

**TAITO AMERICA CORPORATION**

**CONVERSION KIT**

304

**FOR**



**UNIVERSAL KIT**



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72-10017-001

## WARNING

The parts contained in this game conversion kit must be installed in accordance with the instructions contained in this Service Manual. Failure to follow these instructions in every detail could result in the creation of illegal interference to radio and TV reception.

Taito America Corporation has verified that, when this conversion kit is installed without deviation from these instructions, the equipment will then comply with the requirements of Part 15 of FCC Rules for a Class A computing device. The manufacturer will not be responsible for incomplete or improper conversions.

After such installation in accordance with the instructions, the enclosed NOTICE AFTER CONVERSION should be applied to the back of the game cabinet so as to cover up any previous notice regarding FCC Rules.

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This manual will guide you in the conversion of your color monitor upright video game into a EXERION game. We urge you to read through the instructions and study the drawings before beginning the conversion.

Perform the instruction steps in the order presented.

1. Check the parts supplied in this kit against the parts list included in this manual.
2. Cabinet preparation.
  - a. Remove the existing logic boards from cabinet.
  - b. EXERION requires a vertically mounted monitor. Mount the monitor in the best possible way.
  - c. EXERION requires a power supply with the following ratings: +5 volts @ 4 amps +12 volts @ 1 amp
  - d. EXERION requires a speaker with a nominal impedance of 8 ohms.
3. Install Ground Plate, filter board and PCB.
  - a. Locate the the Ground Plate on the left cabinet wall. Use the holes in the plate as a template and screw the top and bottom PCB mounting brackets into the cabinet using the #8 x11/16" screws provided. SEE FIGURE 1 and 2.
  - b. Using the holes in the ground plate as a template, screw the filter board into the cabinet using the #6 x 1" screws provided. Screw the braided wires from the sides of the filter board into the cabinet using the #8 x 11/16" screws provided. SEE FIGURE 2.
  - c. Slide the PCB into the guides with the edge connector facing the front of the cabinet and the component side of the PCB facing outward. SEE FIGURE 2.
  - d. Screw the two "L" brackets into the cabinet, using the #6 x 1/2" screws provided, on the left and right sides of the PCB to keep it from sliding. SEE FIGURE 2.
  - e. Connect the interface harness to the PCB ( note the keying plug) and the filter board. Connectors on the harness and filter board are marked accordingly on the connectors themselves. SEE FIGURE 2.
4. Connect the main harness.
  - a. Connect the main harness to the filter board along the top of the ground plate PCB assembly. The cable connectors are marked with numbers corresponding to numbers on the filter board connectors. SEE FIGURE 2.
  - b. Using the supplied wiring diagram as a guide, connect up the power supply, coin door and speaker to the harness.
  - c. Connect the gray video cable to the monitor. The connectors will mate with most Wells Gardner and Eletrohome monitors. If using a different monitor, use the wiring diagram as a guide in wiring the video cable to the monitor.
5. Rework control panel. This kit supplies all the necessary parts needed to wire a control panel for EXERION.
  - a. Strip the control panel of all buttons and/or joysticks.
  - b. Locate and drill the holes needed for the joystick and buttons. Use template supplied with kits to locate holes for the joystick. Clean any burrs from around holes.
  - c. Remove any soil and/or grime from the front of the panel.
  - d. Cut the lexan to the approximate size needed to cover the panel. If possible, leave enough lexan to wrap a small lip around the top and bottom of the panel.
  - e. Peel the backing off the lexan and apply it to the control panel. Cut the lexan out for the holes needed for the joystick and buttons.
  - f. Install joystick, buttons and any hardware that might have been removed on the panel.
  - g. Using the supplied wiring diagram as a guide, connect the joystick and buttons to the control panel cable.
  - h. Mount the control panel back on the cabinet.
6. Install marquee.
  - a. Remove the present marquee.
  - b. Cut the new marquee to the same size as the old one.
  - c. Install the new marquee back on the cabinet.
7. Install Ground Braids.
  - a. Connect the 16 inch ground braid to the Ground Plate with a screw in the hole near the lower right corner. Connect the other end of the ground braid to a convenient point on the the power supply chassis.
  - b. Connect the 28 inch ground braid from a convenient point on the power supply chassis to a convenient point on the monitor chassis.
8. Adjust Game Settings.
  - a. Consult the dip switch settings sheet and adjust the DIP switches as desired.
  - b. Turn the game ON and play a "2-PLAYER" game. Adjust the volume controls as desired.
9. Attach FCC Compliance Label. Affix the new self-adhesive FCC Compliance label OVER the original label on the rear of the cabinet.
10. Attach the FBI Warning label. Affix the self-adhesive FBI label on the outside of the rear door near the top in the center.
11. Attach the Instruction card. An instruction card is included and should be affixed to the coverglass.
12. Attach the cabinet decals.
  - a. The sides of the cabinet must be clean and free of grease, dirt, and old decals where applicable.
  - b. Apply warm soapy water to the side of the cabinet in the area where the decal will be.
  - c. Remove the backing from the decal and apply warm soapy water to the adhesive side of the decal.
  - d. Locate the decal on the side of the cabinet. The decal should slide easily into position.
  - e. Use a small type window squeegee to "squeeze" out the water between the decal and the cabinet.
  - f. Allow sufficient time for the decal to dry.
  - g. Repeat the above procedure on the other side of the cabinet. The conversion is complete.

