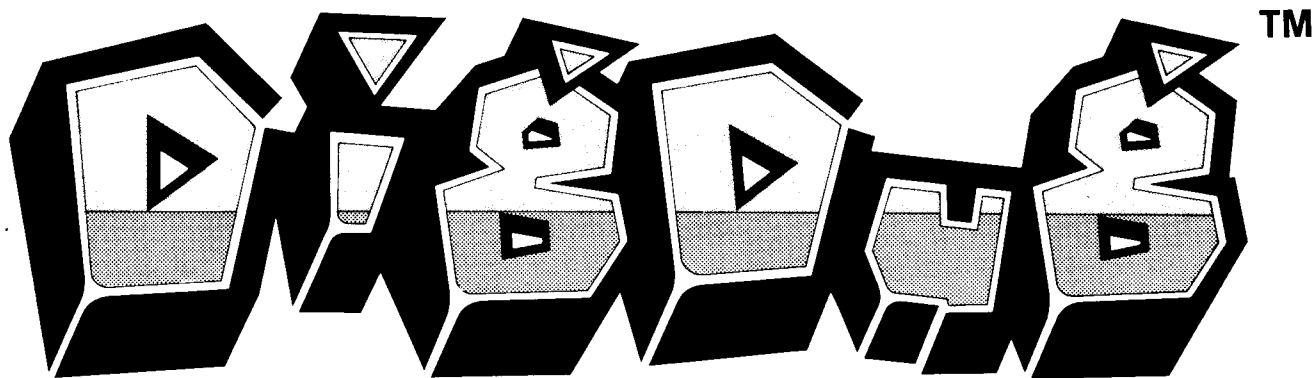
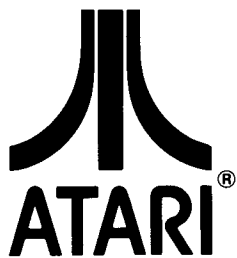


# Schematic Package Supplement to



## Operation, Maintenance and Service Manual



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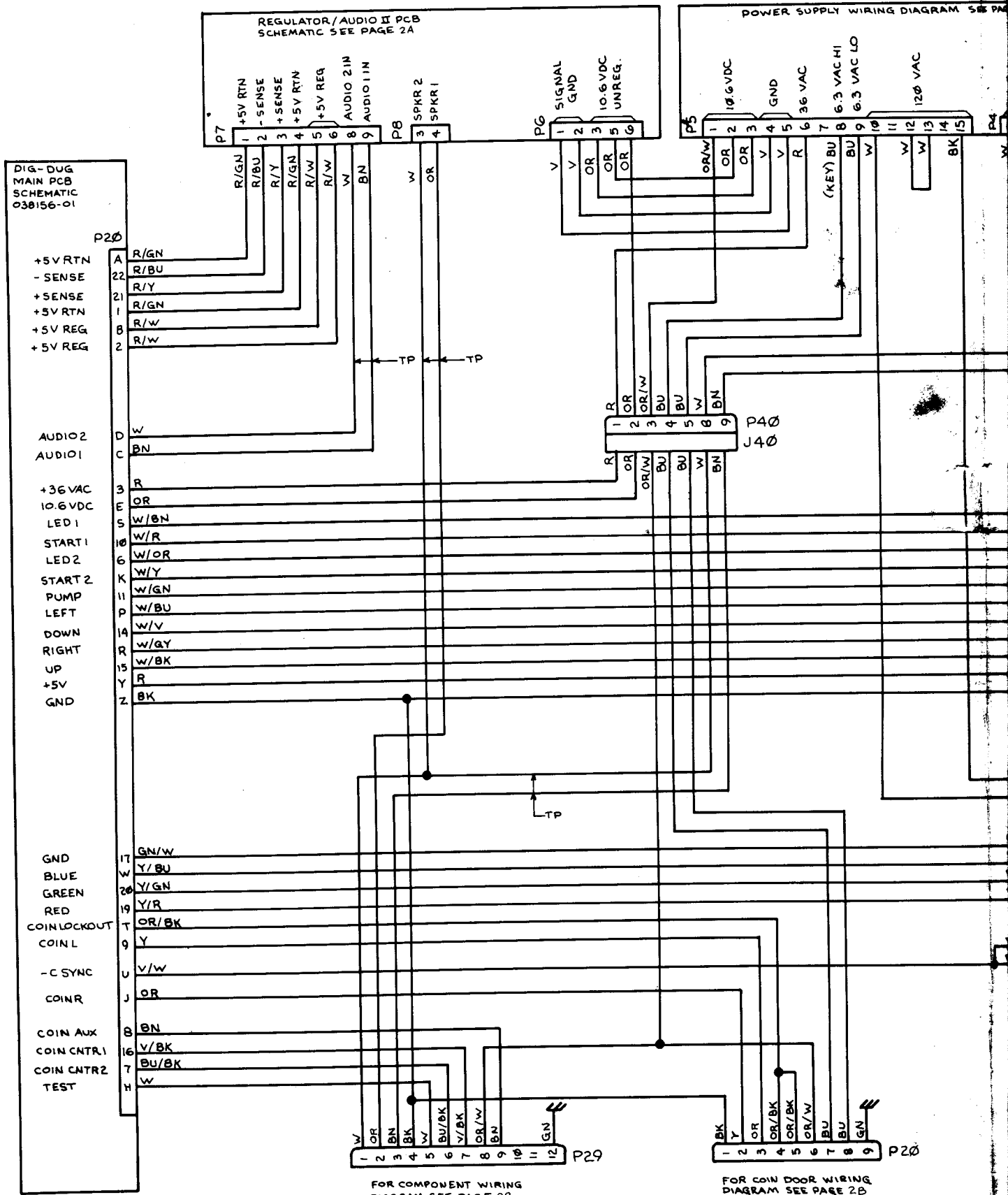
|          |   |
|----------|---|
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| Sheet 1B | Dig Dug Upright Wiring Diagram (038294-01 A)  |
| Sheet 2A | Dig Dug Cocktail Wiring Diagram (038377-01 A)   |
| Sheet 2B | Dig Dug Cabaret Wiring Diagram (038391-01 A)  |
| Sheet 3A | Color Raster-Scan Power Supply Wiring Diagram (037669-01 A)<br>Regulator/Audio II PCB Schematic Diagram (035435-01 F)   |
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| Sheet 4A | Power Input, Clock, NMI, Watchdog, and Memory Map                               |
| Sheet 4B | 1st Priority CPU, 2nd Priority CPU  |
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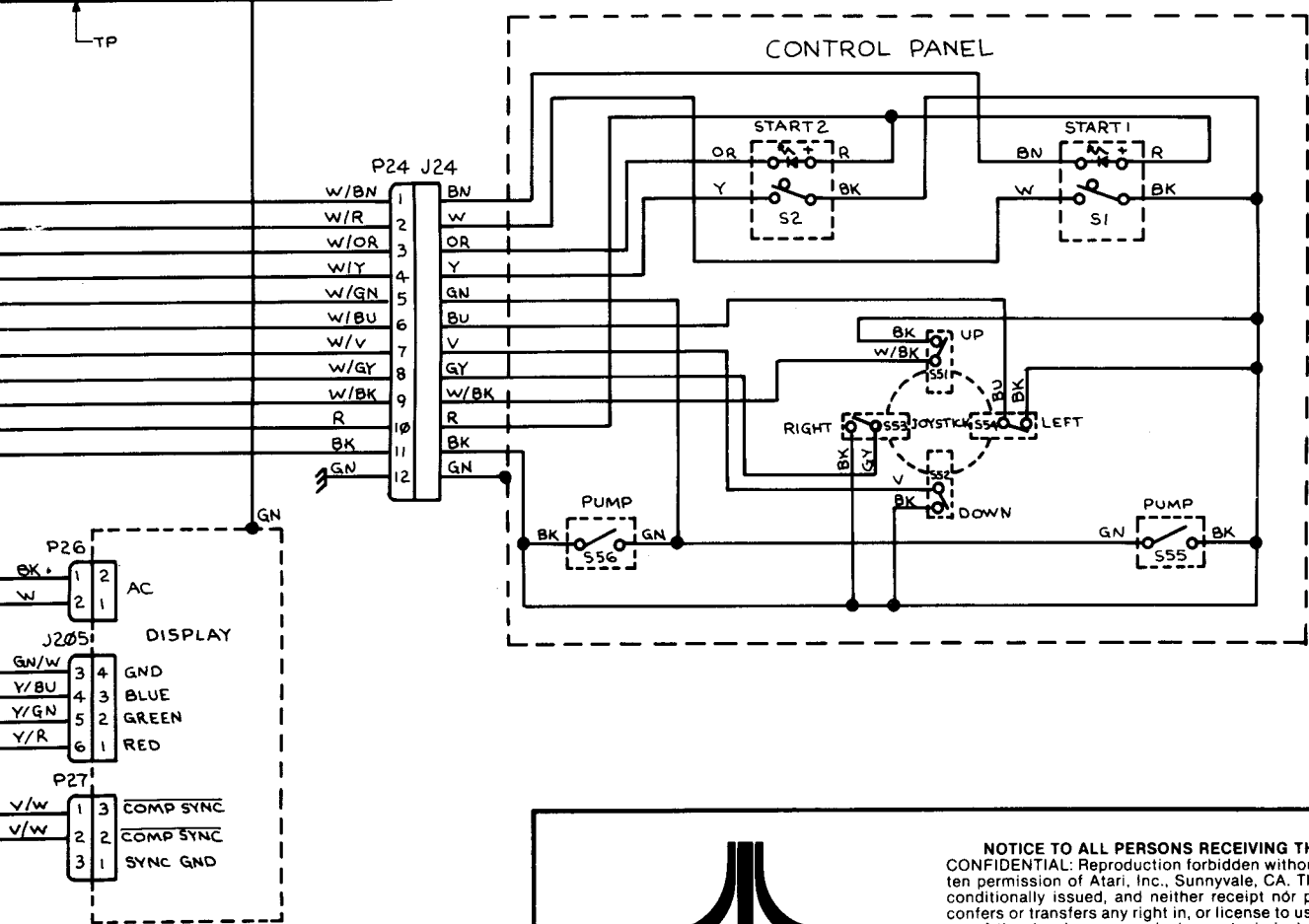
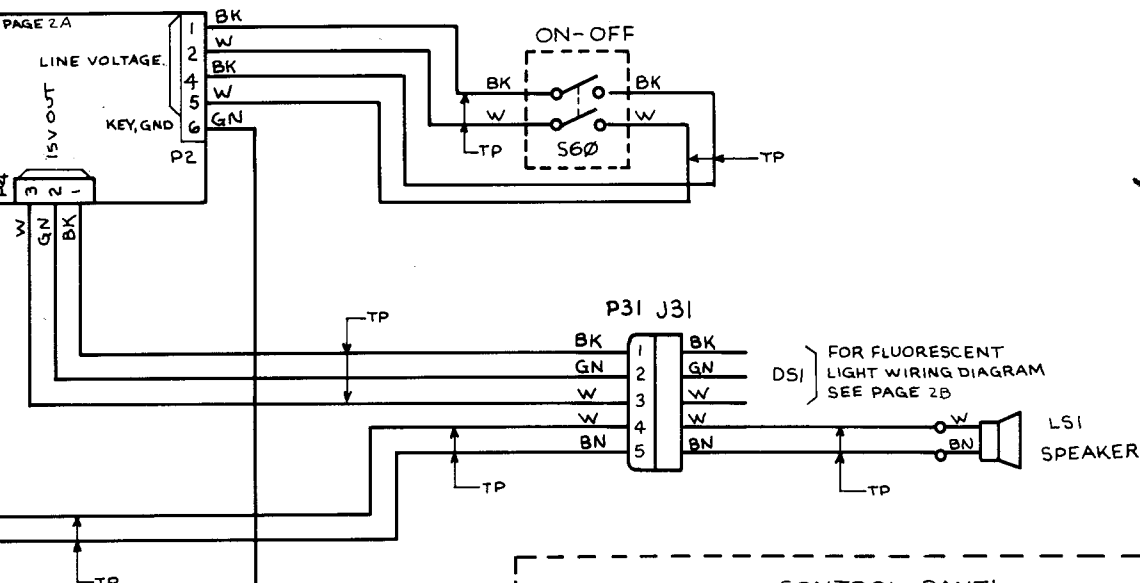
NOTE  
This staple temporarily holds the schematic package together. Remove the staple before using the schematics.

# Upright Wiring Diagram



FOR COMPONENT WIRING DIAGRAM SEE PAGE 2B

FOR COIN DOOR WIRING DIAGRAM SEE PAGE 2B



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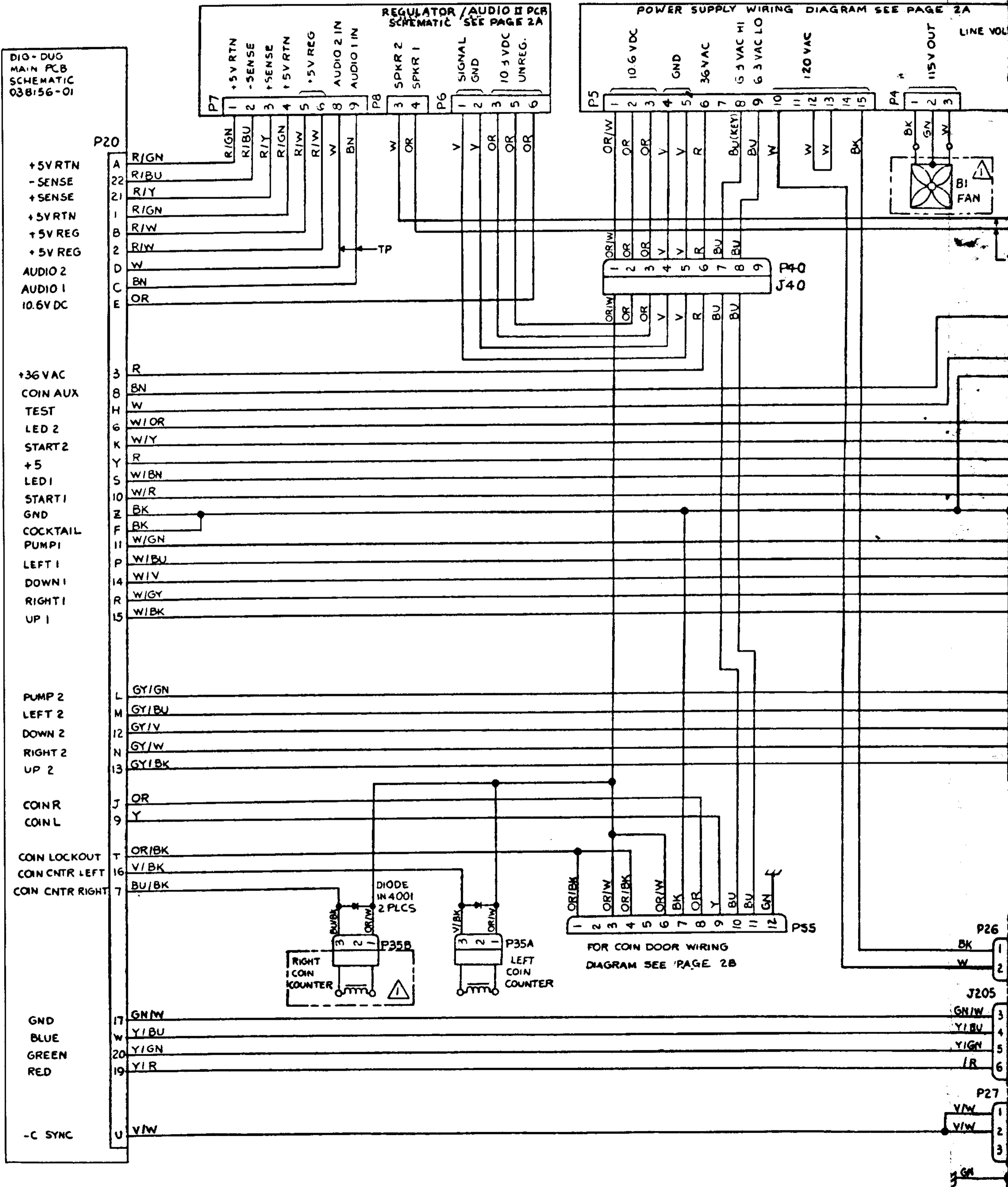
## Dig Dug Upright Wiring Diagram

