



16250 Technology Drive
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SERVICE NOTE

TOLL-FREE NUMBERS

Technical Assistance (800) 854-1938
 Parts Assistance (800) 854-1900
 California-Only Technical (800) 722-8576
 California-Only Parts (800) 722-8575

PRIORITY:

- Urgent
 Upon Game Failure
 For Information Only

DATE: 3-16-83

GAME/ASSEMBLY

AFFECTED: G-80 CPU Bd.

NUMBER: 001

In the advent that you are experiencing CPU Reset difficulties with any of your G-80 games (refer to the list below), we recommend that you replace the existing .22uf capacitor C45 on the CPU Board Assembly (Drawing No. 800-0107), with a 1.0uf 25V capacitor (P/N 150-0135-00), correct the stated schematic value (to 1.0uf 25V), and revise the corresponding parts list to reflect the following:

<u>ITEM NO.</u>	<u>PART NO.</u>	<u>QTY REQD.</u>	<u>DESCRIPTION</u>	<u>REF DES.</u>
58	150-0135-00	1	CAP, 1.0uf 25V	C45

G-80 Games To Date

ASTRO BLASTER™
 SPACE ODYSSEY™
 SPACE FURY™
 ELIMINATOR™
 FOUR-PLAYER ELIMINATOR™
 005™
 ZECTOR™
 TAC/SCAN™
 MONSTER BASH™
 STAR TREK™



SERVICE NOTE

EFFECT: G-80 Power Supply

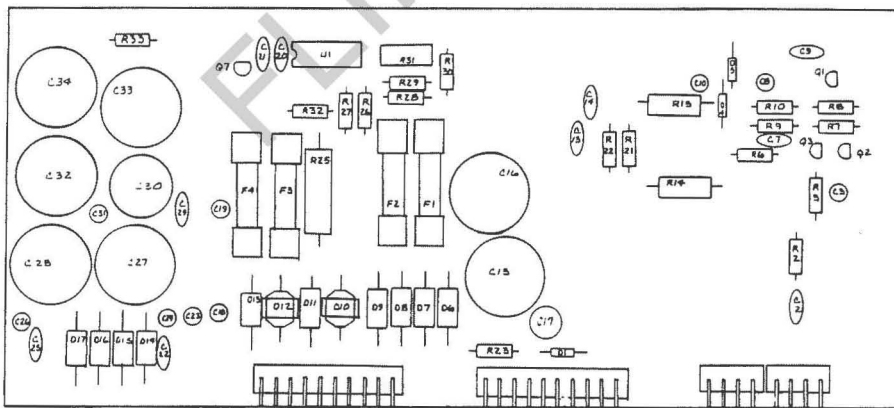
NUMBER: 001

It has been noted that an "in-house" modification of the G-80 Power Supply (P/N 800-0191) may not have been accomplished on all units in the field; the result of which distributes ground current return to an additional connector pin. We recommend that you verify and/or perform the following simple procedure. A list of games which utilize this power supply is below:

1. With the rear electronics compartment door open, remove the two phillips screws securing the power supply cover and set these and the cover aside.
2. Referring to the illustration below, inspect P4 pin-4 to see if this pin has been tied to ground, either by a "solder-bridge" or jumper-wire to pin-6 of the same plug.
3. In the advent your unit has not been modified, simply expose the "land" immediately adjacent to P4 pin-4, and solder a connection between the pin and the top of the PC board (P/N 800-0170); or if you prefer, simply solder a wire (14 AWG minimum) between pin-4 and pin-6 of P4. This completes the modification.

G-80 Power Supply PC Assembly

800-0170



- ASTRO BLASTER™
- SPACE ODYSSEY™
- SPACE FURY™
- ELIMINATOR™
- 005™
- ZEKTOR™
- TAC/SCAN™
- MONSTER BASH™
- PENGO™

SEGA Electronics, Inc., 16250 Technology Drive, San Diego, CA. 92127-1985

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outside CA 1-800-854-1938



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PRIORITY:

- Urgent
 Upon Game Failure
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DATE: 3-17-83

GAME/ASSEMBLY G-80
 AFFECTED: Power Supply
 NUMBER: 003

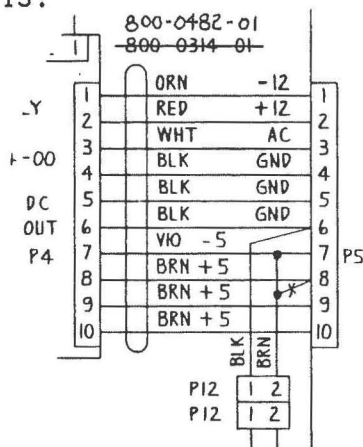
In the advent that you own a G-80 Power Supply - driven SEGA video game (refer to the list below), equipped with lighted coin mech.s, we recommend that you perform the following simple modification (that is designed to relieve the +5VDC supply of the load from the coin mech. lights):