ACCESSORY AND HARDWARE PACK

| DESCRIPTION        | QUANTITY | PART NUMBER  |
|--------------------|----------|--------------|
| Braided Cable, 16" | 1        | 09-00260-002 |
| Braided Cable, 28" | 1        | 09-00260-003 |
| PCB mtg. bracket   | 2        | 07-00248-001 |
| Screw #8x11/16     | 9        | 51-00005-001 |
| Screw #6x1"        | 6        | 51-01012-011 |
| Screw #6x1/2       | 6        | 51-01012-006 |
| "L" bracket        | 2        | 61-00014-001 |

MANUAL PACK

| DESCRIPTION                  | QUANTITY | PART NUMBER  |
|------------------------------|----------|--------------|
| Switch Setting Card          | 1        | 79-00088-001 |
| Instruction card             | 1        | 79-50036-001 |
| Conversion manual            | 1        | 72-10017-001 |
| FCC Generic Compliance Label | 1        | 79-00070-001 |
| FBI Warning label            | 1        | 79-00074-001 |

CONVERSION KIT

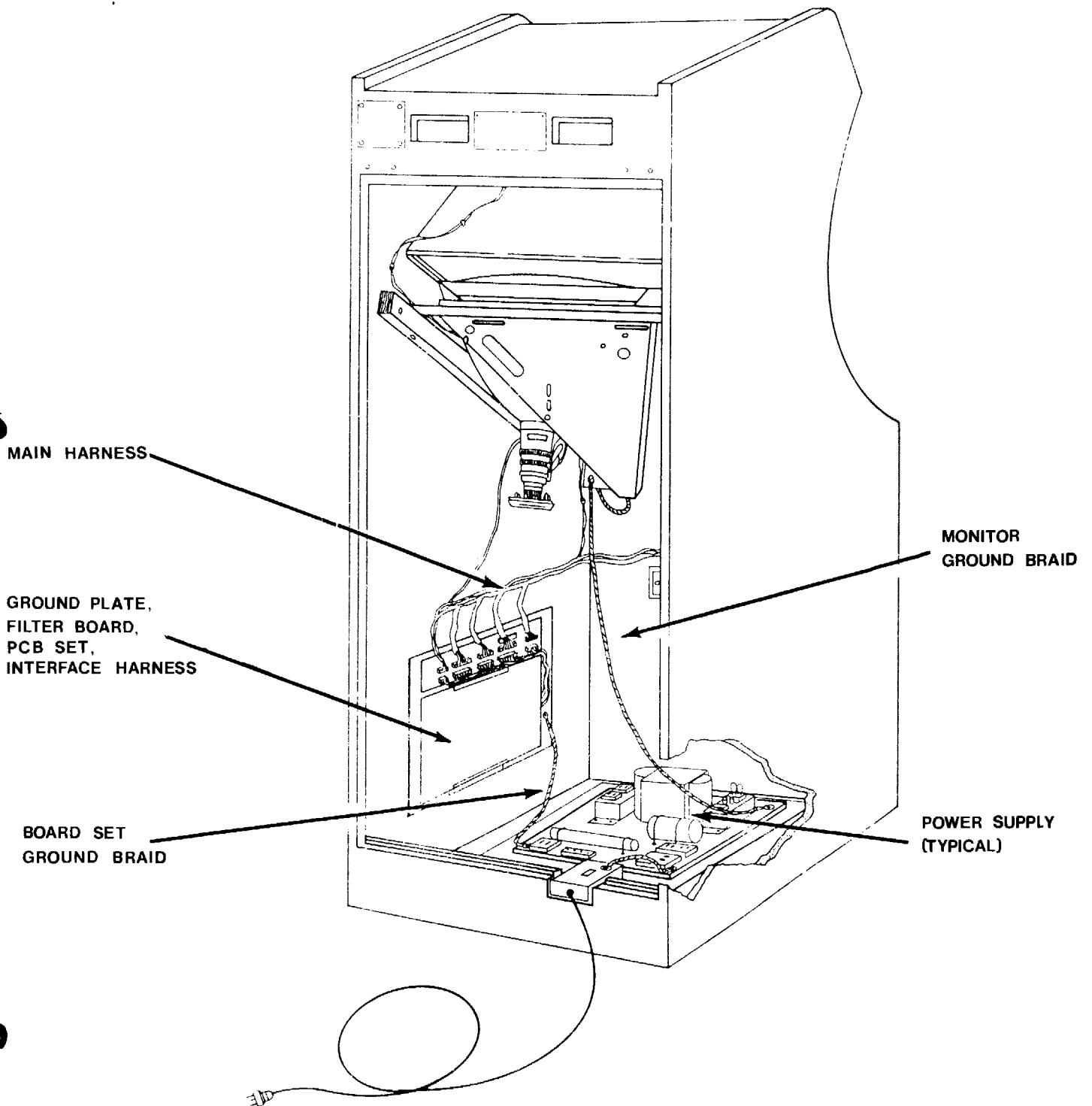
| DESCRIPTION           | QUANTITY | PART NUMBER  |
|-----------------------|----------|--------------|
| PCB set               | 1        | 08-00137-001 |
| Filter Board          | 1        | 08-00138-001 |
| Ground plate          | 1        | 61-00354-001 |
| Marquee, EXERION      | 1        | 47-00032-001 |
| Control panel overlay | 1        | 66-00011-001 |
| Side decal            | 2        | 66-00012-001 |
| Main Harness          | 1        | 09-00306-001 |
| Interface harness     | 1        | 09-00305-001 |