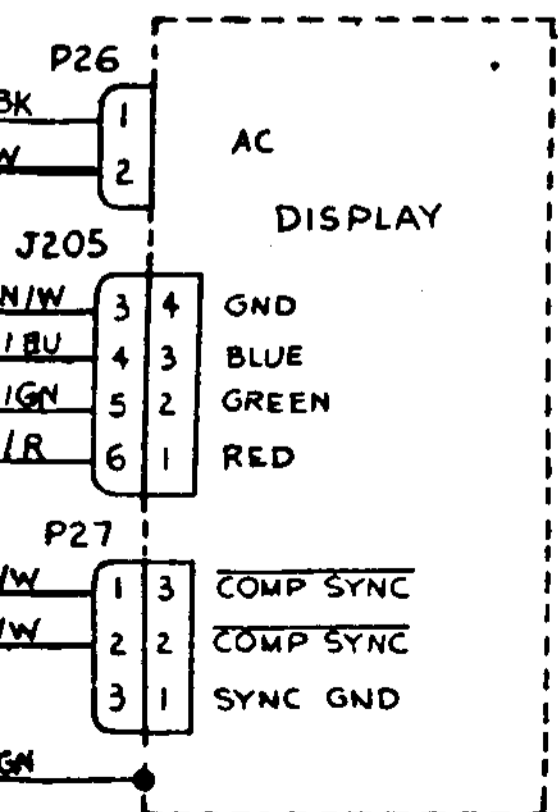
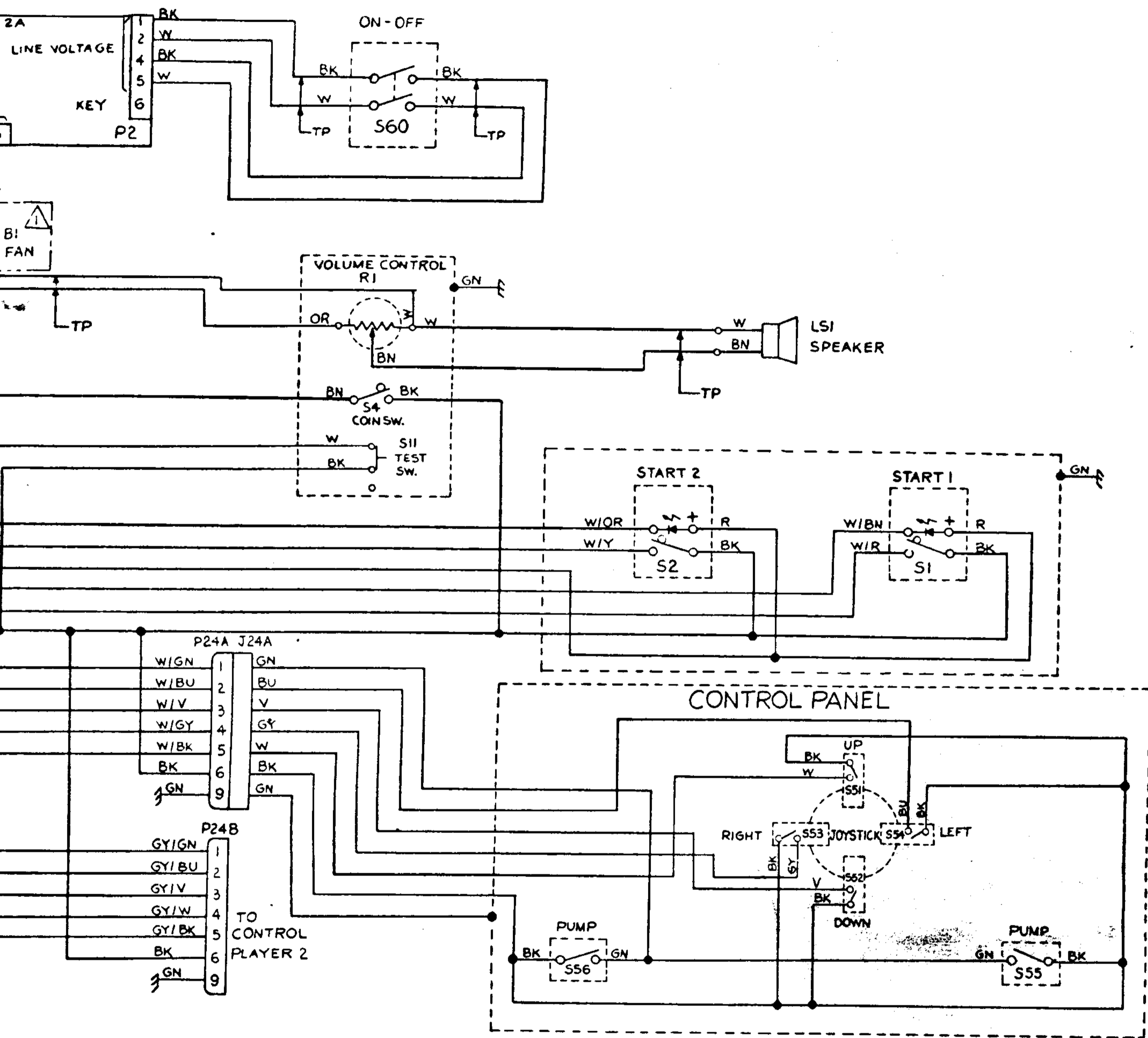
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SP-203 Sheet 1B  
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# Cocktail Wiring Diagram





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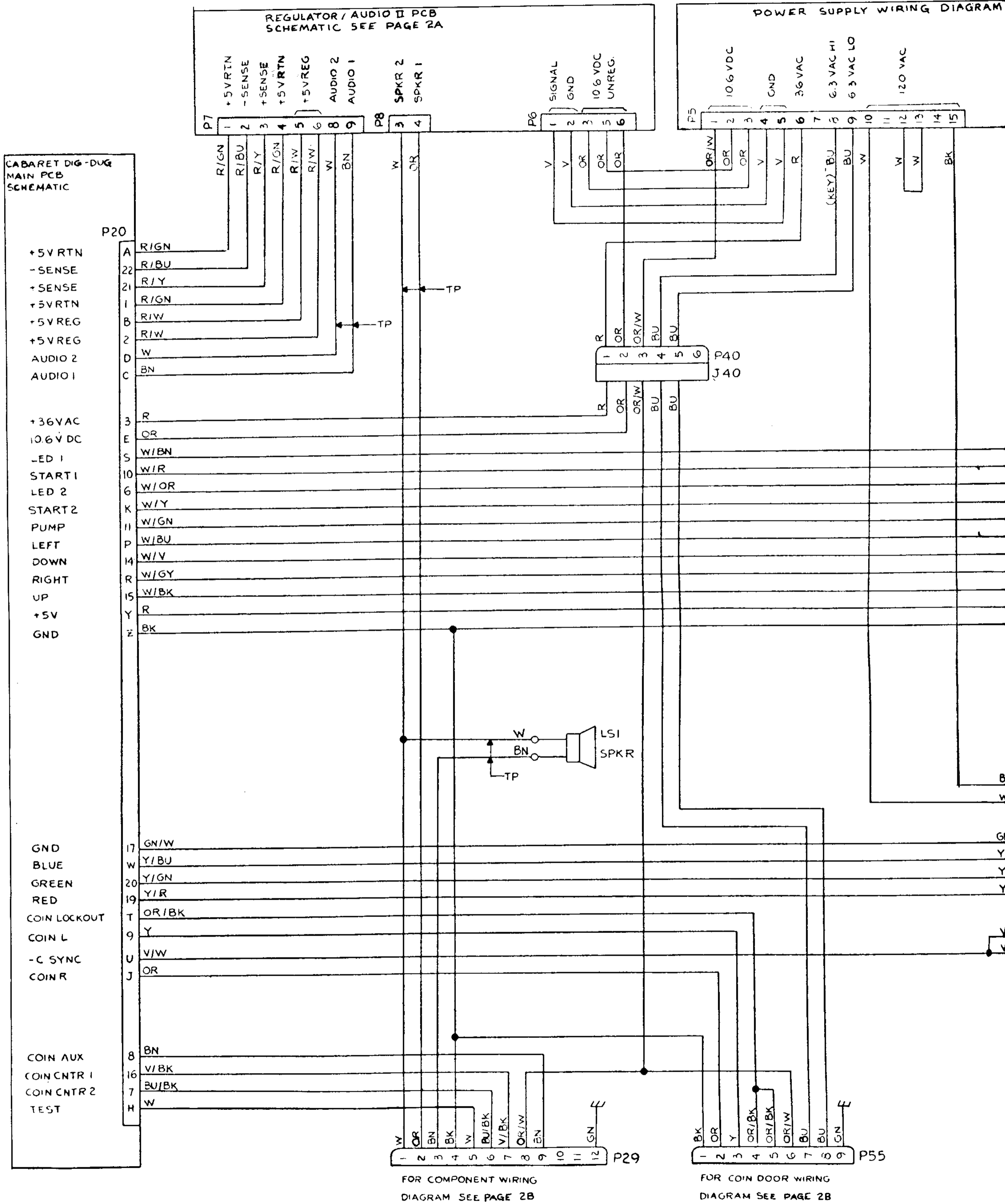
## Dig Dug Cocktail Wiring Diagram

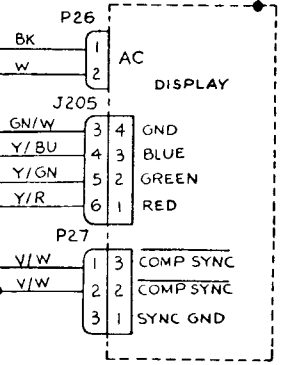
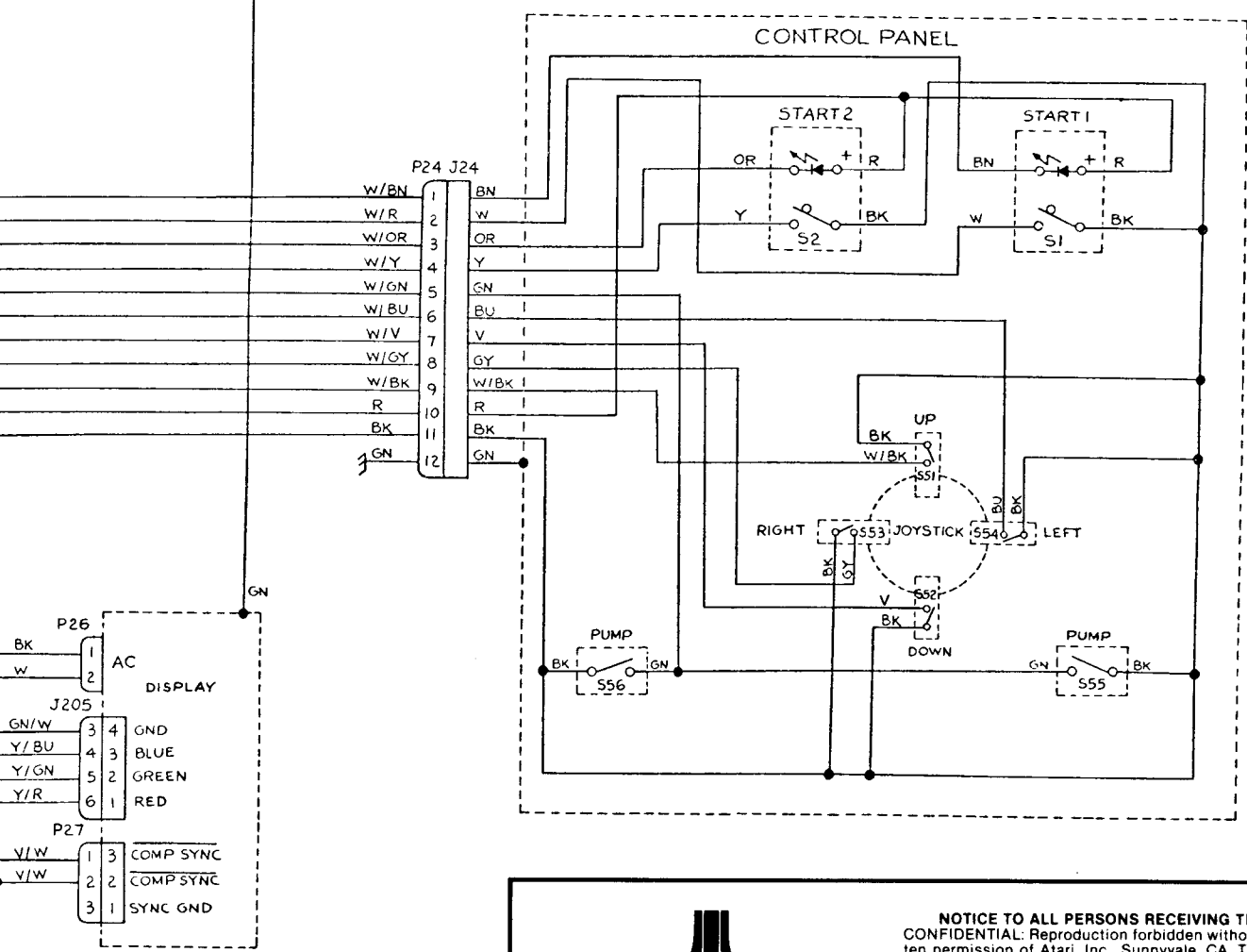
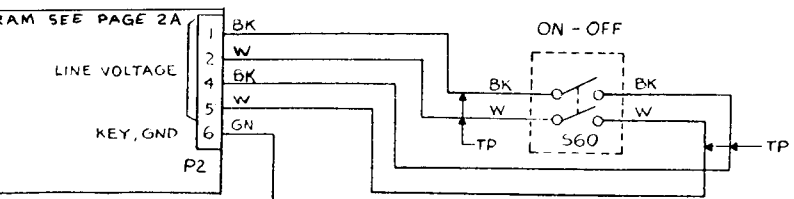
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# Cabaret Wiring Diagram



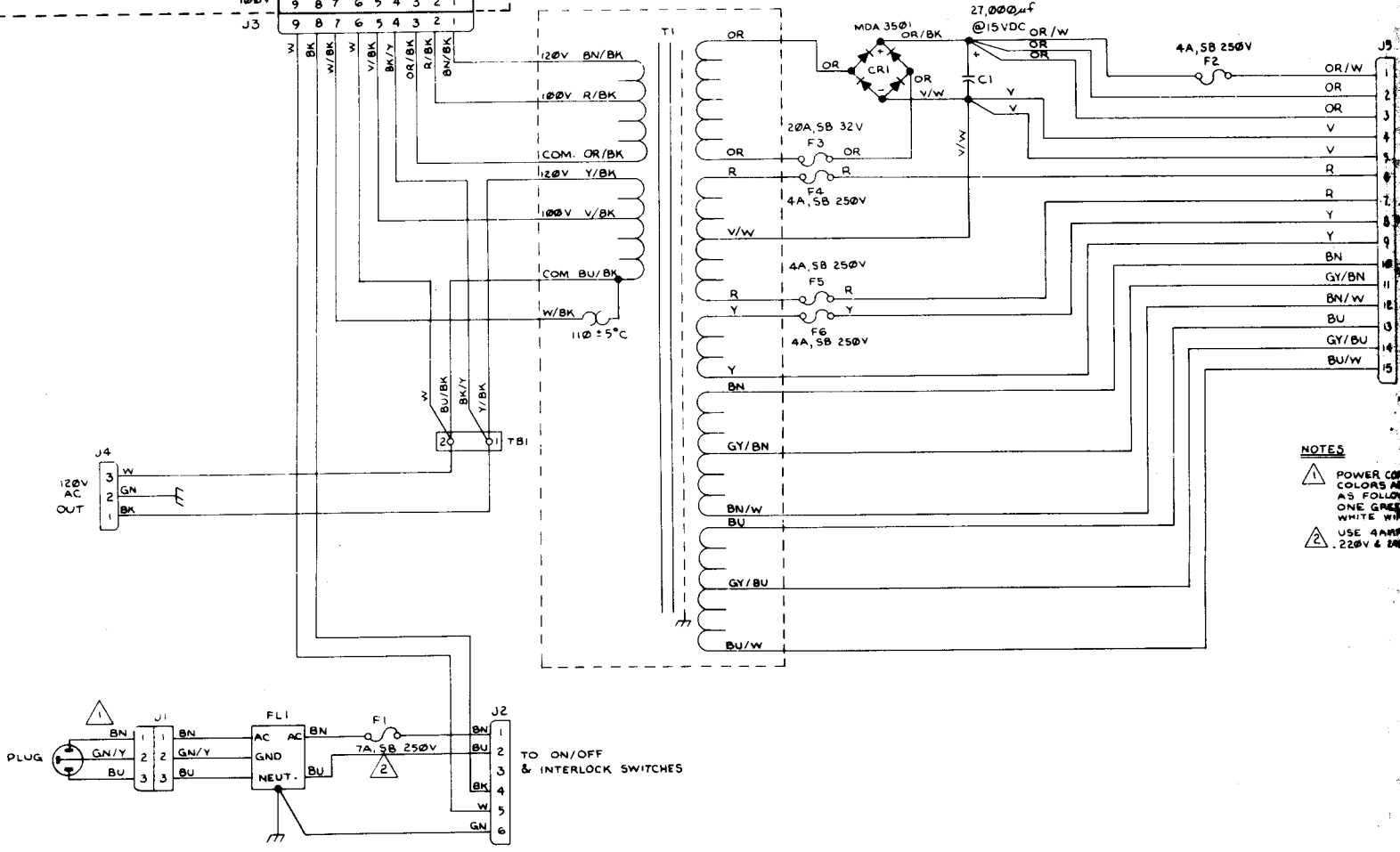
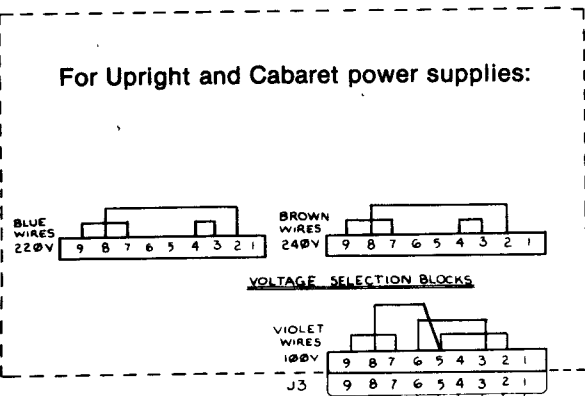
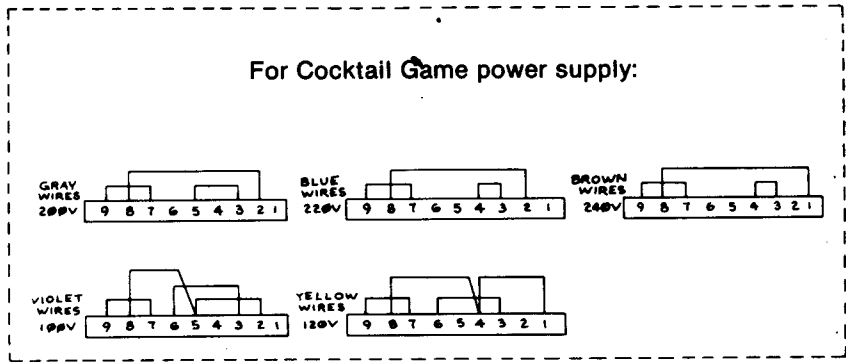


