

WPC SCHEMATIC MANUAL

WILLIAMS ELECTRONICS GAMES, INC.
MIDWAY MANUFACTURING COMPANY
3401 N. California Ave.
Chicago, IL 60618

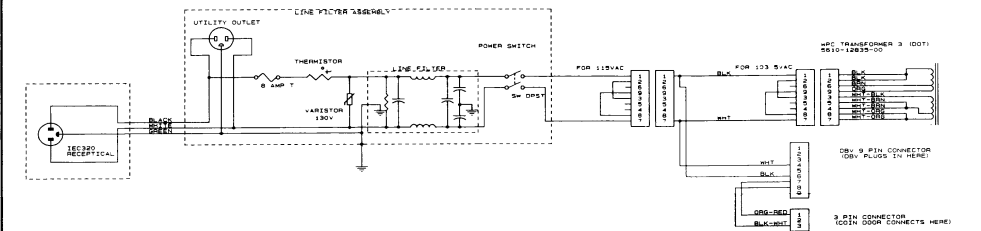
Table of Contents

| | |
|--|------------|
| Power Wiring Diagram | 1 |
| CPU Board Schematic | 2 |
| Power Driver Board Schematic | 3 thru 5 |
| Dot Matrix Controller Board Schematic | 6 thru 9 |
| Dot Matrix Display/Driver Board Schematic (Babcock) ... | 10 |
| Dot Matrix Display/Driver Board Schematic (Cherry) | 11 |
| Fliptronic II Board Schematic | 12, 13 |
| Sound Board Schematic | 14, 15 |
| (Used before 5/17/93) | |
| Sound Board Schematic | 16 thru 20 |
| (Used after 5/17/93) | |

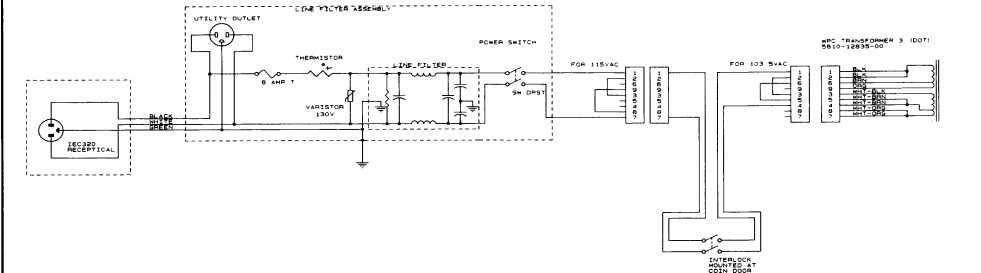
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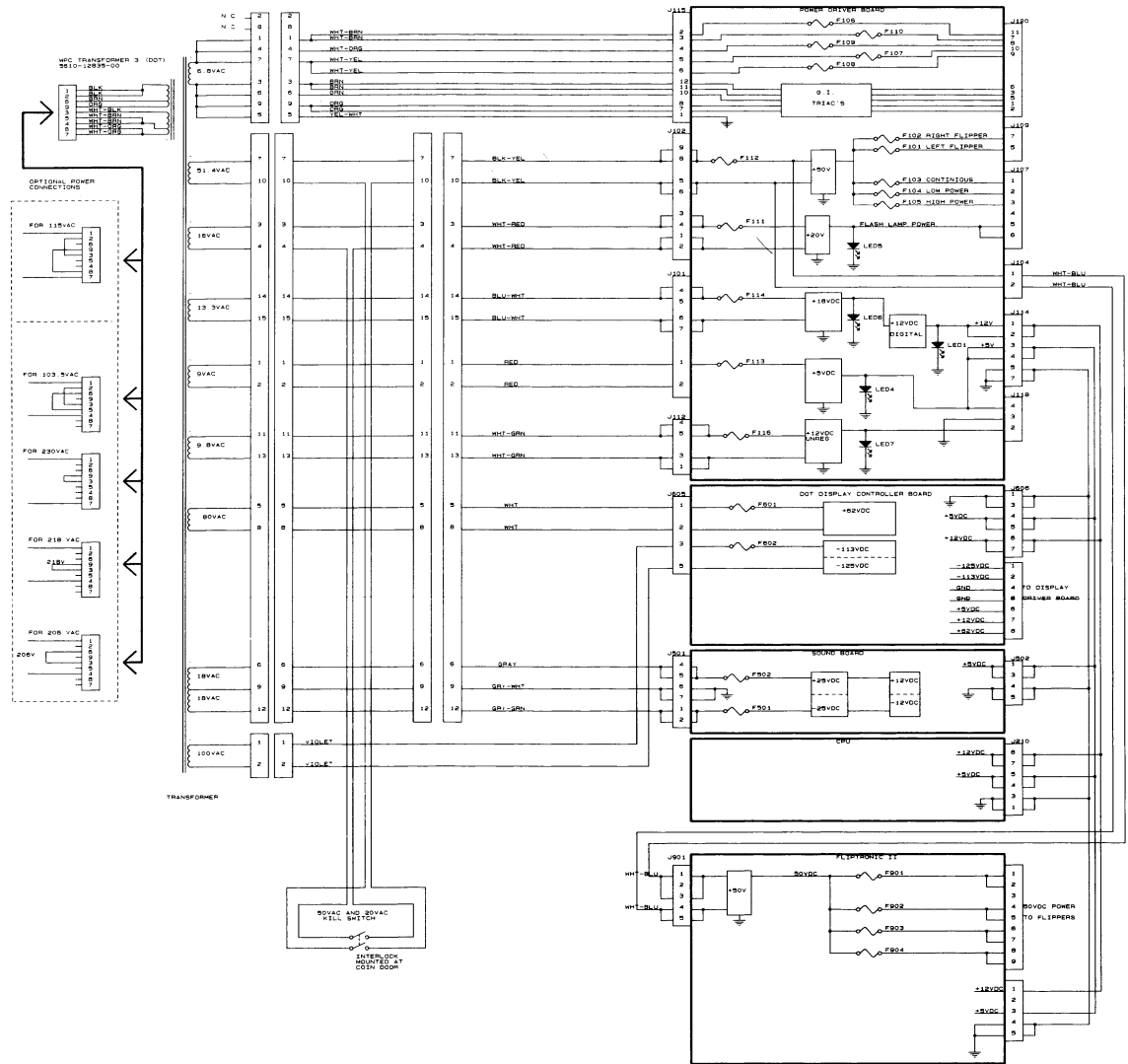
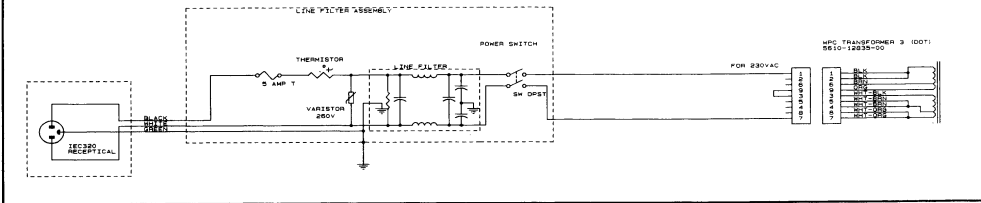
120VAC USAGE



100VAC USAGE



230VAC USAGE



Jumper Chart

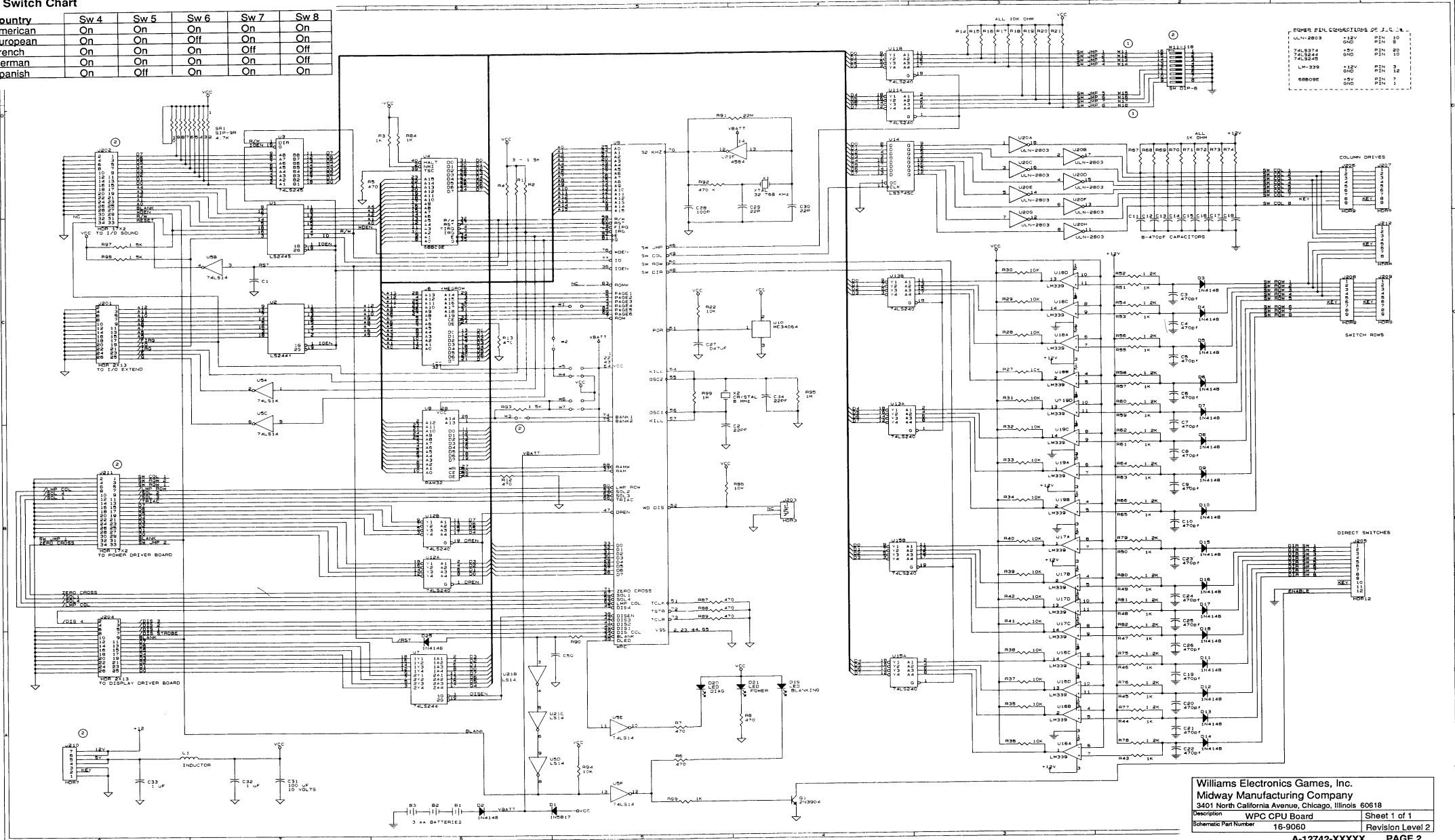
| Display | W1 | W2 |
|--------------|-----|-----|
| 1M/2M/4M ROM | In | Out |
| 512K/1M ROM | Out | In |