CONTROL PANEL PACK

| DESCRIPTION          | QUANTITY | PART NUMBER  |
|----------------------|----------|--------------|
| Fire button          | 1        | 63-00156-001 |
| Fast fire button     | 1        | 63-00156-003 |
| 1 player button      | 1        | 63-00176-001 |
| 2 player button      | 1        | 63-00176-002 |
| P.B. Switch          | 4        | 29-00020-001 |
| Stamped nut          | 4        | 54-07001-008 |
| Ball and Shaft       | 1        | 63-00031-001 |
| Mask                 | 1        | 63-00033-001 |
| E ring               | 1        | 59-00020-017 |
| 8 way leaf switch    | 1        | 63-00032-006 |
| 8 way actuator       | 1        | 63-00030-001 |
| #10x24 carriage bolt | 4        | 51-03004-013 |
| #10x24 keps nut      | 4        | 54-02004-001 |

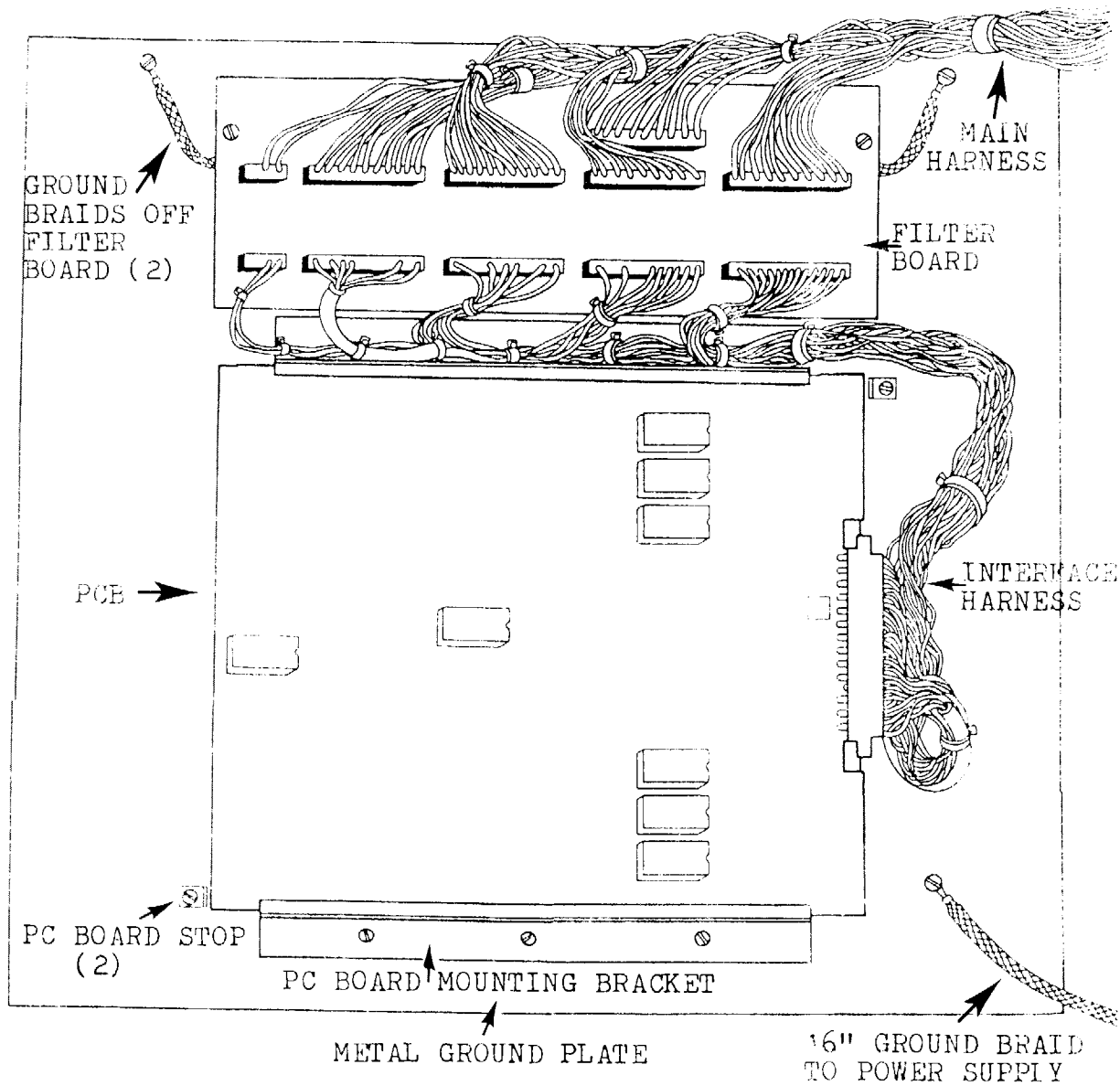