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## Dig Dug Cabaret Wiring Diagram

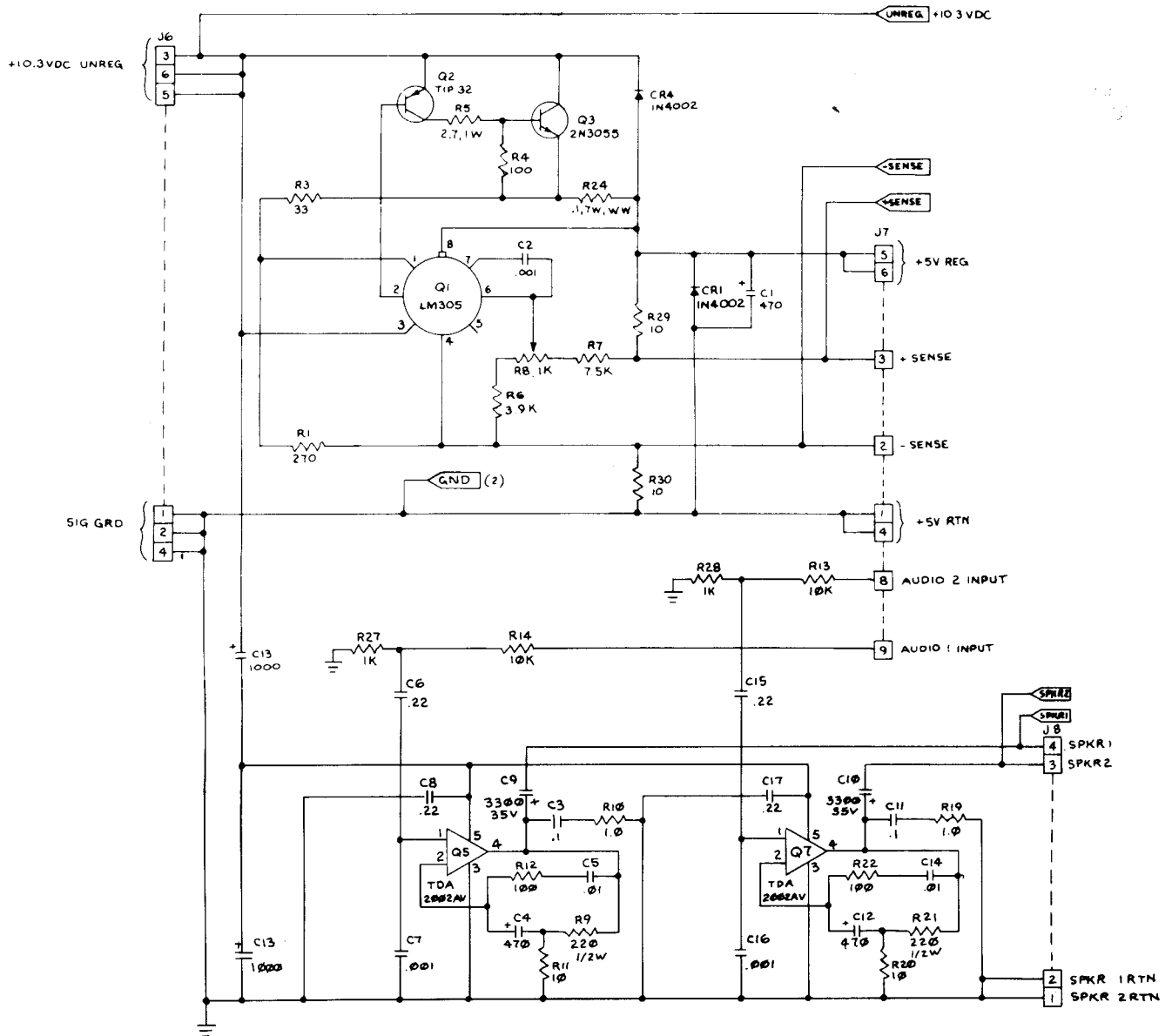


# Color Raster Power Supply Wiring Diagram



- NOTES**
- ⚠ POWER CORD COLORS AS FOLLOWS: ONE GREEN, WHITE, WHITE.
  - ⚠ USE 4 AMP, .220V & 250V.

# Regulator/Audio II PCB Schematic Diagram



KEY

- 10.6 VDC
- 10.6 VDC
- 10.6 VDC
- GND
- GND
- 36 VAC CT
- 6.1 VAC
- 60 VAC CT
- 60 VAC CT

RD ASSY MAY HAVE WIRE  
5 SHOWN OR WIRE COLORS  
W3: ONE BLACK WIRE (AC),  
IN WIRE (GND) AND ONE  
RE (NEUTRAL)  
P. 5B 250V FUSE AT F1 WITH  
OV (EUROPEAN ONLY)



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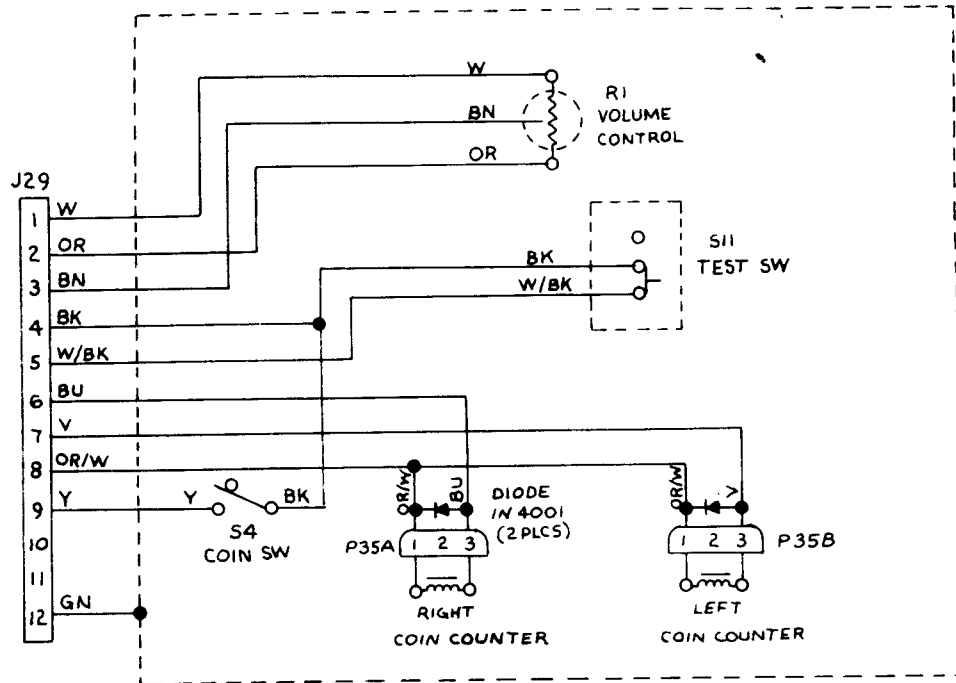
## Dig Dug Power Supply and Reg./Audio II PCB

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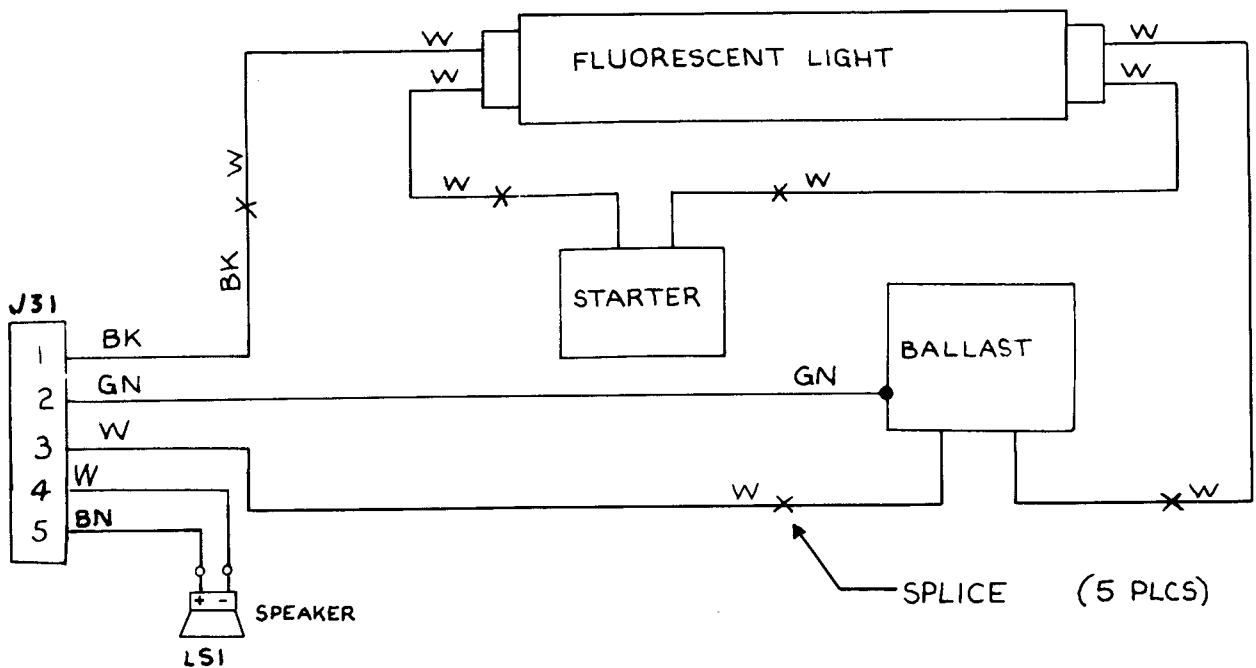
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2nd printing 4L

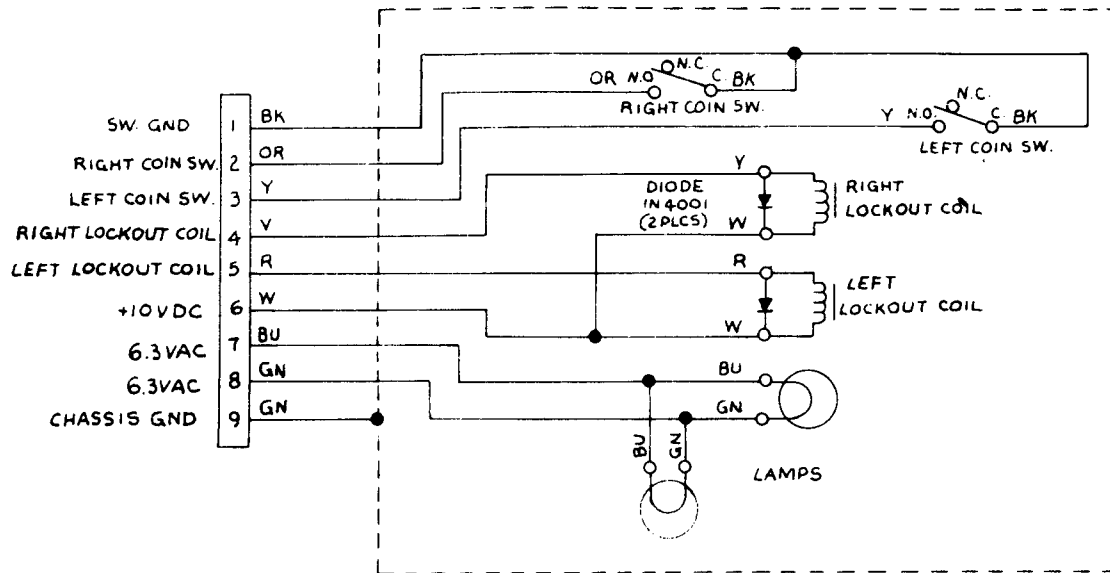
## Utility Panel Wiring Diagram



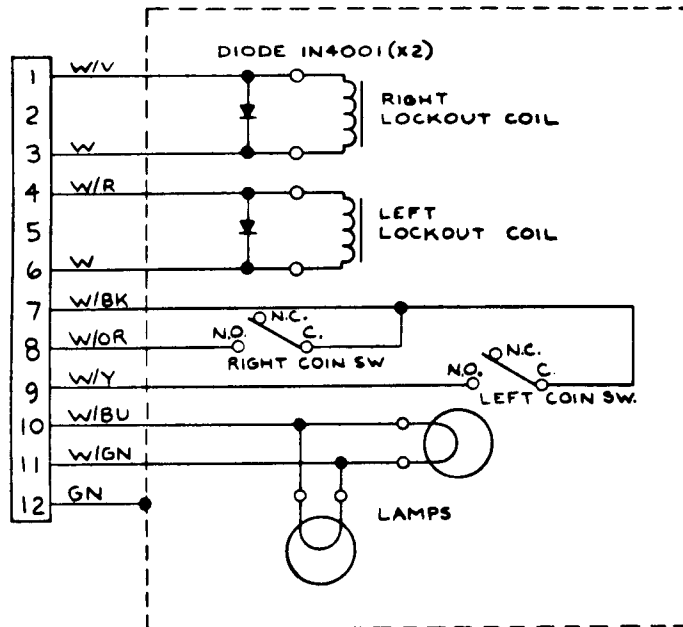
## Fluorescent Light and Speaker Wiring Diagram



## Upright and Cabaret Coin Door Wiring Diagram



## Cocktail Coin Door Wiring Diagram



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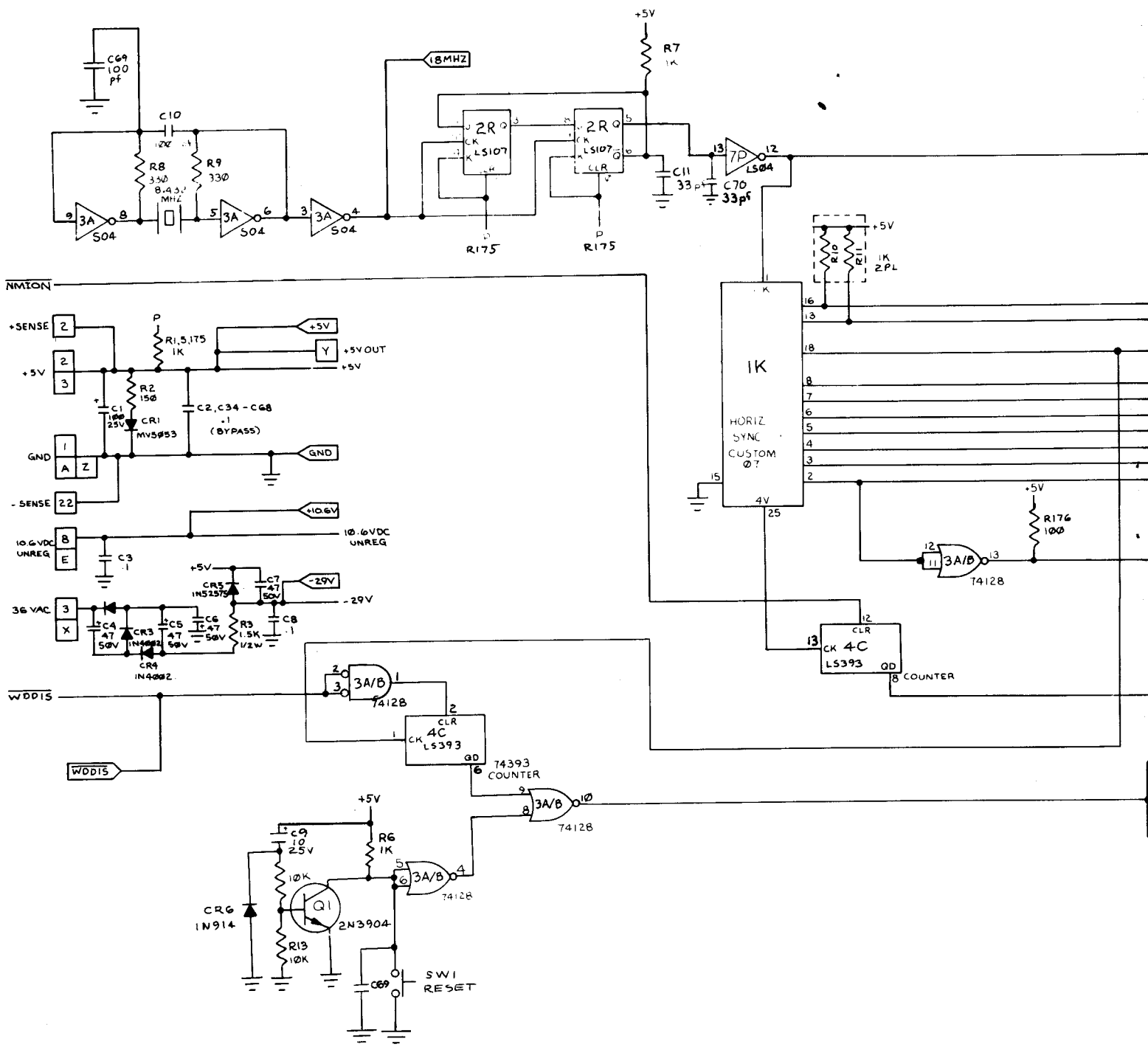
## Dig Dug Game Wiring Interfaces