DIP Switch Chart

| Country | Sw 4 | Sw 5 | Sw 6 | Sw 7 | Sw 8 |
|----------|------|------|------|------|------|
| American | On | On | On | On | On |
| European | On | On | Off | On | On |
| French | On | On | On | Off | Off |
| German | On | On | On | On | Off |
| Spanish | On | Off | On | On | On |

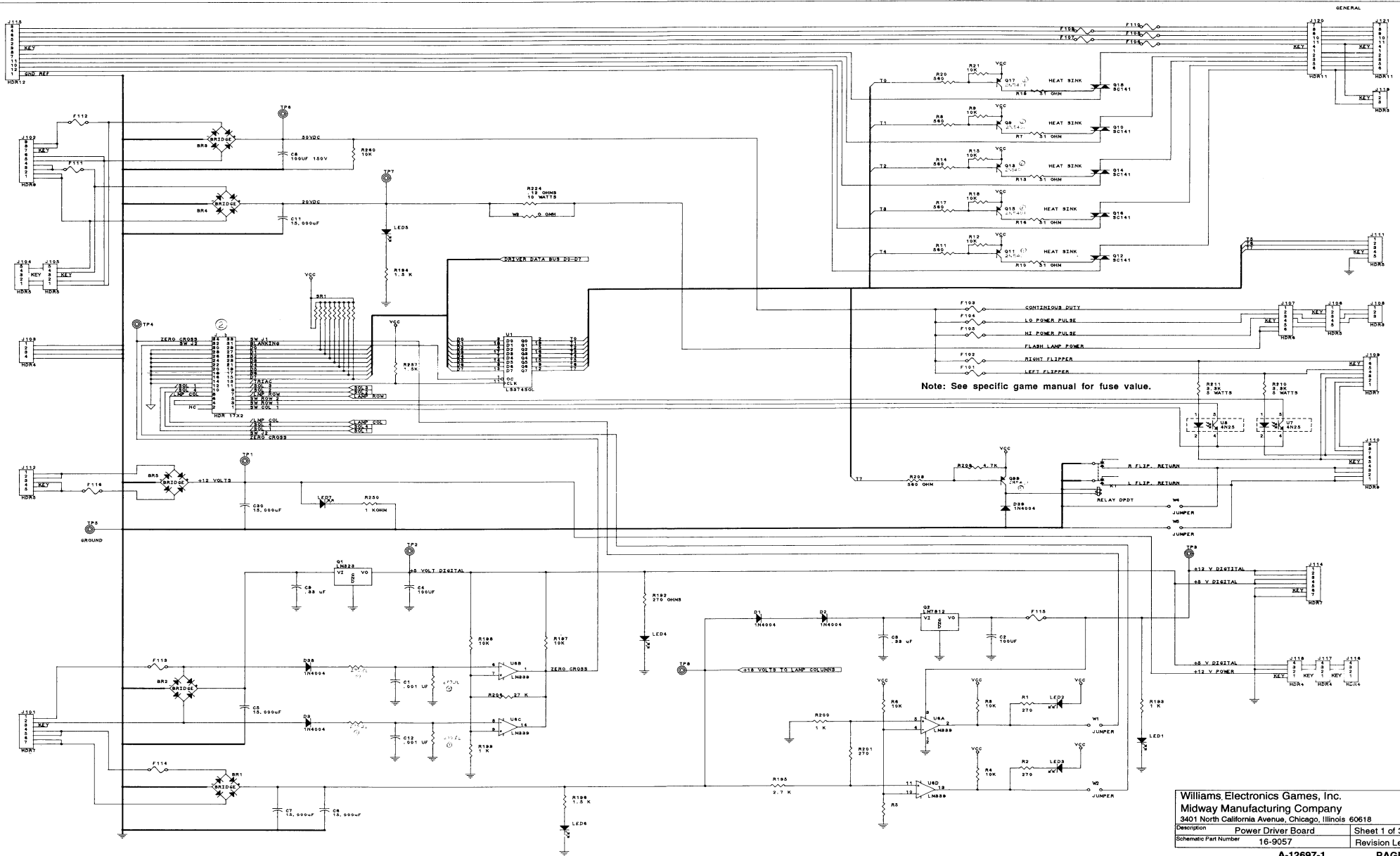
POWER PIN CONNECTIONS OF J.C.C. 4

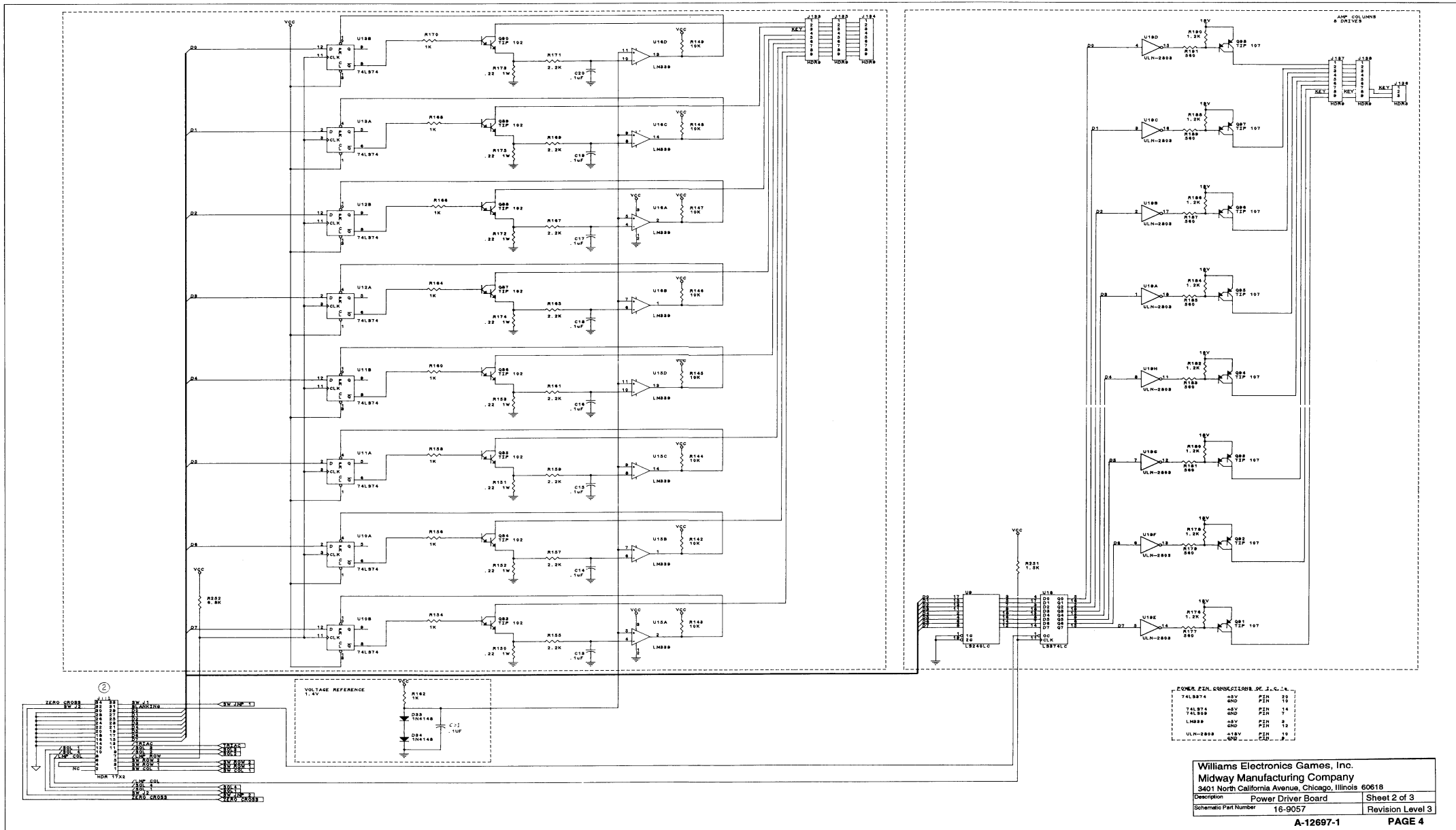
| | | |
|---------|-----|--------|
| 74LS283 | +5V | PIN 10 |
| 74LS244 | GND | PIN 8 |
| 74LS245 | +5V | PIN 20 |
| 74LS245 | GND | PIN 18 |
| LM-339 | +5V | PIN 12 |
| 68080E | +5V | PIN 1 |
| 68080E | GND | PIN 1 |

