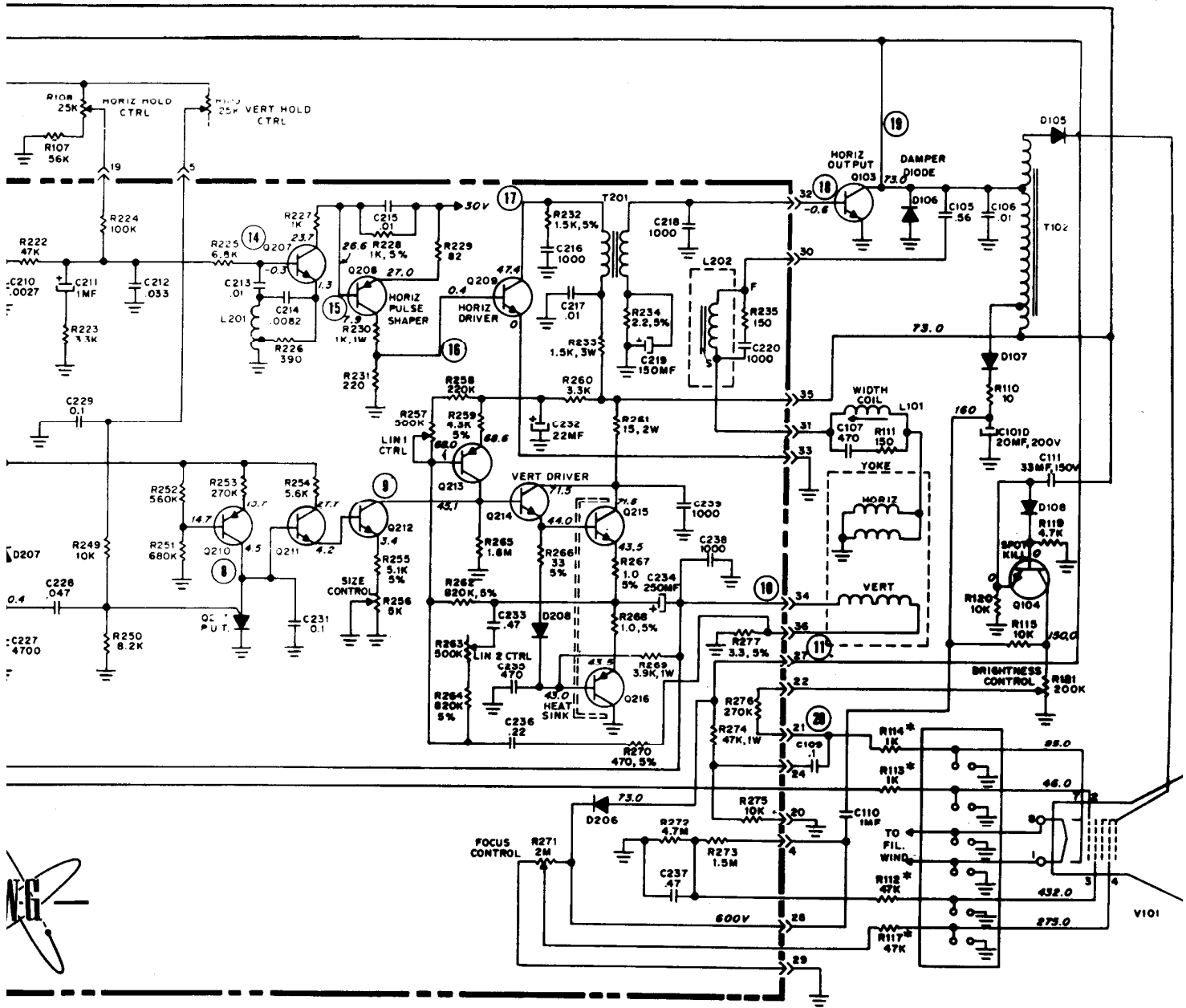
M5000-155, M7000-155 - Diagram Schematic





- NOTES:
1. VOLTAGE MAY VARY WITH CONTROL SETTING.
 2. LINE VOLTAGE MAINTAINED AT 120VAC, 50/60HZ.
 3. ALL D.C. VOLTAGES $\pm 10\%$ 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.

WELLS - GARDNER CORPORATION
 2701 N. KILDARE AVE. • CHICAGO, ILL.



ER ELECTRONICS
 CORPORATION
 30, ILL. 60639 • ALBANY 2-8220
 TELEX 25-3286

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	.15k 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
★V101	19VARP4	CRT (19V1001)
or	or	
★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.)

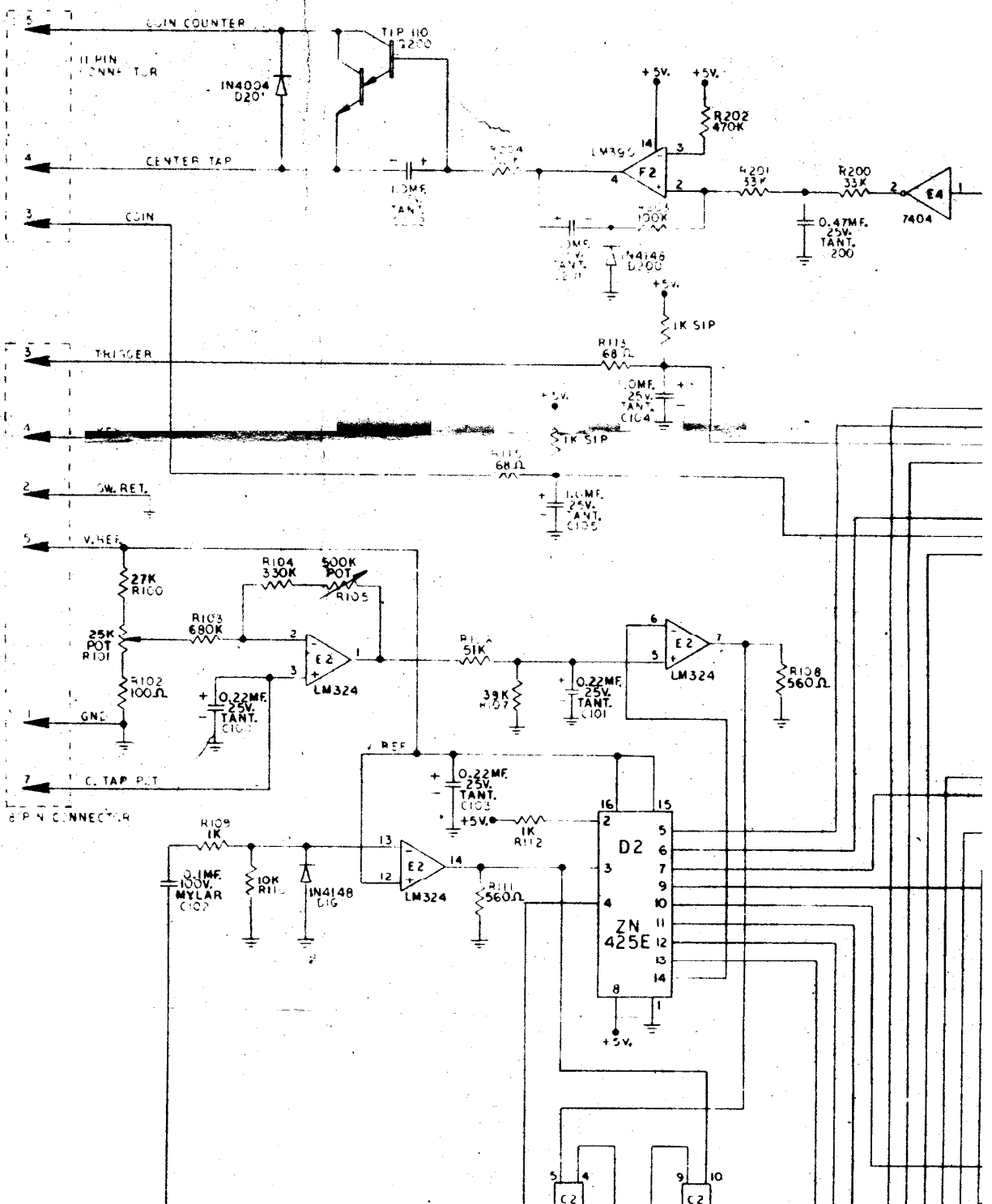
R220, 221	340X3184-944	180k Ohm, 10%, 1/2W
R222	340X3473-944	47k Ohm, 10%, 1/2W
R224	340X3104-944	100k Ohm, 10%, 1/2W
R225	340X3682-944	6.8k Ohm, 10%, 1/2W
R226	340X3391-944	390 Ohm, 10%, 1/2W
R227	340X3102-944	1k Ohm, 10%, 1/2W
R228	340X3102-934	1k Ohm, 5%, 1/2W
R229	340X3820-944	82 Ohm, 10%, 1/2W
★R230	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) MP5A06
Q207, 211	86X0058-002	Transistor (NPN) MP5A20
Q209	86X0116-001	Transistor Horiz. Driver (NPN) 2N6557
Q210	86X0066-001	Transistor (PNP) MP5A70
Q213	86X0072-001	Transistor (PNP) MP5A56
Q214	86X0073-001	Transistor (NPN) MP5U07
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

