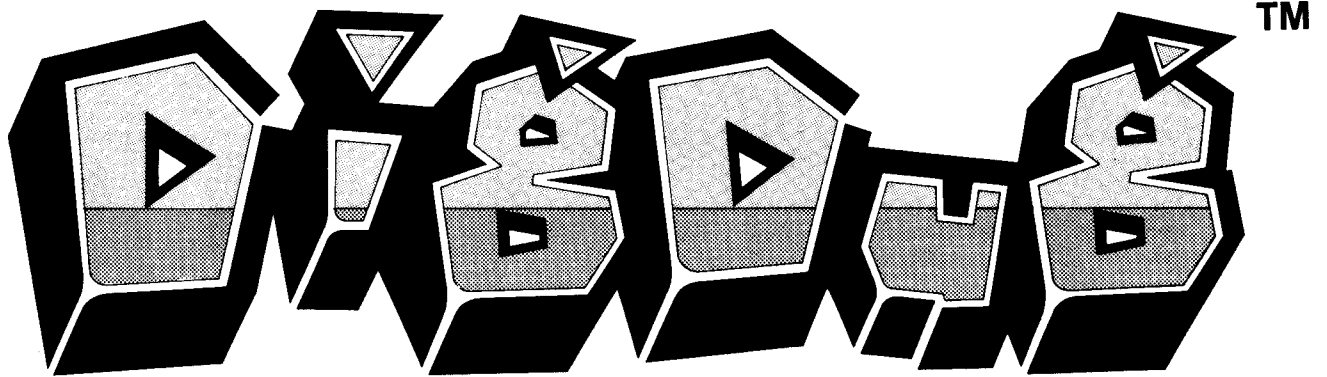
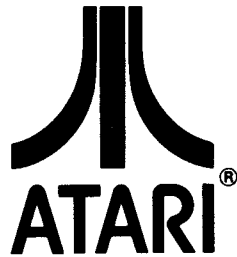


# Schematic Package Supplement to



## Operation, Maintenance and Service Manual



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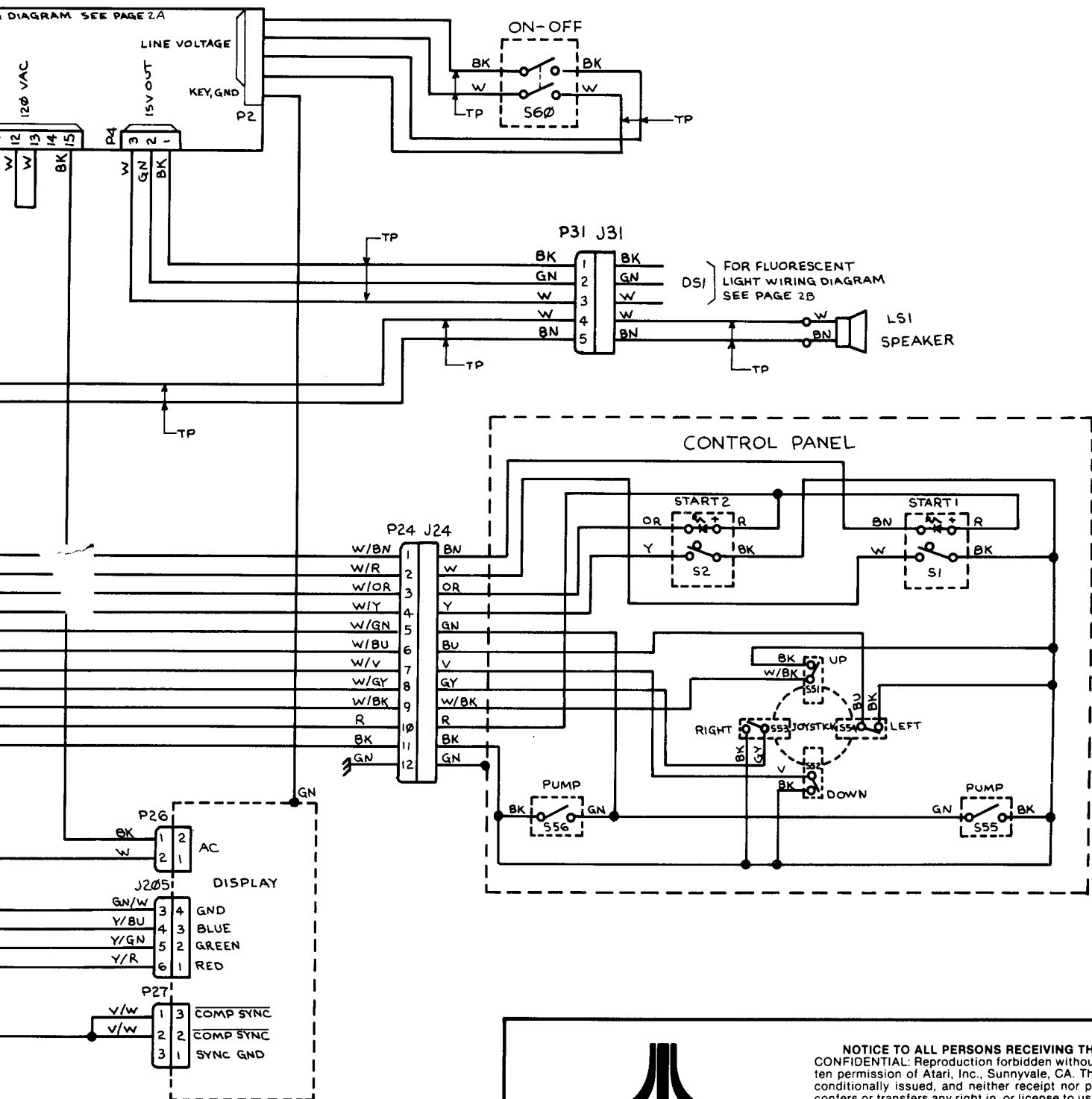
# Table of Contents

- Sheet 1A You Are Here
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- Sheet 2A Color Raster-Scan Power Supply Wiring Diagram (037669-01 C)  
Regulator/Audio II PCB Schematic Diagram (035435-05 A)
- Sheet 2B Coin Door Wiring Diagram (037542-01 A)  
Utility Panel Wiring Diagram (038004-01 A)  
Fluorescent Light and Speaker Wiring Diagram (035833-01 A)

## *Game PCB Schematics, Sheets 3A—8A*

- Sheet 3A CPU PCB Power Input, Clock, NMI, Watchdog, and Memory Map
- Sheet 3B 1st Priority CPU, 2nd Priority CPU
- Sheet 4A 3rd Priority CPU, CPU PCB Address Decoder
- Sheet 4B Switch Inputs, Coin Door and Control Panel Outputs
- Sheet 5A Audio Output
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- Sheet 6A Playfield Generator
- Sheet 6B Motion Object RAM, Motion Object Address Generator, Decoder and Match Line Flag
- Sheet 7A Motion Object Generator
- Sheet 7B Video Output, Video Color Controller
- Sheet 8A High-Score Table
- Sheet 8B Electrohome 19-Inch Color Raster-Scan Video Display Schematic Diagram

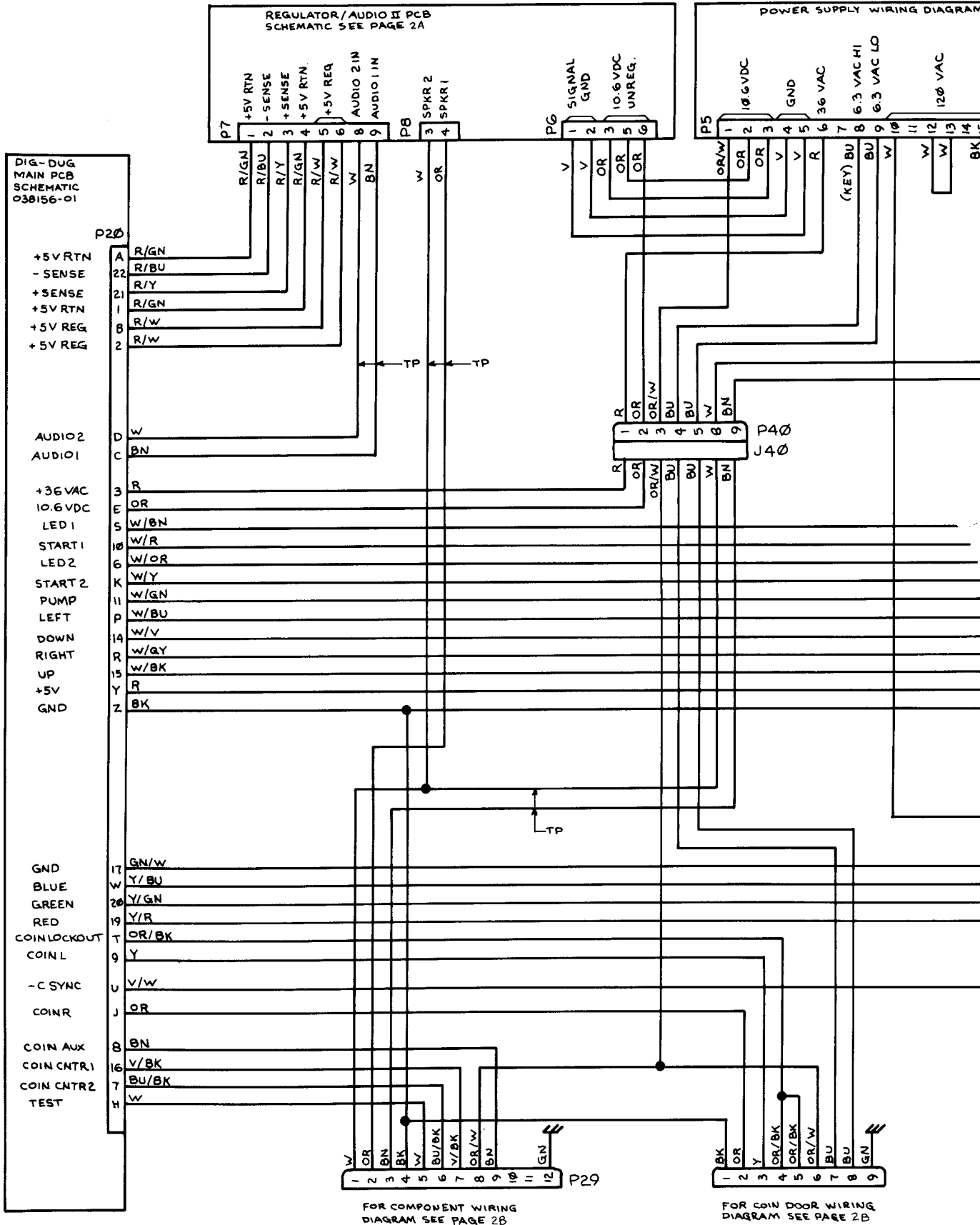
**NOTE**  
This staple temporarily holds the schematic package together. Remove the staple before using the schematics.