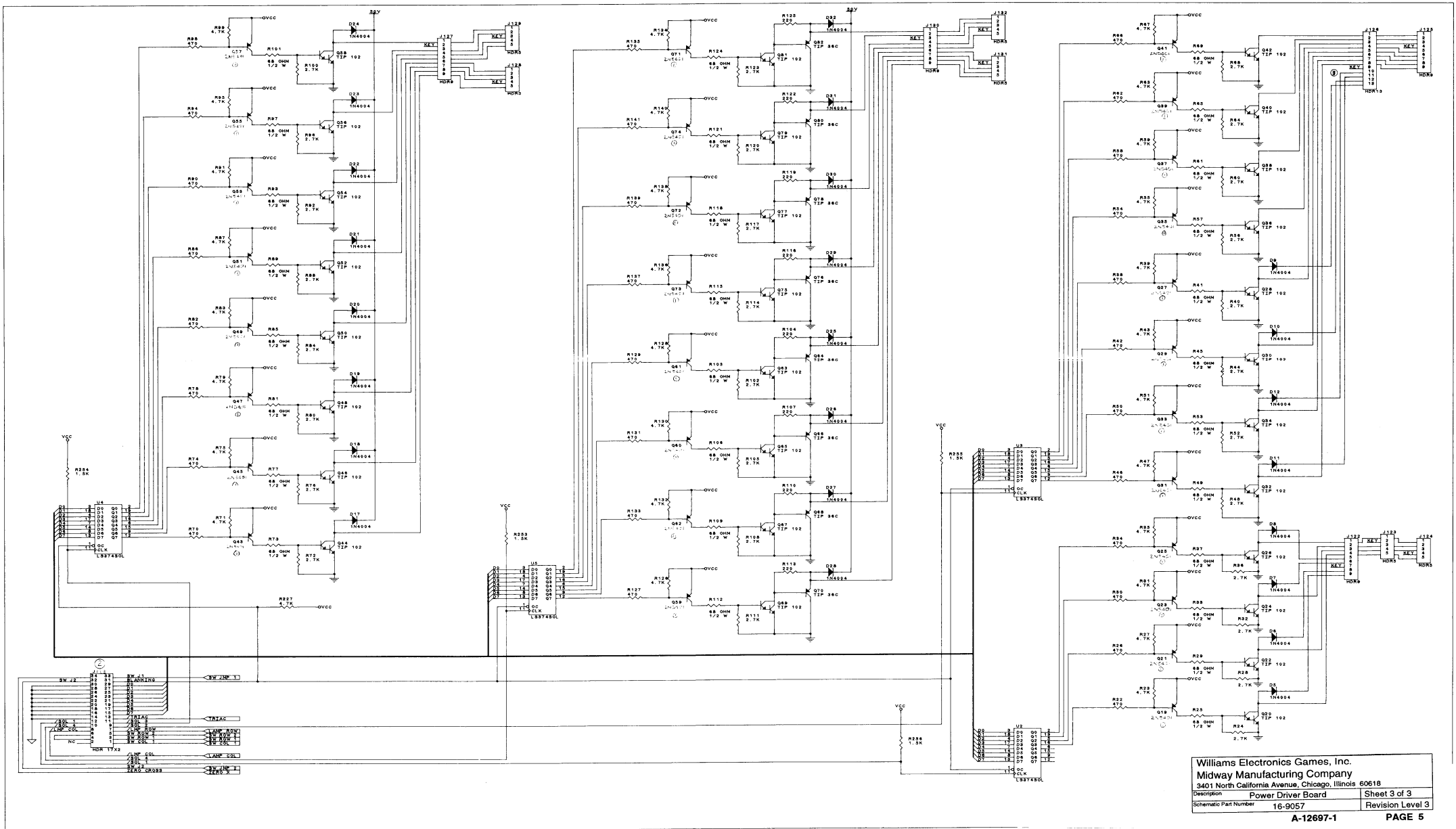


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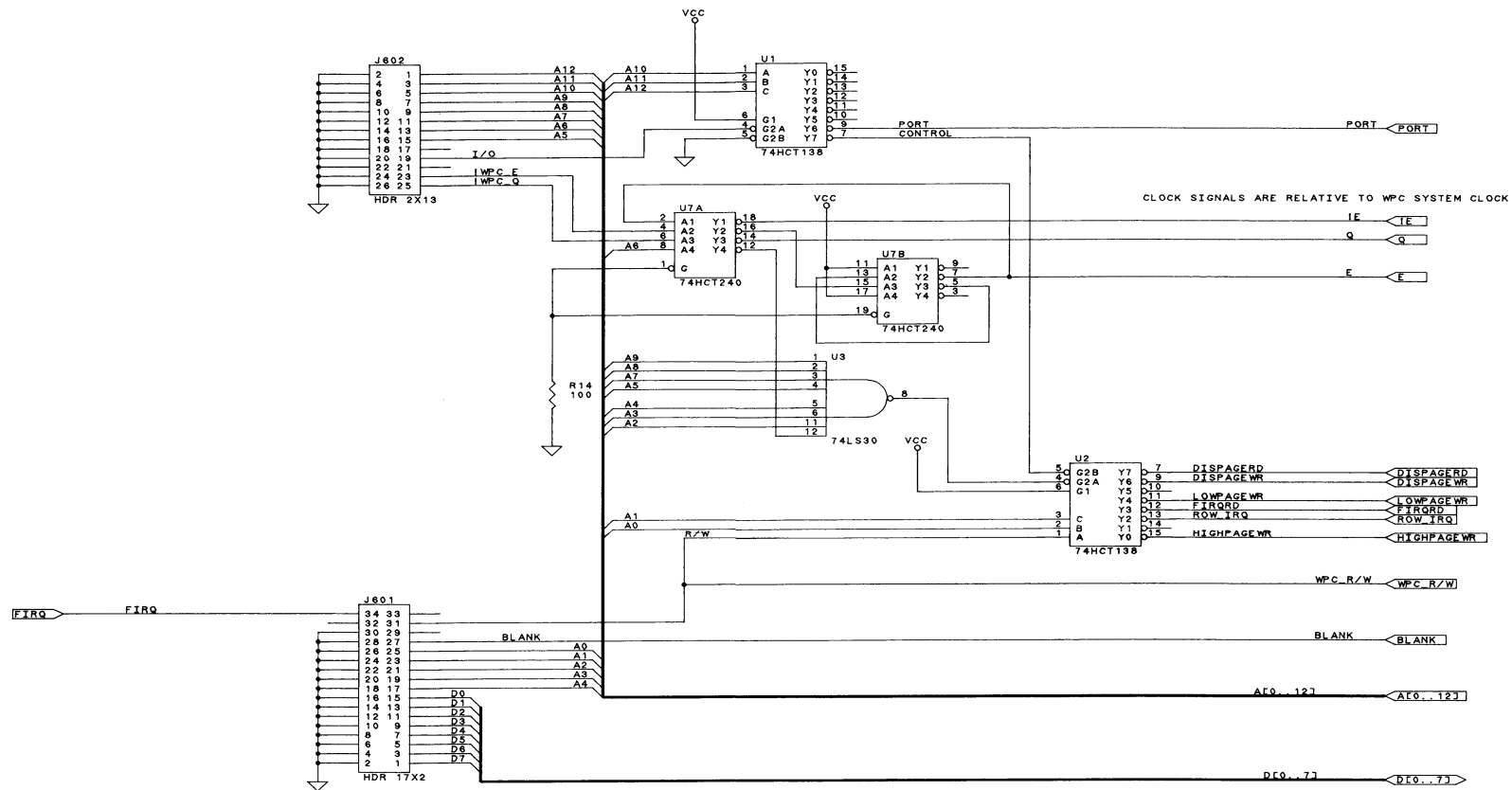
| | | |
|-----------------------|---------------|------------------|
| Description | WPC CPU Board | Sheet 1 of 1 |
| Schematic Part Number | 16-9060 | Revision Level 2 |