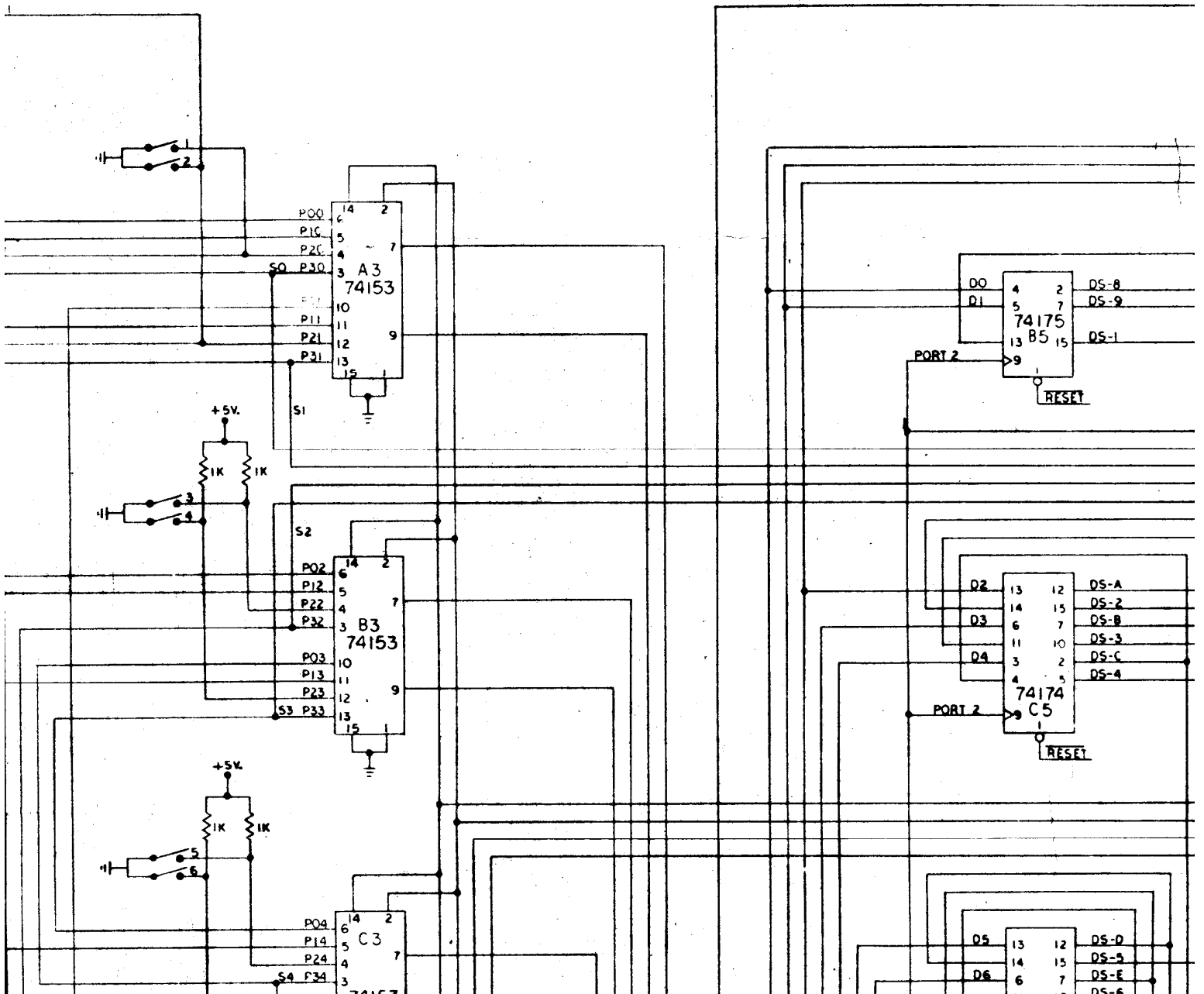
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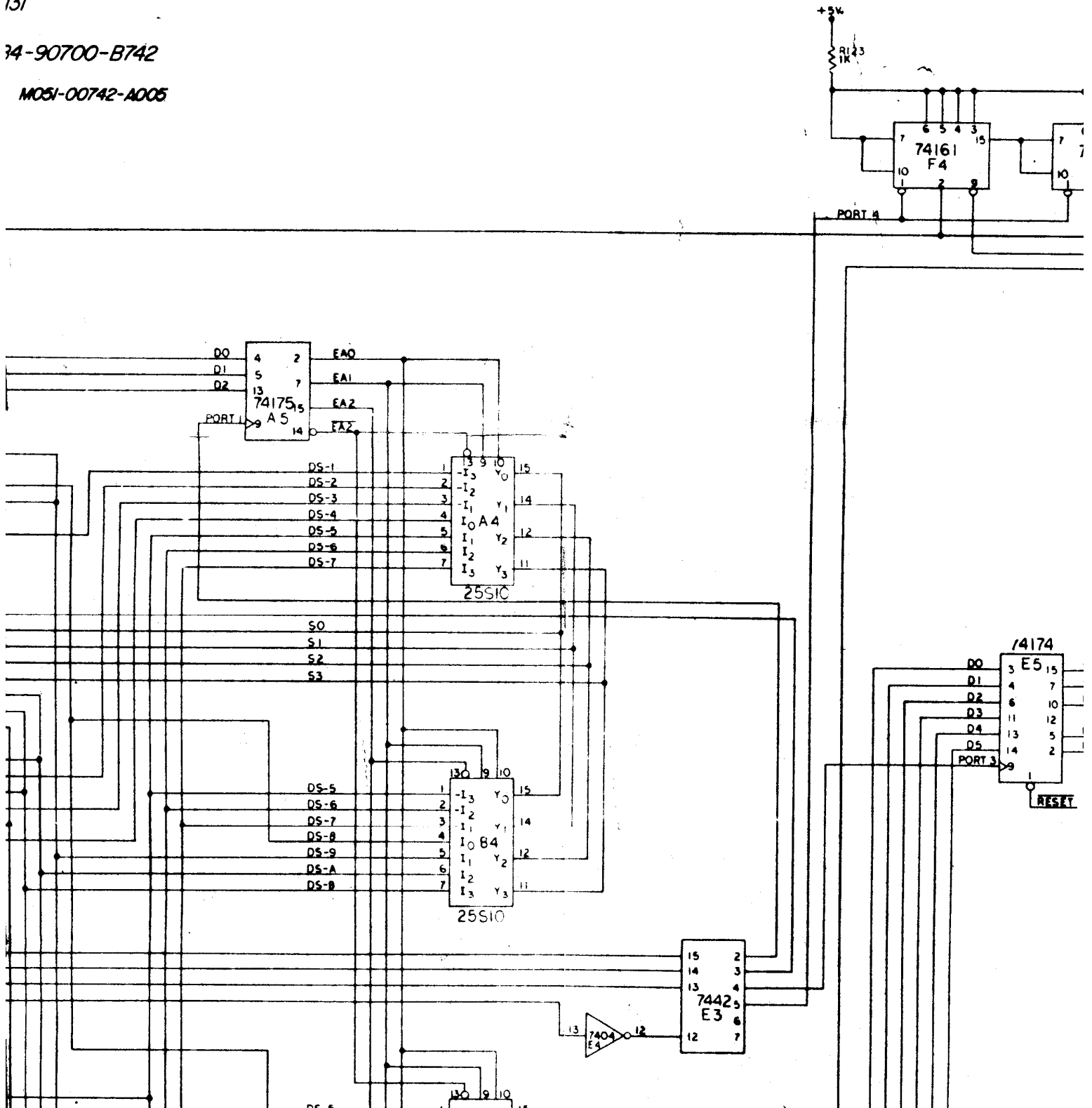
38A5395-000	Pix Socket & Connector Assy.
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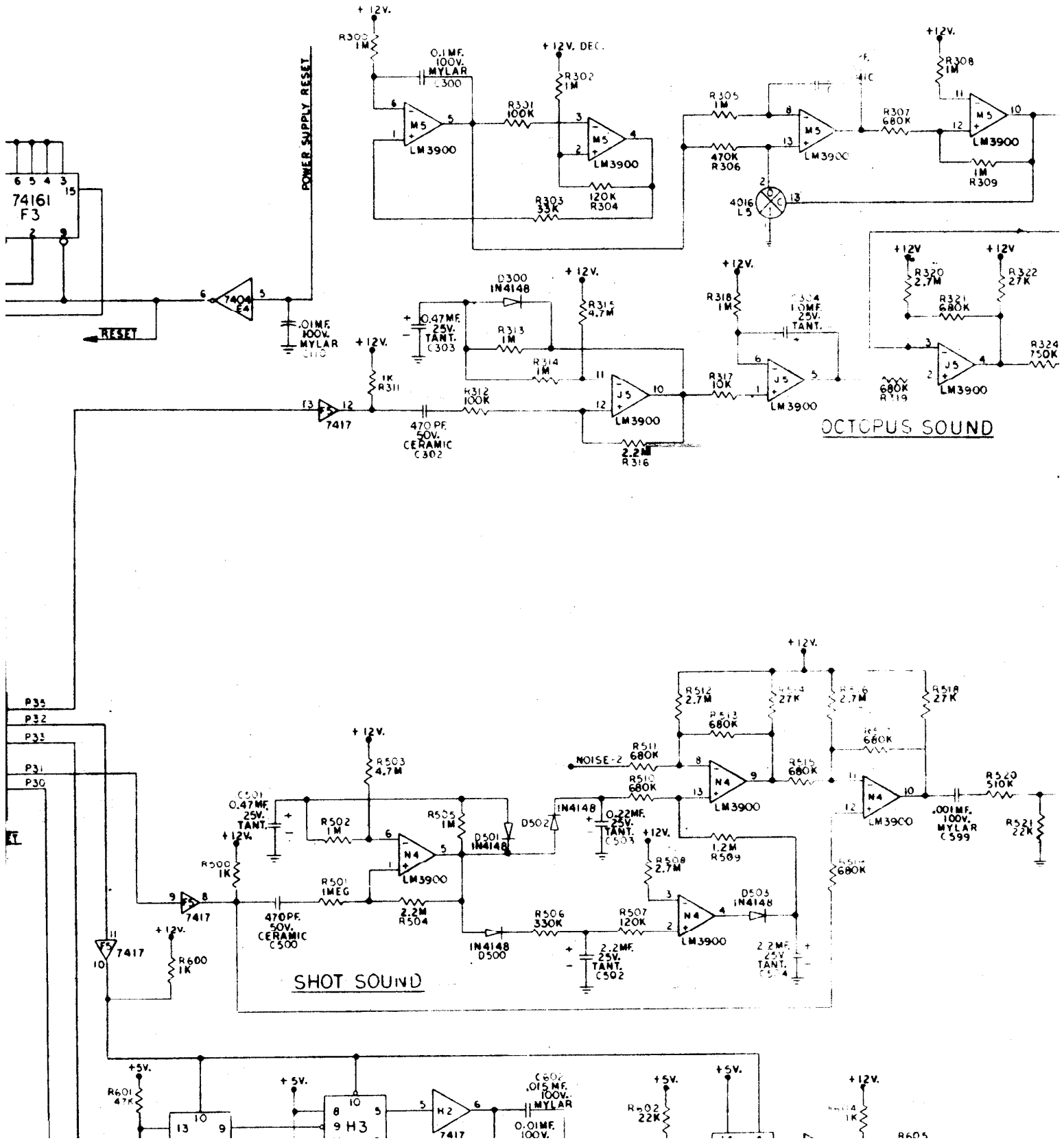


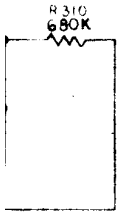
MIDWAY MFG CO.
 10750 W. GRAND AVE.
 FRANKLIN PARK, IL. 6013
 "BLUE SHARK"
 LOGIC SCHEMATIC A084

LOGIC SCHEMATIC PART NO.