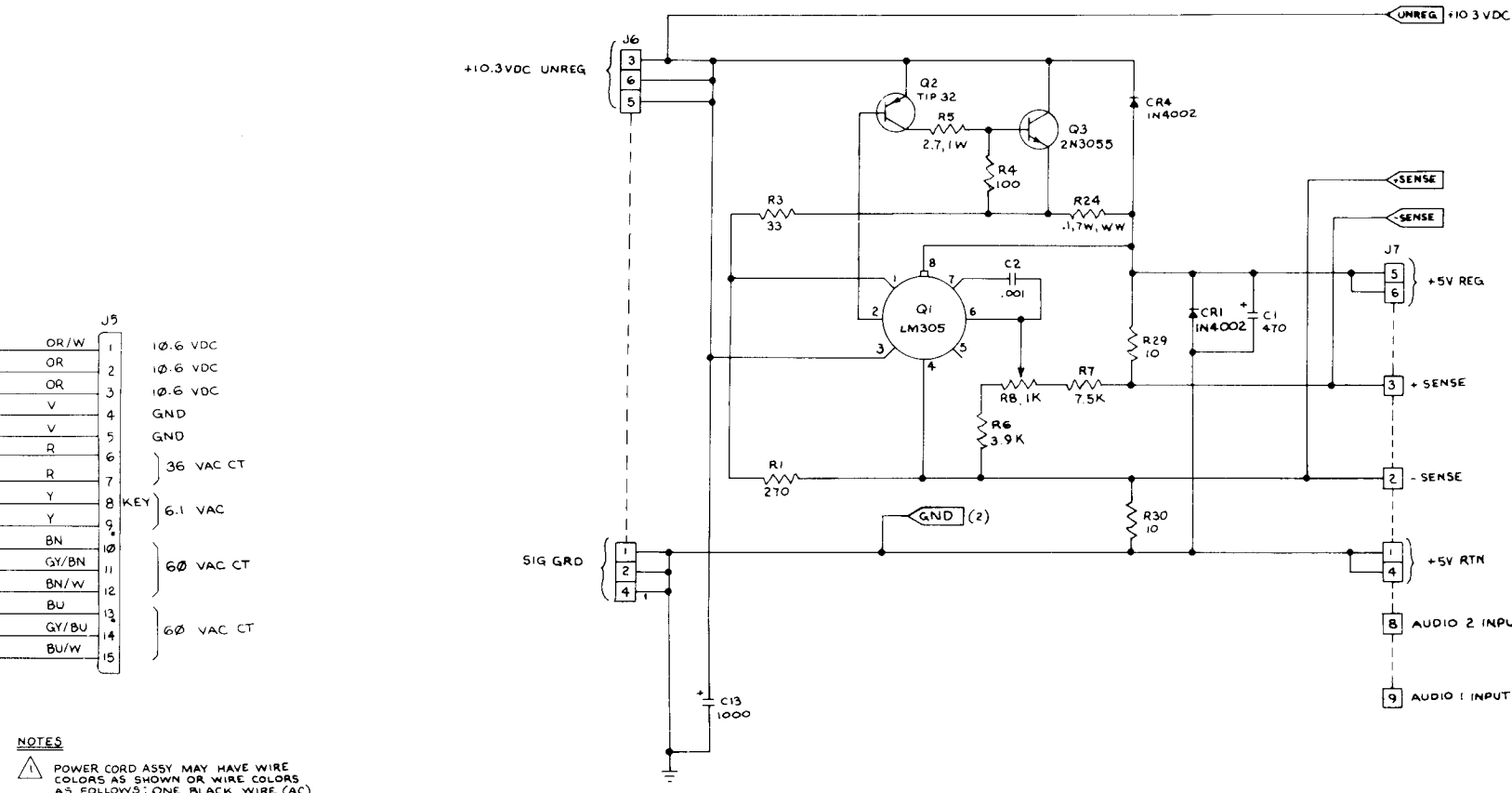
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### Dig Dug Game Wiring Diagram

# Dig Dug Upright Game Wiring Diagram




# Regulator/Audio II PCB Schematic Diagram



**NOTES**

⚠ POWER CORD ASSY MAY HAVE WIRE COLORS AS SHOWN OR WIRE COLORS AS FOLLOWS: ONE BLACK WIRE (AC), ONE GREEN WIRE (GND) AND ONE WHITE WIRE (NEUTRAL)

⚠ USE 4AMP, 50 250V FUSE AT F1 WITH 220V & 240V (EUROPEAN ONLY)



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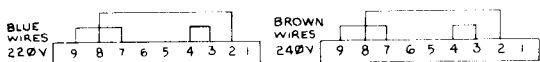
## Dig Dug Power Supply and Reg./Audio II PCB

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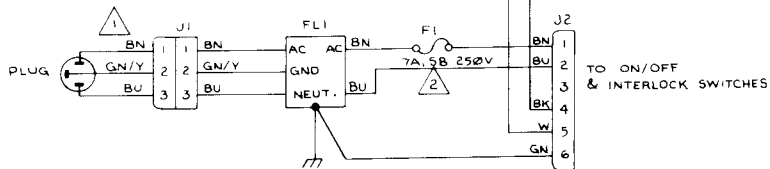
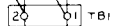
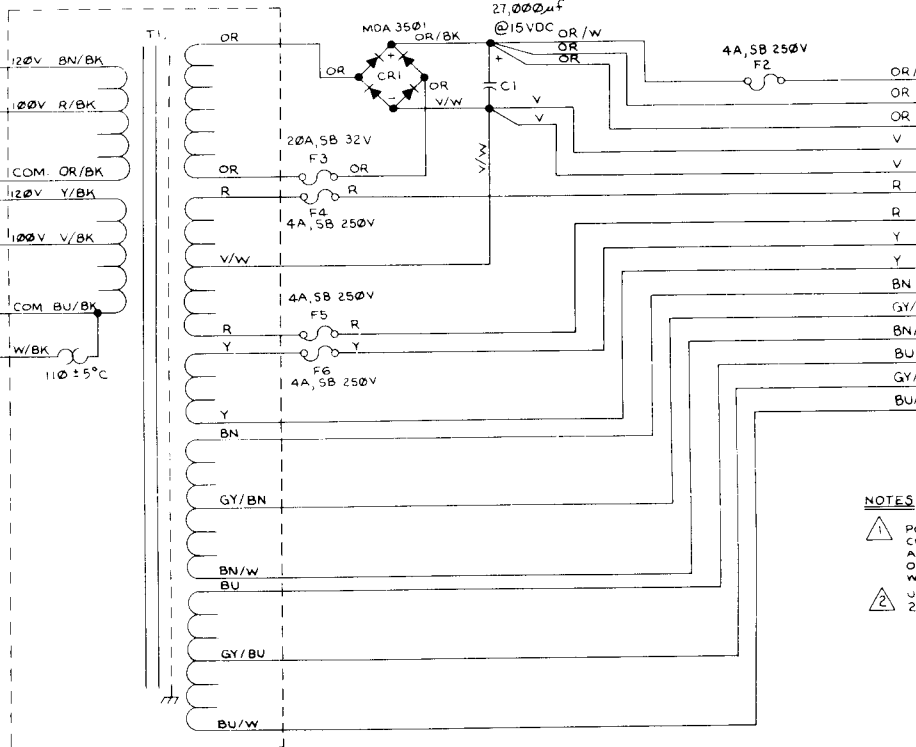
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1st printing 3L

# Color Raster Power Supply Wiring Diagram

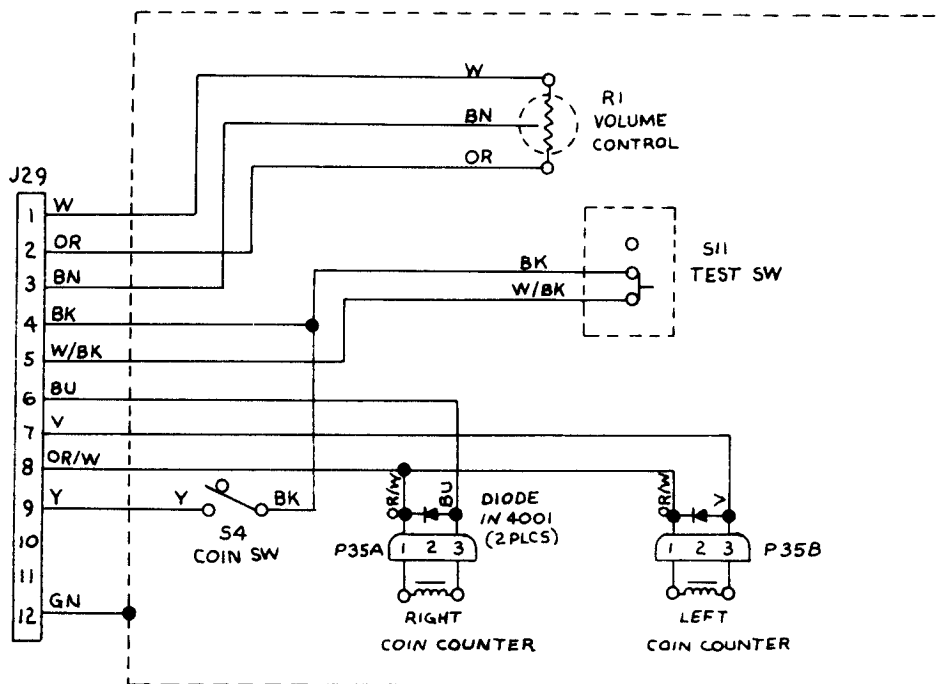


VOLTAGE SELECTION BLOCKS

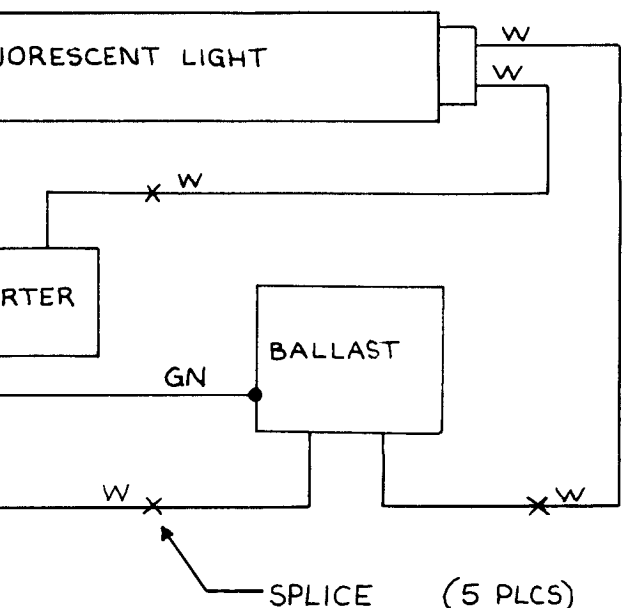


- NOTES**
- △ PO
  - △ CC
  - △ A:
  - △ ON
  - △ W
  - △ US
  - △ 2:

# Utility Panel Wiring Diagram



# And Speaker Wiring Diagram



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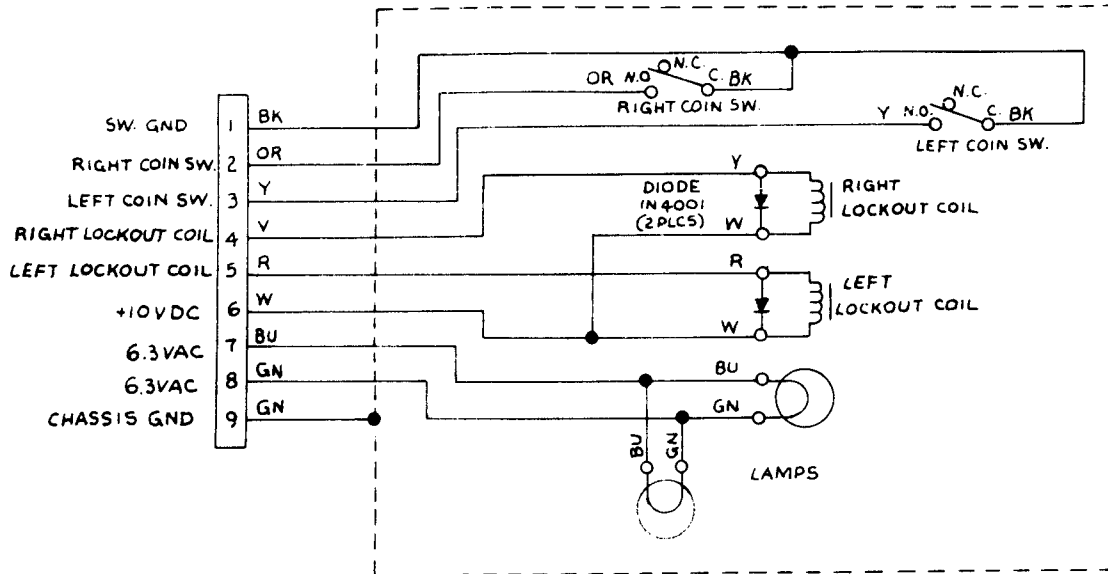
## Dig Dug Game Wiring Interfaces

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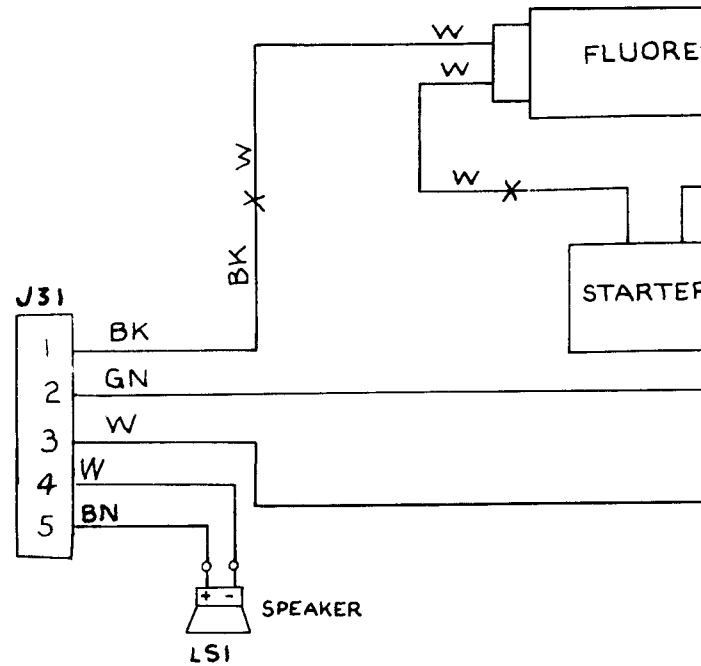
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# Coin Door Wiring Diagram



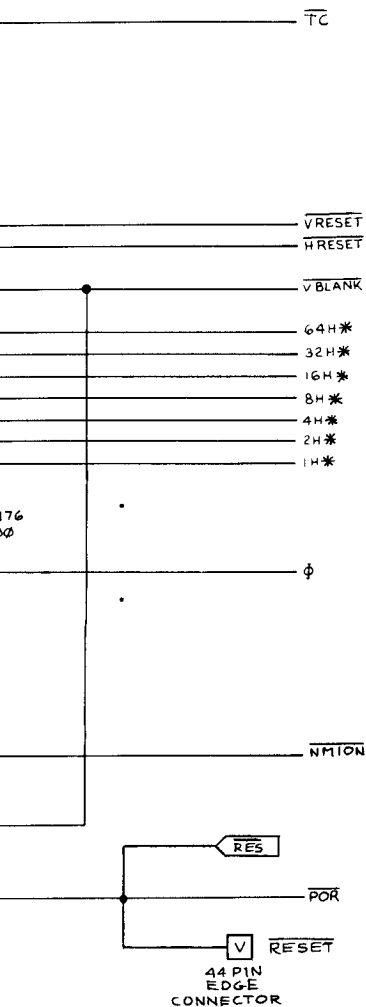
# Fluorescent Light An





## 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
8800-8BFF	R/W	D	D	D	D	D	D	D	D	1K Motion RAM (PIC)
9000-93FF	R/W	D	D	D	D	D	D	D	D	1K Motion RAM (HPOS, VPOS)
9800-9BFF	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	Playfield Color Select (Latched)
A003	W								D	Alphanumeric Color Select (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 EAROM Address and Data
B800	R	D	D	D	D	D	D	D	D	Read EAROM Data
B840	W					D	D	D	D	Write EAROM Control



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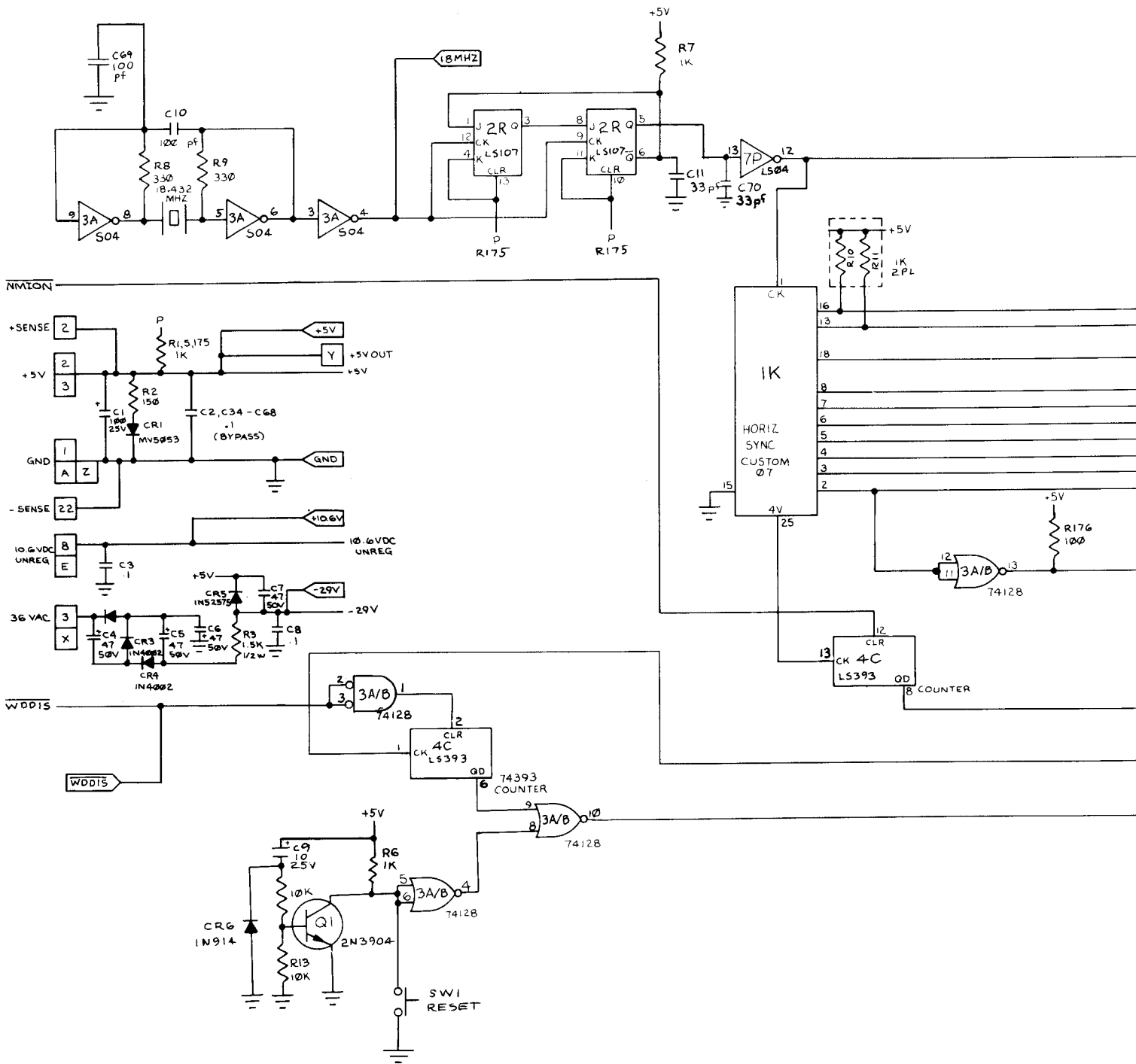
### Dig Dug CPU PCB Schematic Diagram:

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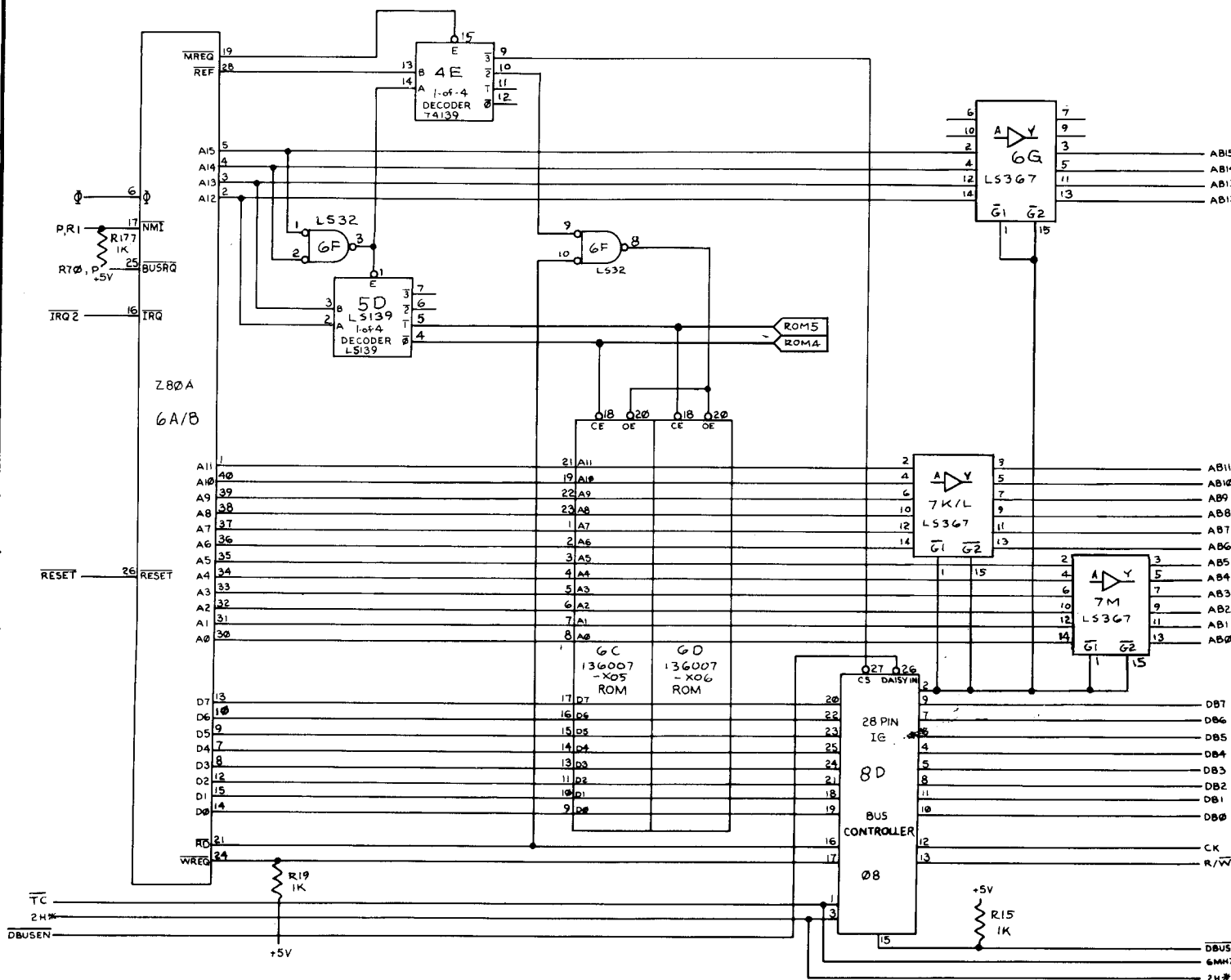
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1st printing 3L