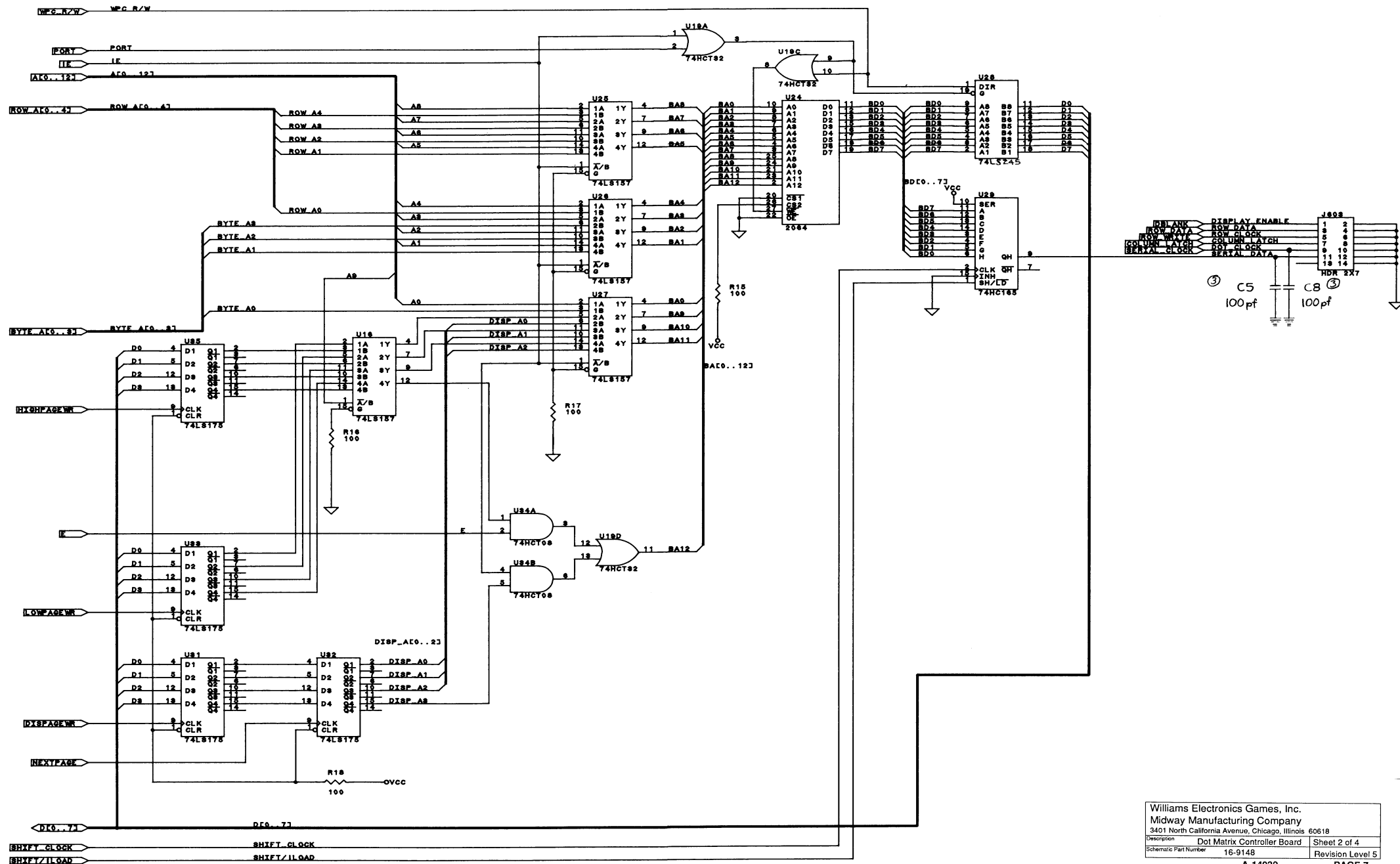


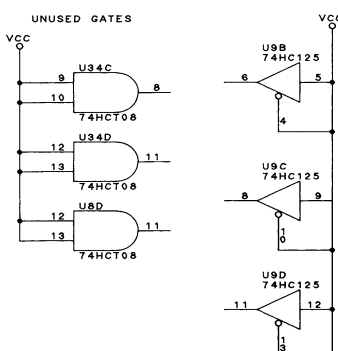
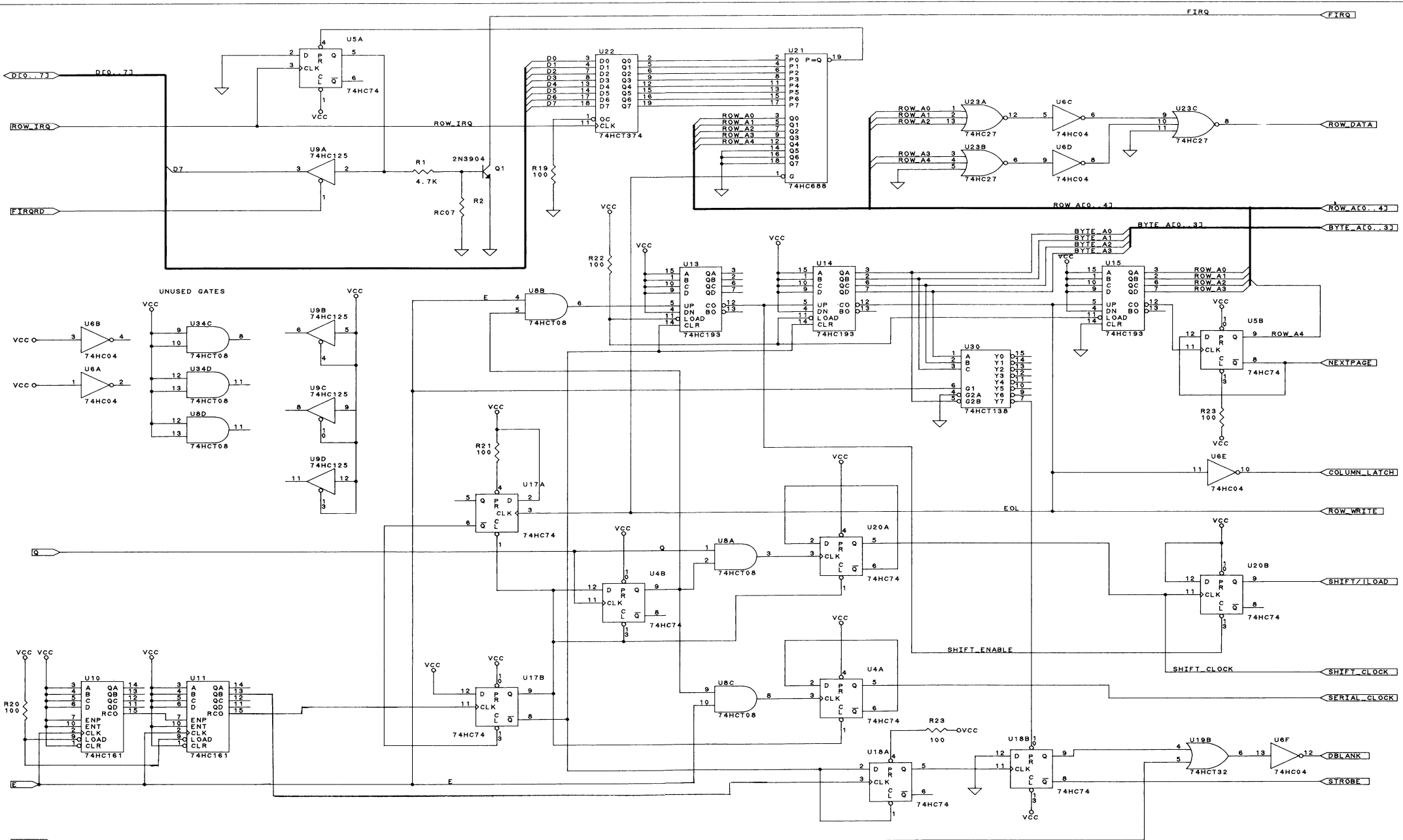


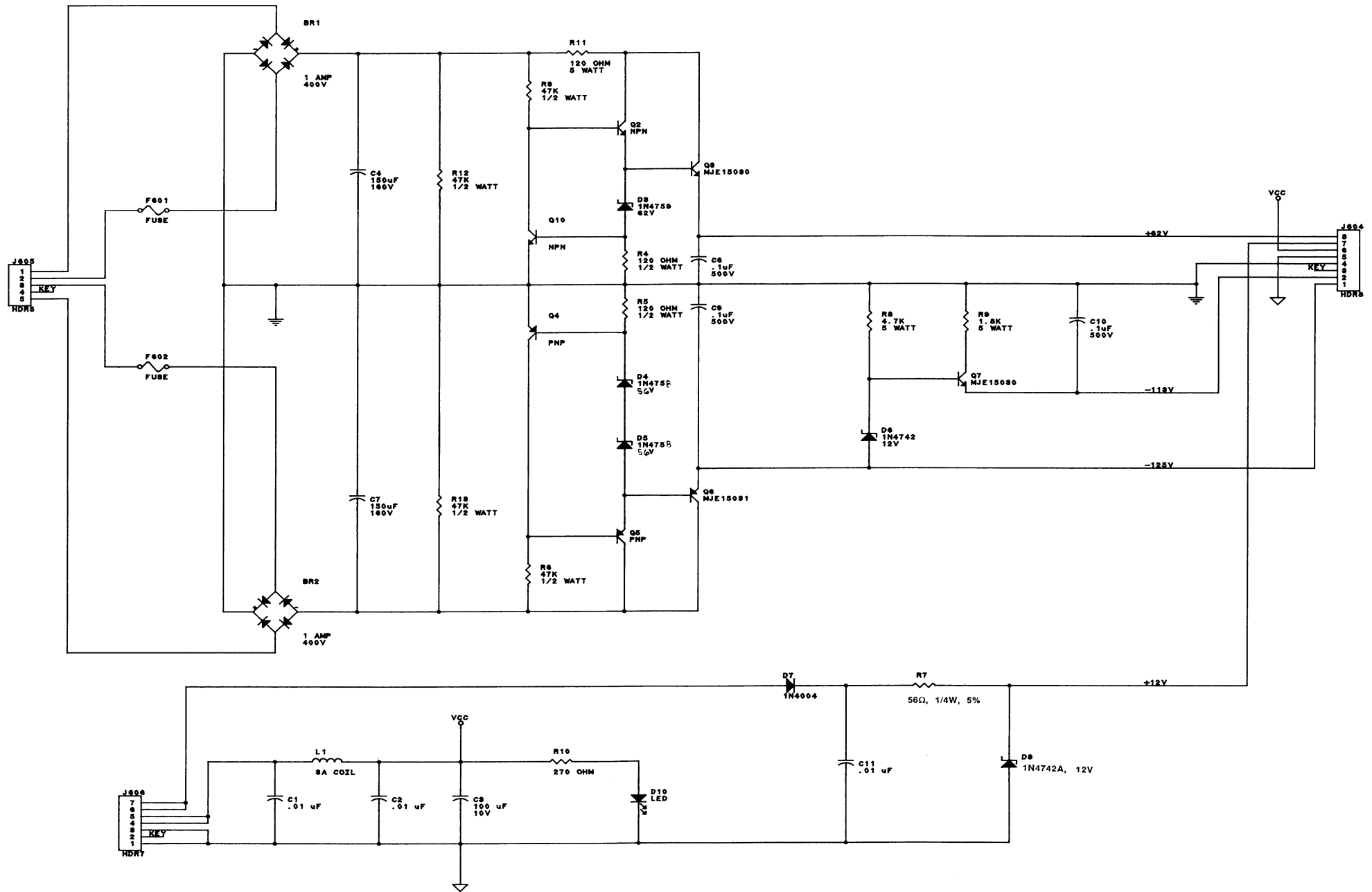


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 Description: Power Driver Board Sheet 3 of 3
 Schematic Part Number: 16-9057 Revision Level 3
 A-12697-1 PAGE 5