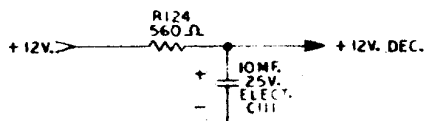
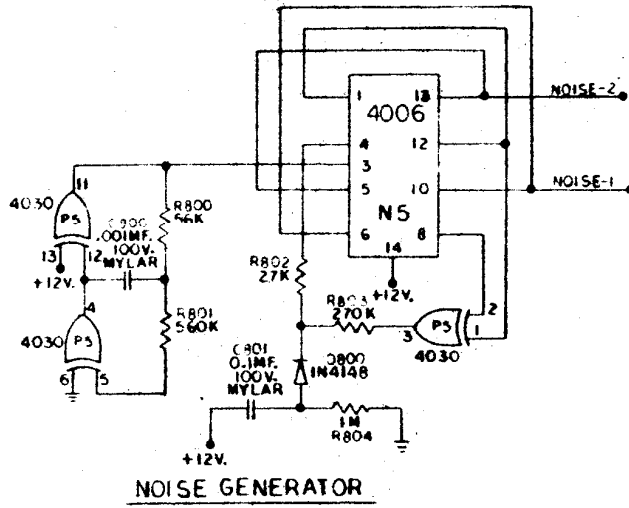
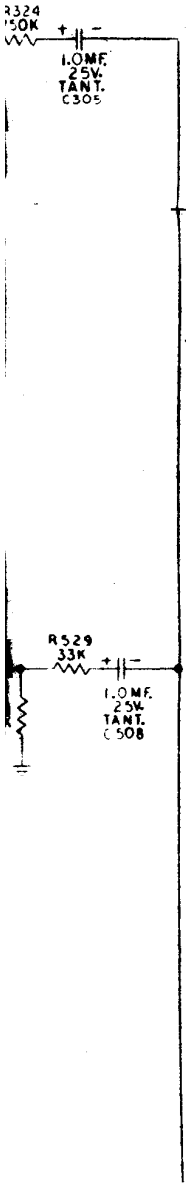