# CPU PCB Power Input, Clock, NMI, and Watchdog



# 2nd Priority CPU



- DBUSEN
- 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
- 178
- K
- +5V



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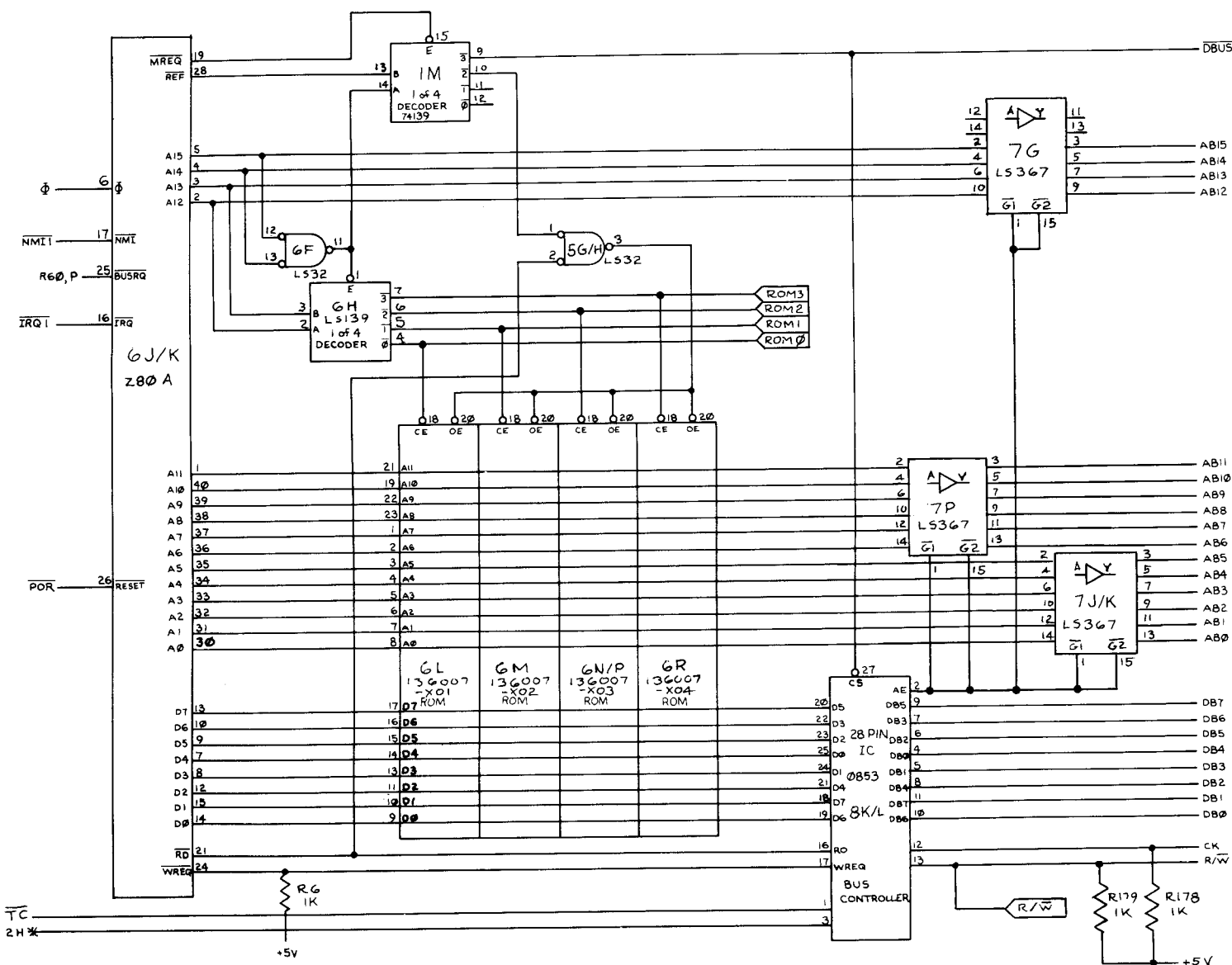
## Dig Dug CPU PCB Schematic Diagram

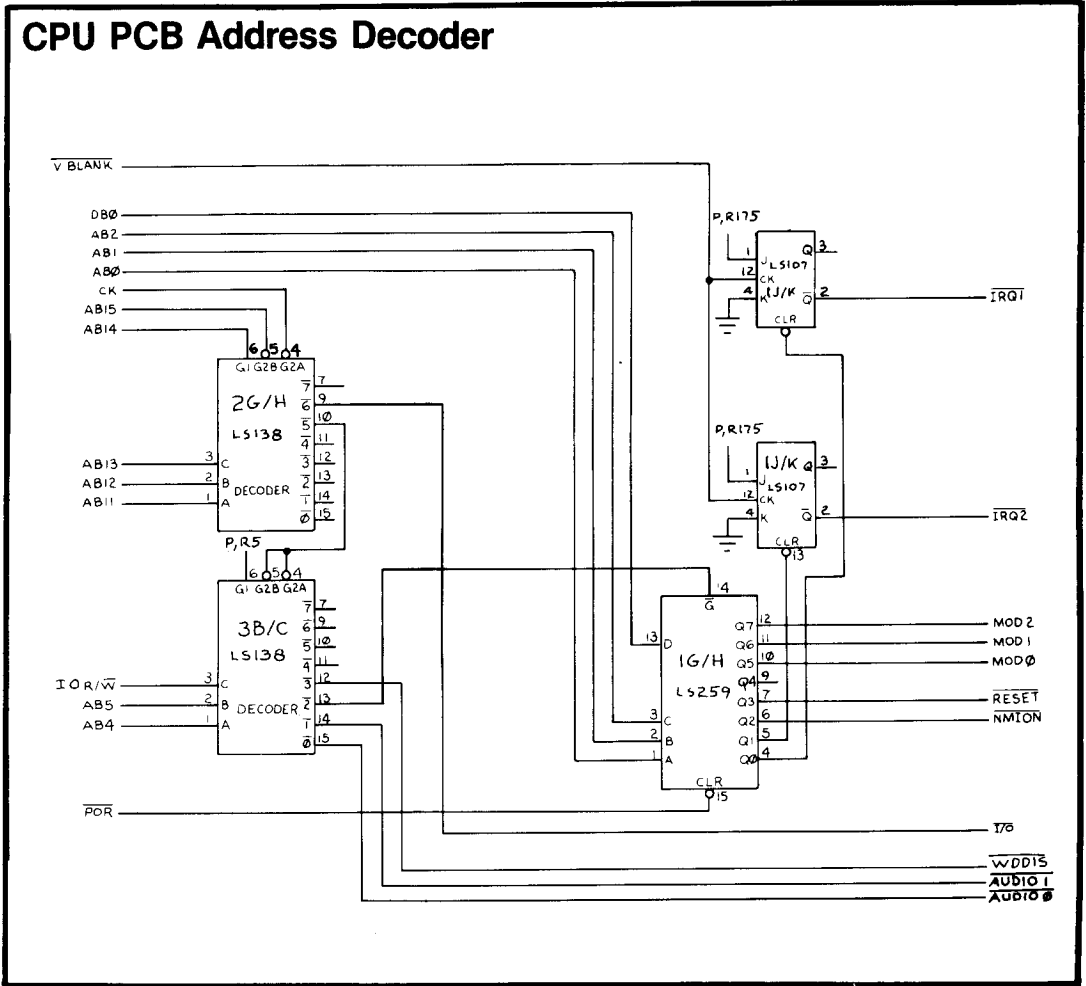
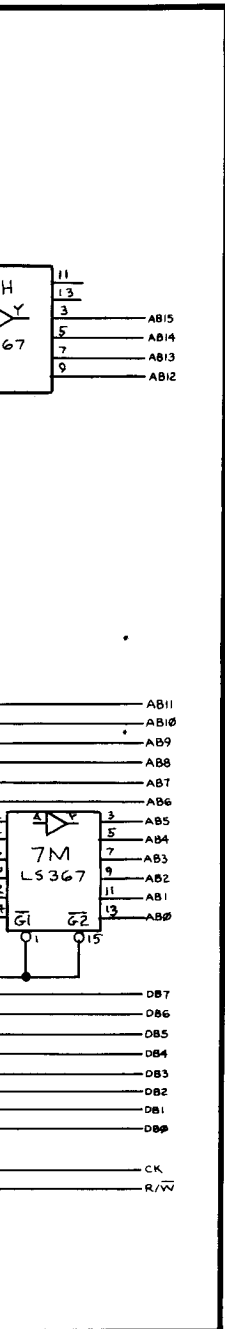
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### 1st Priority CPU