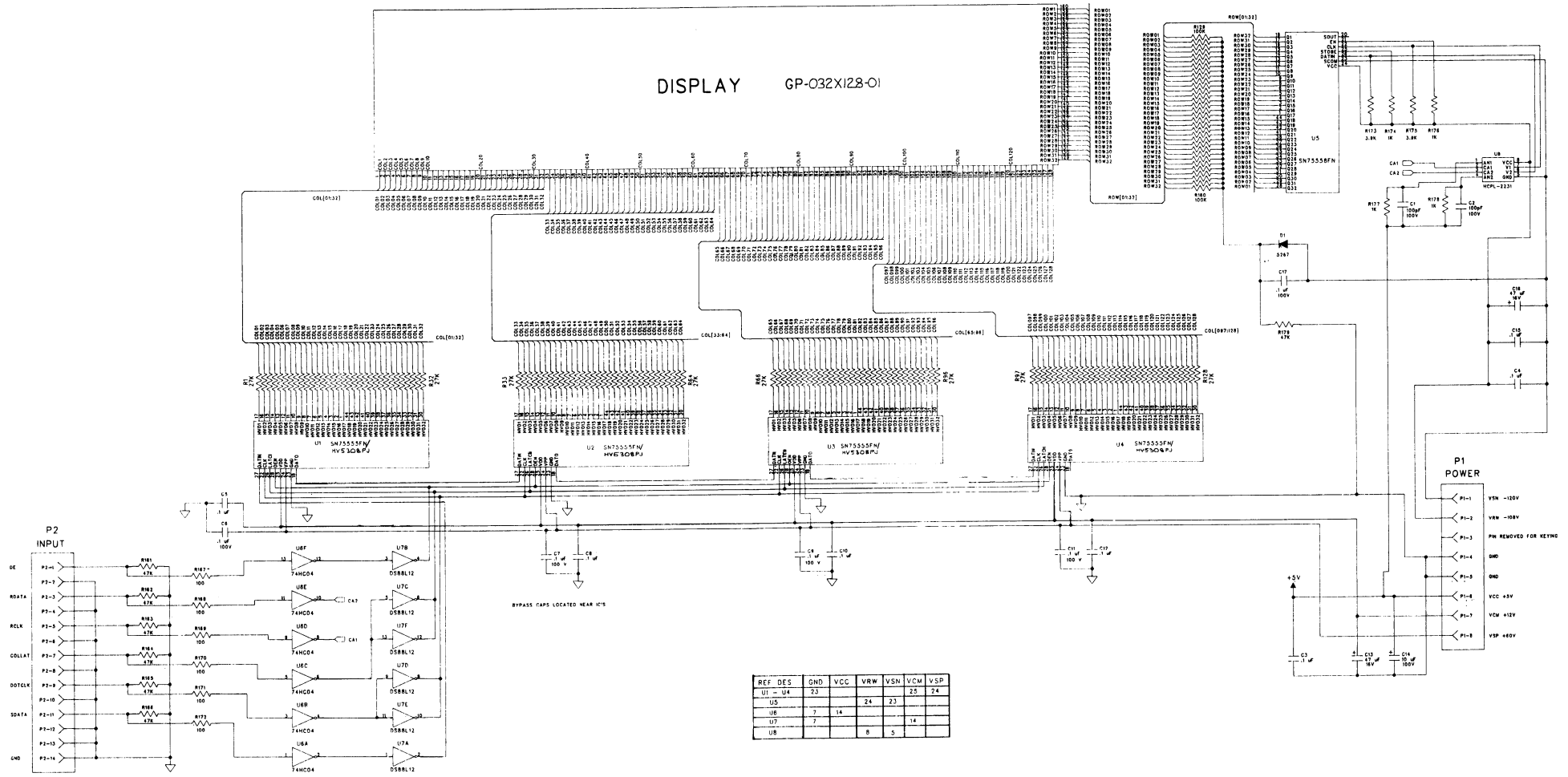








DISPLAY GP-032X128-01



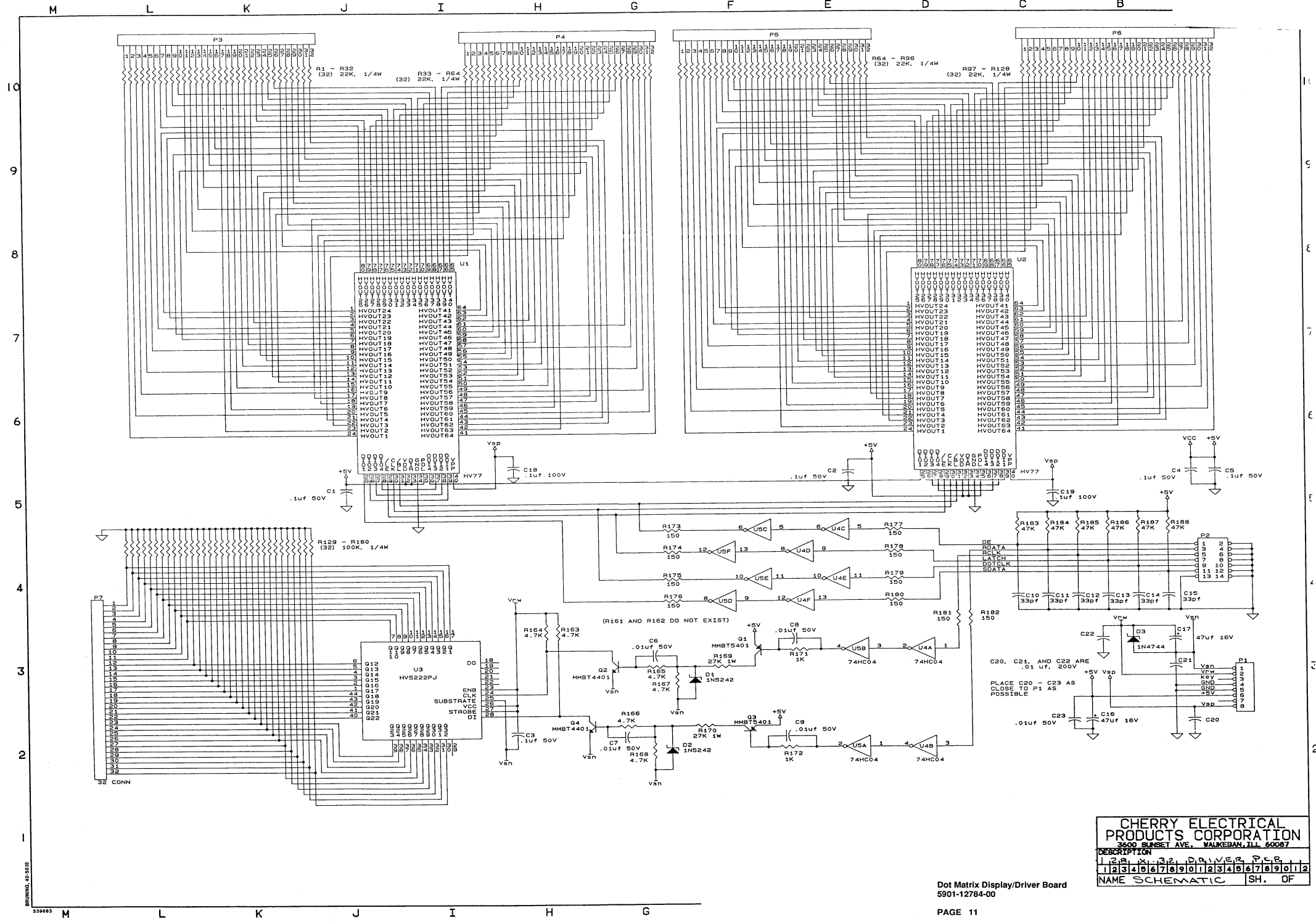
| REF | DES | QND | VCC | VRW | VSN | VCM | VSP |
|---------|-----|-----|-----|-----|-----|-----|-------|
| U1 - U4 | | 23 | | | 24 | 23 | 25 24 |
| U5 | | | | | | | |
| U6 | | 7 | 14 | | | | |
| U7 | | 7 | | | | 14 | |
| U8 | | | | 8 | 5 | | |

- 2. RESISTOR VALUES ARE IN OHMS, 1/8 WATT, 5%.
 - 1. CAPACITOR VOLTAGES ARE 50V, 20%.
- NOTES: UNLESS OTHERWISE SPECIFIED.

Dot Matrix Display/Driver Board
5901-12784-00
PAGE 10

BABCOCK
DISPLAY PRODUCTS, INC.
1051 S. EAST STREET ANAHEIM, CALIFORNIA 92805

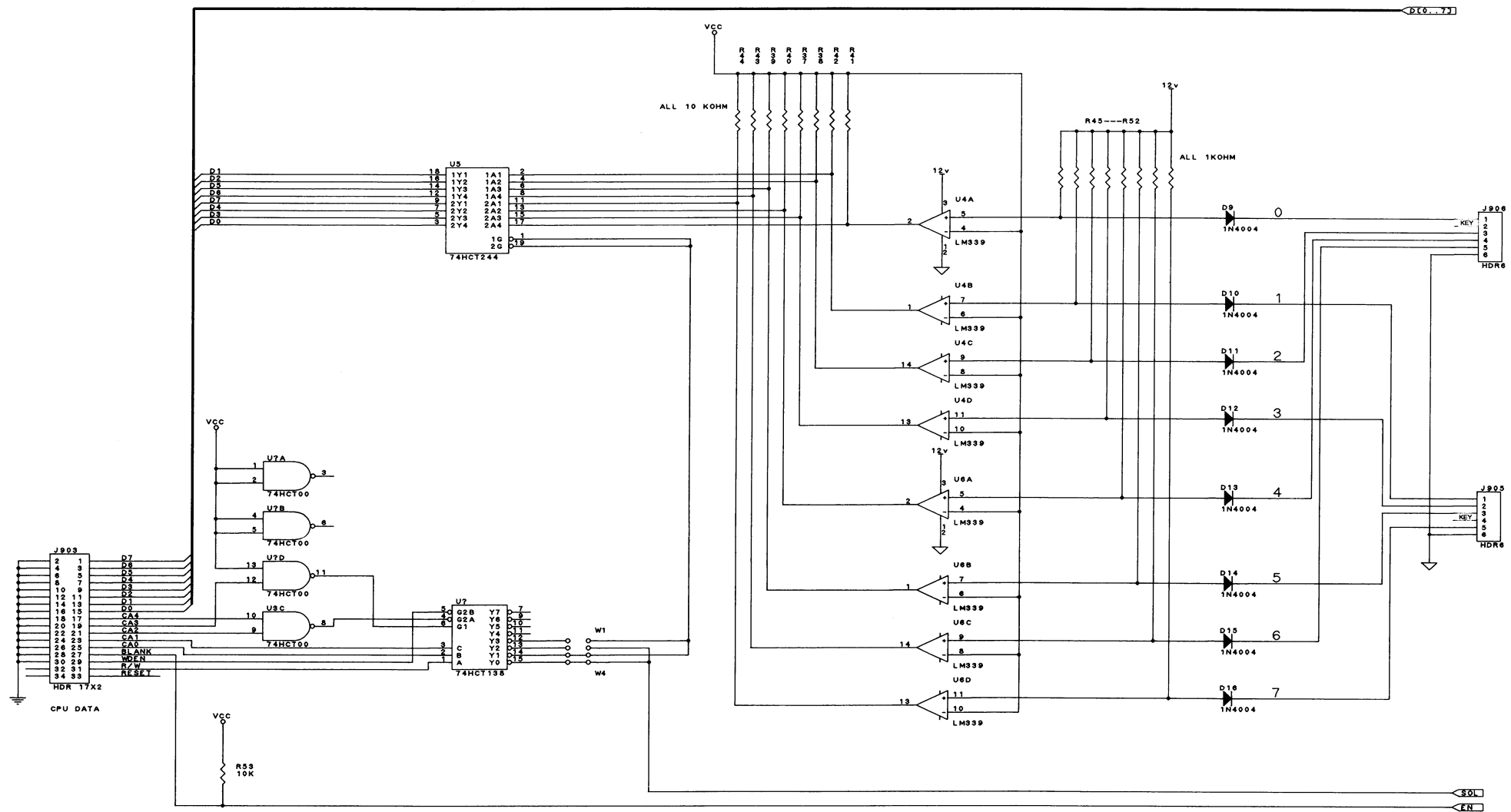
SCHEMATIC



CHERRY ELECTRICAL PRODUCTS CORPORATION
 3500 SUNSET AVE., WALKER, ILL. 60087
 DESCRIPTION: 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2
 NAME SCHEMATIC SH. OF