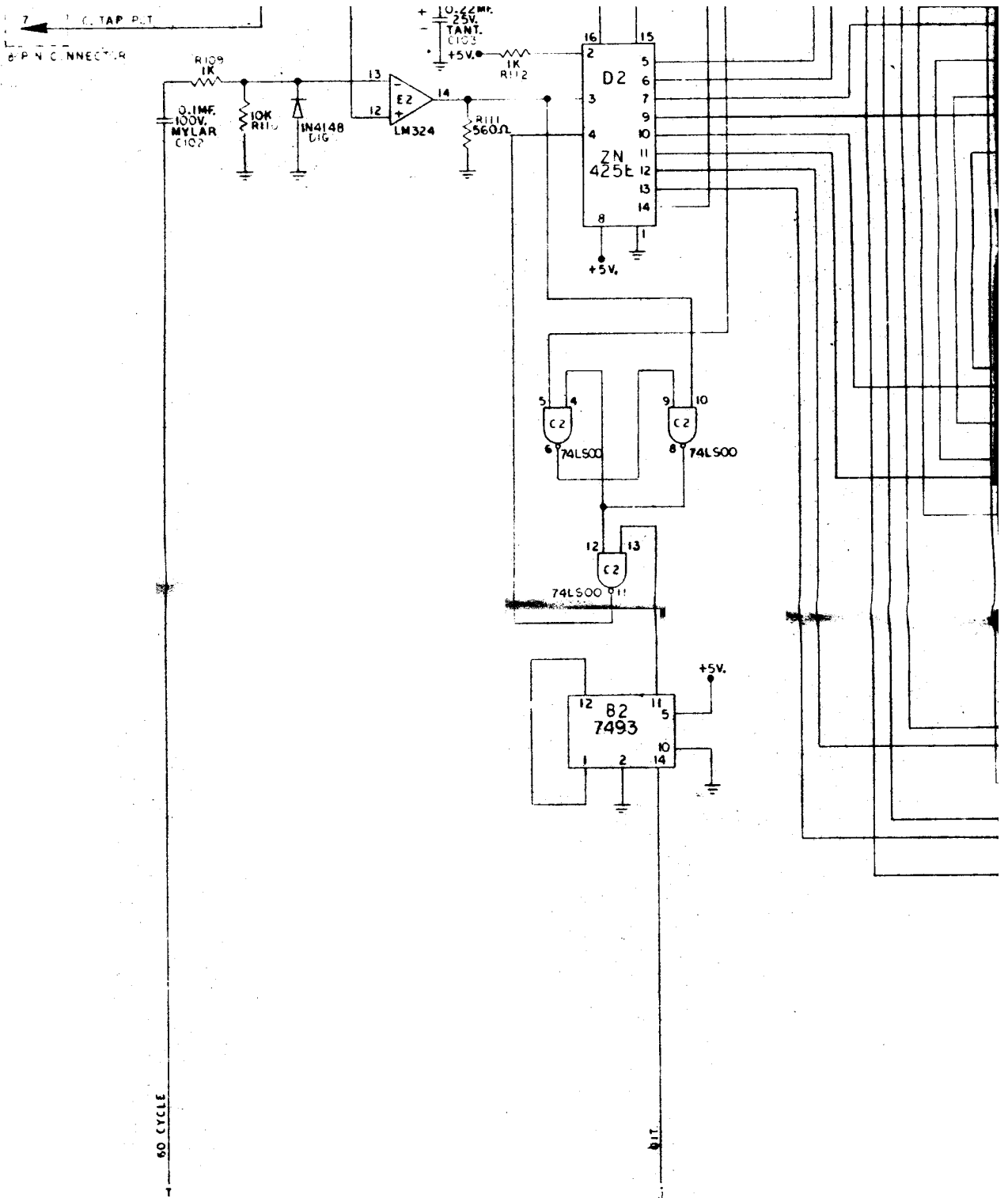


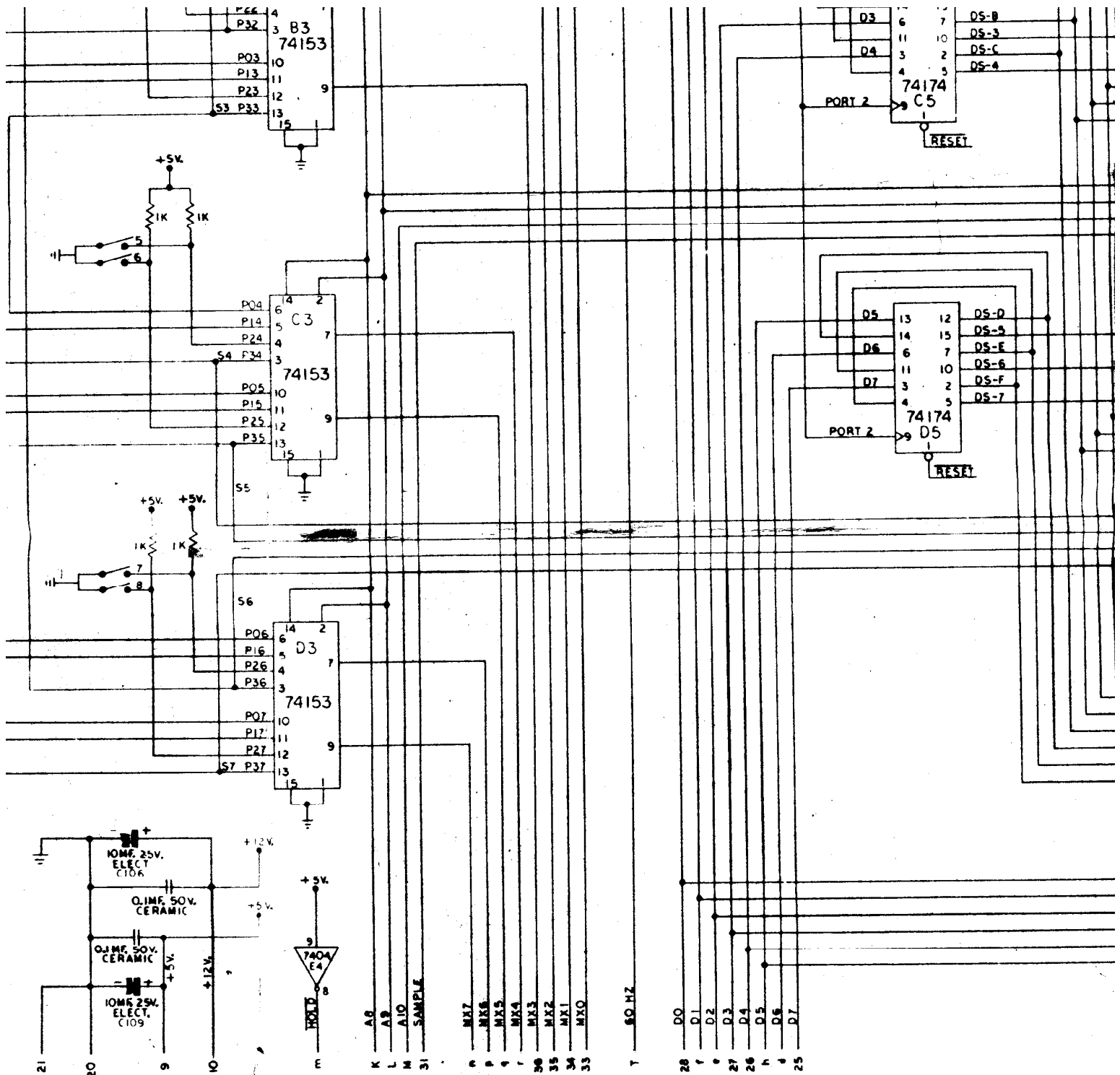


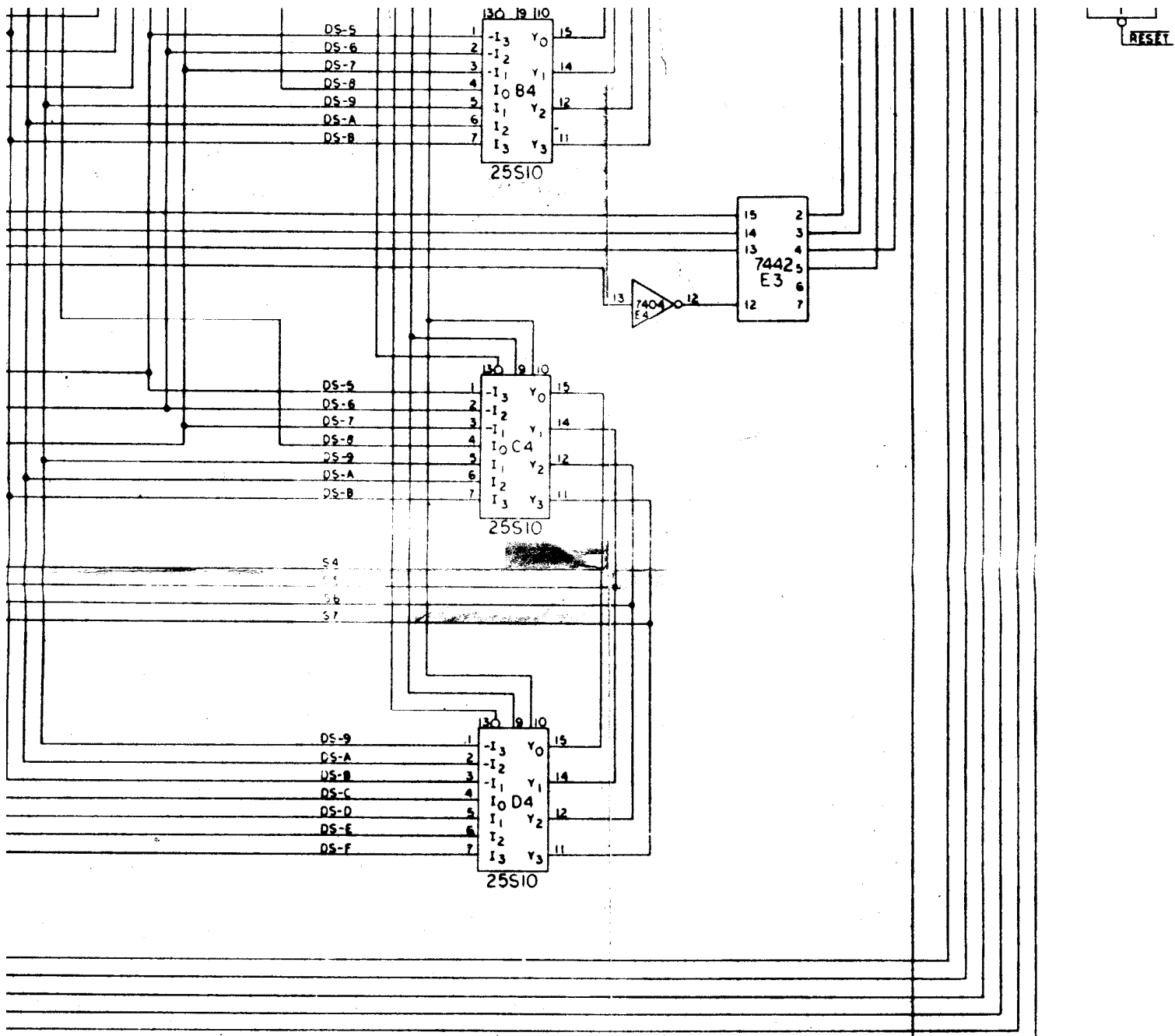


2

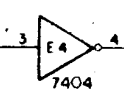
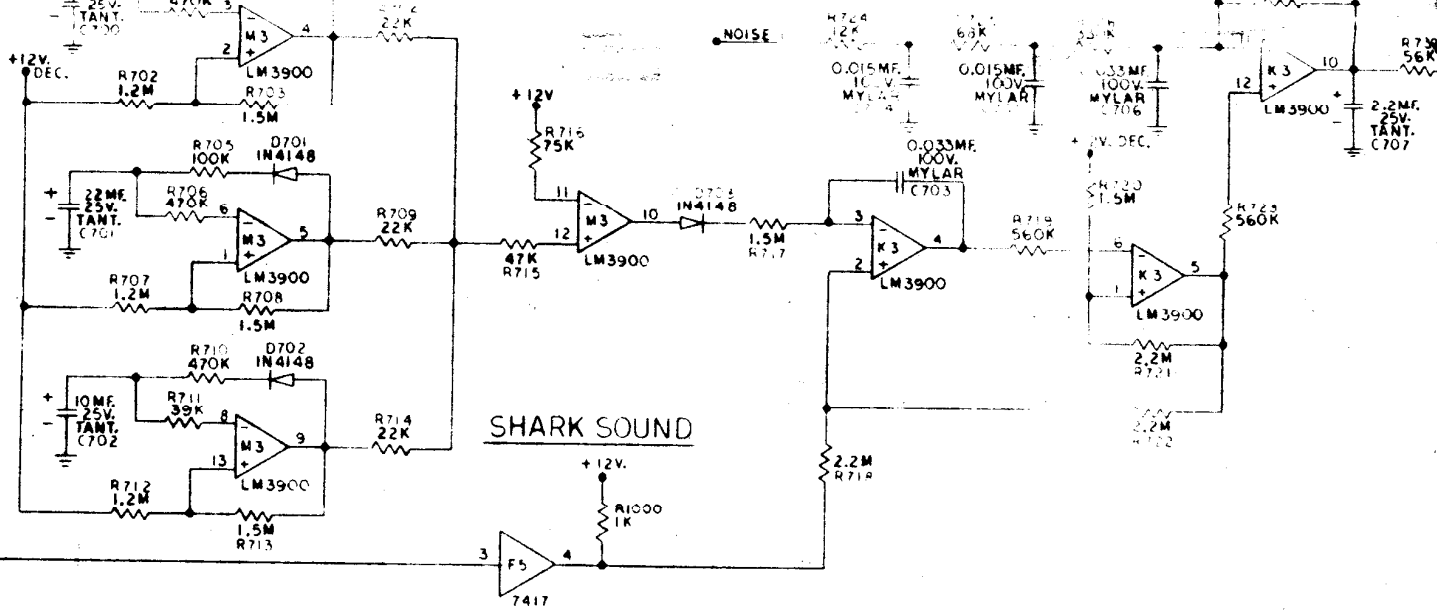
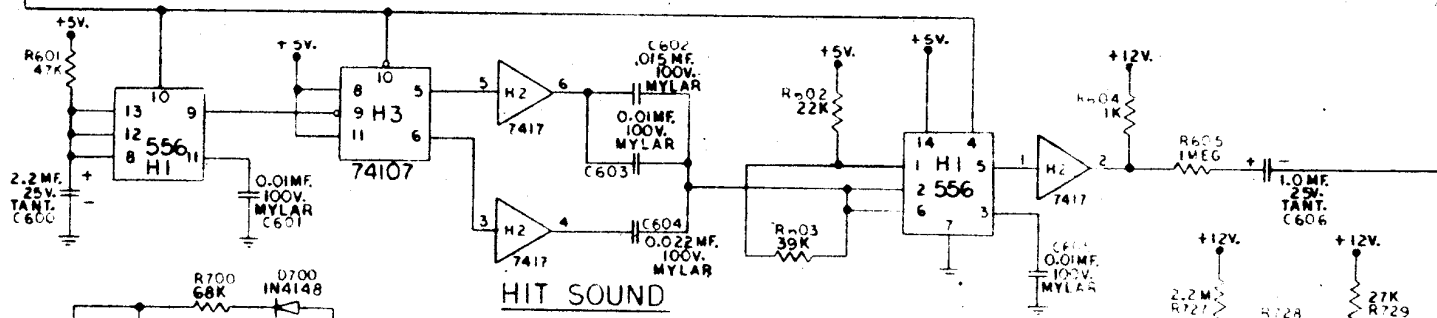
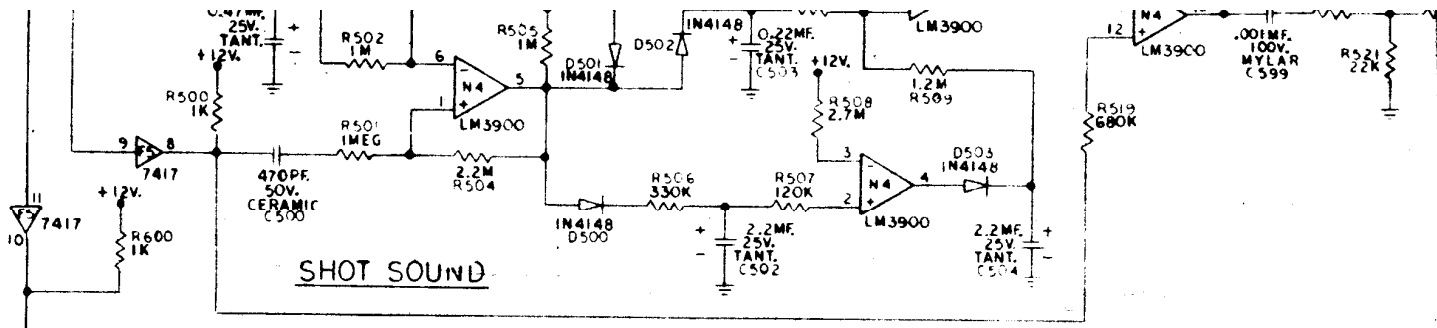