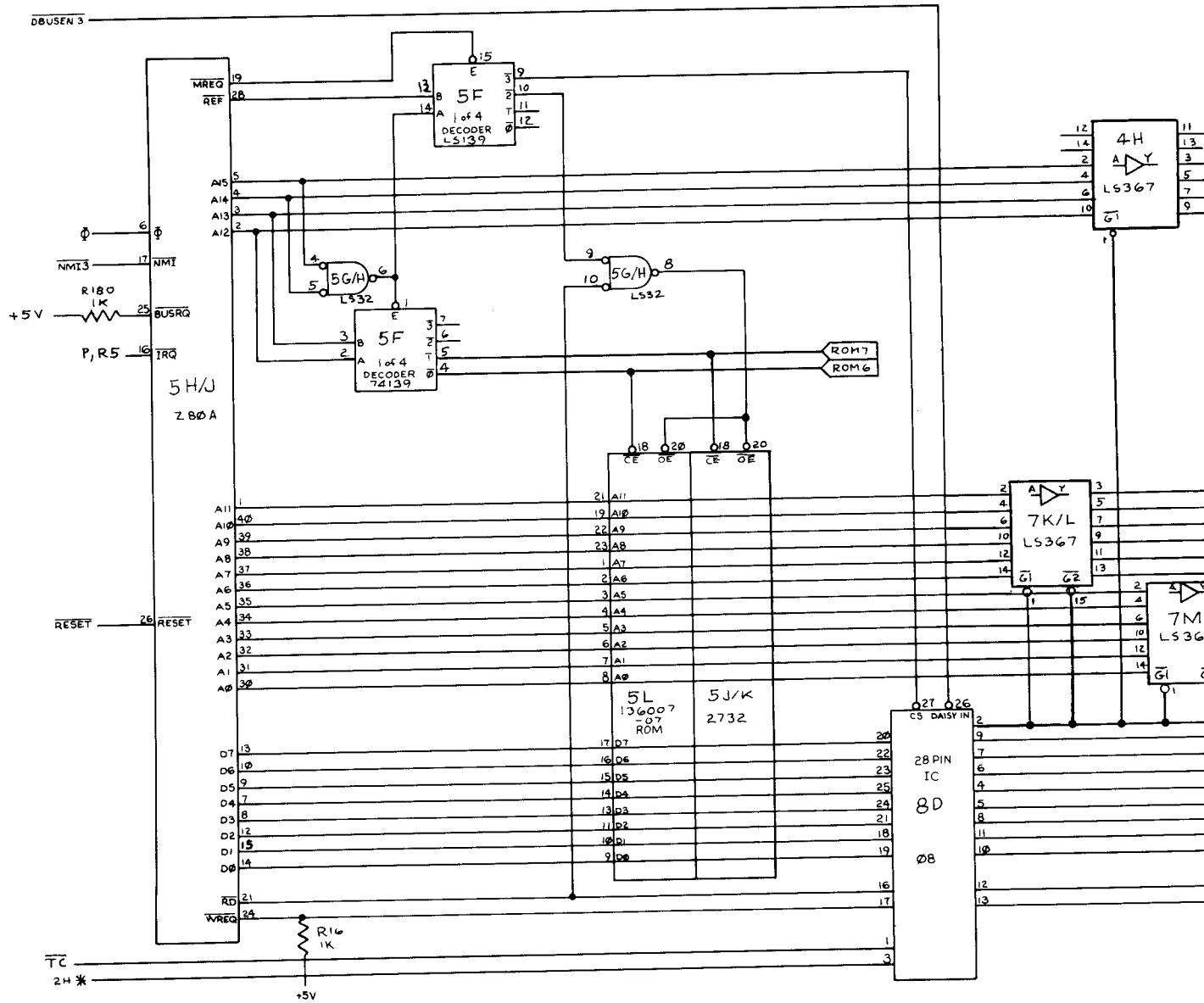




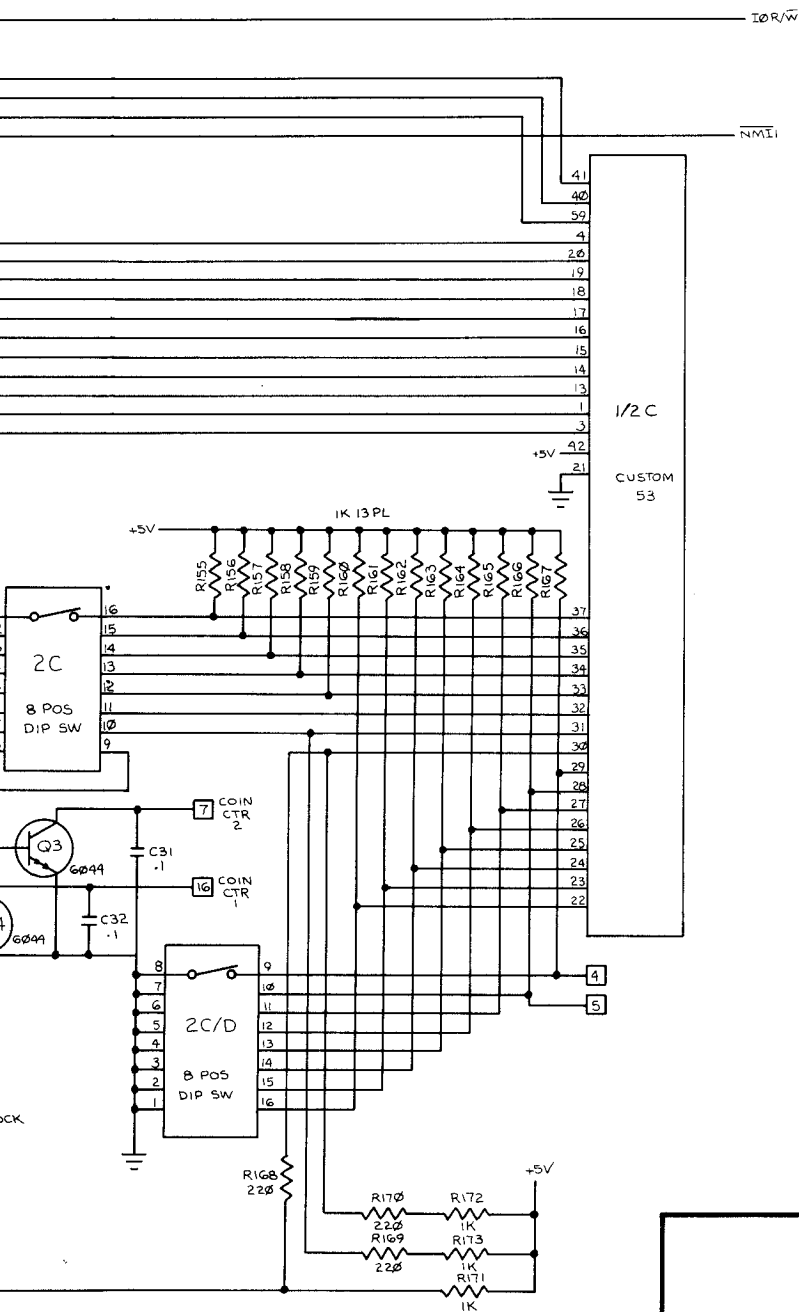
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## Dig Dug CPU PCB Schematic Diagram

# 3rd Priority CPU



# Control Panel Outputs



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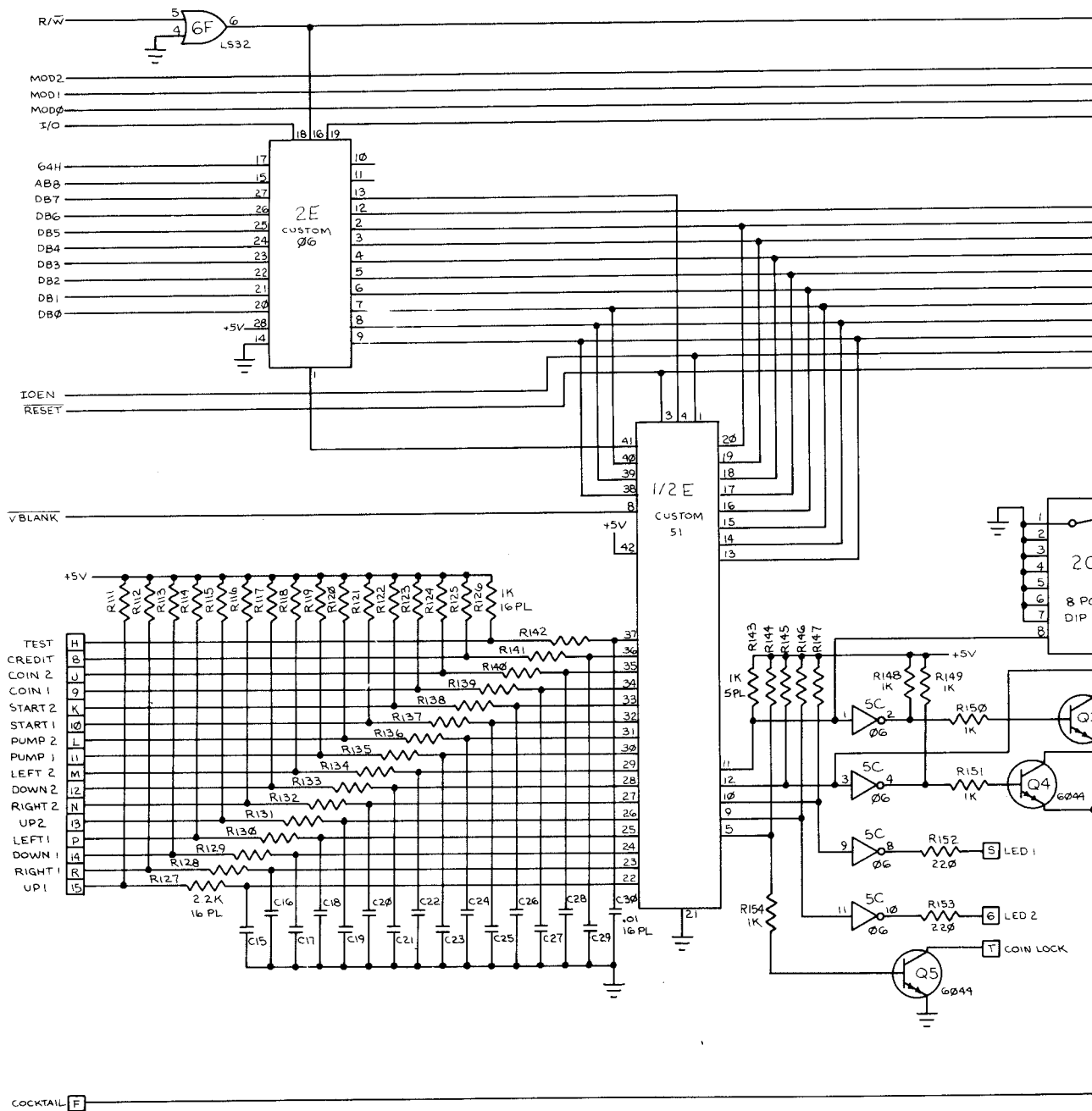
## Dig Dug CPU PCB Schematic Diagram