# CABINET INTERIOR

FIGURE 1



# GROUND PLATE ASSEMBLY DETAIL

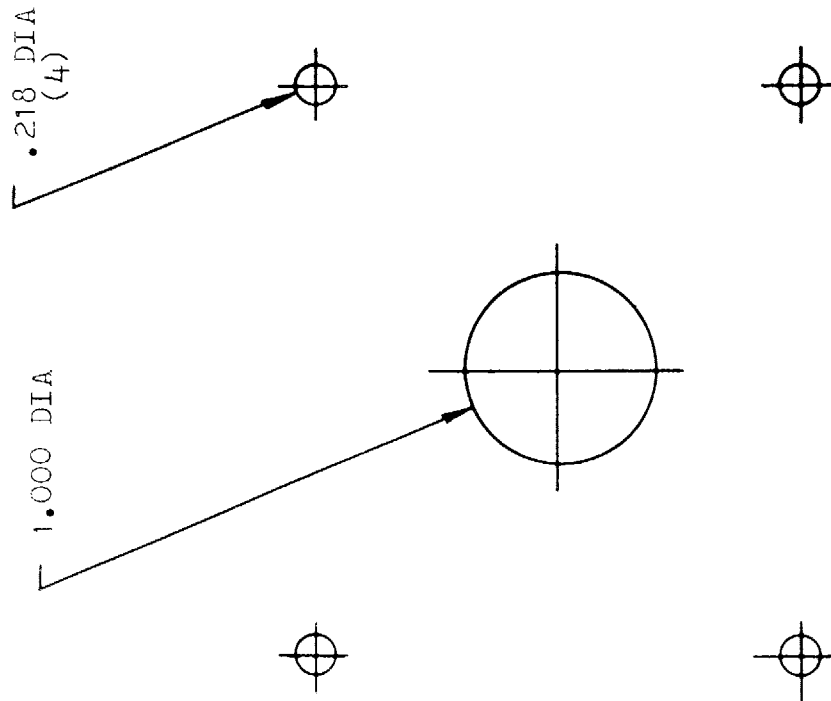
FIGURE 2



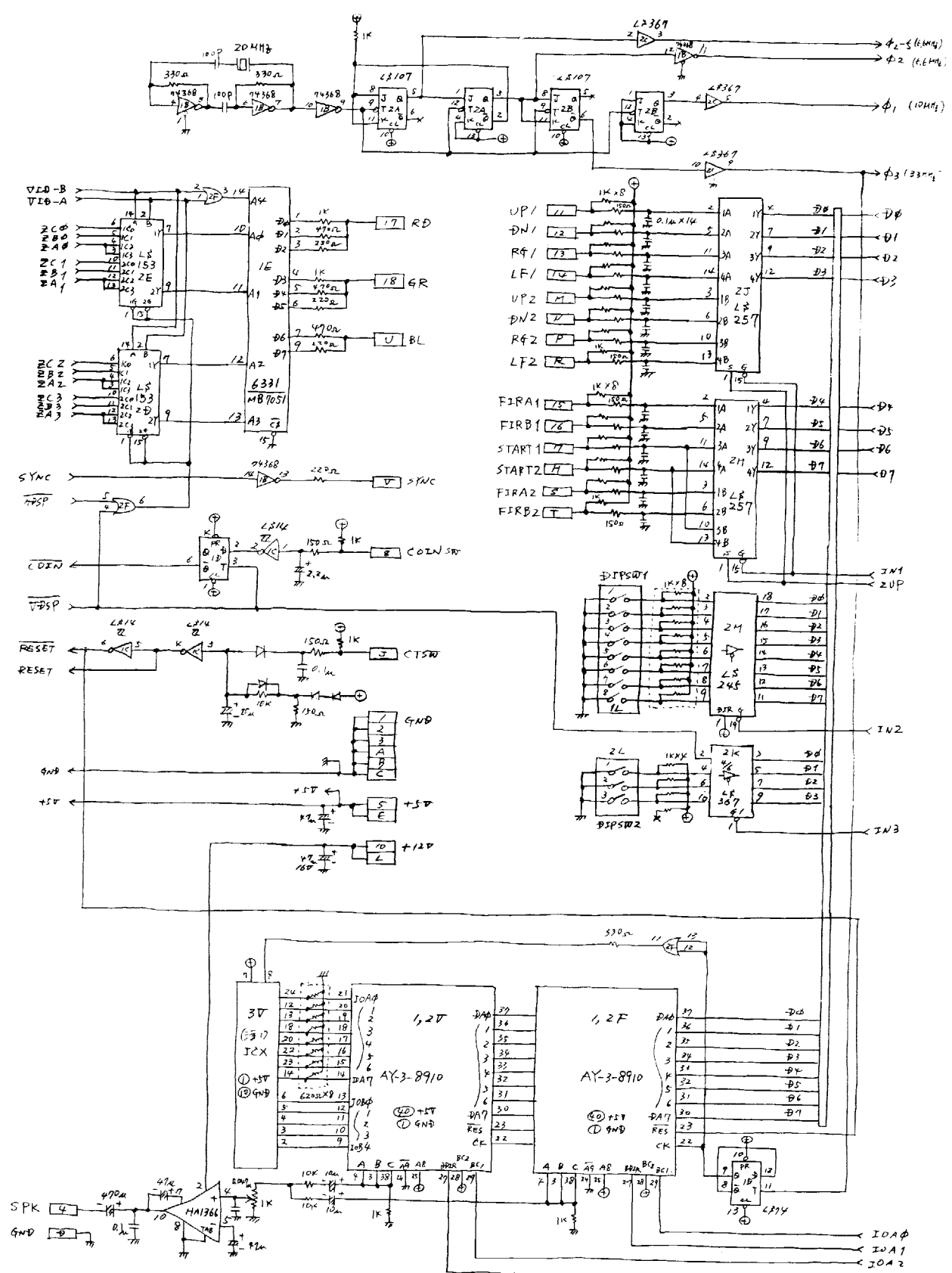


# JOYSTICK TEMPLATE

FIGURE 3

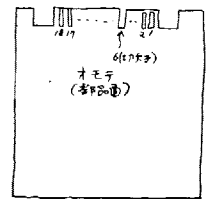




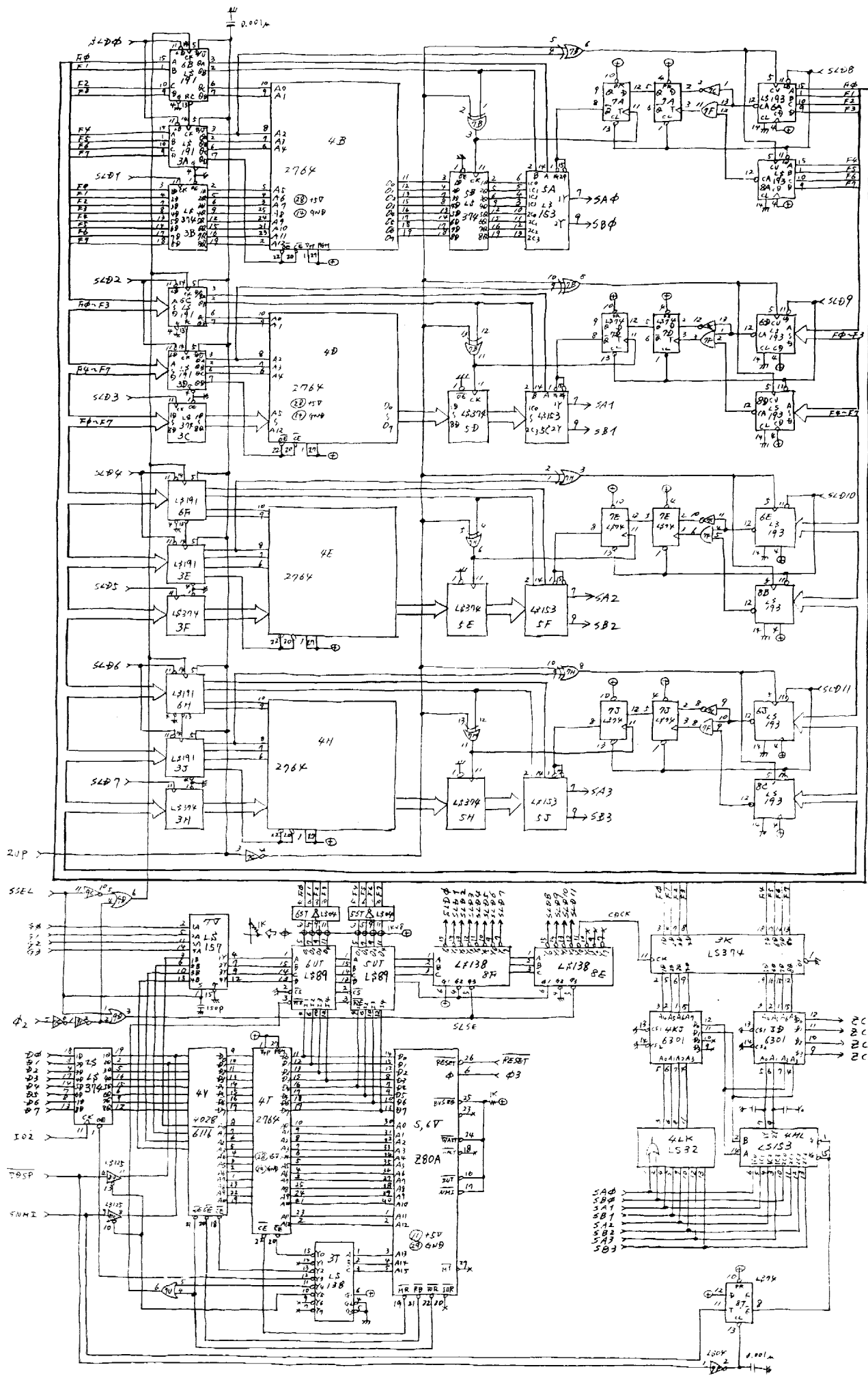


<36Pコネクタ 端子表>

| 端子 | 記号     | 説明       |
|----|--------|----------|
| 1  | GND    | A GND    |
| 2  | GND    | B GND    |
| 3  | GND    | C GND    |
| 4  | SPK    | D GND    |
| 5  | +5V    | E +5V    |
| 6  | (NC)   | F (NC)   |
| 7  | START1 | H START2 |
| 8  | COIN50 | J CTSW   |
| 9  | (NC)   | K (NC)   |
| 10 | +12V   | L +12V   |
| 11 | UP1    | M UP2    |
| 12 | DN1    | N DN2    |
| 13 | RF1    | P RF2    |
| 14 | LF1    | R LF2    |
| 15 | FIR1   | S FIR2   |
| 16 | FIR1   | T FIRB2  |
| 17 | RD     | U BL     |
| 18 | GR     | V SYNC   |