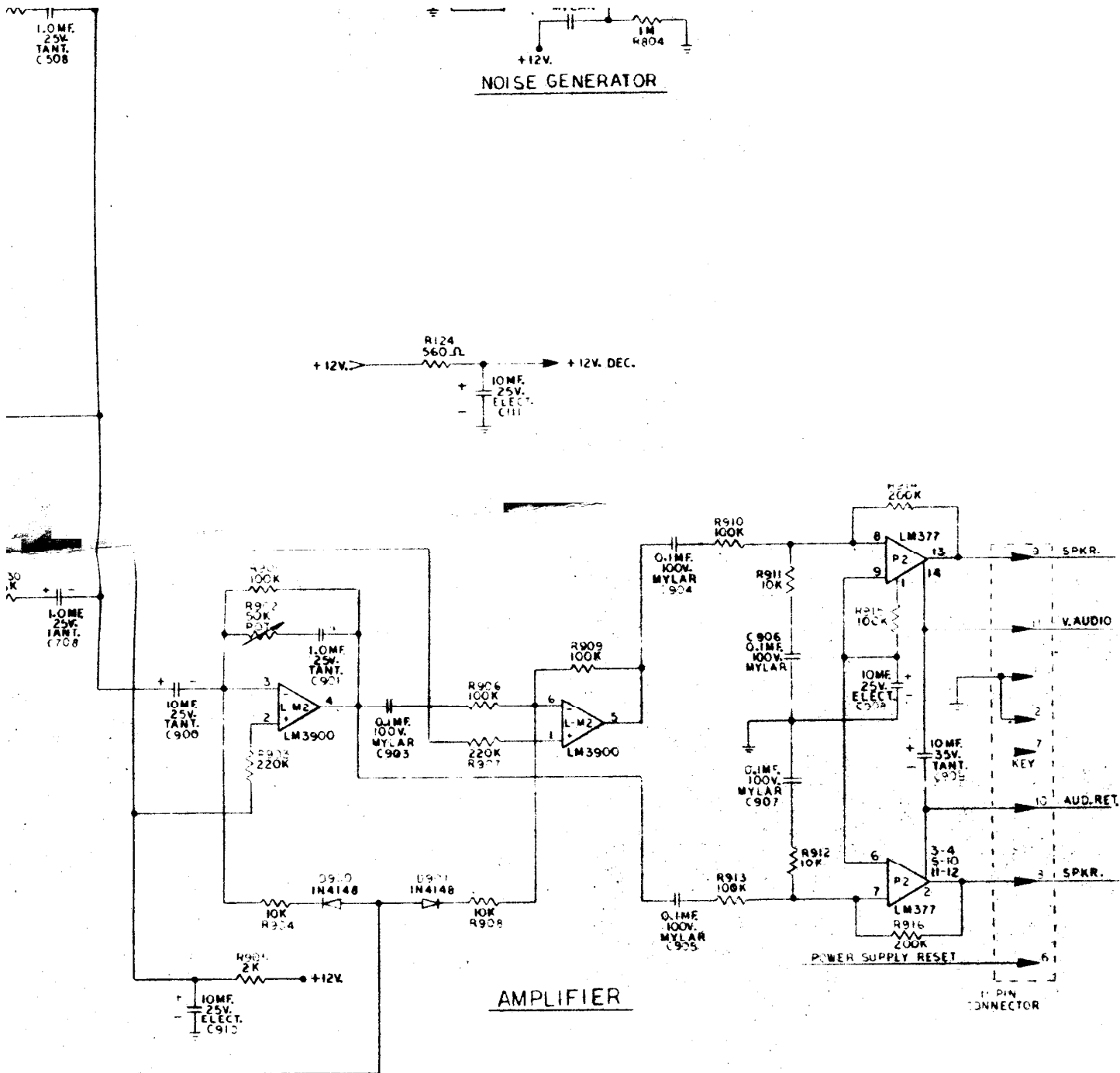




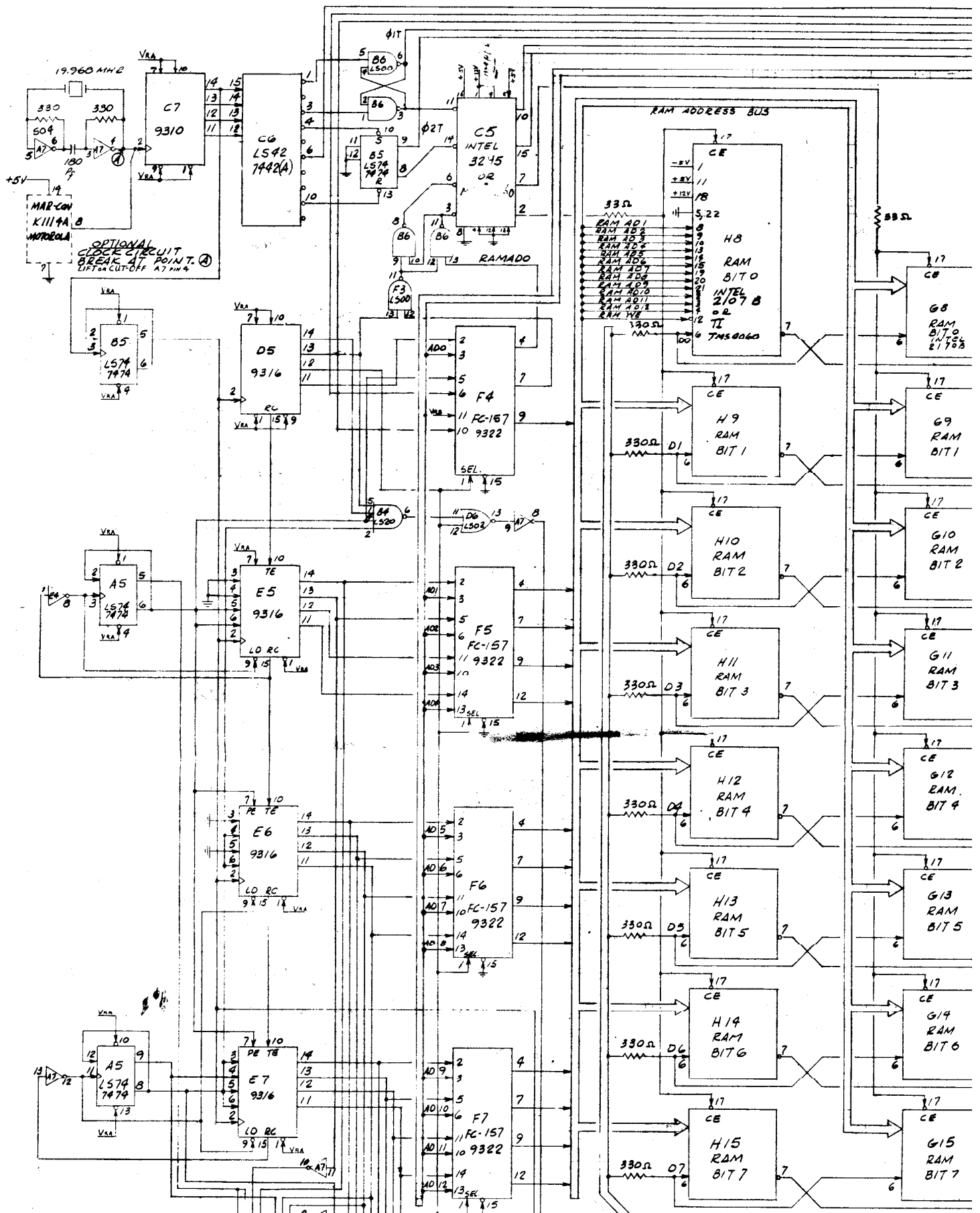


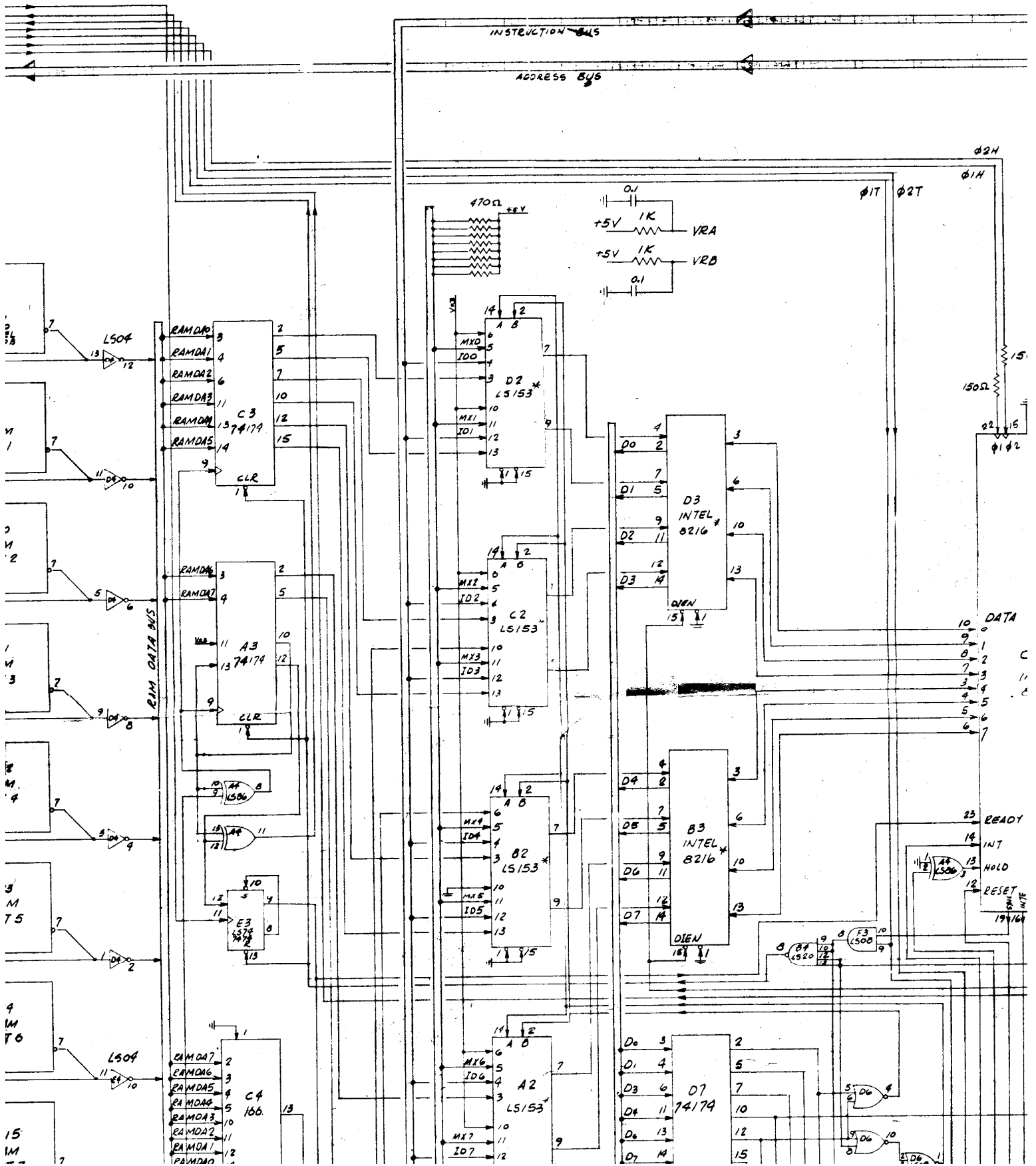
RESET

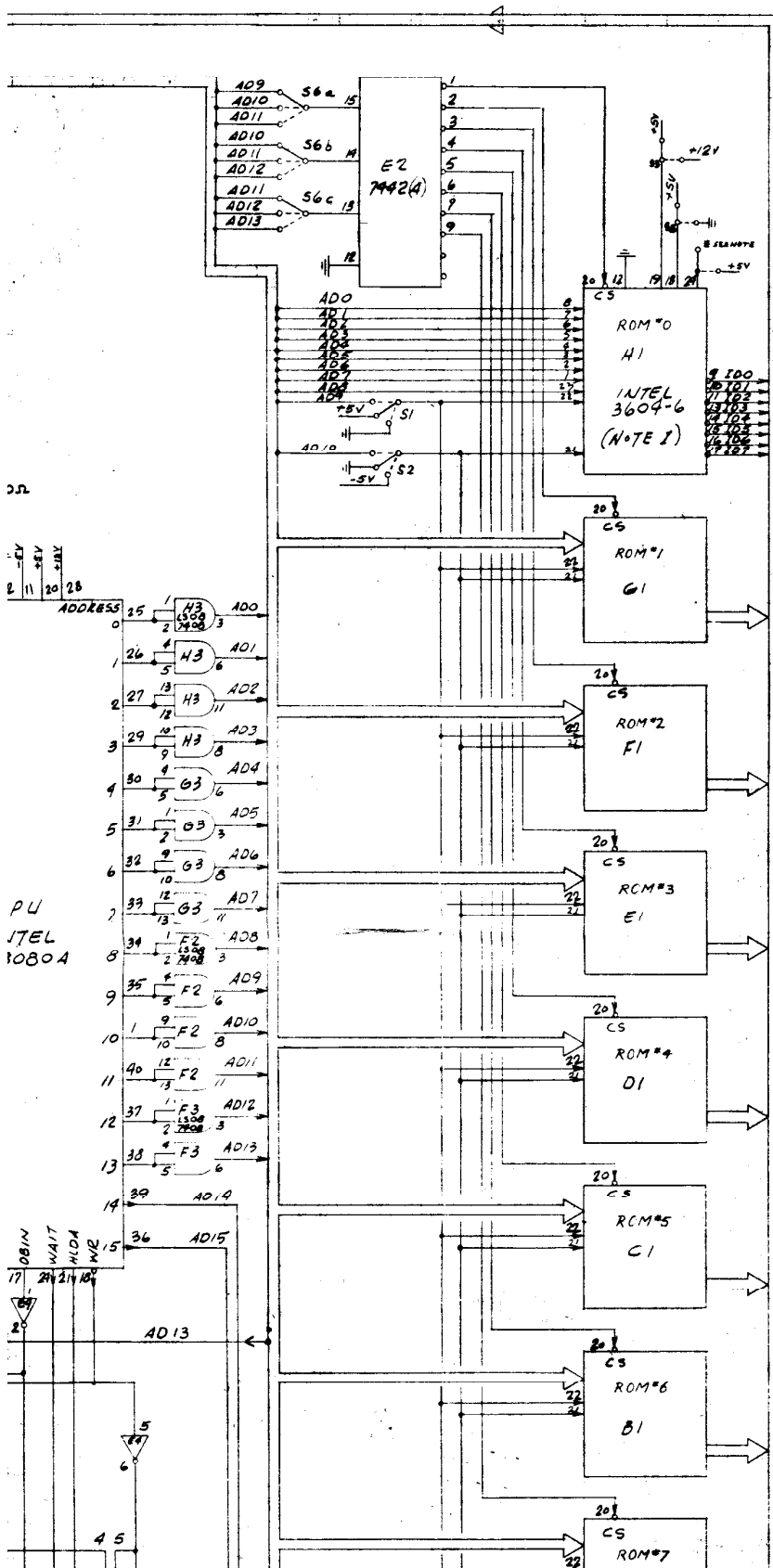




AMPLIFIER







OPTIONAL +5V
1K

TTL = 7400 SERIES

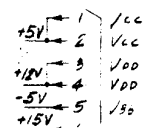
LOGIC - MOTHER BOARD 80-900

REVISION #1: DEL. SEPT. 11/75 BY L.D. / P.C. BRD. # 3
 REVISION #2: DEL. OCT. 21/75 BY L.D. / P.C. BRD. # 4
 REVISION #3: DEL. OCT. 21/75 BY L.D. / P.C. BRD. # 5
 REVISION #4: DEL. NOV. 14/75 BY L.D. / P.C. BRD. # 6
 REVISION #5: DEL. NOV. 14/75 BY L.D. / P.C. BRD. # 7
 MURRAY REV.

NOTE 1: OTHER AVAILABLE CHIPS AND STRAP ARRANGEMENT IF USED

MFG	NR	S1 PIN 22	S2 PIN 21	S3 PIN 19	S5 PIN 18	S6a PIN 15	S6b PIN 14	S6c PIN 13	PIN 24	R-PACK STRAPPED
INTEL	2308	AD9	-5V	+12V	COM	AD10	AD11	AD12	+5V	NO
INTEL	2704	COM	-5V	+12V	COM	AD9	AD10	AD11	+5V	NO