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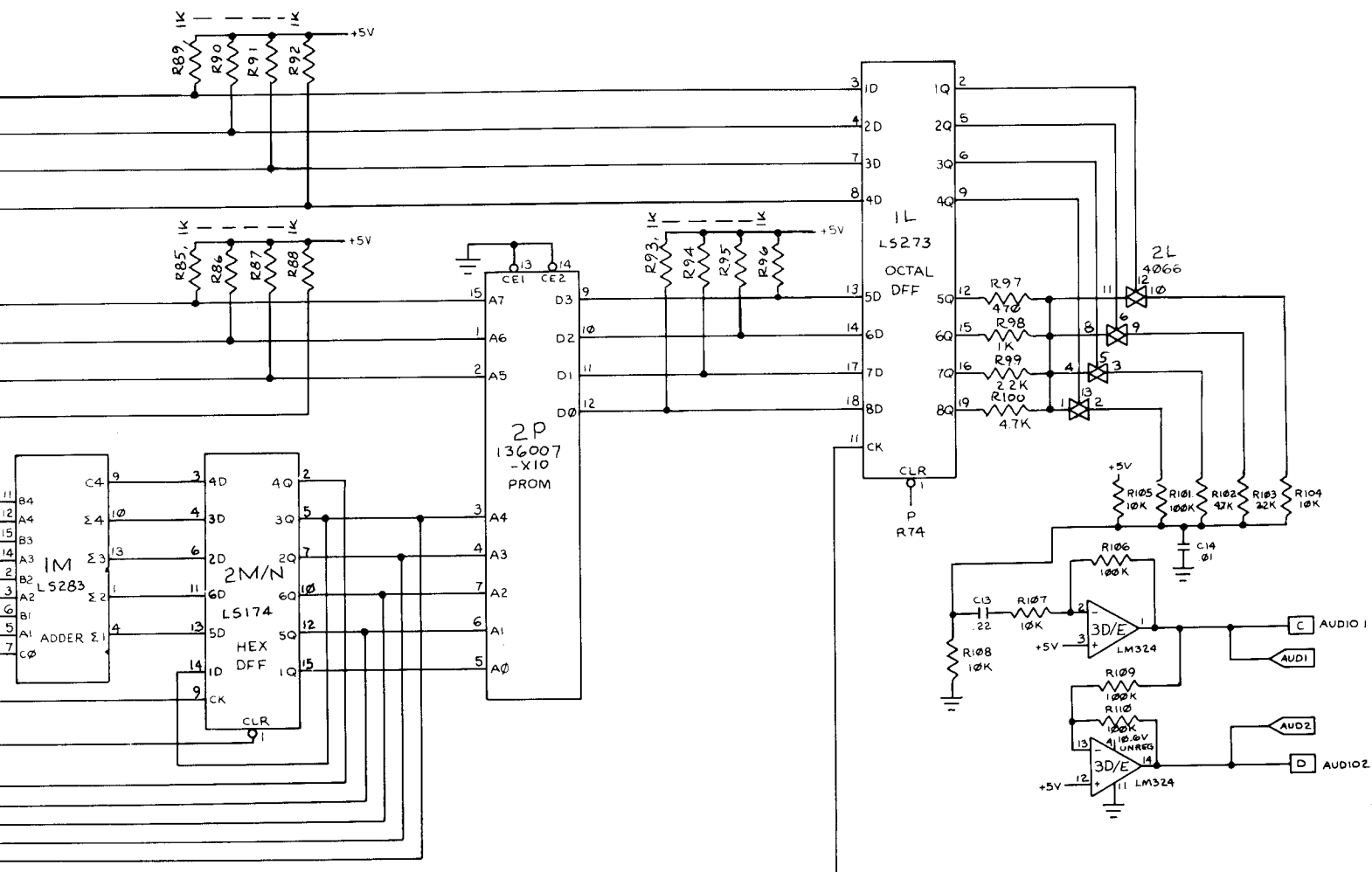
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# Switch Inputs, Coin Door and Control P







I/O 2H\*



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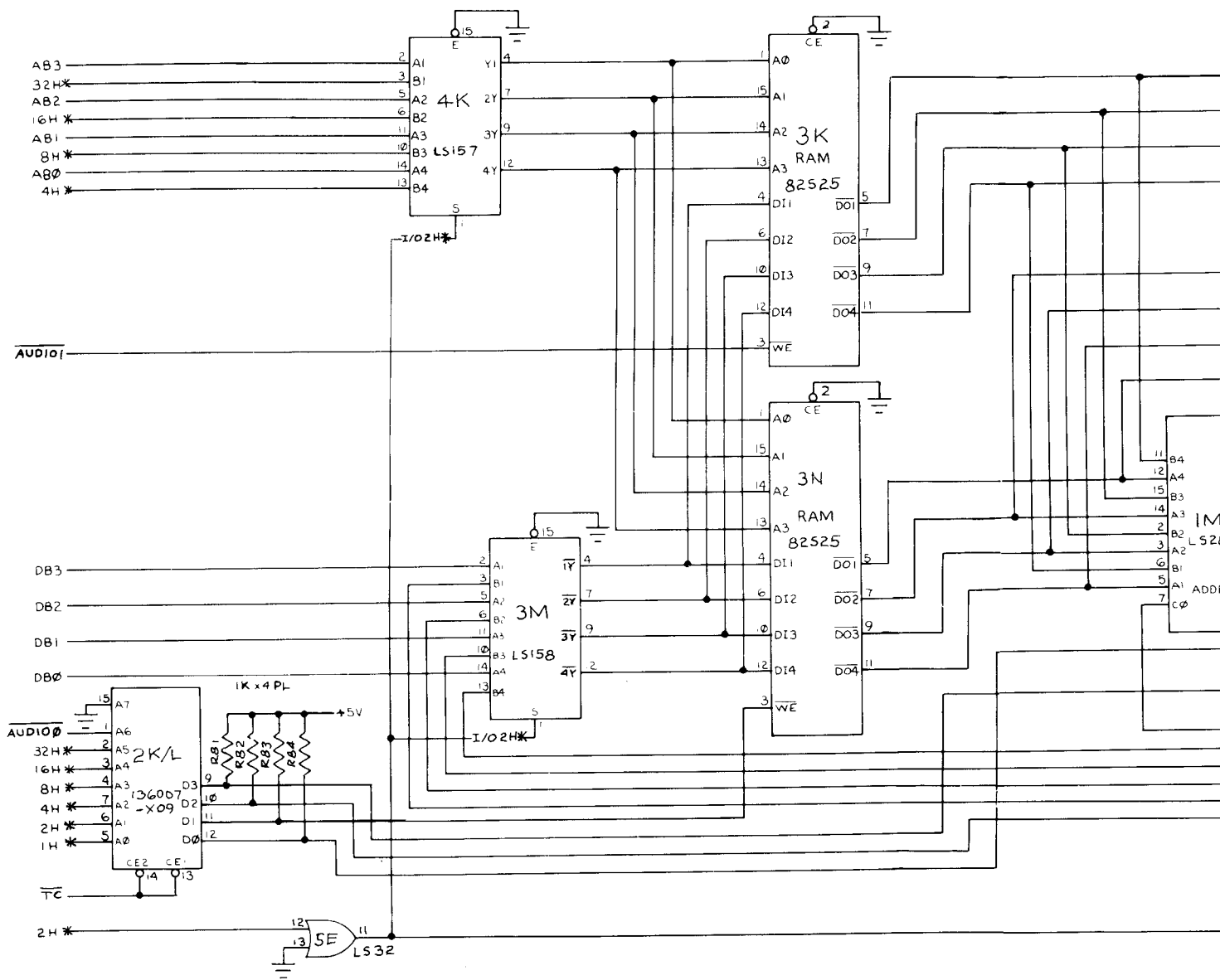
### Dig Dug CPU PCB Schematic Diagram

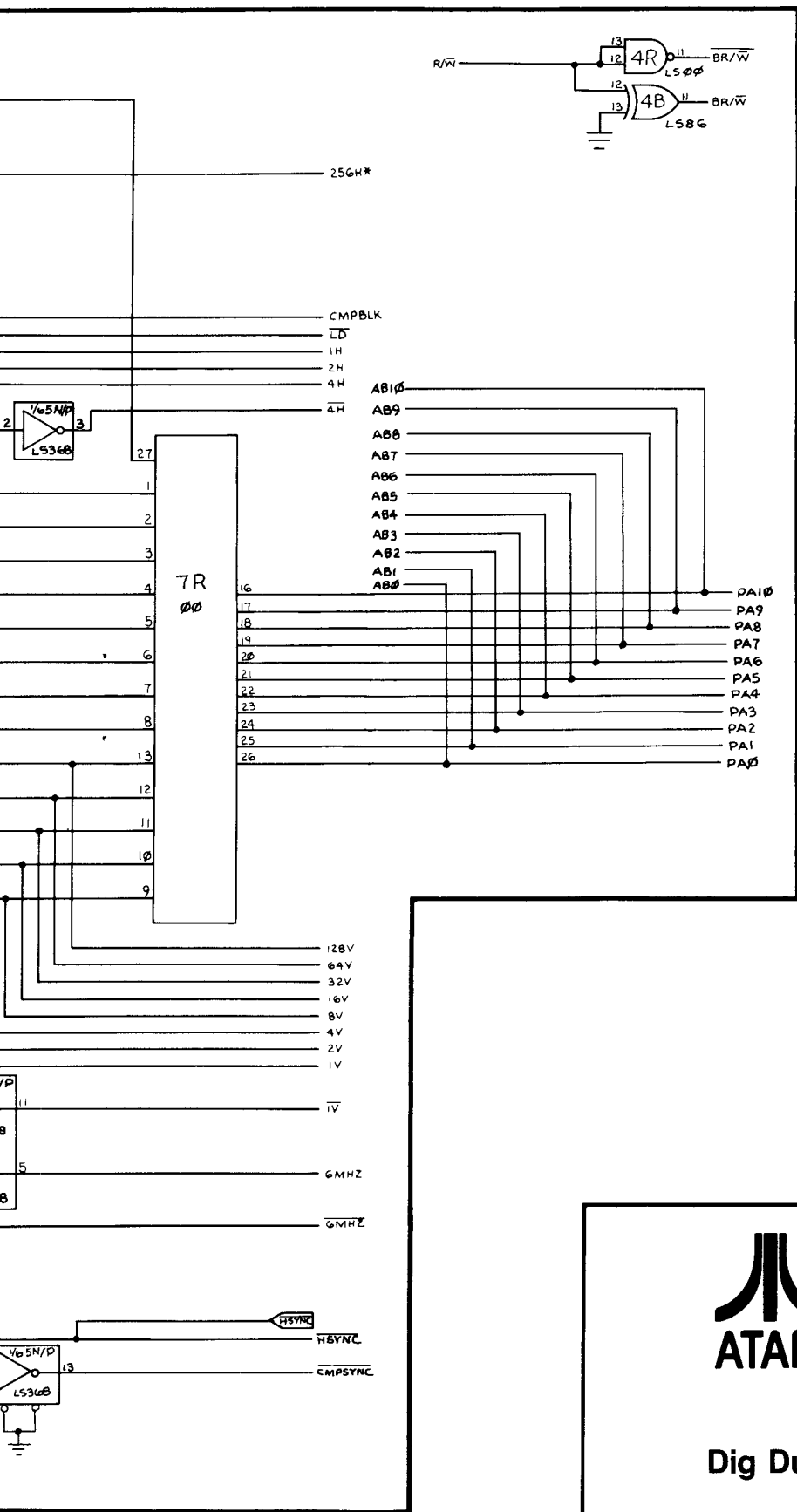
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# Audio