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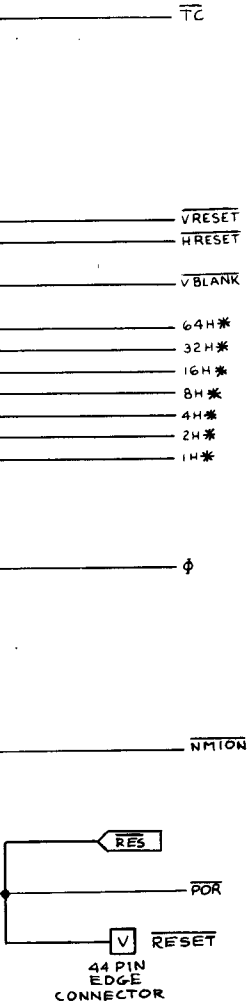
SP-203 Sheet 3B  
 2nd printing 4L

# Power Input, Clock, NMI, and Watchdog



## MEMORY MAP

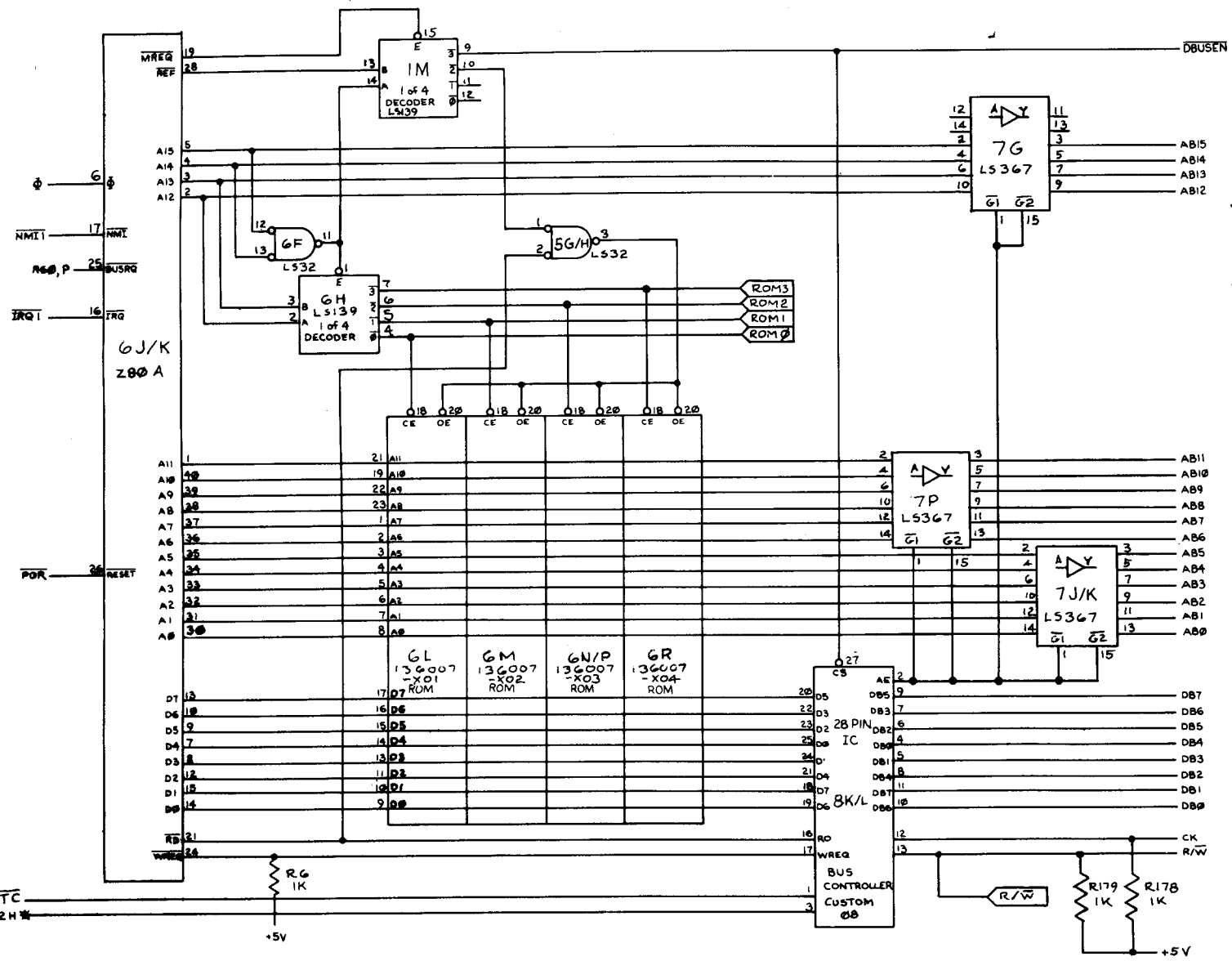
| HEXA-DECIMAL ADDRESS | R/W | DATA |    |    |    |    |    |    |    | FUNCTION                                 |
|----------------------|-----|------|----|----|----|----|----|----|----|--|
|                      |     | D7   | D6 | D5 | D4 | D3 | D2 | D1 | D0 |  |
| 0000-3FFF            | R   | D    | D  | D  | D  | D  | D  | D  | D  | 1st Priority Z80 CPU ROM (16K)           |
| 0000-1FFF            | R   | D    | D  | D  | D  | D  | D  | D  | D  | 2nd Priority Z80 CPU ROM (8K)            |
| 0000-0FFF            | R   | D    | D  | D  | D  | D  | D  | D  | D  | 3rd Priority Z80 CPU ROM (4K)            |
| 6800-680F            | W   |      |    |    |    | D  | D  | D  | D  | Audio Control                            |
| 6810-681F            | W   |      |    |    |    | D  | D  | D  | D  | Audio Control                            |
| 6820                 | W   |      |    |    |    |    |    |    | D  | 0 = Reset IRQ1 (Latched)                 |
| 6821                 | W   |      |    |    |    |    |    |    | D  | 0 = Reset IRQ2 (Latched)                 |
| 6822                 | W   |      |    |    |    |    |    |    | D  | 0 = Enable NMI3 (Latched)                |
| 6823                 | W   |      |    |    |    |    |    |    | D  | 0 = Reset 2nd and 3rd Z80 CPUs (Latched) |
| 6825                 | W   |      |    |    |    |    |    |    | D  | Custom Chip 53 Mode Control (Latched)    |
| 6826                 | W   |      |    |    |    |    |    |    | D  | Custom Chip 53 Mode Control (Latched)    |
| 6827                 | W   |      |    |    |    |    |    |    | D  | Custom Chip 53 Mode Control (Latched)    |
| 6830                 | W   |      |    |    |    |    |    |    |    | Watchdog Reset                           |
| 7000                 | R/W | D    | D  | D  | D  | D  | D  | D  | D  | Custom Chip 06—Data                      |
| 7100                 | R/W | D    | D  | D  | D  | D  | D  | D  | D  | Custom Chip 06—Command                   |
| 8000-87FF            | R/W | D    | D  | D  | D  | D  | D  | D  |    | 2K Playfield RAM                         |
| 8B80-8BFF            | R/W | D    | D  | D  | D  | D  | D  | D  | D  | 1K Motion RAM (PIC, COLOR)               |
| 9380-93FF            | R/W | D    | D  | D  | D  | D  | D  | D  | D  | 1K Motion RAM (VPOS, HPOS)               |
| 9B80-9BFF            | R/W | D    | D  | D  | D  | D  | D  | D  | D  | 1K Motion RAM (FLIP)                     |
| A000                 | W   |      |    |    |    |    |    |    | D  | Playfield Select (Latched)               |
| A001                 | W   |      |    |    |    |    |    |    | D  | Playfield Select (Latched)               |
| A002                 | W   |      |    |    |    |    |    |    | D  | Alphanumeric Color Select (Latched)      |
| A003                 | W   |      |    |    |    |    |    |    | D  | Playfield Enable (Latched)               |
| A004                 | W   |      |    |    |    |    |    |    | D  | Playfield Color Select (Latched)         |
| A005                 | W   |      |    |    |    |    |    |    | D  | Playfield Color Select (Latched)         |
| A007                 | W   |      |    |    |    |    |    |    | D  | Flip Video                               |
| B800-B83F            | W   | D    | D  | D  | D  | D  | D  | D  | D  | Write EARAM Address and Data             |
| B800                 | R   | D    | D  | D  | D  | D  | D  | D  | D  | Read EARAM Data                          |
| B840                 | W   |      |    |    |    | D  | D  | D  | D  | Write EARAM Control                      |



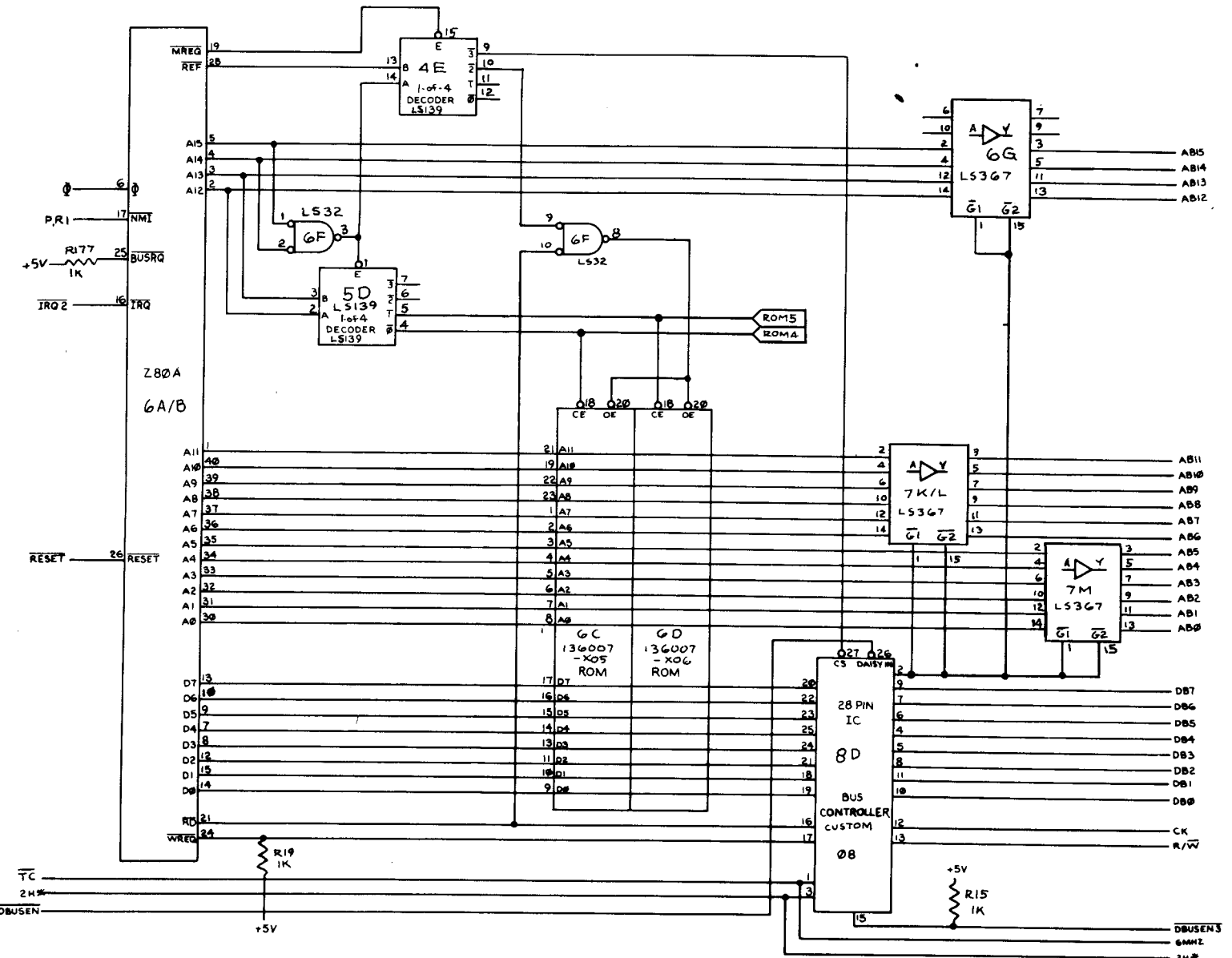
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### Dig Dug Game PCB Schematic Diagram

# 1st Priority CPU



# 2nd Priority CPU



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## Dig Dug Game PCB Schematic Diagram

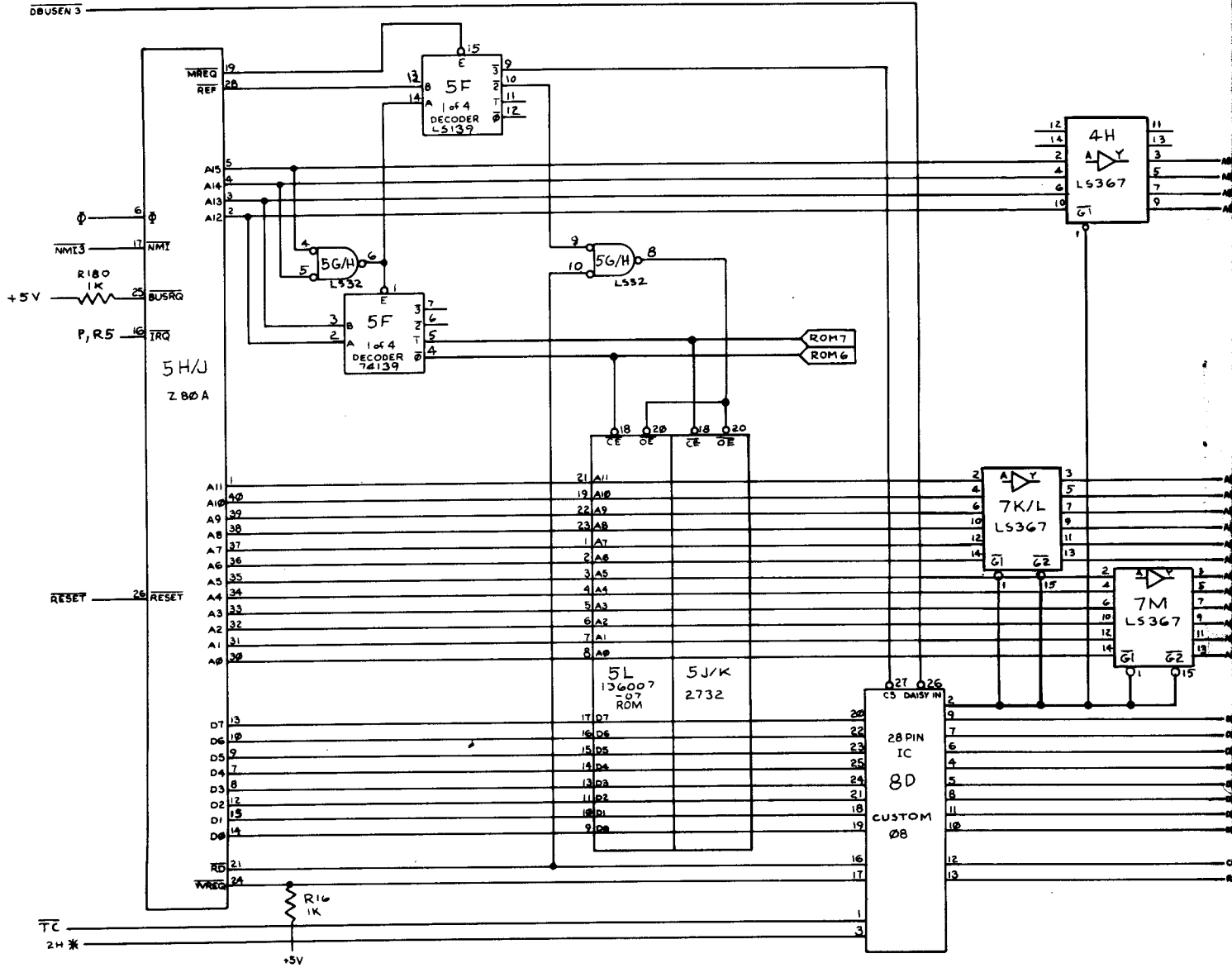
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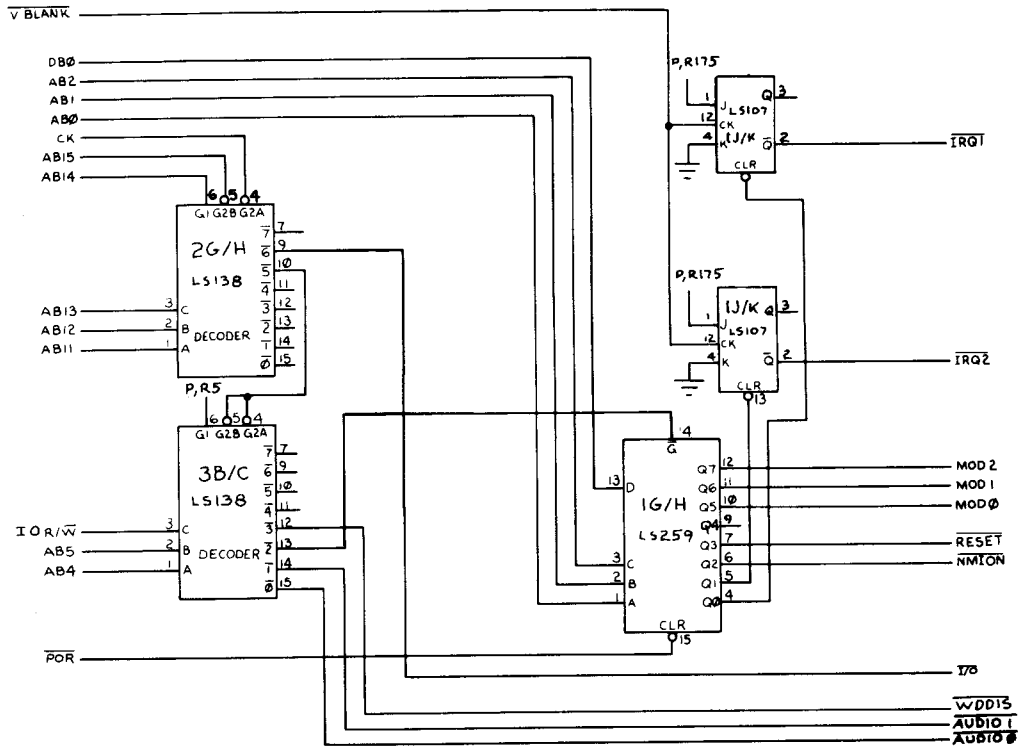
SP-203 Sheet 4B  
 2nd printing 4L