INTEL	2708	AD9	-5V	+12V	COM	AD10	AD11	AD12	+5V	NO
INTEL	3304A 3304A-4	+5V	COM	+5V	+5V	AD9	AD10	AD11	+5V	YES
INTEL	3304A-6 3304AL6	+5V	COM	+5V	+5V	AD9	AD10	AD11	PIN CUT-OFF	YES
INTEL	3324A 3324A-4	+5V	COM	+5V	+5V	AD9	AD10	AD11	+5V	NO
INTEL	3604 3604-4	+5V	COM	+5V	+5V	AD9	AD10	AD11	-5V	YES
INTEL	3604-6 3604L-6	+5V	COM	+5V	+5V	AD9	AD10	AD11	PIN CUT-OFF	YES
INTEL	3624 3624-4	+5V	COM	+5V	+5V	AD9	AD10	AD11	+5V	NO
SYNER-TEC	2802	AD9	COM	AD10	+5V	AD11	AD12	AD13	+5V	NO
AMD	9208	AD9	X	+12V	COM	AD10	AD11	AD12	+5V	NO
AMD	9216	AD9	AD10	+12V	+5V	AD11	AD12	AD13	+5V	NO
AMD	27580	AD9	COM	+5V	COM	AD10	AD11	AD12	+5V	YES
AMD	27581	AD9	COM	+5V	COM	AD10	AD11	AD12	+5V	NO
HARRIS	7640-5	X	COM	+5V	+5V	AD9	AD10	AD11	+5V	YES
HARRIS	7641-5	X	COM	+5V	+5V	AD9	AD10	AD11	+5V	NO
FSC	93498	X	COM	+5V	+5V	AD9	AD10	AD11	+5V	YES
FSC	93448	X	COM	+5V	+5V	AD9	AD10	AD11	+5V	NO