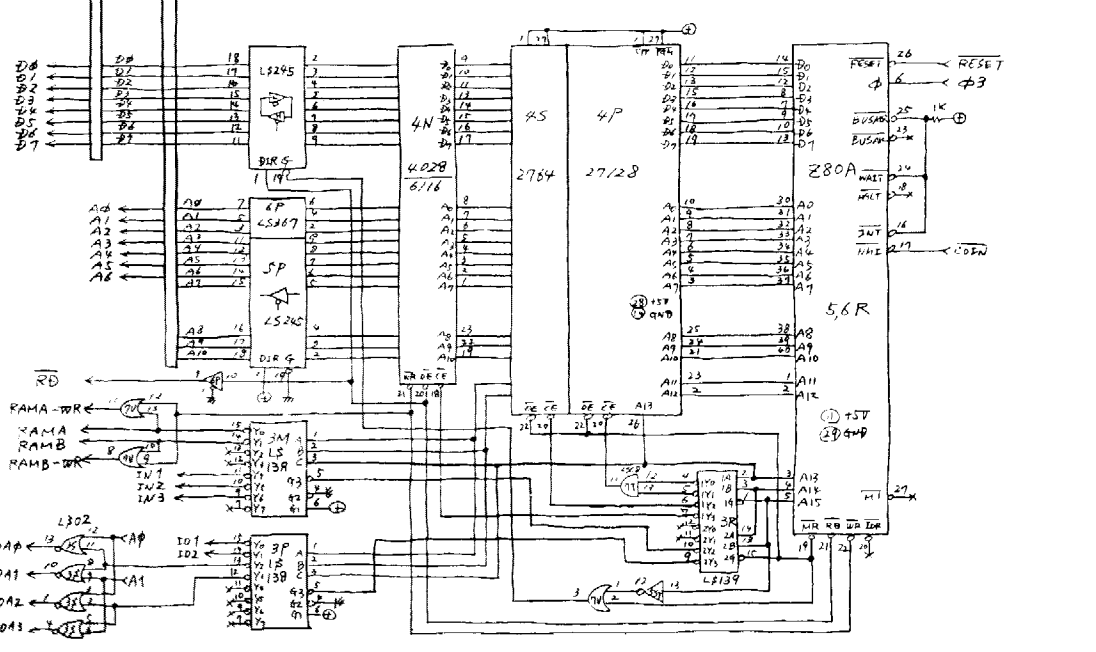
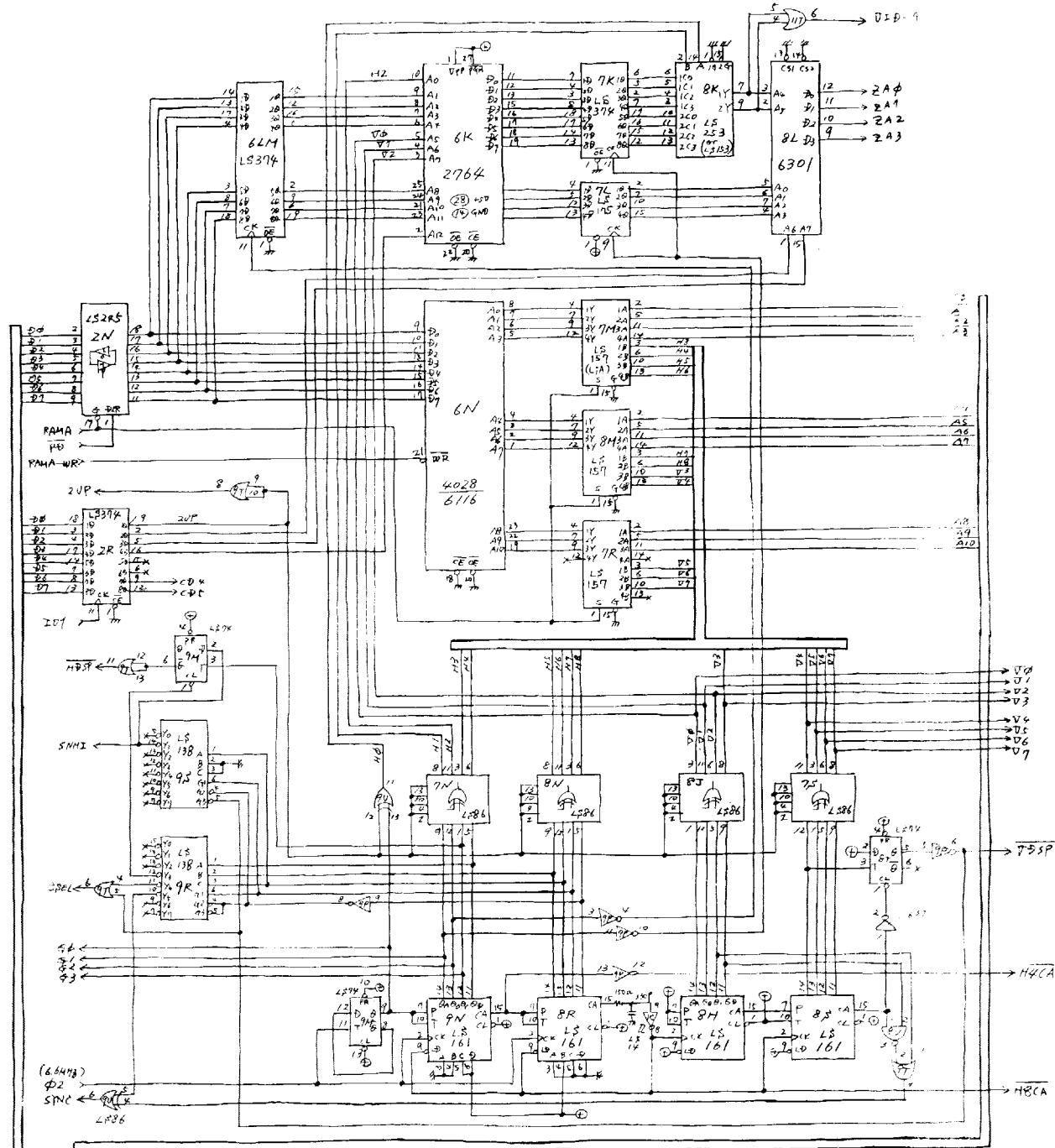