# 3rd Priority CPU



# Address Decoder



- AB15
- AB14
- AB13
- AB12
  
- AB11
- AB10
- AB9
- AB8
- AB7
- AB6
- AB5
- AB4
- AB3
- AB2
- AB1
- AB0
  
- DB7
- DB6
- DB5
- DB4
- DB3
- DB2
- DB1
- DB0
  
- CK
- R/W



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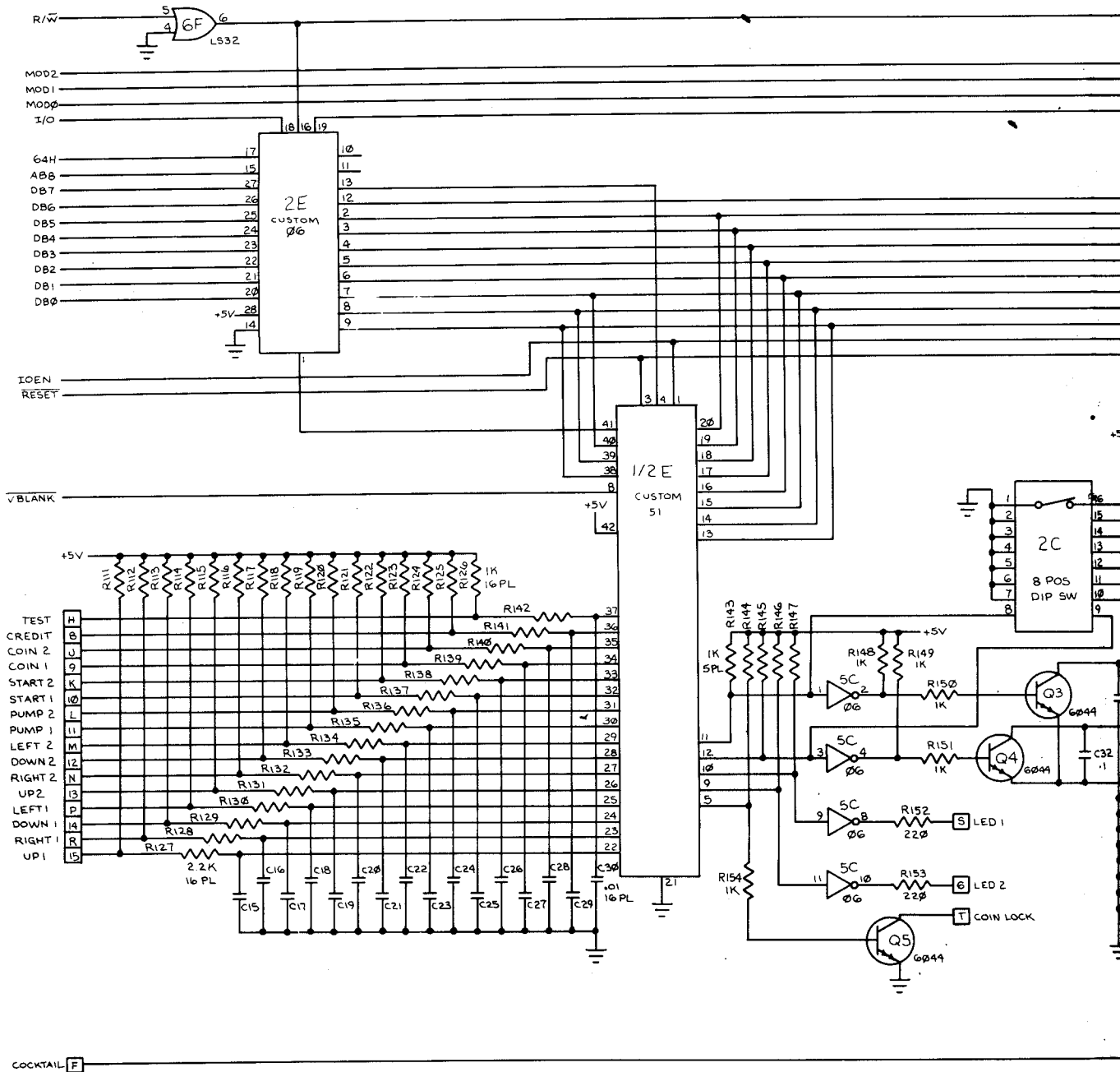
## Dig Dug Game PCB Schematic Diagram

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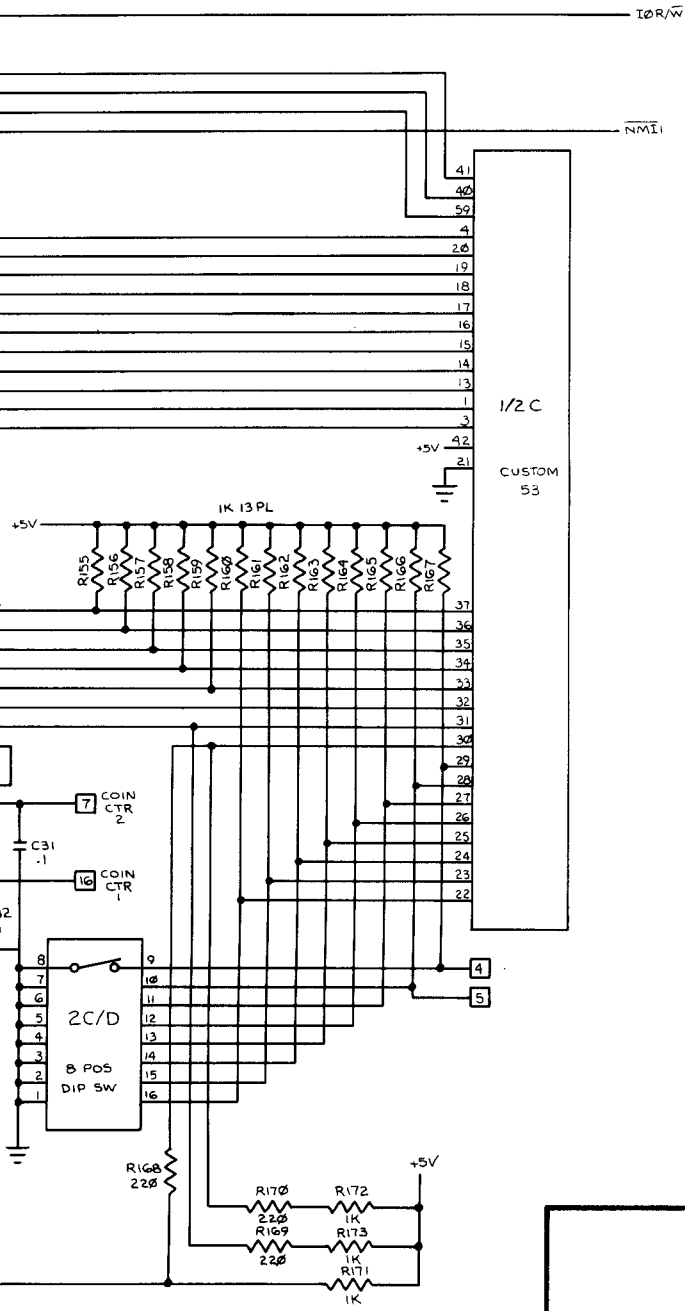
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# Switch Inputs, Coin Door and Control Panel



COCKTAIL [F]

# el Outputs



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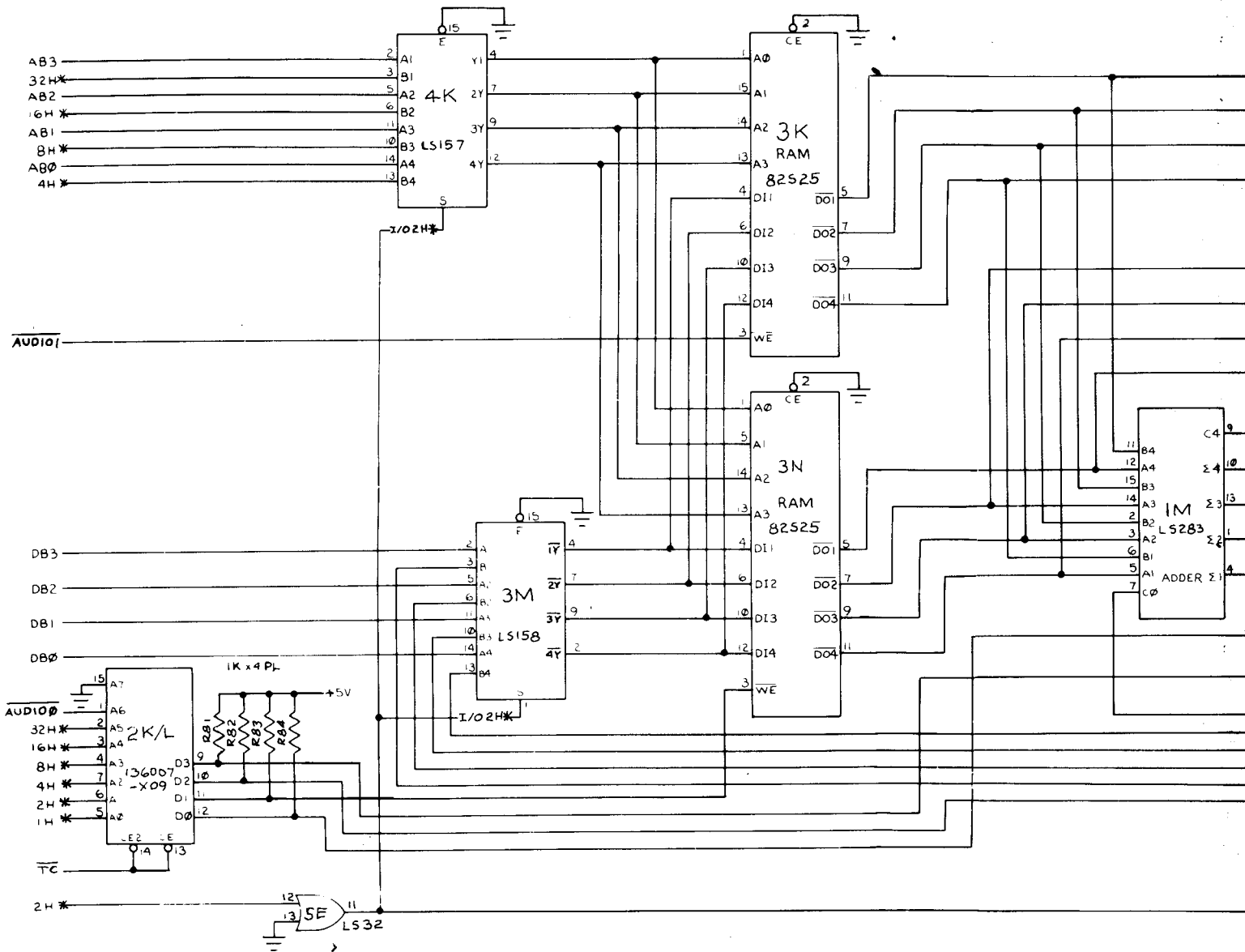
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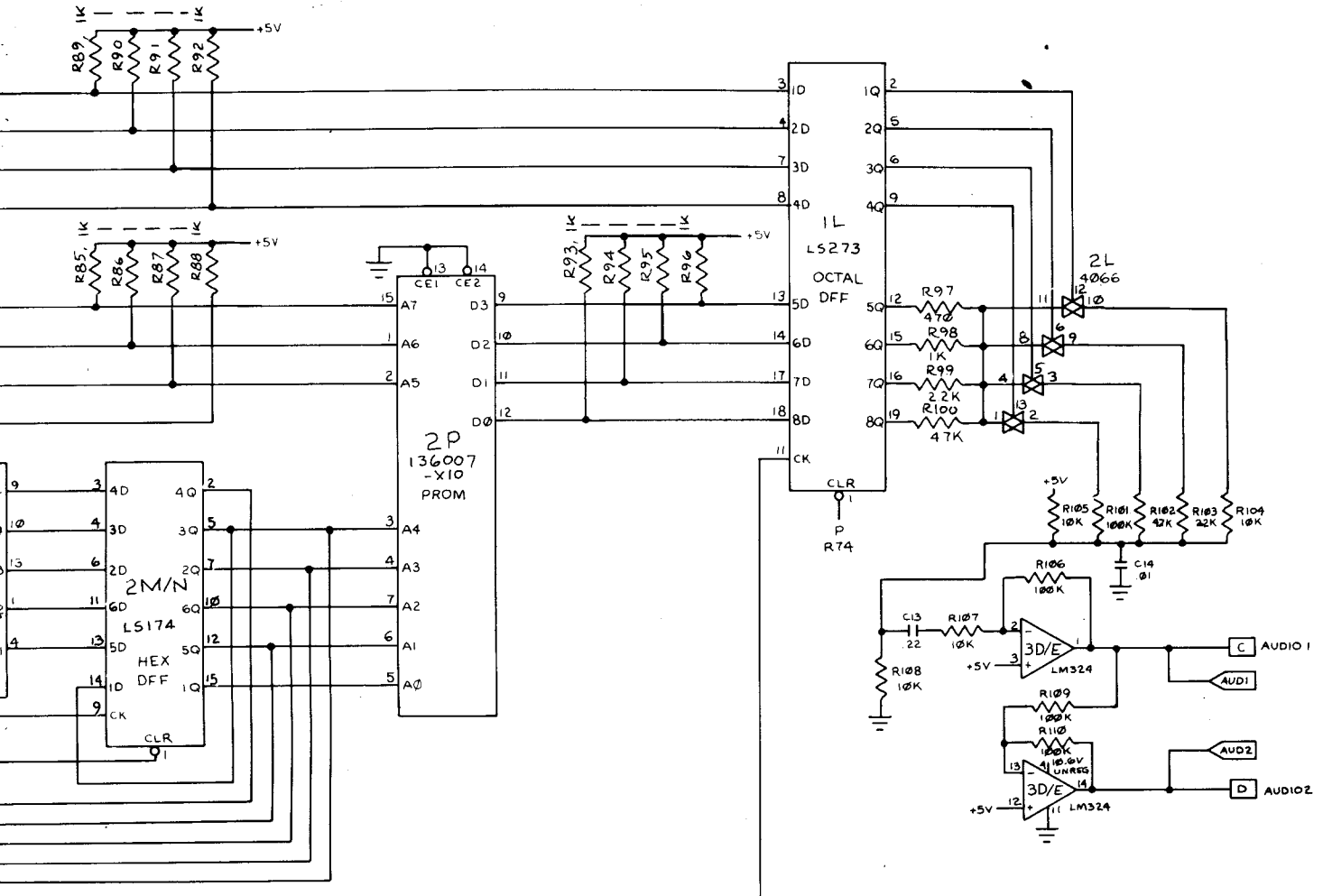
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# Audio