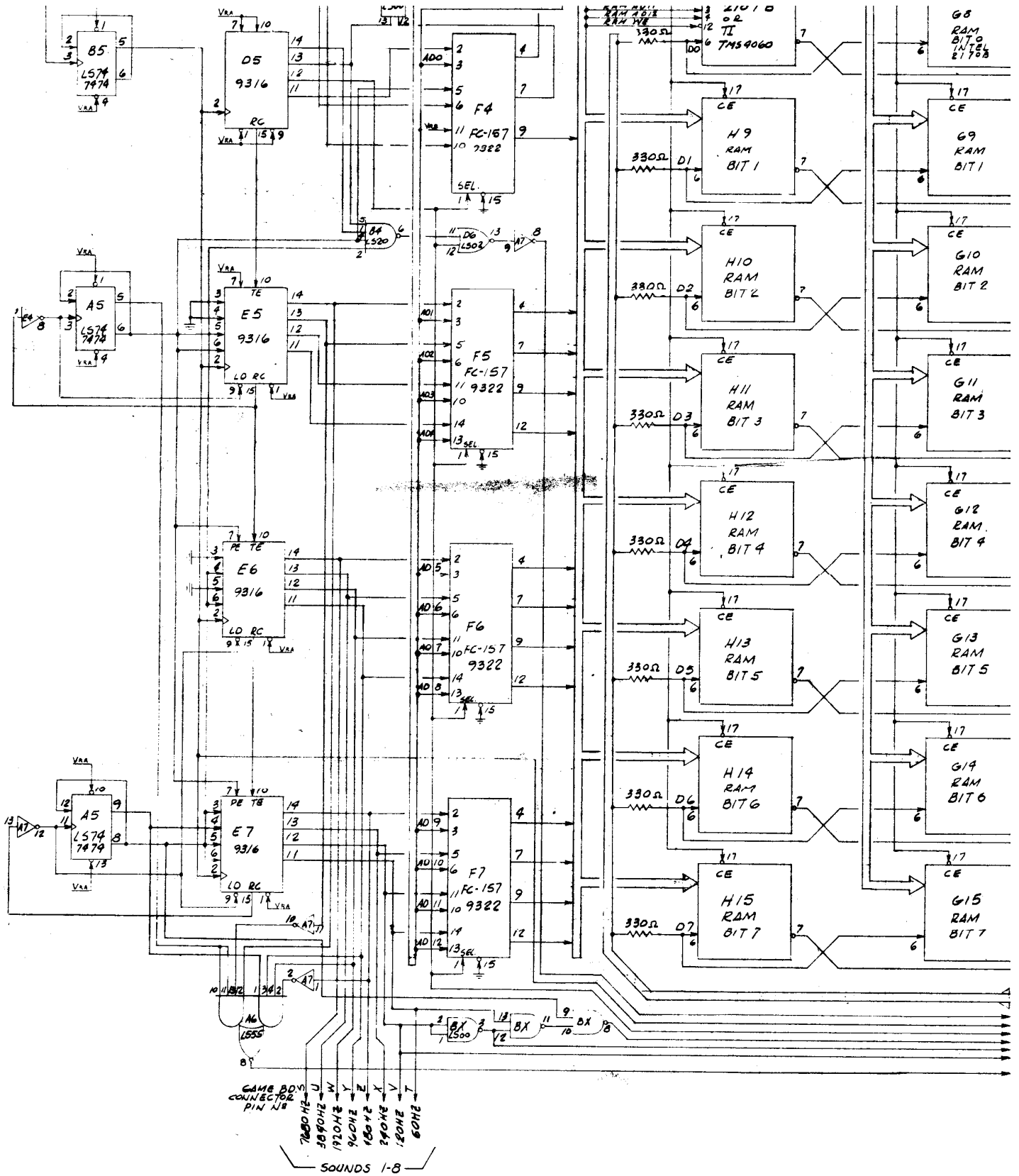
POWER CONNECTOR
PIN NR

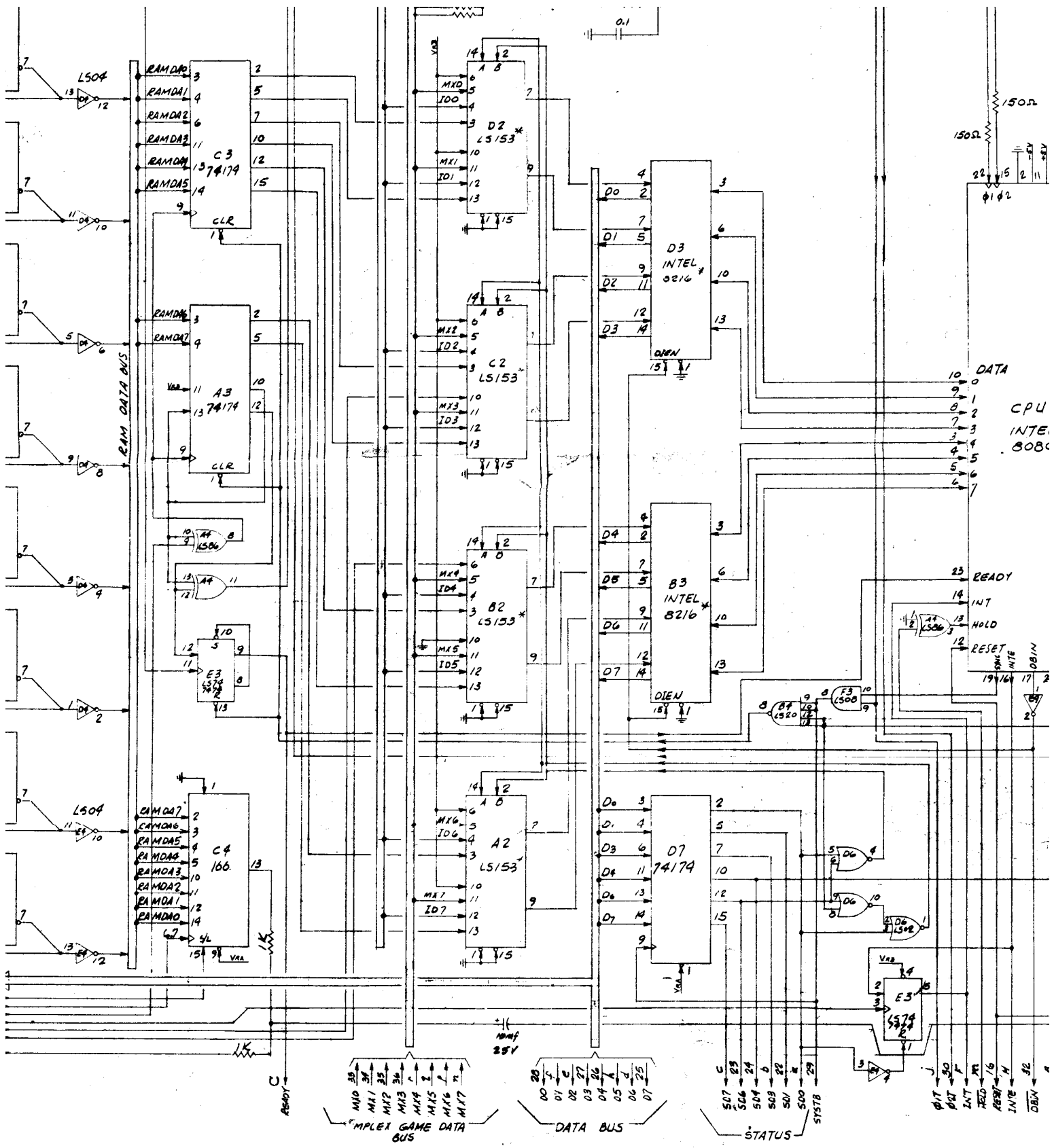


X = NOT USED

ADDRESS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

PU
INTEL
1080A





CPU
INTE.
8080

25 READY
14 INT
13 HOLD
12 RESET
19/16 DBIN
17 DBIN
20 DBIN

35 MIO
34 MX1
33 MX2
32 MX3
31 MX4
30 MX5
29 MX6
28 MX7

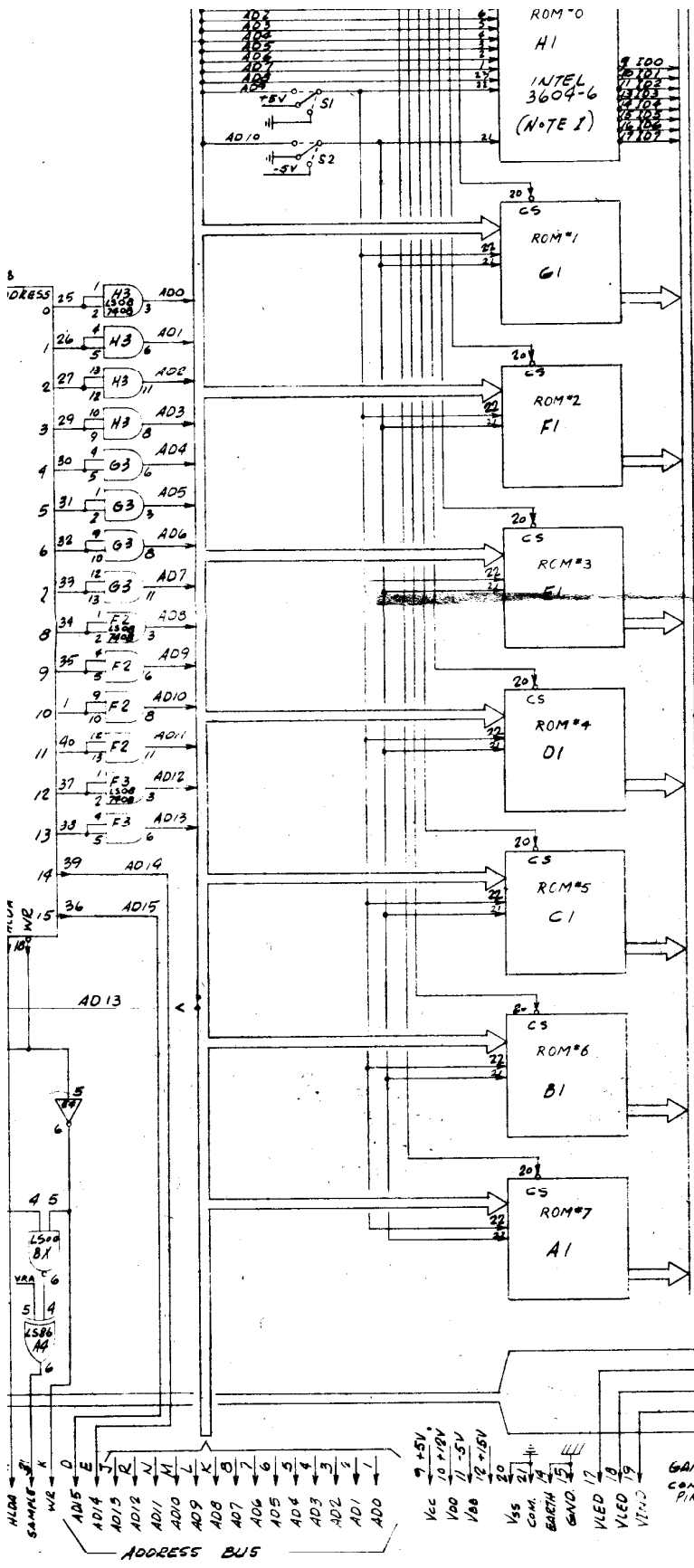
MPLX GAME DATA BUS

28 D0
27 D1
26 D2
25 D3
24 D4
23 D5
22 D6
21 D7

DATA BUS

507 S07
506 S06
505 S05
504 S04
503 S03
502 S02
501 S01
500 SYSTB

STATUS



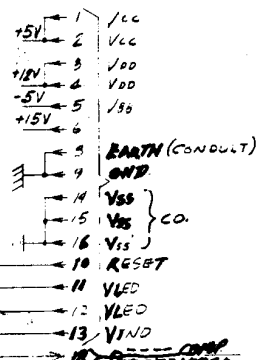
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 LOGIC - 1
 REVISION #1, 24. SEPT. 74
 REVISION #2, 24. SEPT. 74
 REVISION #3, 24. SEPT. 74
 REVISION #4, 24. NOV. 74
 REVISION #5, 24. NOV. 74

NOTE 1: OTHER AVAILABLE CHIPS AND STRAP ARRANGEMENT IF USED

MFG	NR	S1 PIN 22	S2 PIN 21	S3 PIN 19	S5 PIN 18	S6a PIN 15	S6b PIN 14	S6c PIN 13	PIN 24	2-PACK REQUIRED
INTEL	2308	AD9	-5V	+12V	COM	AD10	AD11	AD12	+5V	NO
INTEL	2704	COM	-5V	+12V	COM	AD9	AD10	AD11	+5V	NO
INTEL	2708	AD9	-5V	+12V	COM	AD10	AD11	AD12	+5V	NO
INTEL	3304A 3304A-4	+5V	COM	+5V	+5V	AD9	AD10	AD11	+5V	YES
INTEL	3304A-6 3304AL6	+5V	COM	+5V	+5V	AD9	AD10	AD11	PIN CUT-OFF	YES
INTEL	3324A 3324A-4	+5V	COM	+5V	+5V	AD9	AD10	AD11	+5V	NO
INTEL	360A 360A-4	+5V	COM	+5V	+5V	AD9	AD10	AD11	+5V	YES
INTEL	360A-6 360AL-6	+5V	COM	+5V	+5V	AD9	AD10	AD11	PIN CUT-OFF	YES
INTEL	362A 362A-4	+5V	COM	+5V	+5V	AD9	AD10	AD11	+5V	NO
SYNER- TEC	2802	AD9	COM	AD10	+5V	AD11	AD12	AD13	+5V	NO
AMD	9208	AD9	X	+12V	COM	AD10	AD11	AD12	+5V	NO
AMD	9216	AD9	AD10	+12V	+5V	AD11	AD12	AD13	+5V	NO
AMD	27580	AD9	COM	+5V	COM	AD10	AD11	AD12	+5V	YES
AMD	27581	AD9	COM	+5V	COM	AD10	AD11	AD12	+5V	NO
HARRIS	7640-5	X	COM	+5V	+5V	AD9	AD10	AD11	+5V	YES
HARRIS	7641-5	X	COM	+5V	+5V	AD9	AD10	AD11	+5V	NO
FSC	93438	X	COM	+5V	+5V	AD9	AD10	AD11	+5V	YES
FSC	93448	X	COM	+5V	+5V	AD9	AD10	AD11	+5V	NO