Dot Matrix Display/Driver Board
 5901-12784-00

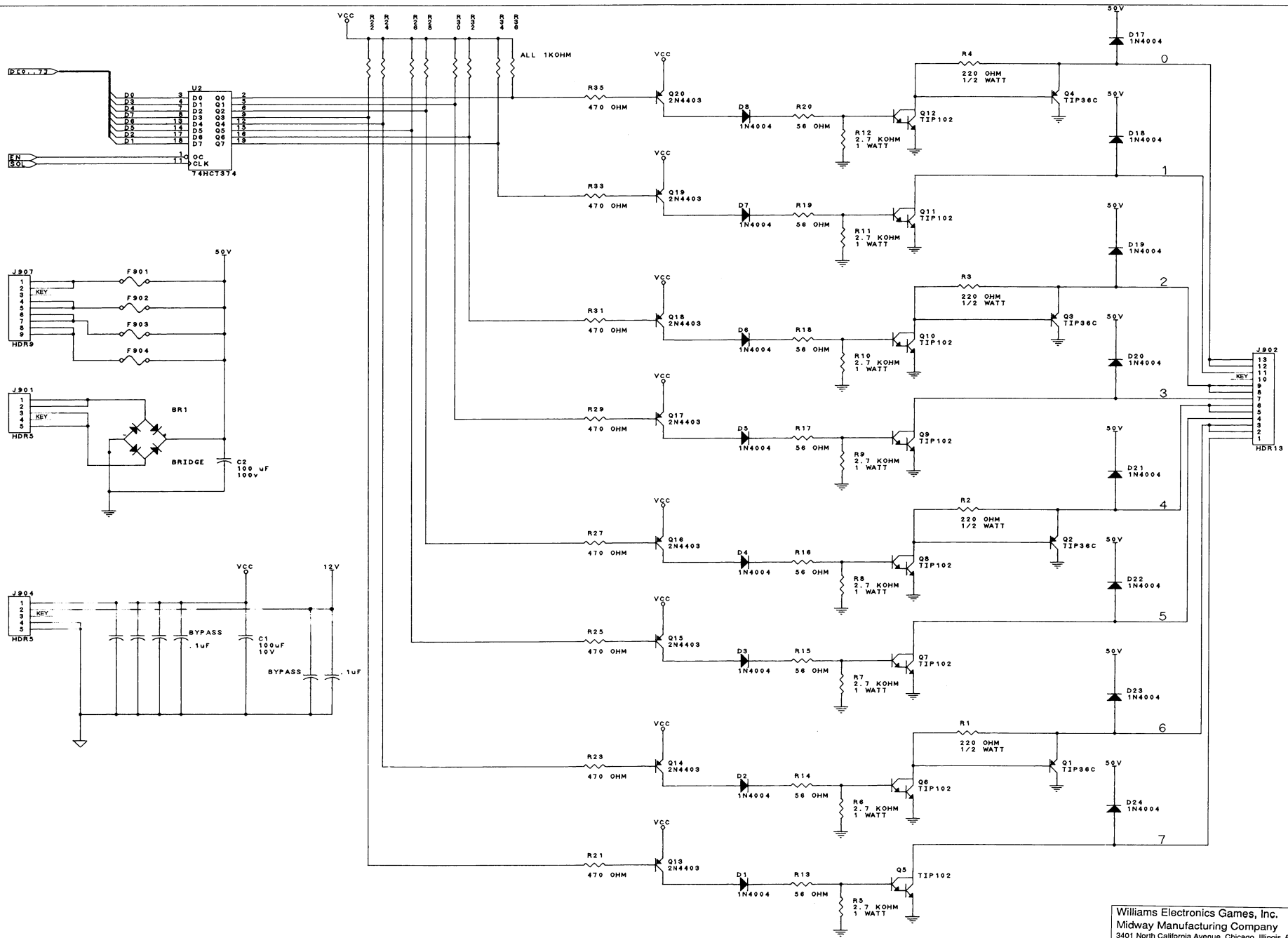
590883



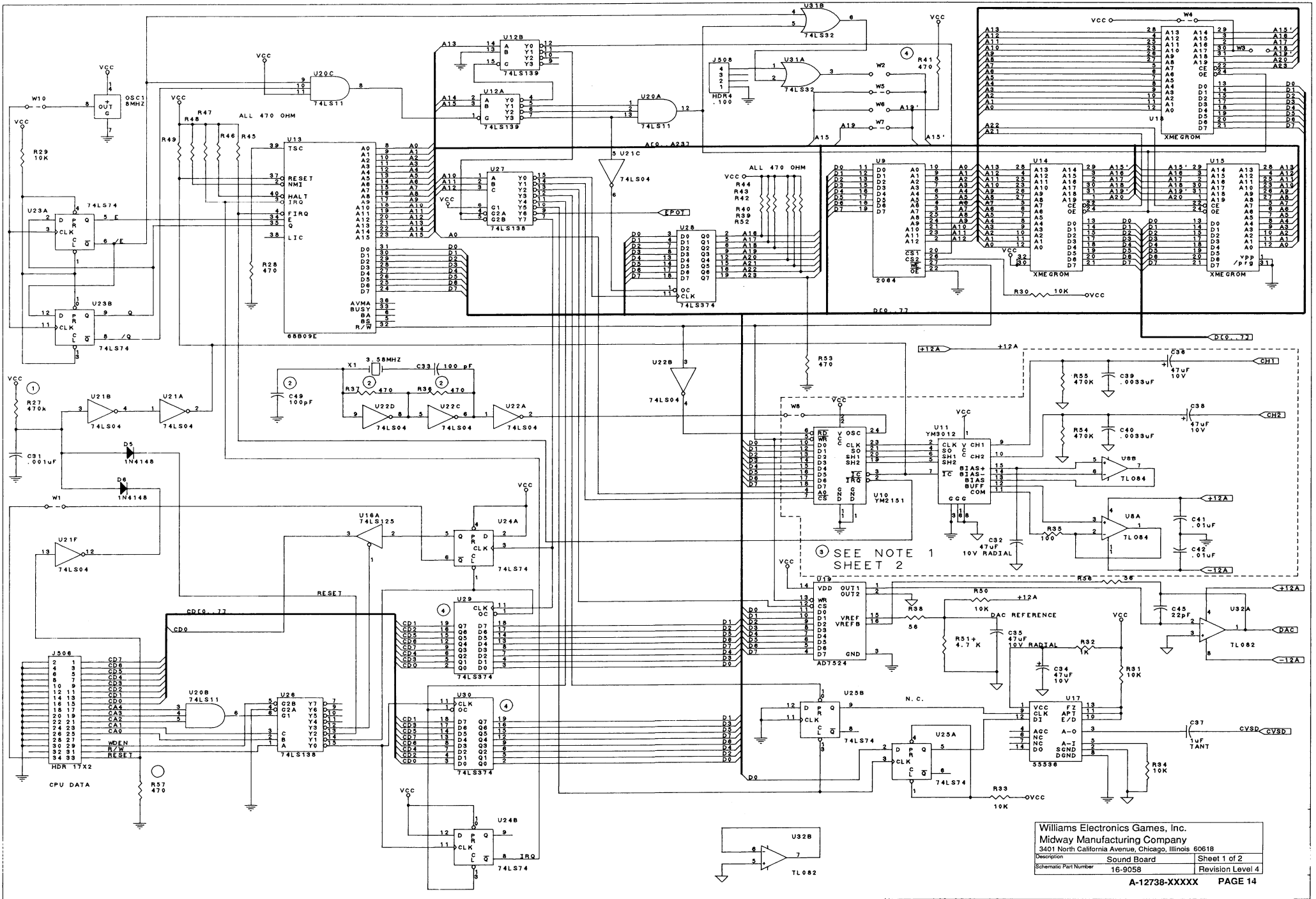
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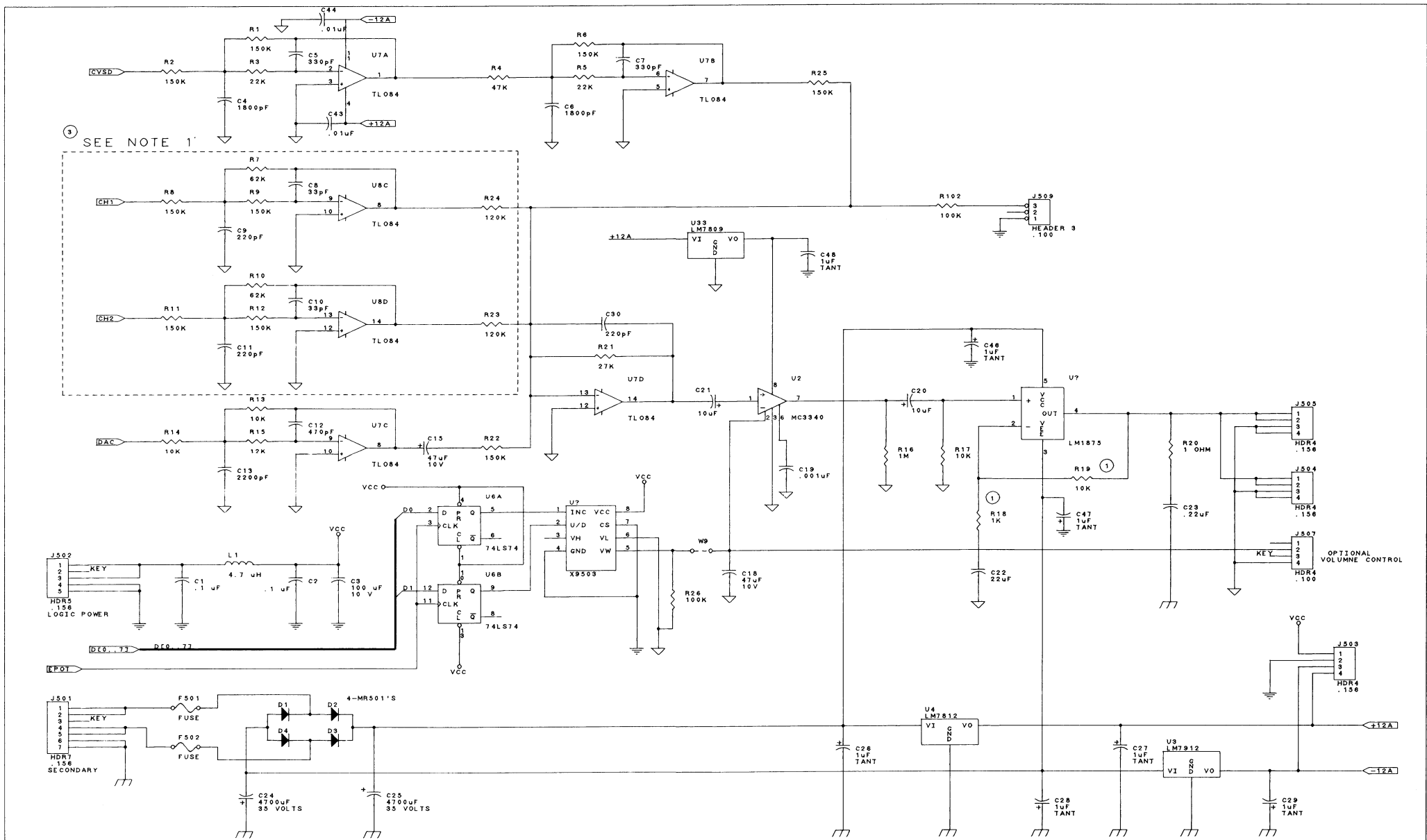
| | | |
|-----------------------|---------------------|------------------|
| Description | Fliptronic II Board | Sheet 1 of 2 |
| Schematic Part Number | 16-9307 | Revision Level 1 |