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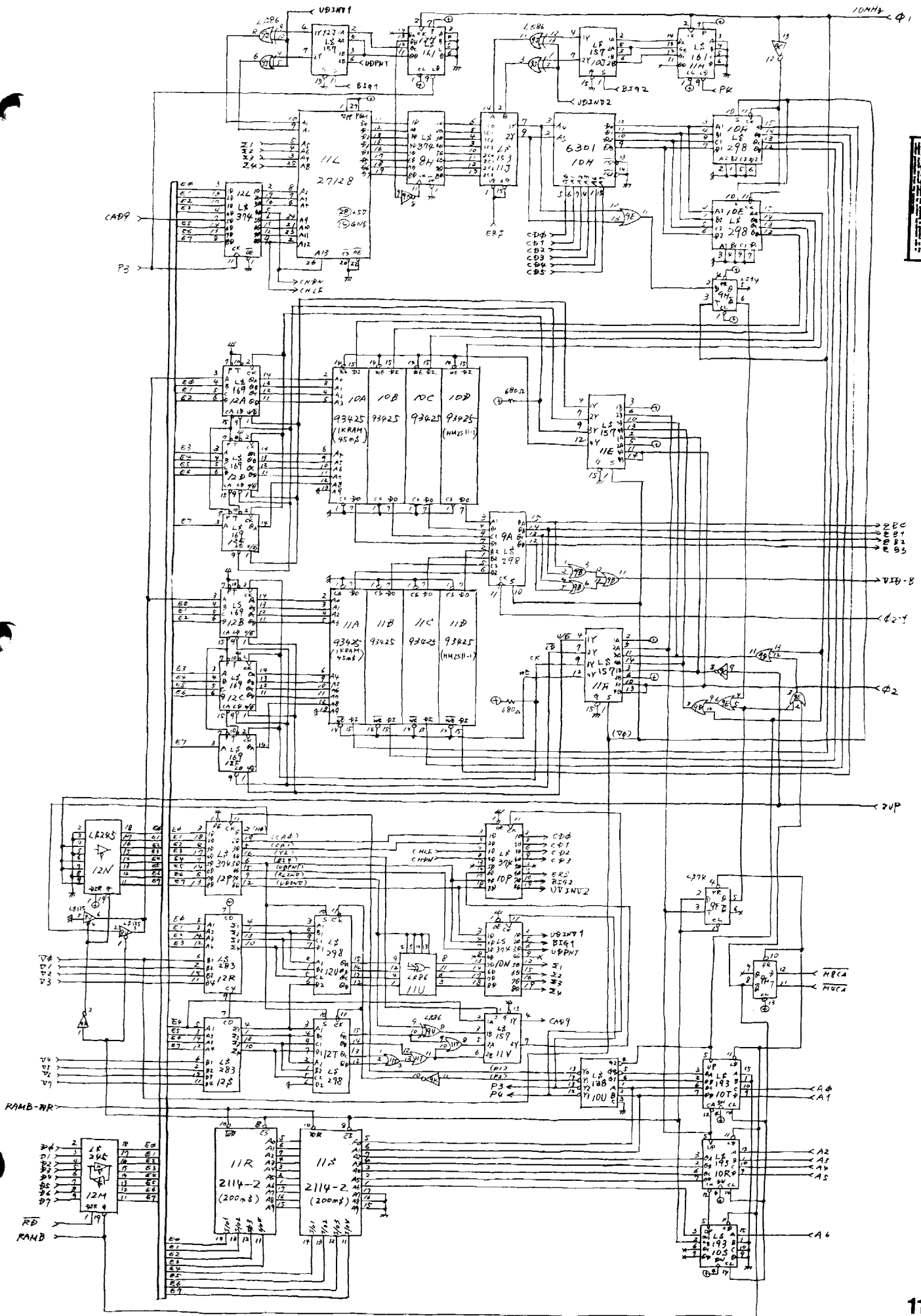


REVISIONS

| NO. | DESCRIPTION                       | DATE     |
|-----|-----------------------------------|----------|
| 1   | ISSUED FOR FABRICATION            | 11/15/77 |
| 2   | REVISED TO CORRECT ERROR IN LOGIC | 11/15/77 |
| 3   | REVISED TO CORRECT ERROR IN LOGIC | 11/15/77 |
| 4   | REVISED TO CORRECT ERROR IN LOGIC | 11/15/77 |
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