I/O 24\*



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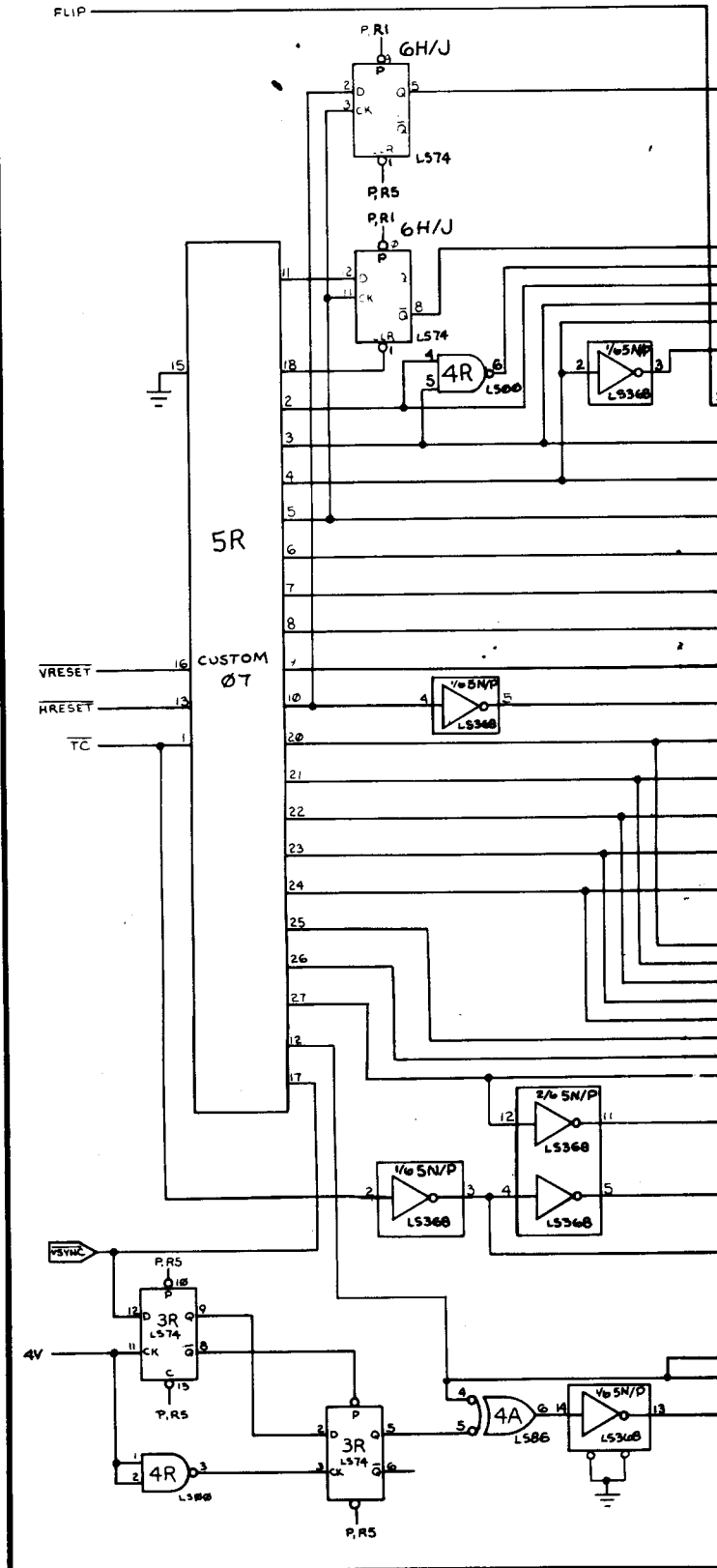
## Dig Dug Game PCB Schematic Diagram

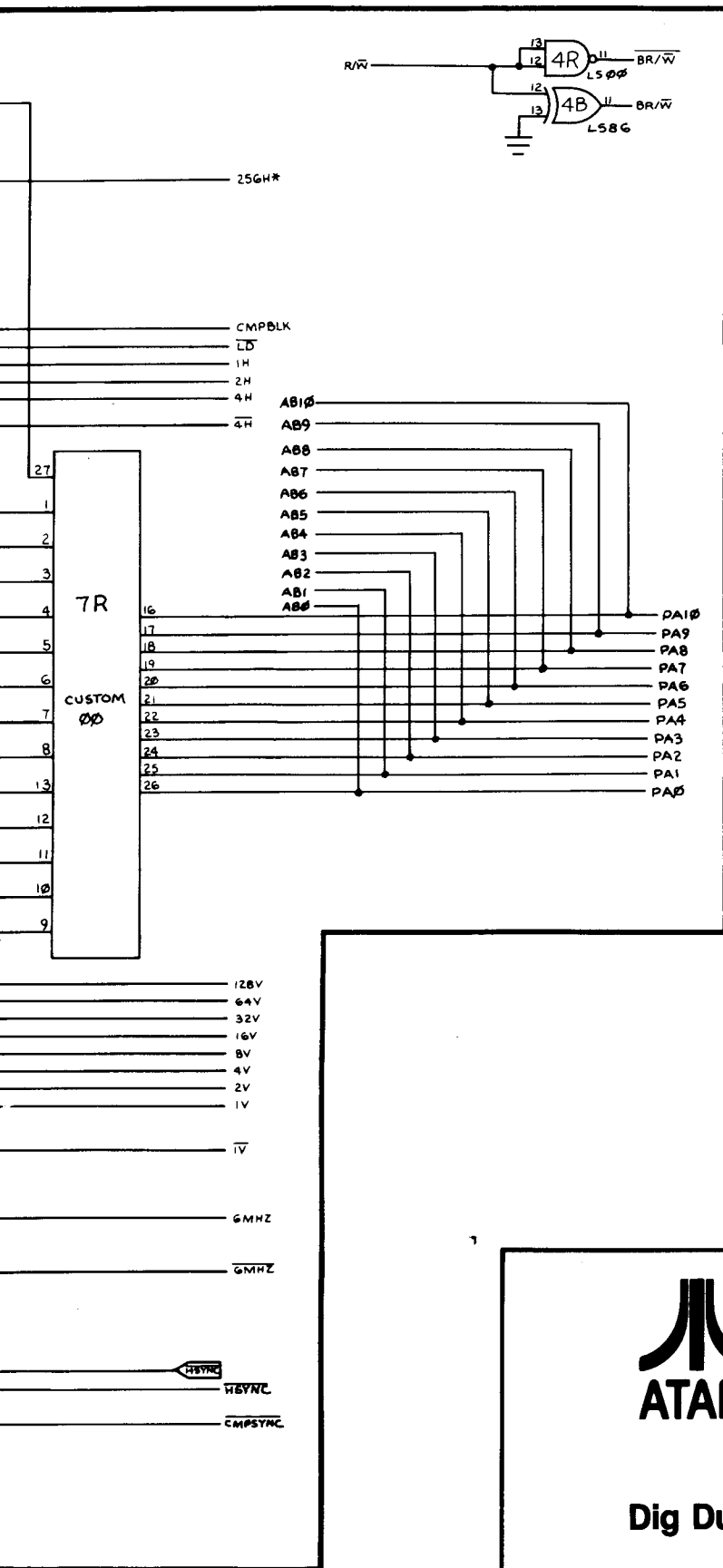
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# Sync Generator





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## Dig Dug Game PCB Schematic Diagram

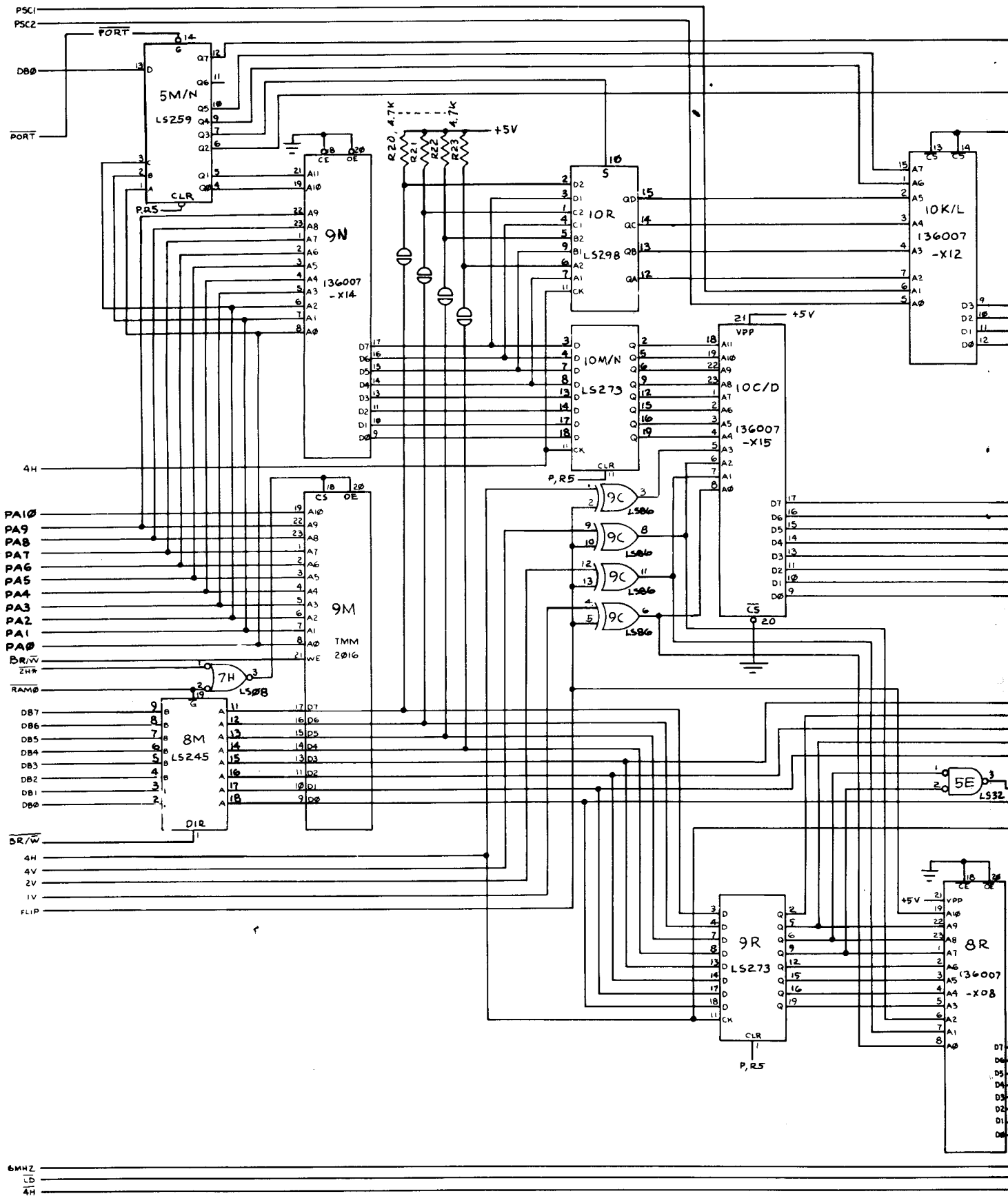
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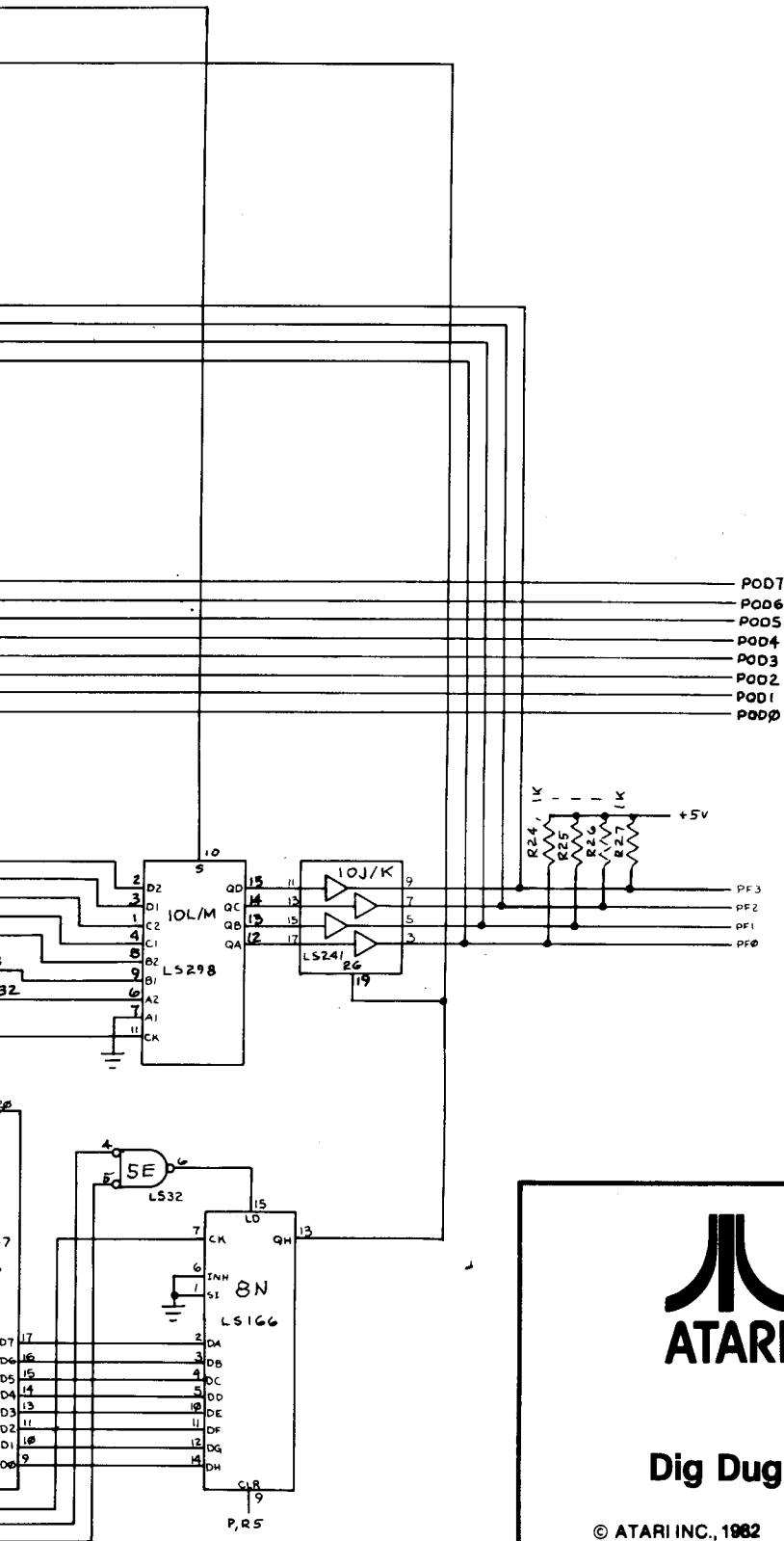
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# Playfield Generator





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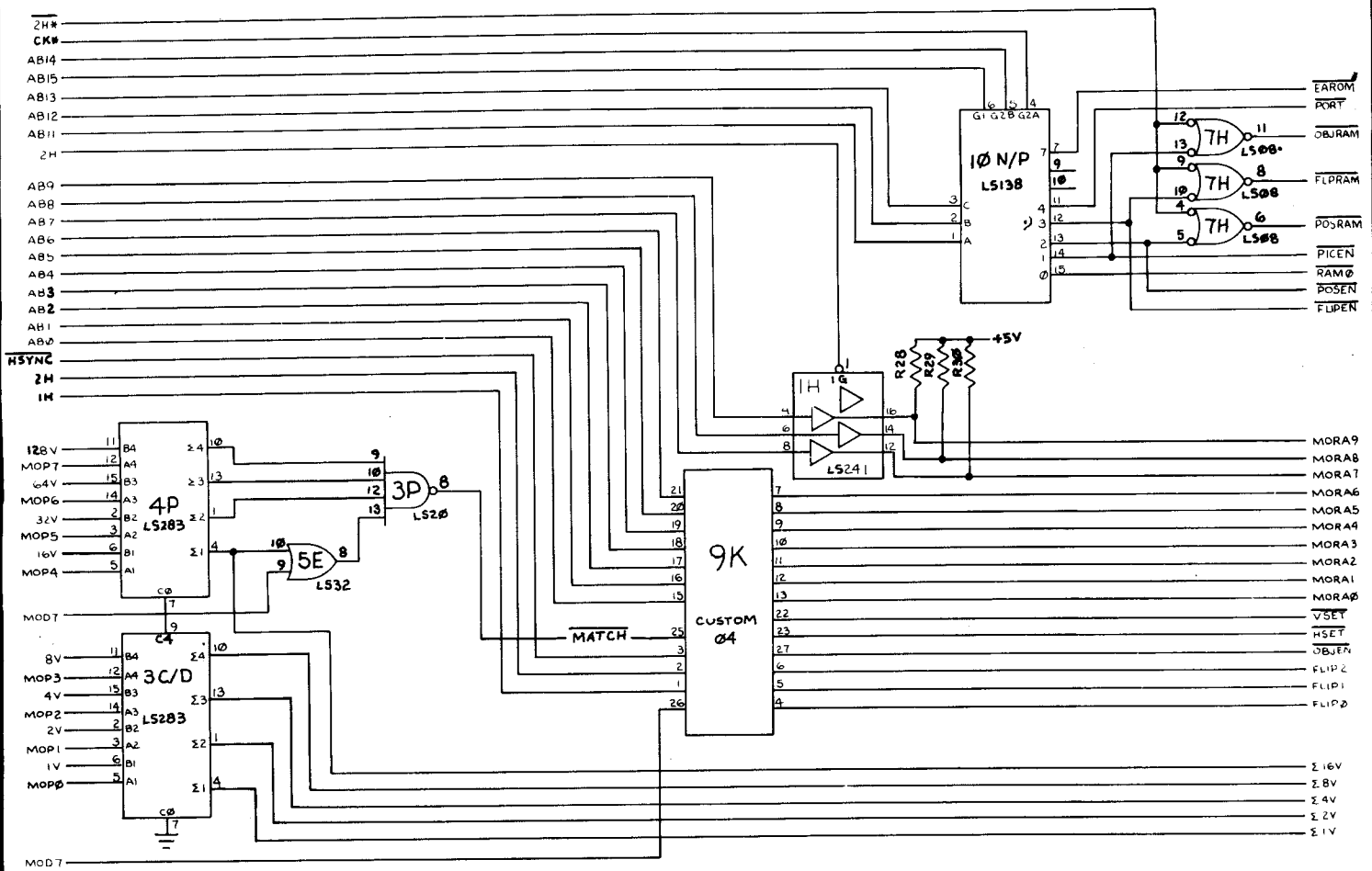
### Dig Dug Game PCB Schematic Diagram