A-15472 PAGE 12



Williams Electronics Games, Inc.
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 3401 North California Avenue, Chicago, Illinois 60618
 Description: Fliptronic II Board
 Schematic Part Number: 16-9307
 Sheet 2 of 2
 Revision Level 1

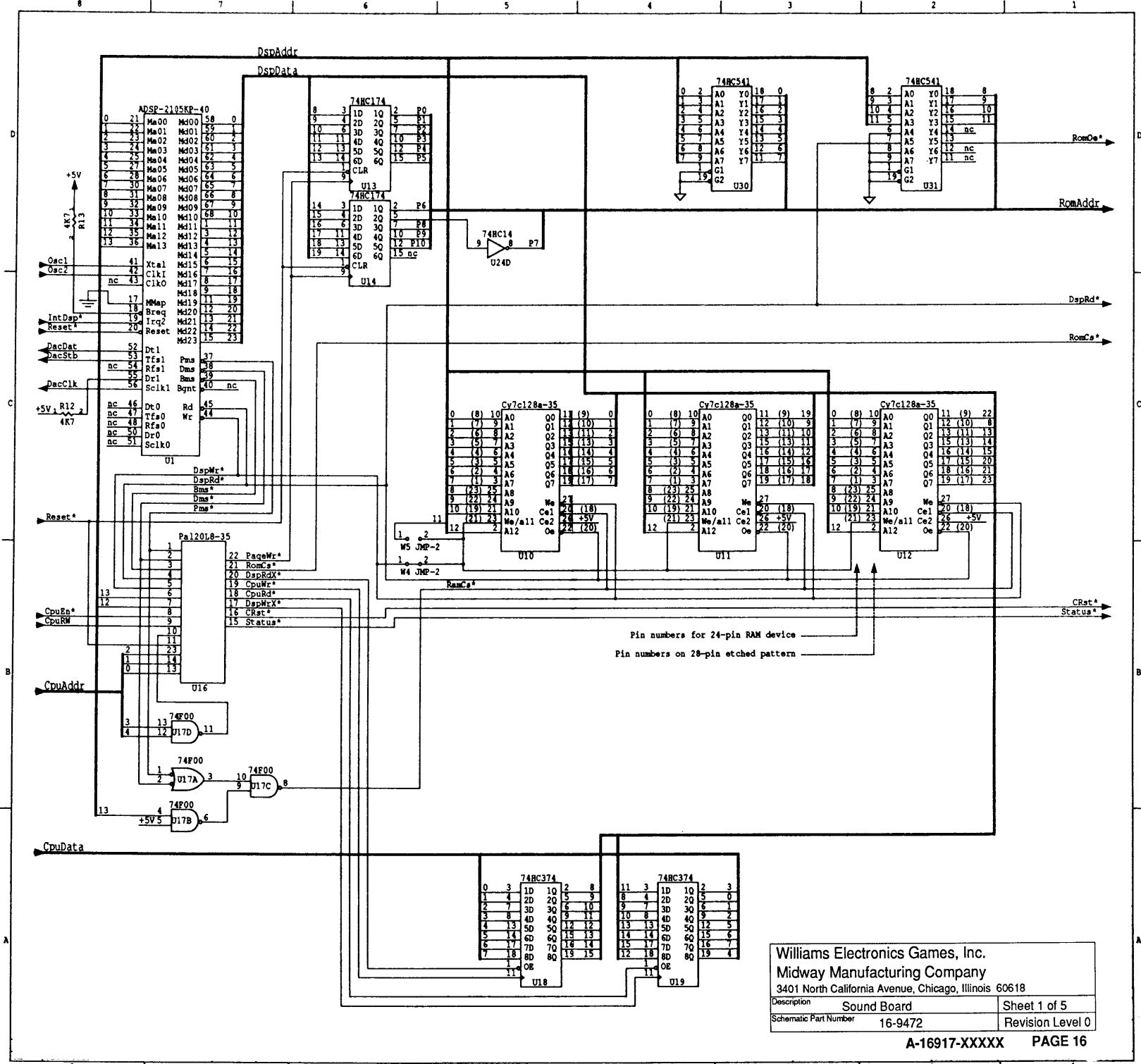




SEE NOTE 1

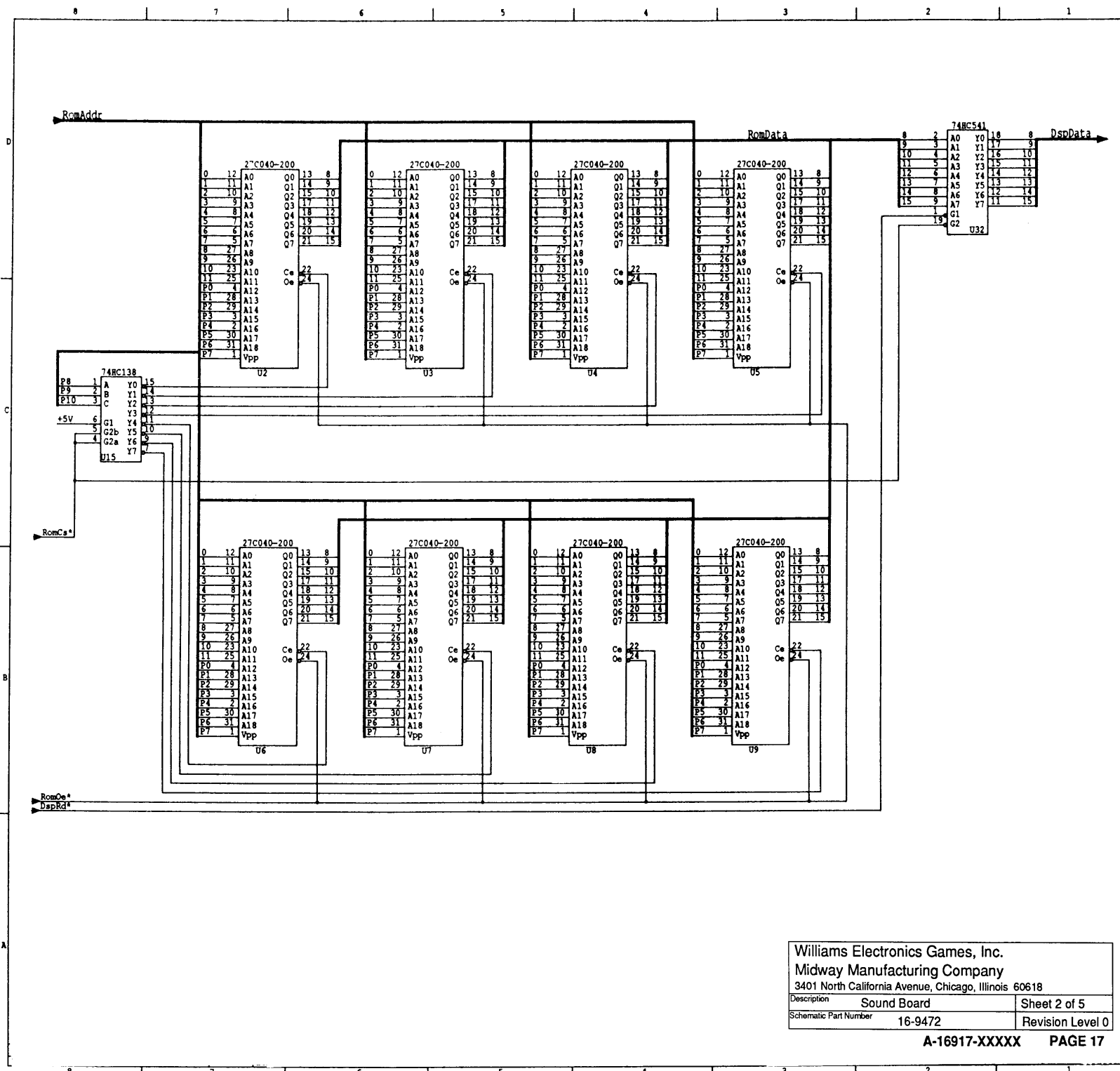
NOTES:
 1 COMPONENTS BOUNDED BY DASHED LINES ARE NOT USED IN SHUFFLE ALLEY GAMES.

| | | |
|---|-------------|------------------|
| Williams Electronics Games, Inc. | | |
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| Description | Sound Board | Sheet 2 of 2 |
| Schematic Part Number | 16-9058 | Revision Level 4 |



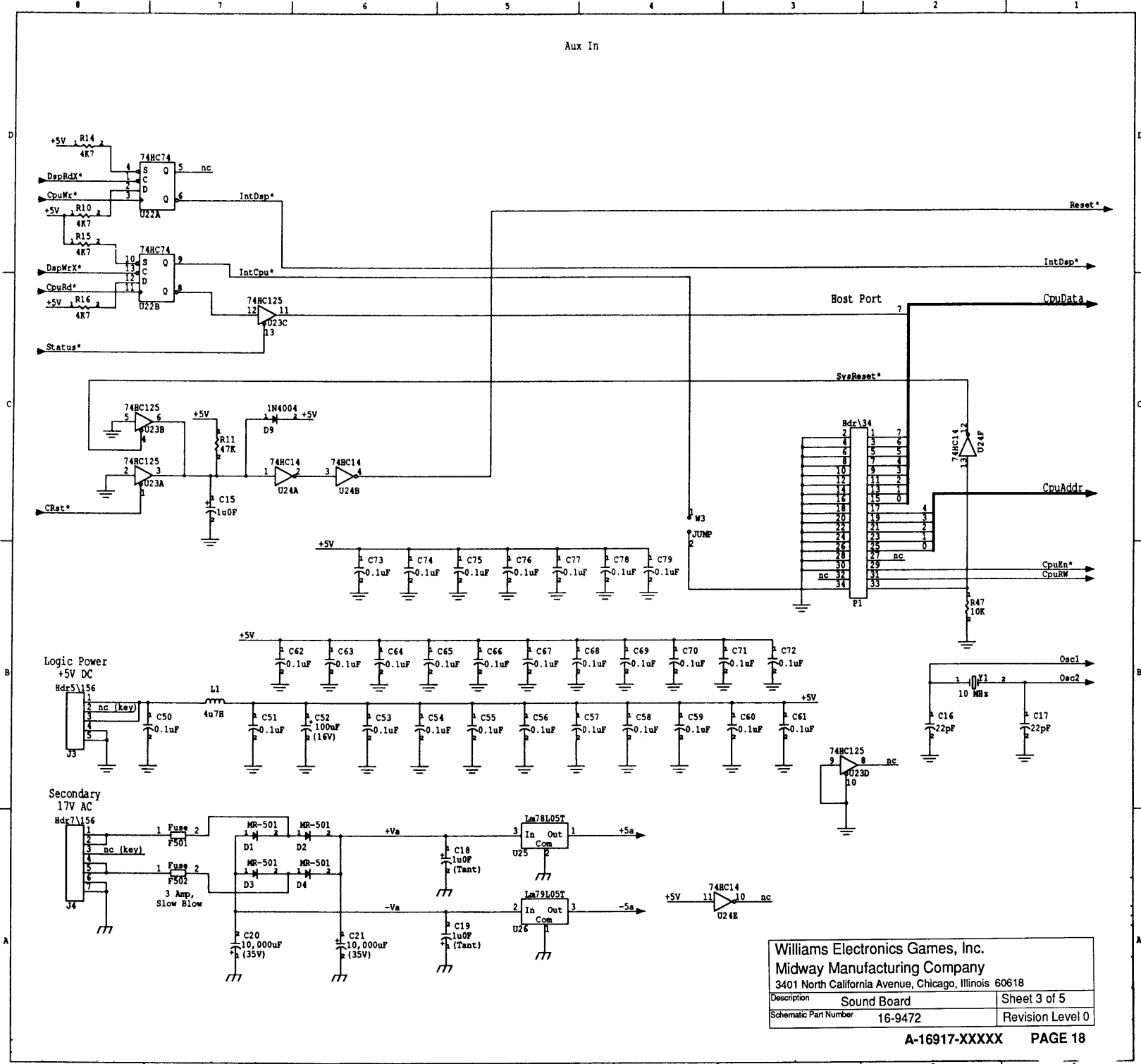
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| | | |
|-----------------------|-------------|------------------|
| Description | Sound Board | Sheet 1 of 5 |
| Schematic Part Number | 16-9472 | Revision Level 0 |