1. Facing the open game electronics door, identify the power supply input connector (P5) at the rear left-hand side of the G-80 card cage.
2. Remove the connector, and with the connector windows facing you (pin-1, orange wire UP), identify the brown wire on pin-8 (coming from P12), and cut it off as near the connector as possible.
3. Now identify the violet wire on pin-7 of P5. Allowing an inch and a half to two inches back from the connector, cut the violet wire and strip 3/8" to 1/2" of insulation from the ends of all three wires (the two violet wire-ends and the single brown wire-end).
4. Twisting all three wires together, secure the connection with an insulated "blind-crimp" or wirenut.
5. Plug connector P5 back into the card cage ("windows" facing you), and the modification is complete. Correct the Cabinet Wiring Diagram as shown in the illustration, and change the Power Harness part number both on the Wiring Diagram and on the Top Assembly parts list (as shown here);

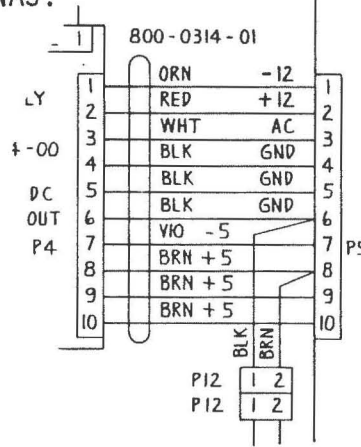
ITEM NO.	PART NO.	QTY REQD.	DESCRIPTION
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(varies by game)	800-0482-02	1	Power Harness Assembly
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IS:



WAS:



SPACE OSYSEY™
 SPACE FURY™
 ELIMINATOR™
 005™
 ZEKTOR™
 TAC/SCAN™
 MONSTER BASH™
 STAR TREK™

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SERVICE NOTE

EFFECT: ISOLATION GAME POWER SUPPLY

NUMBER: 001 11-16-81

There have been certain spurious problems attributed to a ground loop found in the application of what WAS called the "Linear Power Supply" used in ASTRO BLASTER, SPACE FIREBIRD, SPACE ODYSSEY, and FROGGER Top Assembly Numbers 700-0066 and 700-0070. The Assy Title was changed to "Isolation Game Power Supply".

On Drawing Number 800-0146, sheet 3 zone 3B & 4C, and sheet 4 zone 3C, 4C, 3D, & 4D, delete Note , and remove the ground strap in the following games:

ASTRO BLASTER Owners Manual (P/N 420-0552) pgs 46 & 47
SPACE FIREBIRD Owners Manual (P/N 420-0533) pgs 24 & 25
SPACE ODYSSEY Owners Manual (P/N 420-0610) pgs 50 & 51
FROGGER Owners Manual (P/N 420-0647) pgs 50 & 51,
Top Assembly Numbers 700-0066 & 700-0070

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SERVICE NOTE

EFFECT: G-80 SPEECH SYNTHESIS
BOARD

NUMBER: 001 12/17/81

An addition has been made to the G-80 SPEECH SYNTHESIS schematic, Drawing No. 800-0183, Sheet #6 of 6, Zone 5A, as follows:

(IS)
C5, C12,
C16, C20,
C44
.01 uf

(WAS)
C5, C12,
C16, C20
.01 uf

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SERVICE NOTE

EFFECT: VIC REPLACEMENT BOARD

NUMBER: 006

In some G-80 games (e.g. Astro Blaster) a VIC replacement board (pt.# 800-0212) may be used in place of the VIC chip. This board is located on the G-80 video board. Schematic and parts list for the VIC replacement board are enclosed.

On those video boards using the VIC replacement board, there are a few changes that have been made to the video board. Video boards using a VIC chip are slightly different.

These changes are:

1. 6 330 ohm resistors are added to the lines entering pins 5,6,7,10,11, & 12 of U24.
2. The 74LS74 IC at position U45 is replaced with a 74S74 IC. ✓
3. The 74LS175 IC's at positions U42 and U43 are replaced with 74S175 IC's. ✓
4. The 74LS163 IC at position U53 is replaced with a 74S163 IC. ✓
5. The 220pf 16V capacitor at position C10 is removed.
6. To simplify future troubleshooting, wherever an IC is replaced add a socket.