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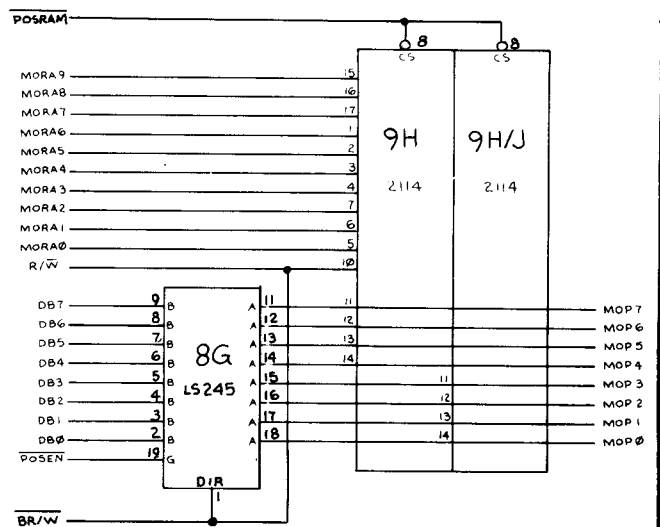
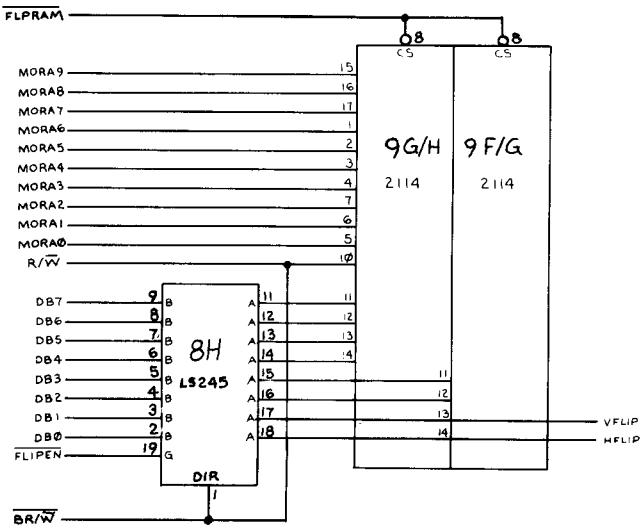
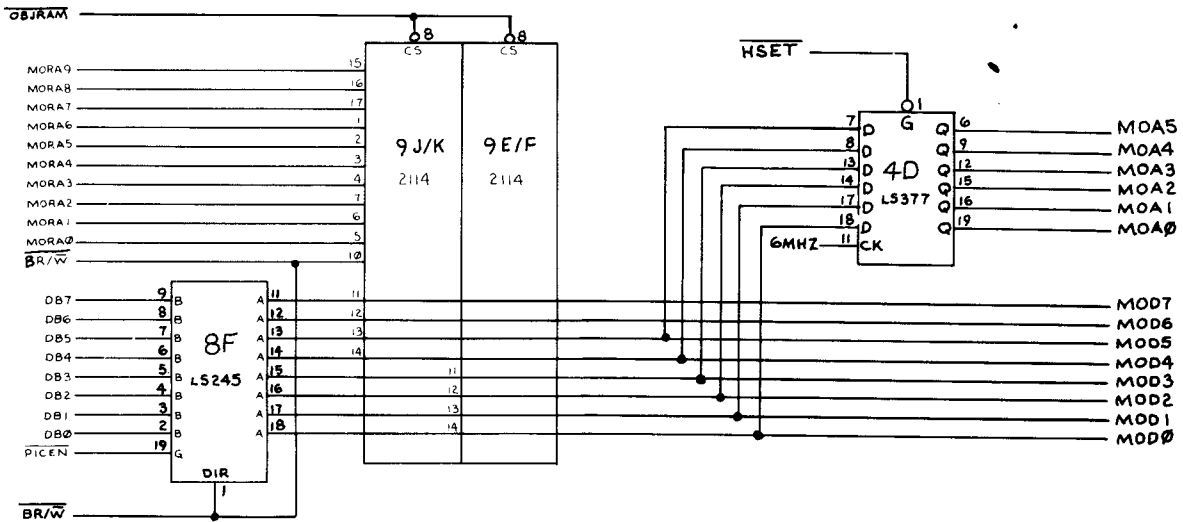
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# Motion Object Address Generator, Decoder, and Match Line Flag



# Motion Object RAM



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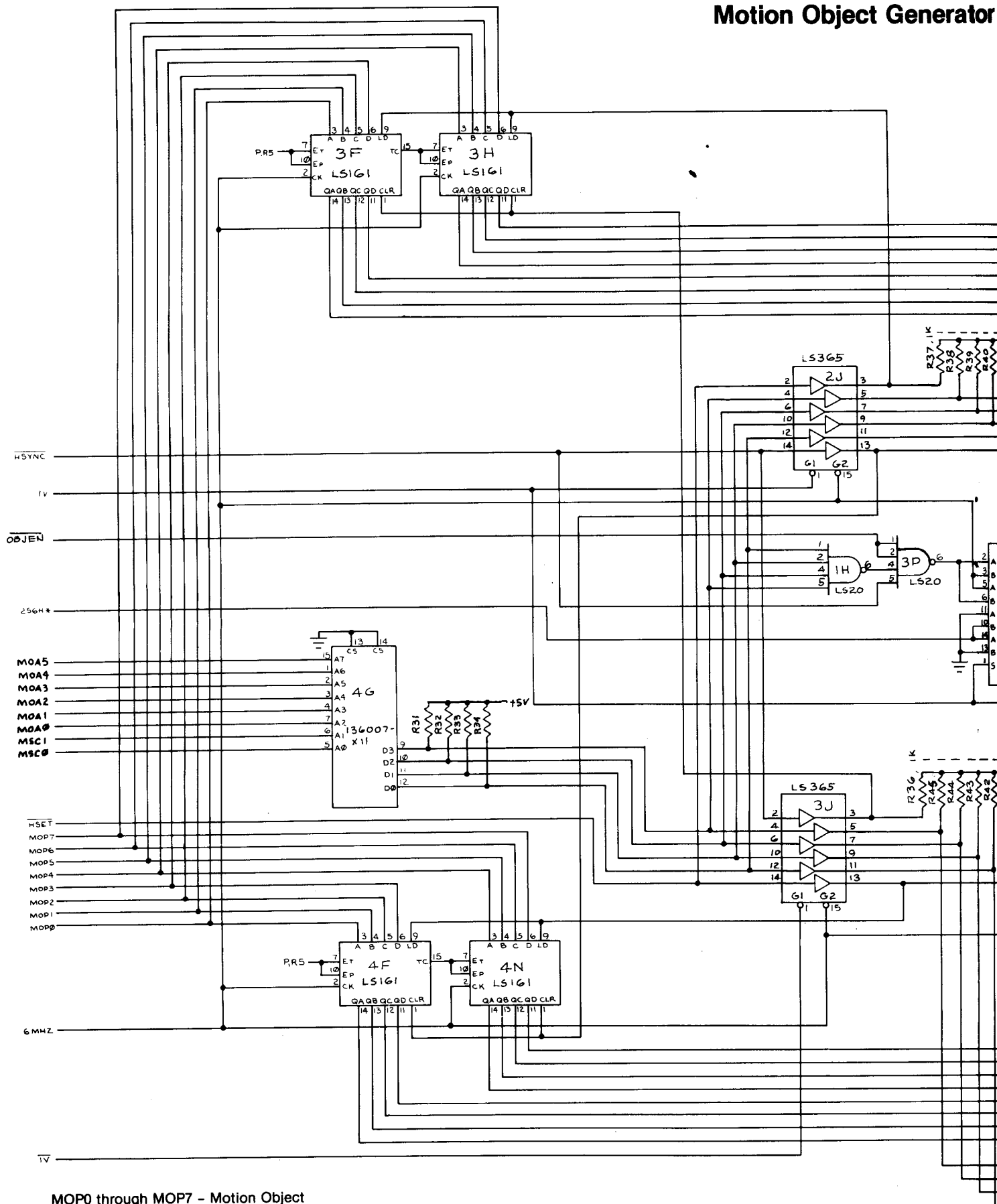
## Dig Dug Game PCB Schematic Diagram

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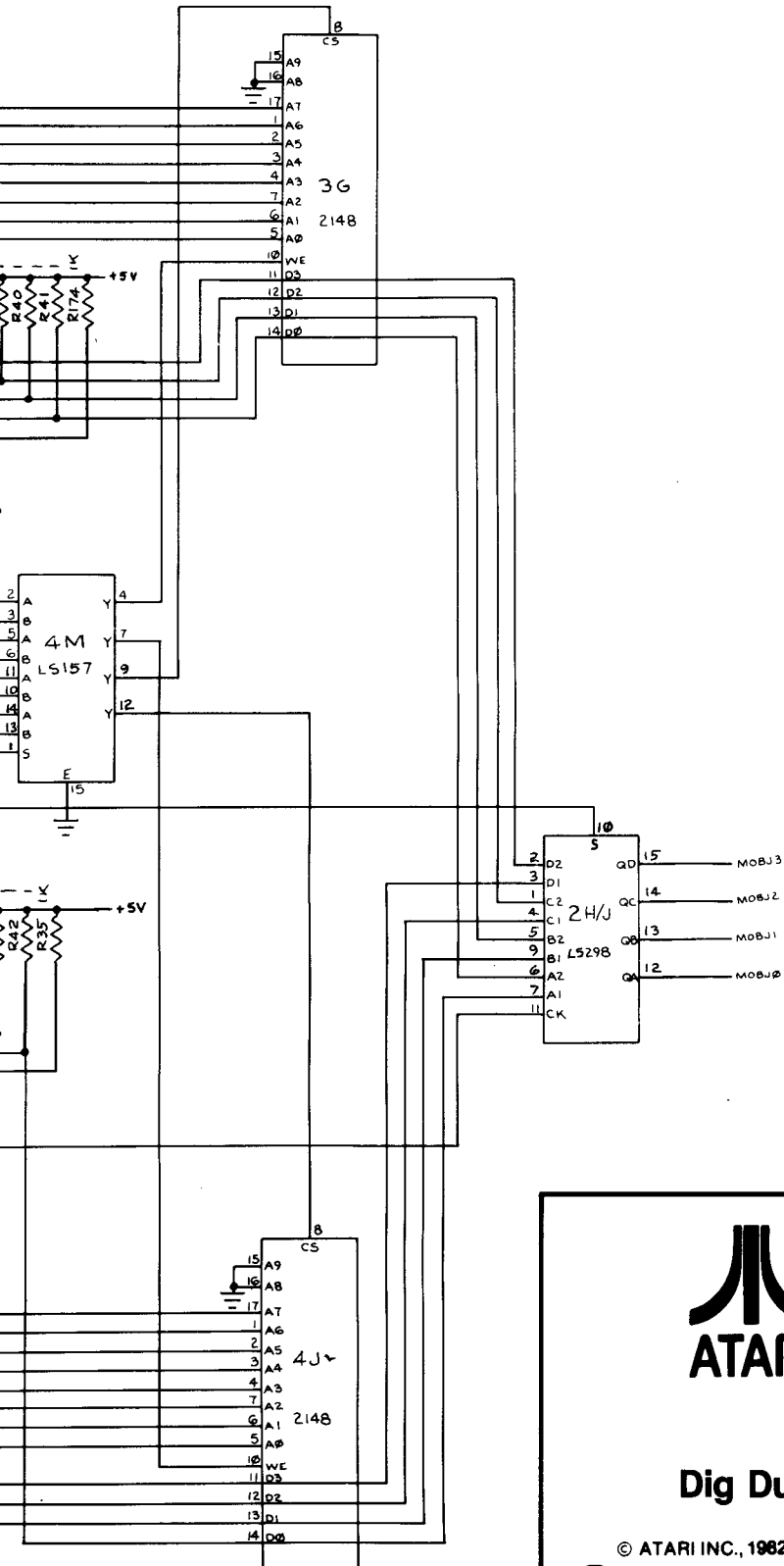
SP-203 Sheet 7B  
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# Motion Object Generator



MOP0 through MOP7 - Motion Object  
 V and H Position Data.  
 MOBJA0 through MOBJA7 - Motion  
 Object Picture Address.

tor



MOBJ0 through MOBJ3 -  
Motion Object Output.



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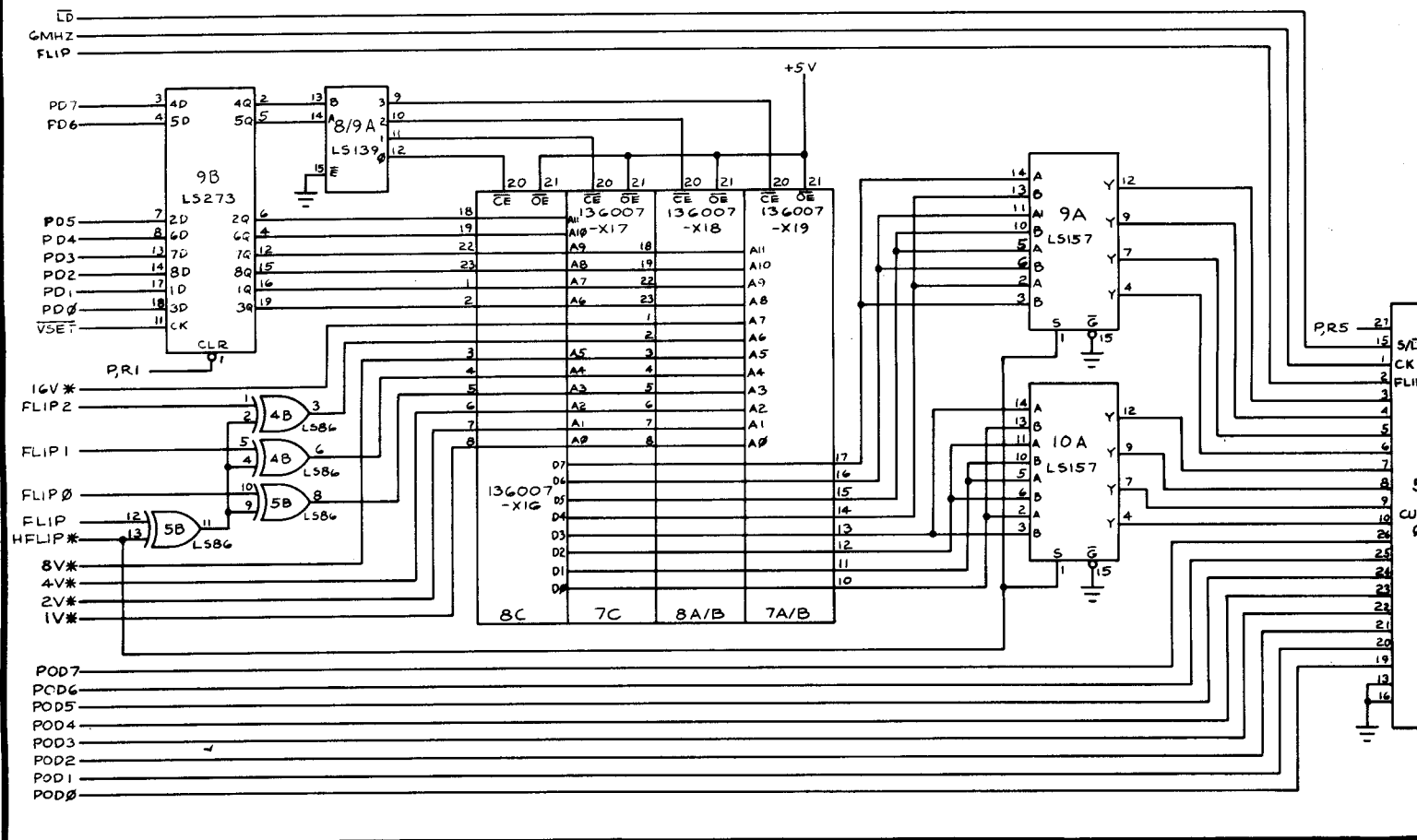
### Dig Dug Game PCB Schematic Diagram