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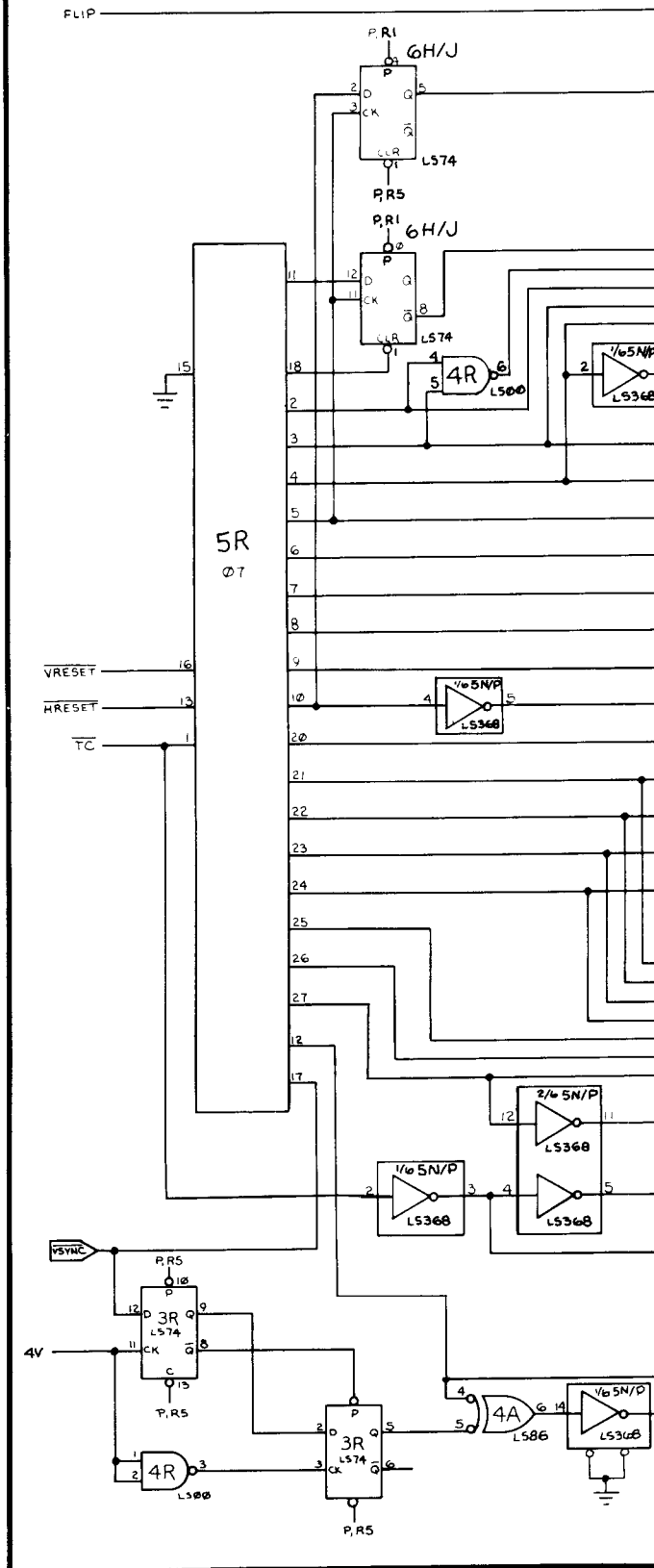
## Dig Dug Video PCB Schematic Diagram

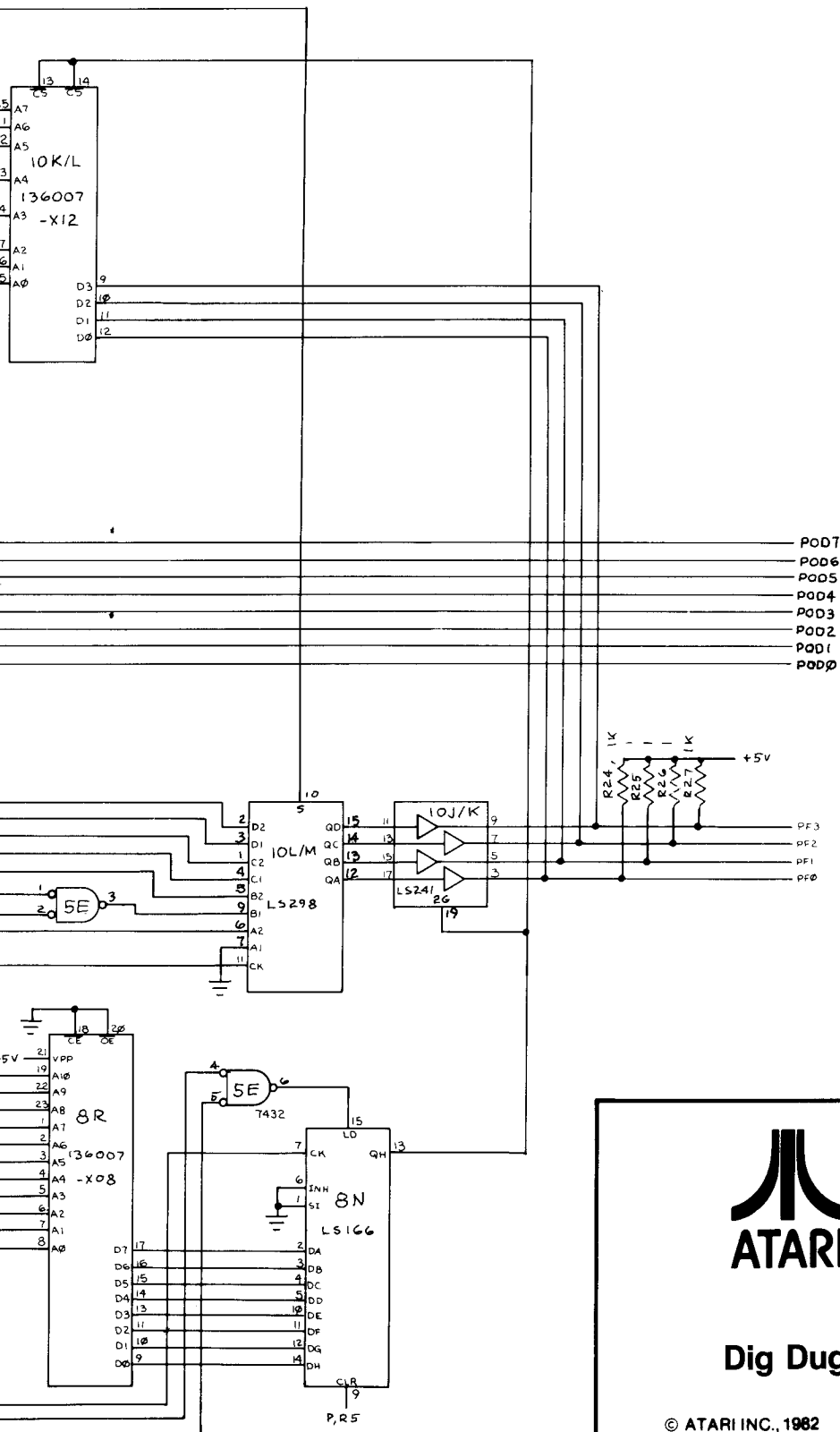
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# Sync Generator





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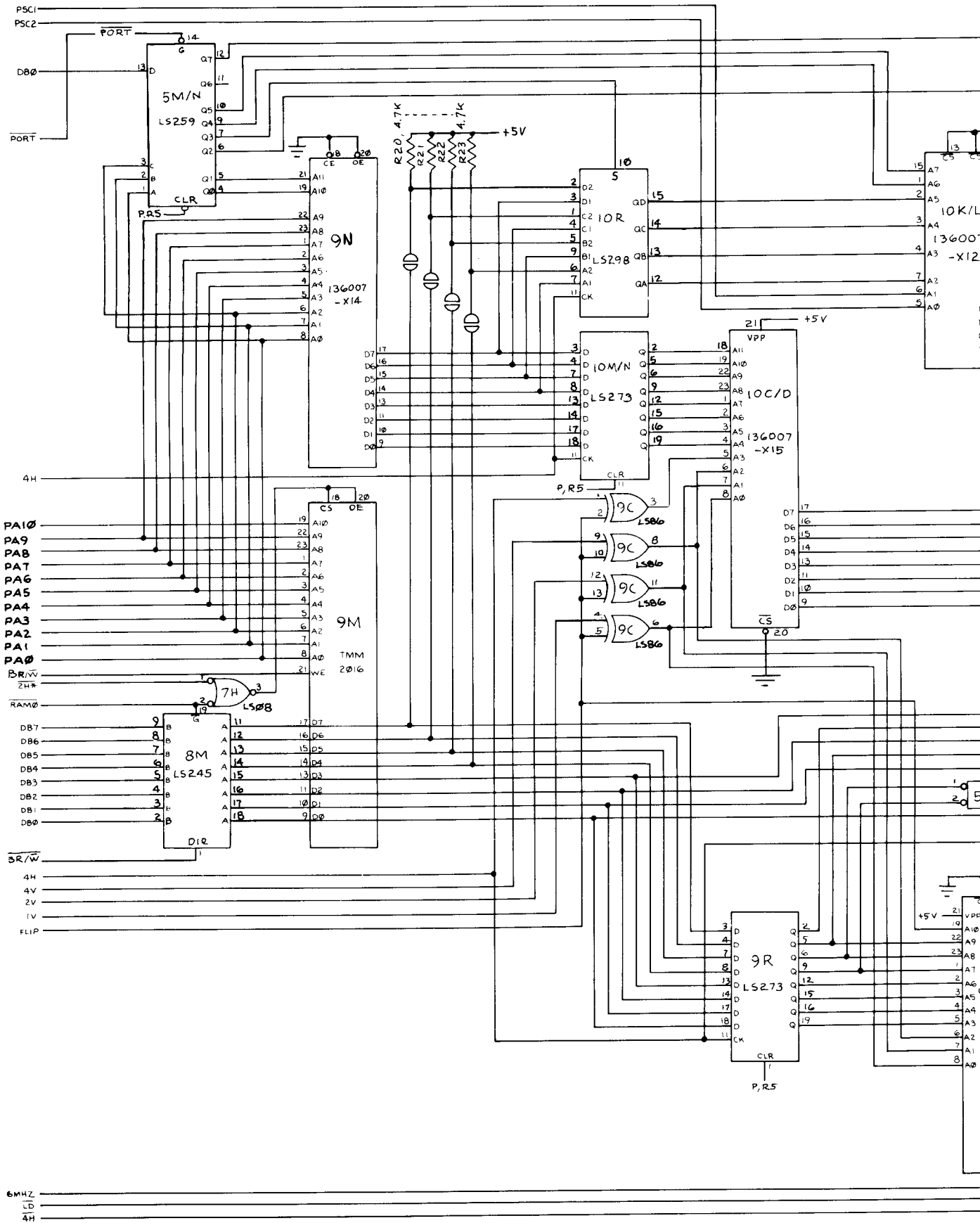
## Dig Dug Video PCB Schematic Diagram