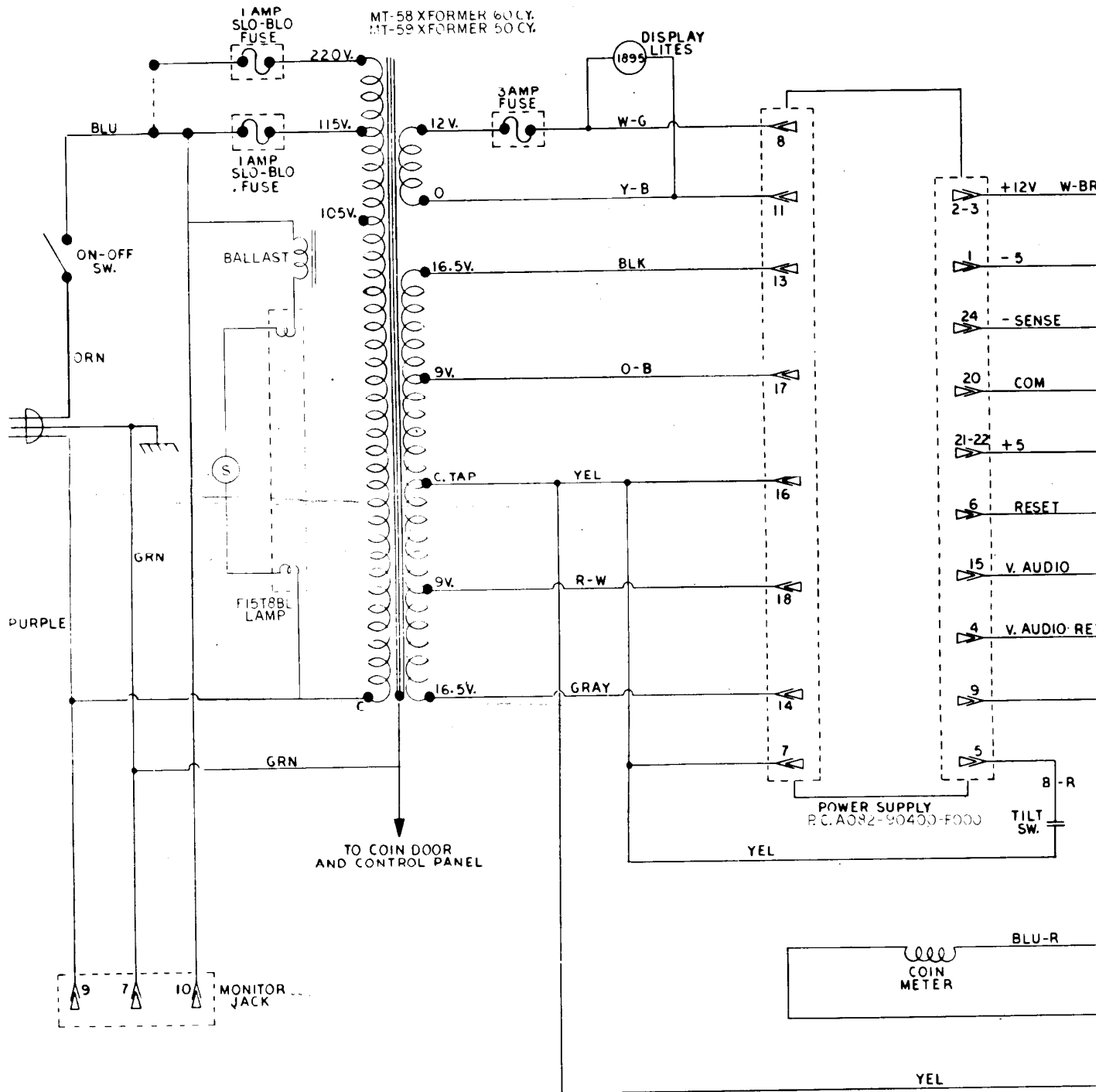
POWER CONNECTOR PIN NO

X = NOT USED



GAME BO. CONNECTOR PIN NO

ADDRESS BUS

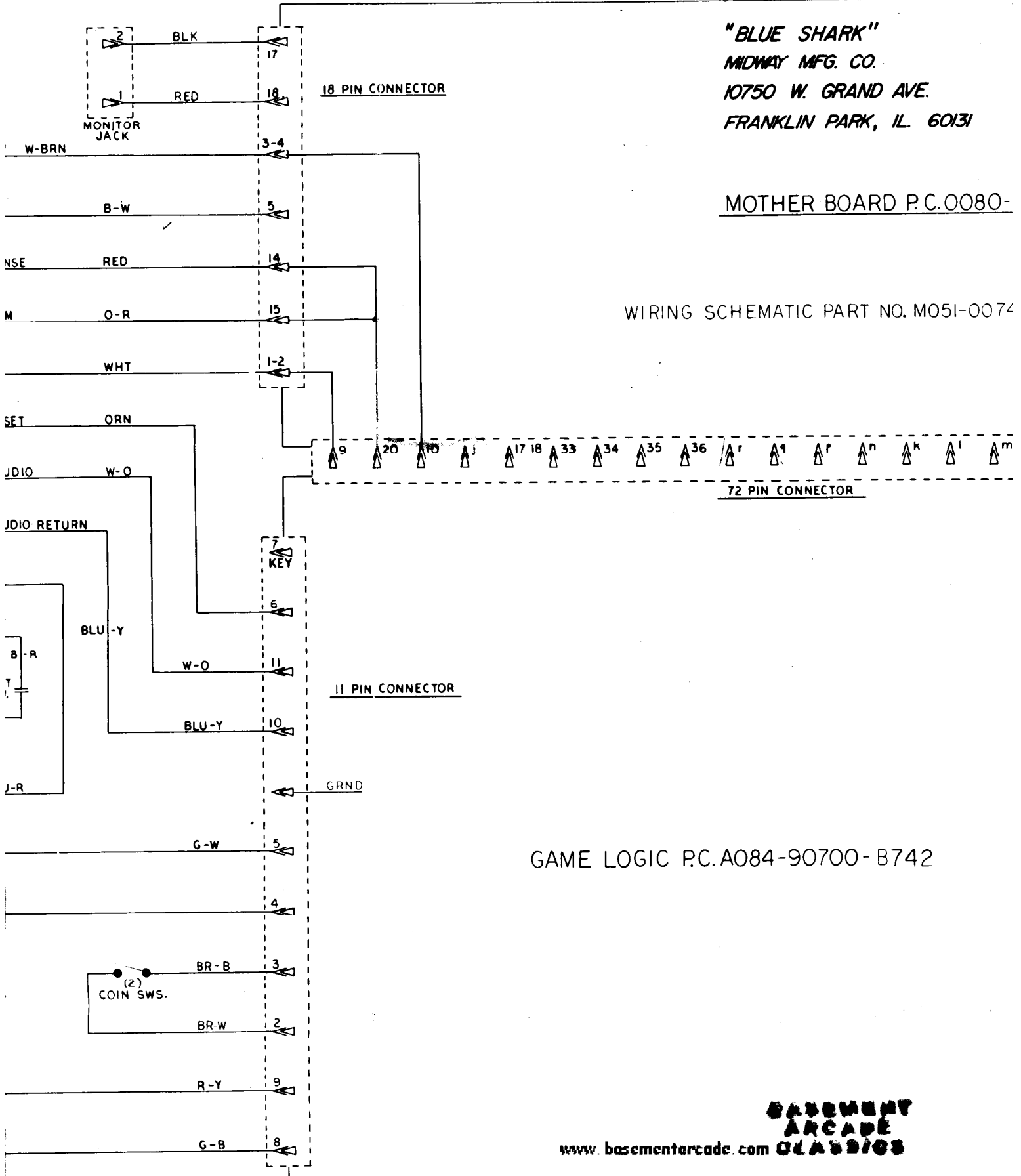


WIRE COLOR CODE		SWITCH SYMBOLS	
B=BLACK	O=ORANGE		"NORMALLY OPEN" CLOSED WHEN ENERGIZED.
BLU=BLUE	R=RED		"NORMALLY CLOSED" OPEN WHEN ENERGIZED.
BR=BROWN	W=WHITE		MAKE & BREAK
G=GREEN	Y=YELLOW		MOTOR CAM SWITCH
EXAMPLE: G-R INDICATES GREEN WIRE WITH RED TRACER			1 MFD. CAPACITOR
ABBREVIATIONS USED			
J=JUMPER	SW=SWITCH		
RE=RELAY	POS=POSITION		
SU=STEP UP UNIT	OSC=OSCILLATING		

"BLUE SHARK"
 MIDWAY MFG. CO.
 10750 W. GRAND AVE.
 FRANKLIN PARK, IL. 60131

MOTHER BOARD P.C.0080-

WIRING SCHEMATIC PART NO. M051-0074



GAME LOGIC P.C.A084-90700-B742

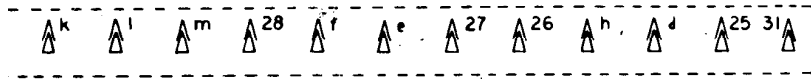
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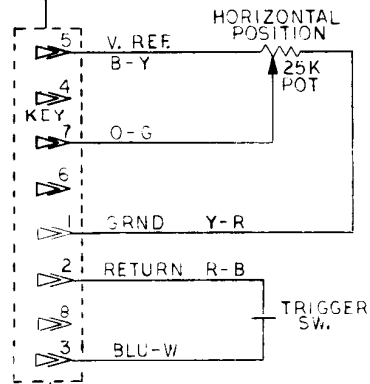
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ID P.C.0080-00900K

NO. M051-00742-A002



8 PIN CONNECTOR



B742