CHANGES TO VIDEO I BOARD, 800-0106, PARTS LIST

	<u>ITEM NO.</u>	<u>PART NO.</u>	<u>QTY</u>	<u>DESCRIPTION</u>	<u>REF. DES.</u>
IS	18	314-0062	1	IC 74LS74	U6
WAS	18	314-0062	2	IC 74LS74	U6, U45

IS	22	314-0073	3	IC 74LS175	U49, U52, U55
WAS	22	314-0073	5	IC 74LS175	U42, U43, U49, U54, U55

IS	26	314-0139	1	IC 74S163	U53
WAS	26	314-0086	1	IC 74LS163	U53

IS	51	213-0004	21	SKT, 16 Pin, Dual INLN	XU16-XU31, XU38, XU42, XU43, XU52, XU53
WAS	51	213-0004	17	SKT, 16 Pin, Dual INLN	XU16-XU31, XU52

IS	45	471-0331	8	Res, 330 ohm, 1/2W 5%	R24-R31
WAS	45	471-0331	2	Res, 330 ohm, 1/2W 5%	R24, R25

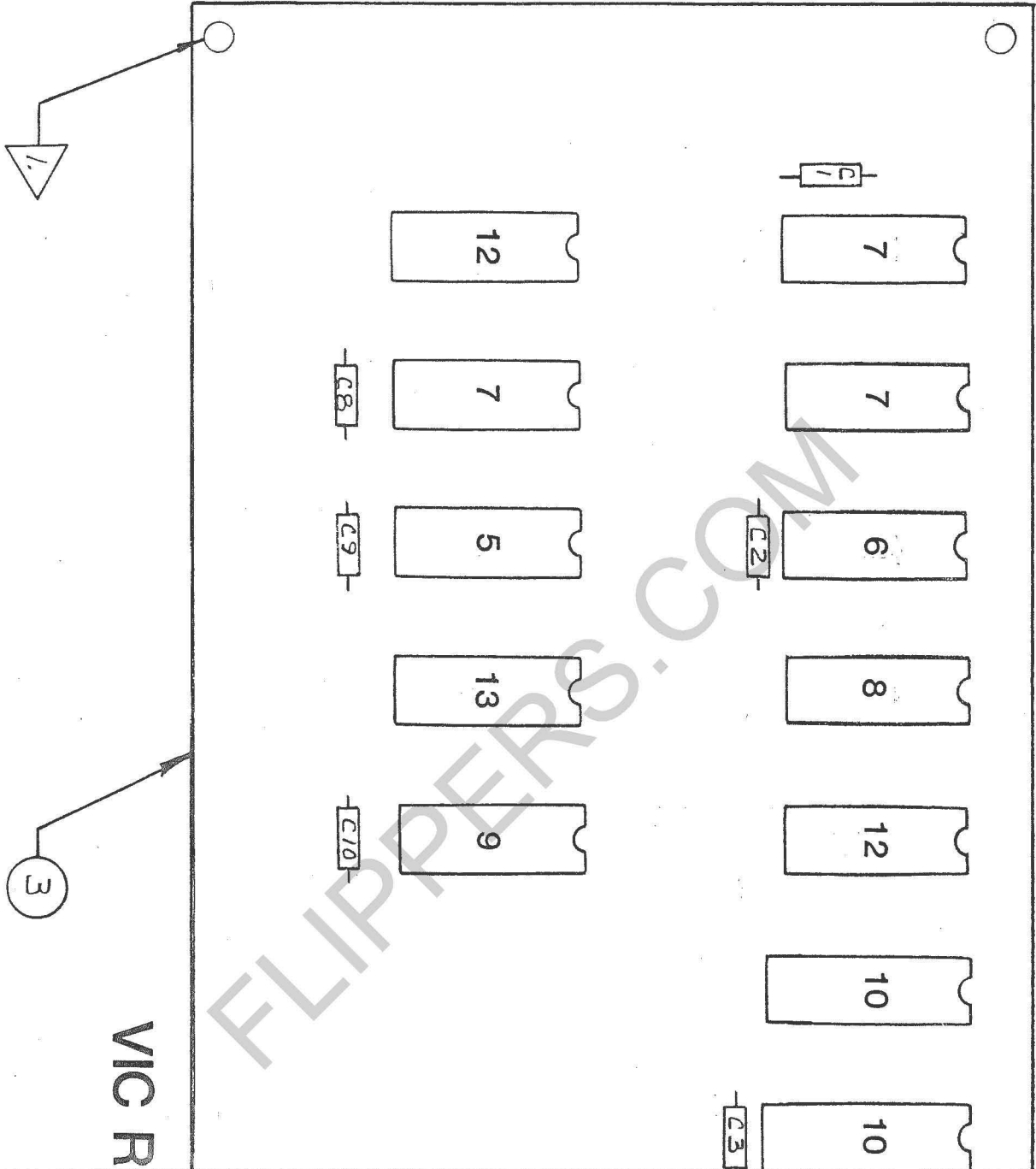
IS	7	151-0061	11	CAP CER 220pf, 16V AX	C1-C9, C11, C12
WAS	7	151-0061	12	CAP CER 220pf, 16V AX	C1-C12