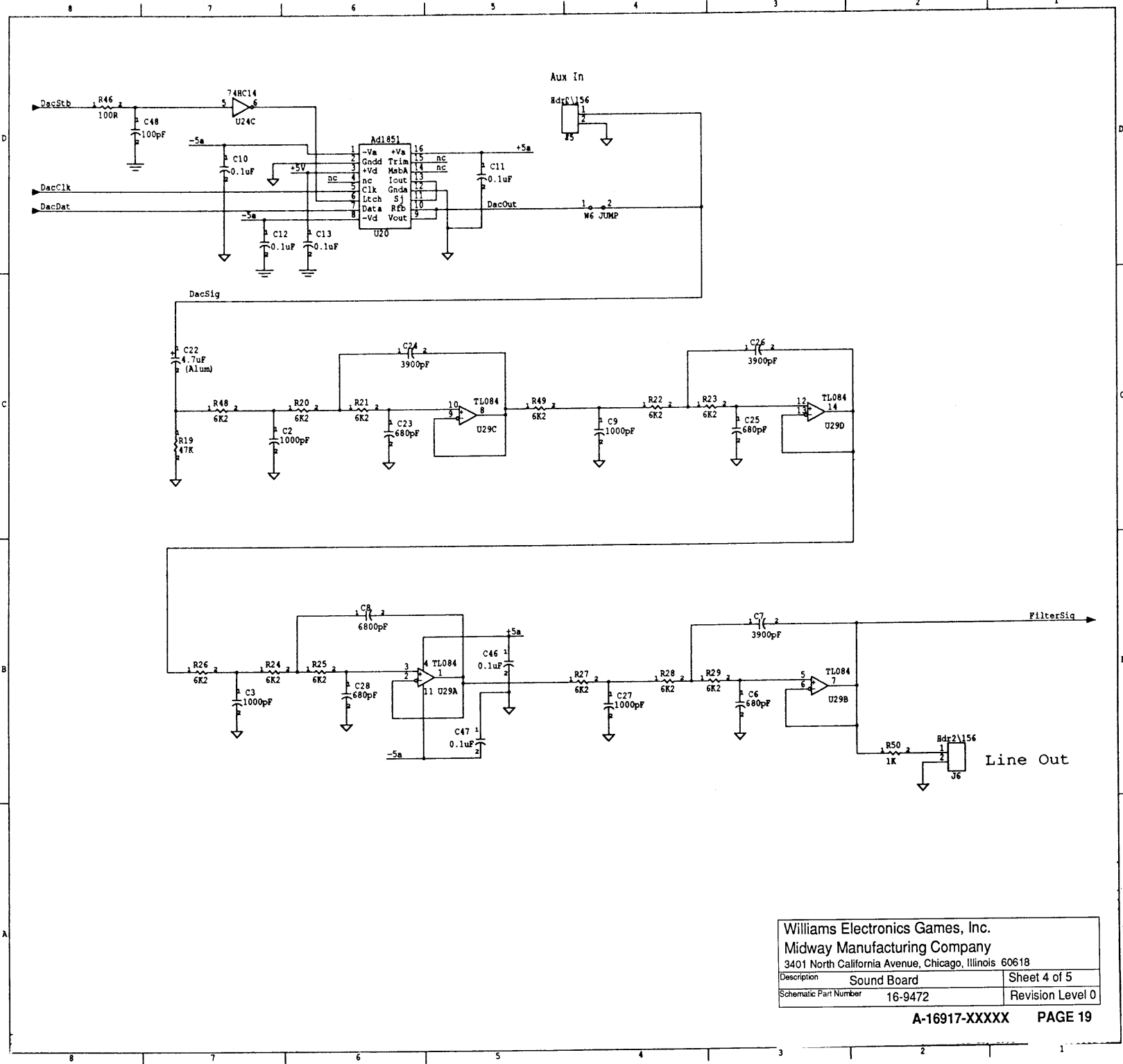
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| | | |
|-----------------------|-------------|------------------|
| Description | Sound Board | Sheet 2 of 5 |
| Schematic Part Number | 16-9472 | Revision Level 0 |



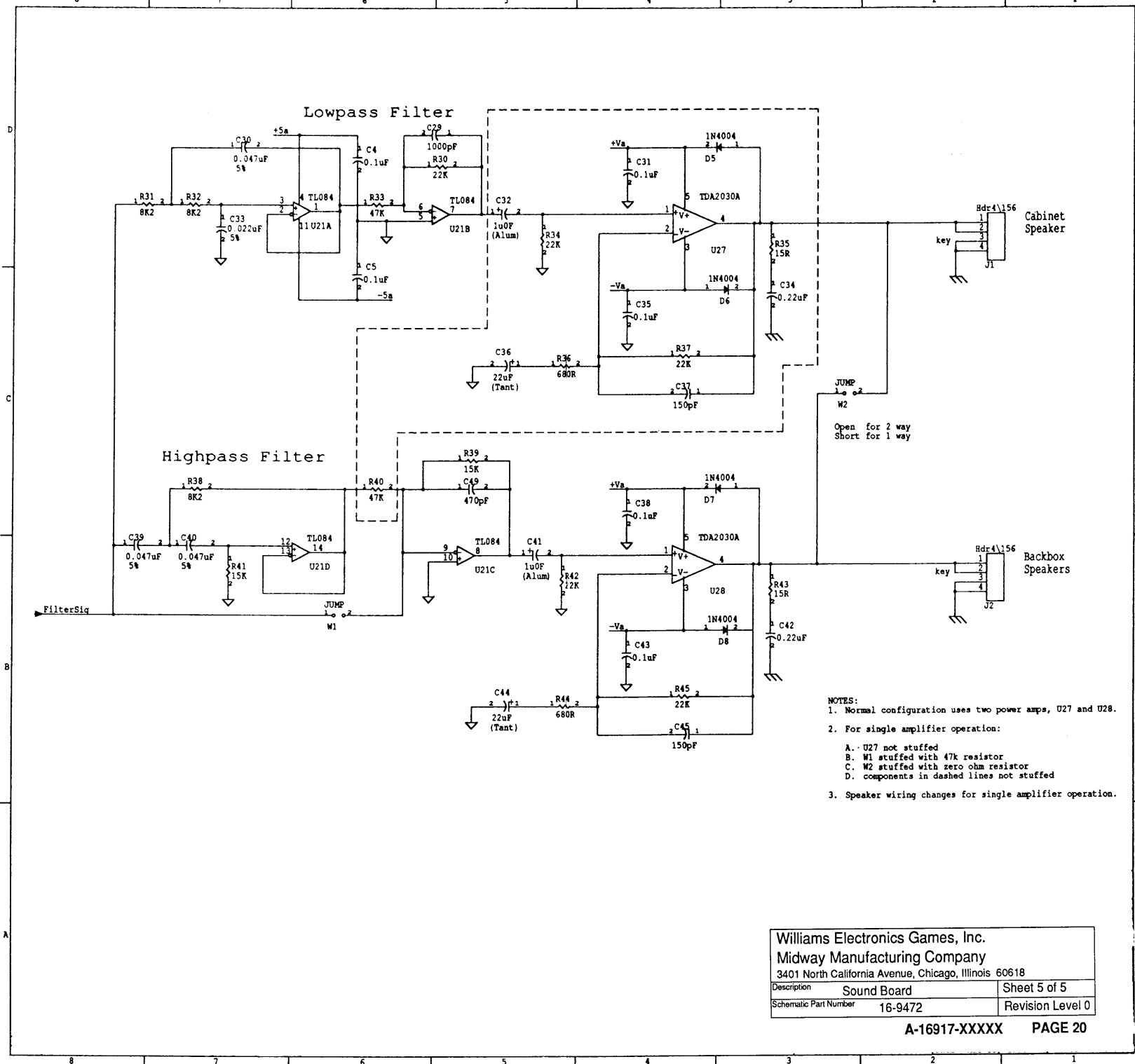
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| | | |
|-----------------------|-------------|------------------|
| Description | Sound Board | Sheet 3 of 5 |
| Schematic Part Number | 16-9472 | Revision Level 0 |



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| | | |
|-----------------------|-------------|------------------|
| Description | Sound Board | Sheet 4 of 5 |
| Schematic Part Number | 16-9472 | Revision Level 0 |



- NOTES:
1. Normal configuration uses two power amps, U27 and U28.
 2. For single amplifier operation:
 - A. U27 not stuffed
 - B. W1 stuffed with 47k resistor
 - C. W2 stuffed with zero ohm resistor
 - D. components in dashed lines not stuffed
 3. Speaker wiring changes for single amplifier operation.

| | | |
|---|-------------|------------------|
| Williams Electronics Games, Inc. | | |
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| Description | Sound Board | Sheet 5 of 5 |
| Schematic Part Number | 16-9472 | Revision Level 0 |