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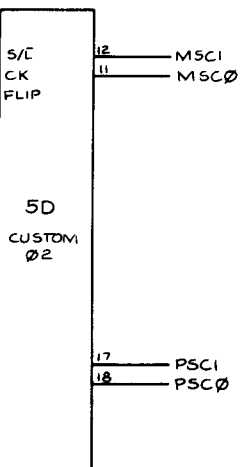
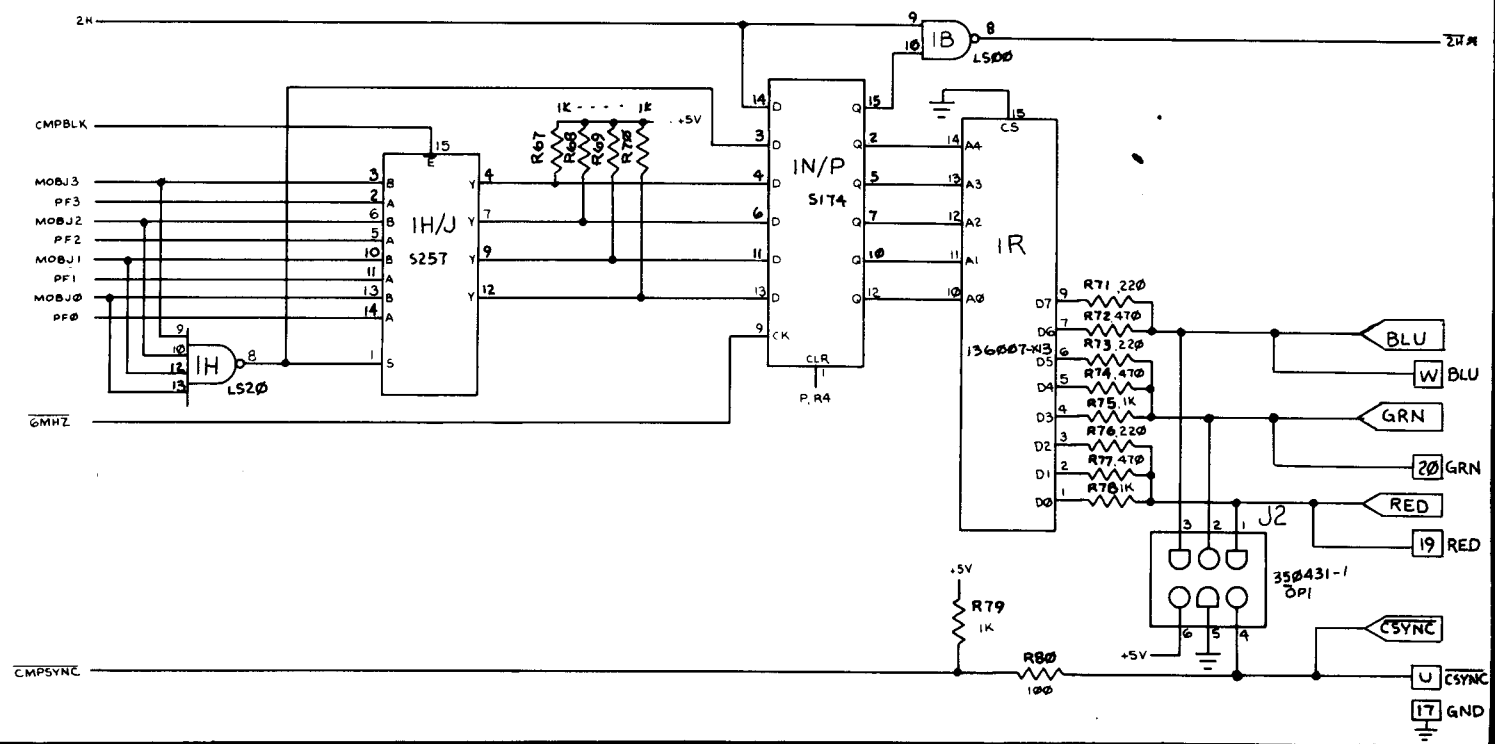
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# Video Color Controller



# Video Output



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## Dig Dug Game PCB Schematic Diagram

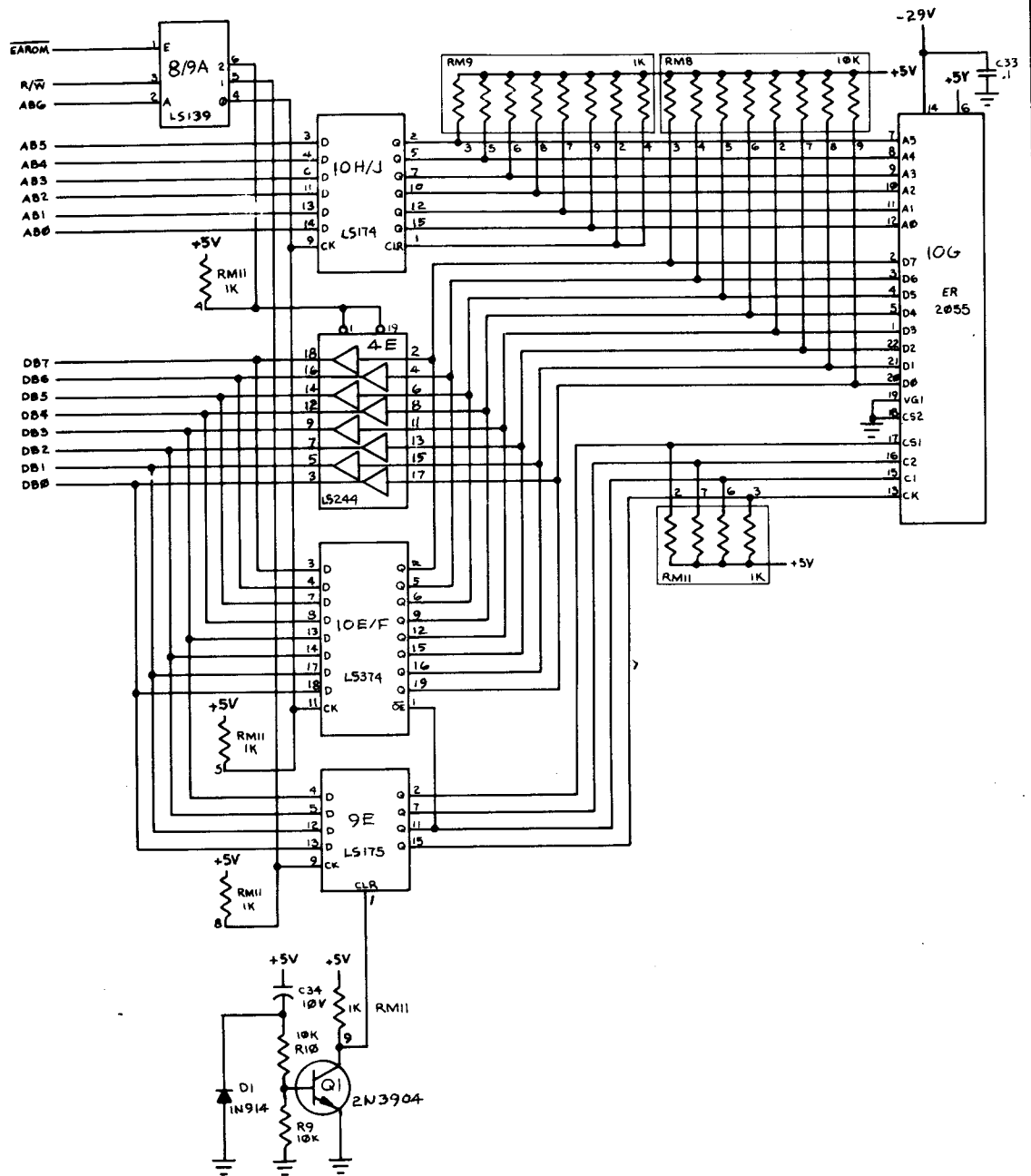
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# High-Score Table





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## Dig Dug Game PCB Schematic Diagram

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# Color Display Schematic

## Schematic Notes

Unless otherwise specified

Resistance: ( $\Omega$ ) (K $\rightarrow$ K $\Omega$ , M $\rightarrow$ M $\Omega$ ), 1/4 (W) carbon resistor

Capacitance: 1 or higher  $\rightarrow$  ( $\mu$ F), less than 1  $\rightarrow$  ( $\gamma$ F)

working voltage  $\rightarrow$  50 (V)

ceramic capacitor

Inductance: ( $\mu$ H)

Electrolytic Cap: Capacitance Value ( $\mu$ F)/working voltage (V),  
NP  $\rightarrow$  non-polar (or bipolar) electrolytic cap.

Refer to the parts list for additional component information.

$\odot$  indicates test point connection

$\#$  indicates chassis ground unless otherwise specified

Hz indicates cycles per second

For **safety** purposes (and continuing reliability)

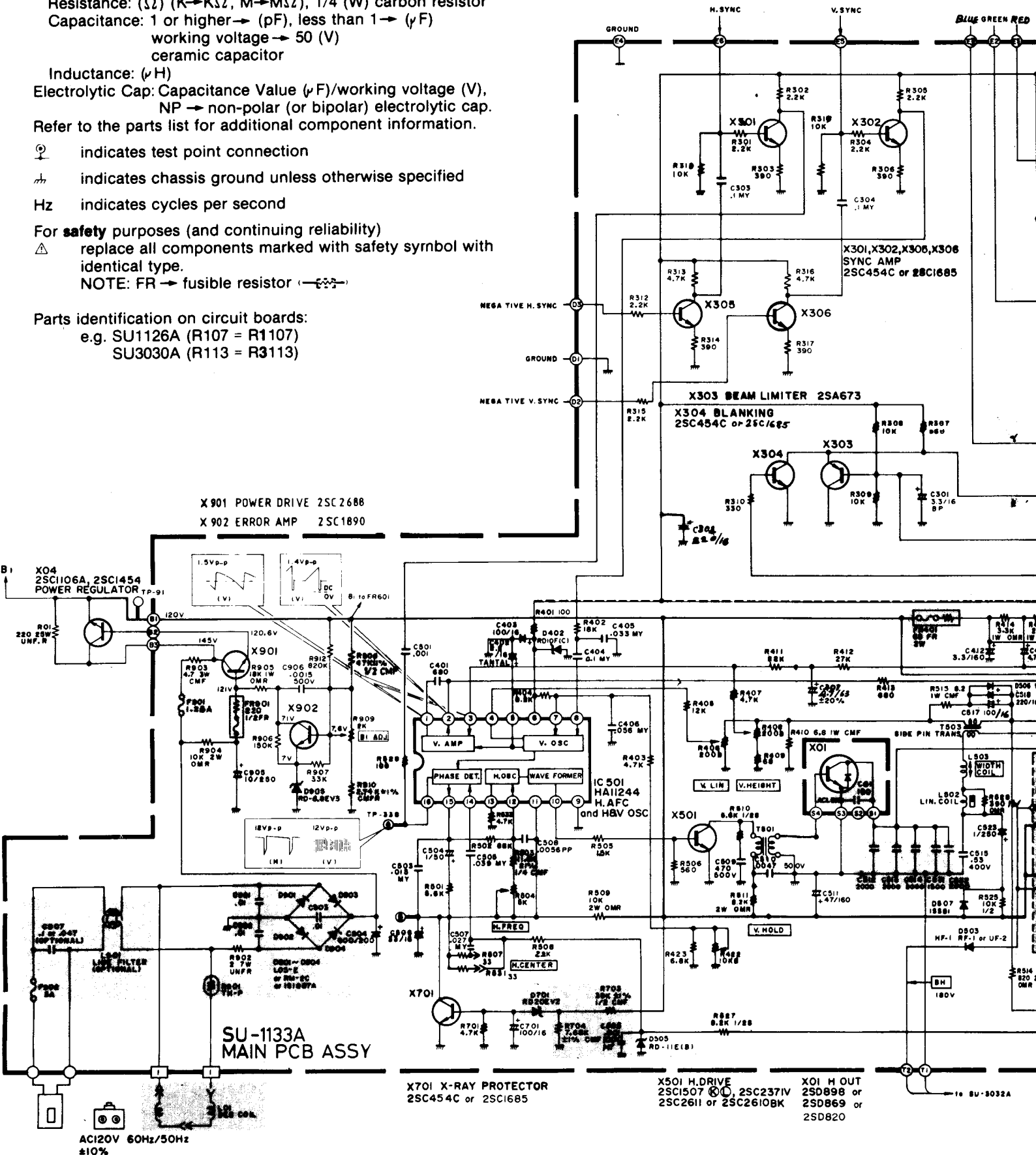
$\triangle$  replace all components marked with safety symbol with identical type.

NOTE: FR  $\rightarrow$  fusible resistor ( $\rightarrow$  )

Parts identification on circuit boards:

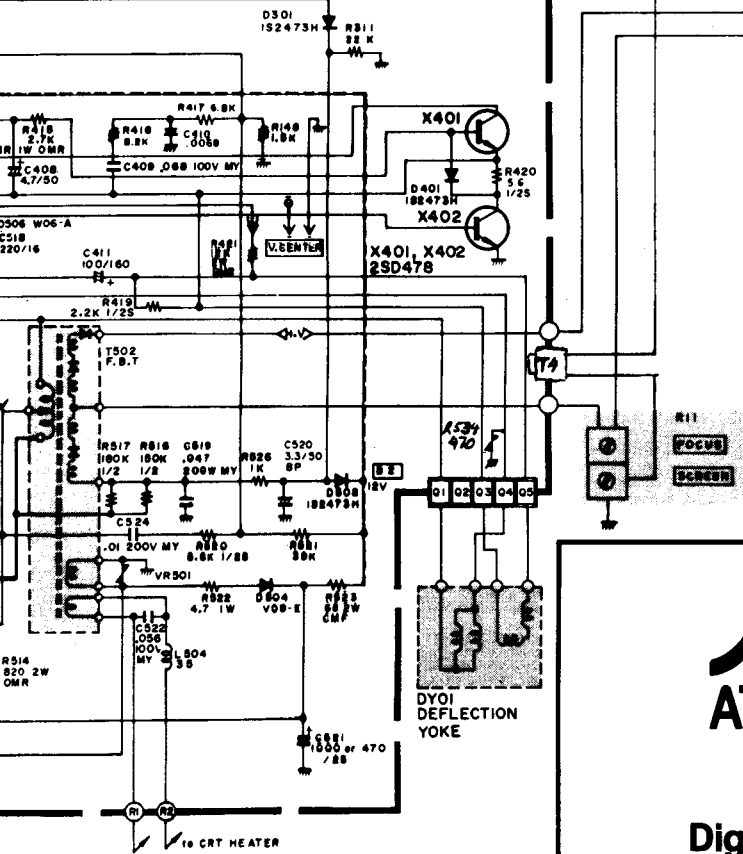
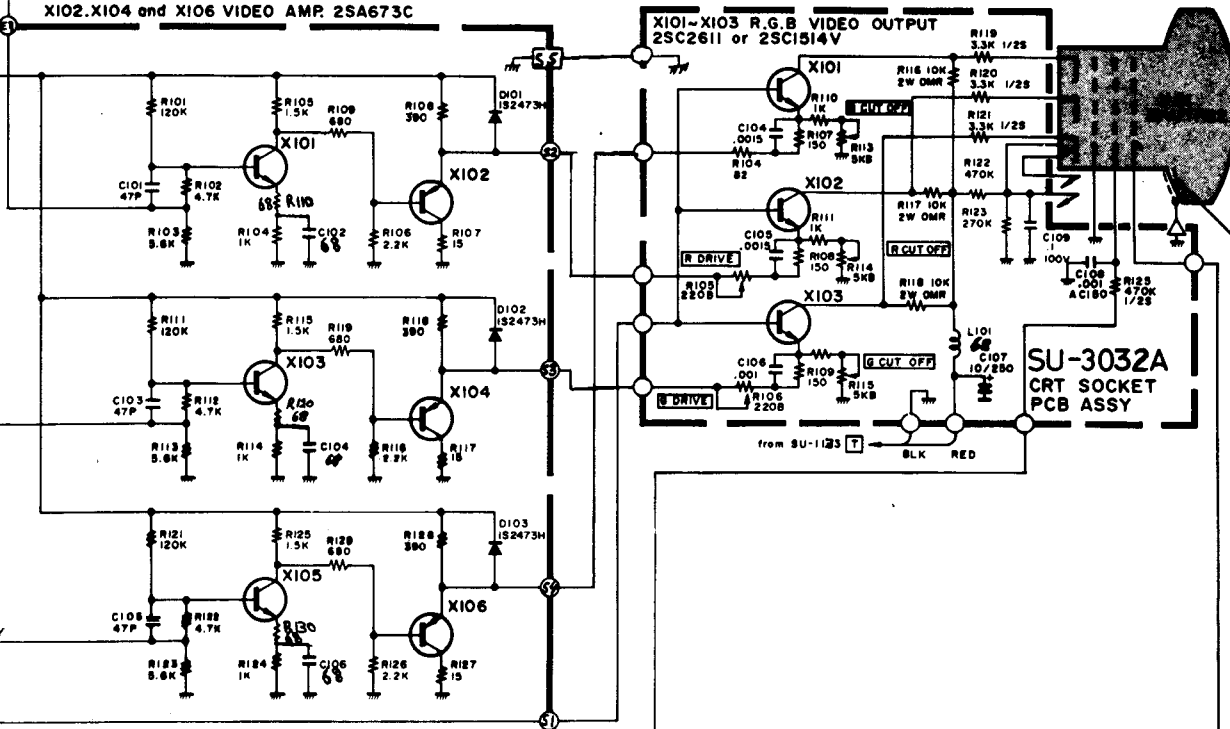
e.g. SU1126A (R107 = R1107)

SU3030A (R113 = R3113)



# Schematic Diagram

RED X101, X103 and X105 VIDEO AMP. 2SC454C  
 X102, X104 and X106 VIDEO AMP. 2SA673C



**WARNING**

Components identified by shading have special characteristics important to safety and should be replaced only with identical types.

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**Dig Dug Color Display Schematic Diagram**

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