ADD TO PARTS LIST

	58	213-0003	1	SKT 14 Pin, Dual INLN	XU45
	59	314-0140	1	IC 74S74	U45
	60	314-0053	2	IC 74S175	U42, U43

ASS'Y VIC REPLACEMENT BOARD

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>GREMLIN NO.</u>	<u>QTY</u>	<u>REF. DES.</u>
1	CAP E 10 μ f 25V	150-0088	1	C6
2	CAP CER .1 μ f 16V AX	151-0060	10	C1-C5,C7-C11
3	PC BOARD	170-0227A	1	
4	SKT 40 PIN WIRE WRAP	213-0014	1	XU17
5	IC 74LS08	314-0058	1	U14
6	IC 74LS10	314-0059	1	U3
7	IC 74LS74	314-0062	3	U1,U2,U3
8	IC 74LS30	314-0067	1	U4
9	IC 74LS86	314-0070	1	U16
10	IC 74S151	314-0136	6	U6-U11
11	IC 74LS174	314-0072	1	U18
12	IC 74LS393	314-0075	2	U5,U12
13	IC 74LS14	314-0085	1	U15
14	PCB SUPPORT LOCKING	280-0354	3	



VIC R

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SERVICE NOTE

EFFECT: X-Y CONTROL BOARD

NUMBER: 001 11-16-81

In order to match the change incorporated in the ELIMINATOR 002 (11-11-81) Service Note, on page 39 of your Color X-Y Monitor Manual (P/N 420-0605) Drawing Number 800-0163, Zone 8C, pin- should read 7.5 Mhz (not 15 Mhz). Please make this change on your schematics.

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SERVICE NOTE

EFFECT: X-Y TIMING BOARD

NUMBER: 007

September 17, 1981

To ensure that the vertical and horizontal outputs of the G-80 X-Y Timing Board do not exceed a preset level, the addition of 2 diodes is recommended. The diodes, type 1N914, are installed as follows:

1. Remove the G-80 Timing Board from the card cage.
2. Solder the ANODE of one diode to Pin 1 of the Molex connector located on the front edge of the Timing Board. It is recommended that the diode be installed on the underside of the board.
3. Solder the CATHODE of the diode to a +5 volt pad on the back of the board. This can be found at the +5 volt pin on the closest IC.
4. Install the CATHODE of the second diode to +5, in the same way. Then, solder the ANODE of this diode to Pin 4 of the Molex connector.



DIODE 1N914



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DATE: 4-29-83

GAME/ASSEMBLY

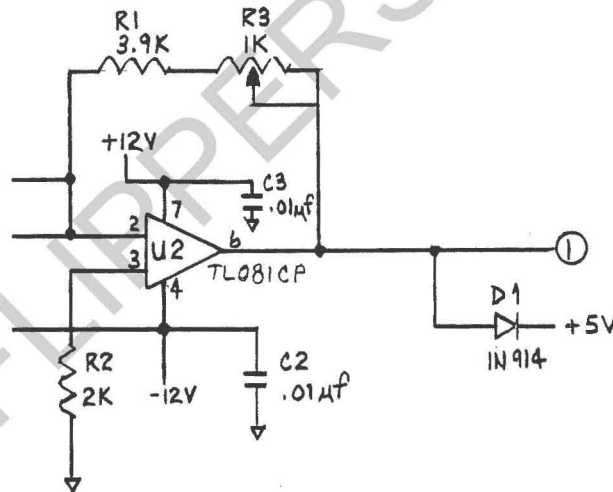
AFFECTED: X-Y TIMING BD.

NUMBER: 83-008

An occasional "glitch" problem in Color X-Y Monitor games has been traced to the X-Y Timing Board (P/N 800-0161). If you are experiencing this problem, please verify that the following modifications have been incorporated on your X-Y Timing Board. All factory STAR TREK™ boards are up to date, and as such these modifications apply only to TAC/SCAN™, ZEKTOR™, ELIMINATOR™, and SPACE FURY™.

1. Ensure that U2 and U3 are TL081CP (P/N 313-0037) IC's.
2. Ensure that the two 100pf 50V capacitors (C32 and C33) have been removed. These were located on the solder-side of the board, one connected between pin-2 and pin-6 of U2, and the other between pin-2 and pin6 of U3. Correct sheet 5 of the schematic for the X-Y Timing Board to reflect the following:

In Zone 4-C;



In Zone 4-B;