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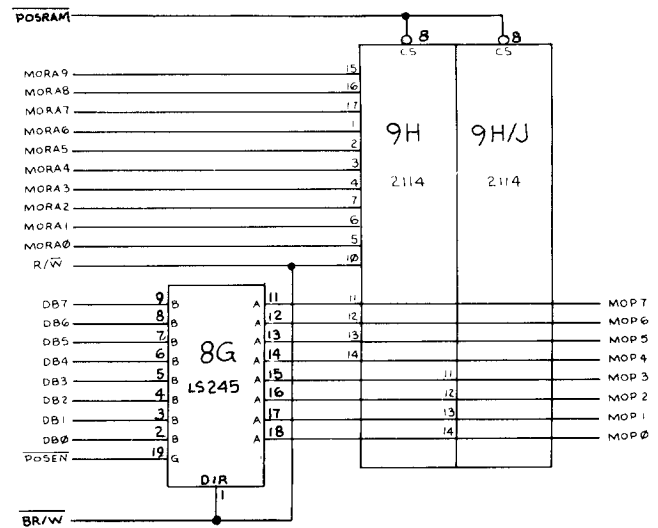
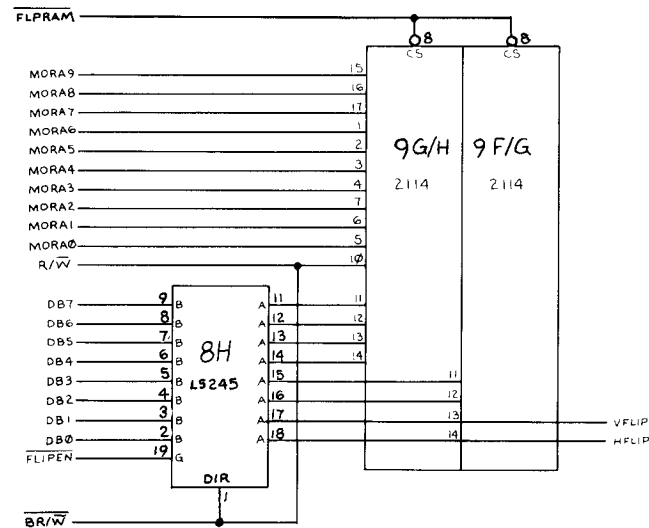
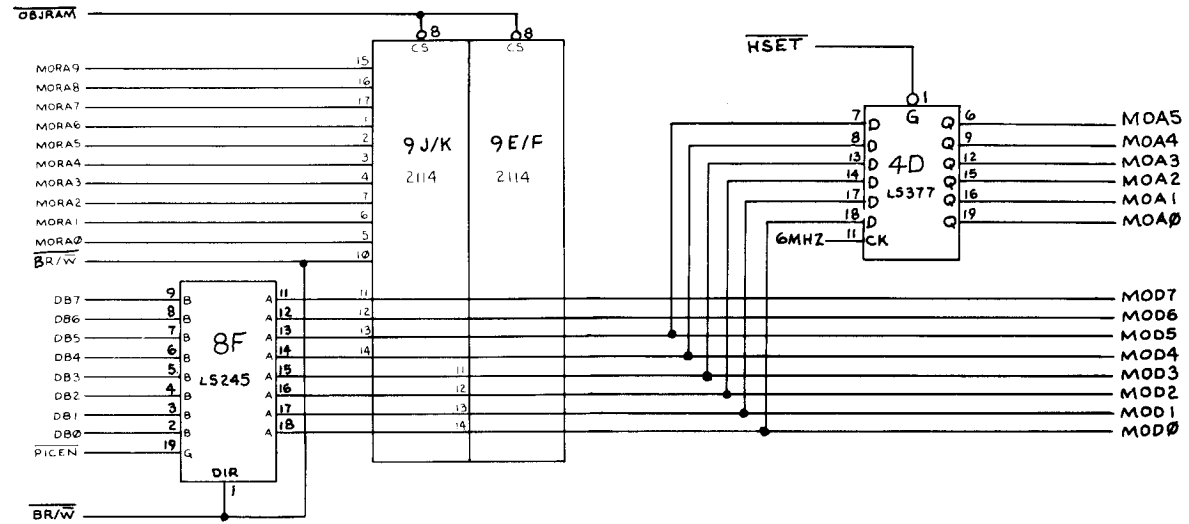
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# Playfield Generator



# Motion Object RAM



- EAROM
- PORT
- 1 — OBJRAM
- 2 — FLPRAM
- 3 — POSRAM
- 4 — PICEN
- 5 — RAM0
- 6 — POSEN
- 7 — FLIPEN
- 8 — MORA9
- 9 — MORA8
- 10 — MORA7
- 11 — MORA6
- 12 — MORA5
- 13 — MORA4
- 14 — MORA3
- 15 — MORA2
- 16 — MORA1
- 17 — MORA0
- 18 — VSET
- 19 — HSET
- 20 — OBJEN
- 21 — FLIP1
- 22 — FLIP2
- 23 — 2.6V
- 24 — 2.8V
- 25 — 2.4V
- 26 — 2.2V
- 27 — 2.1V



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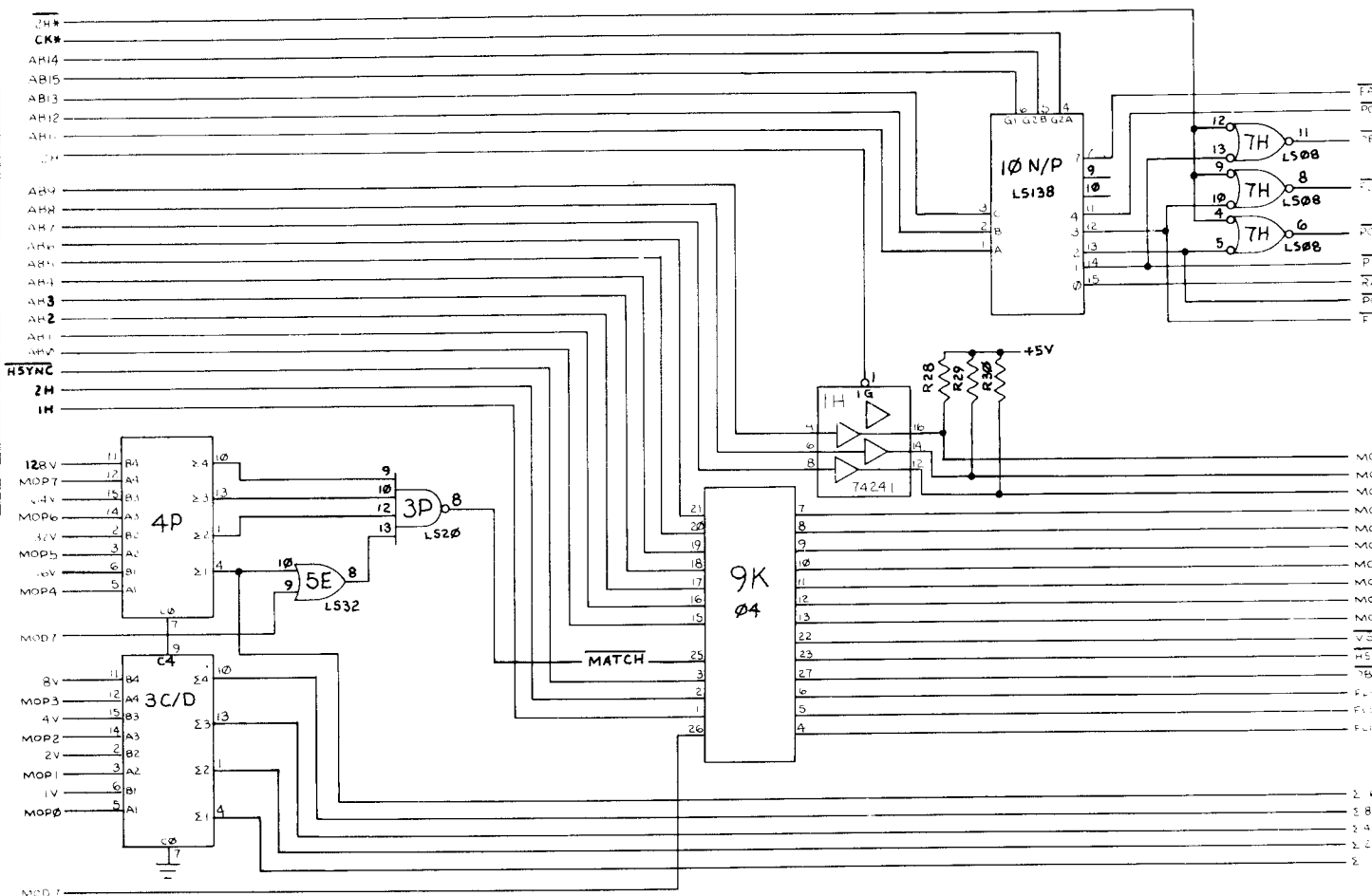
## Dig Dug Video PCB Schematic Diagram

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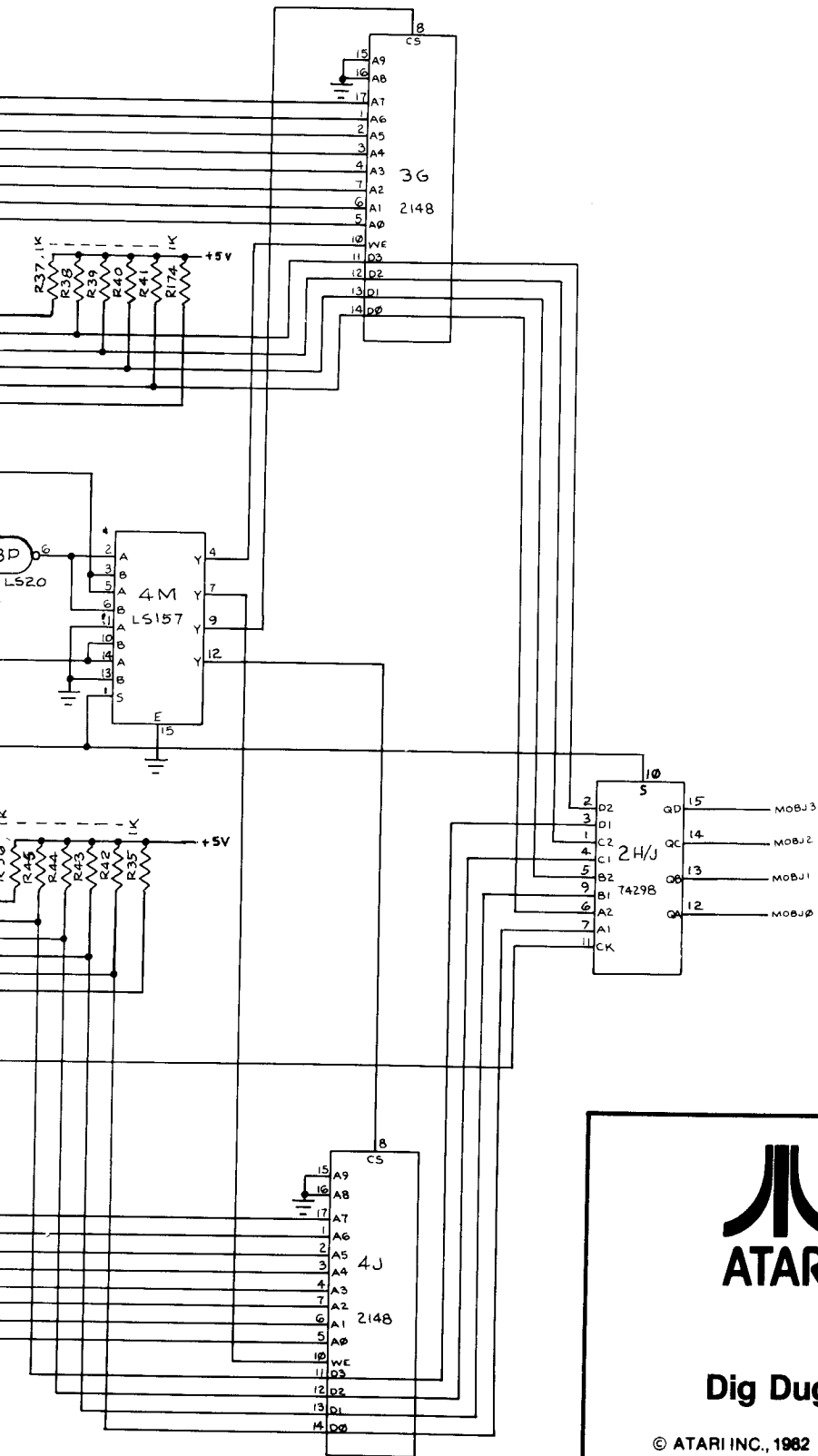
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# Motion Object Address Generator, Decoder, and Match Line Flag





# Generator



MOBJ0 through MOBJ3 -  
Motion Object Output.



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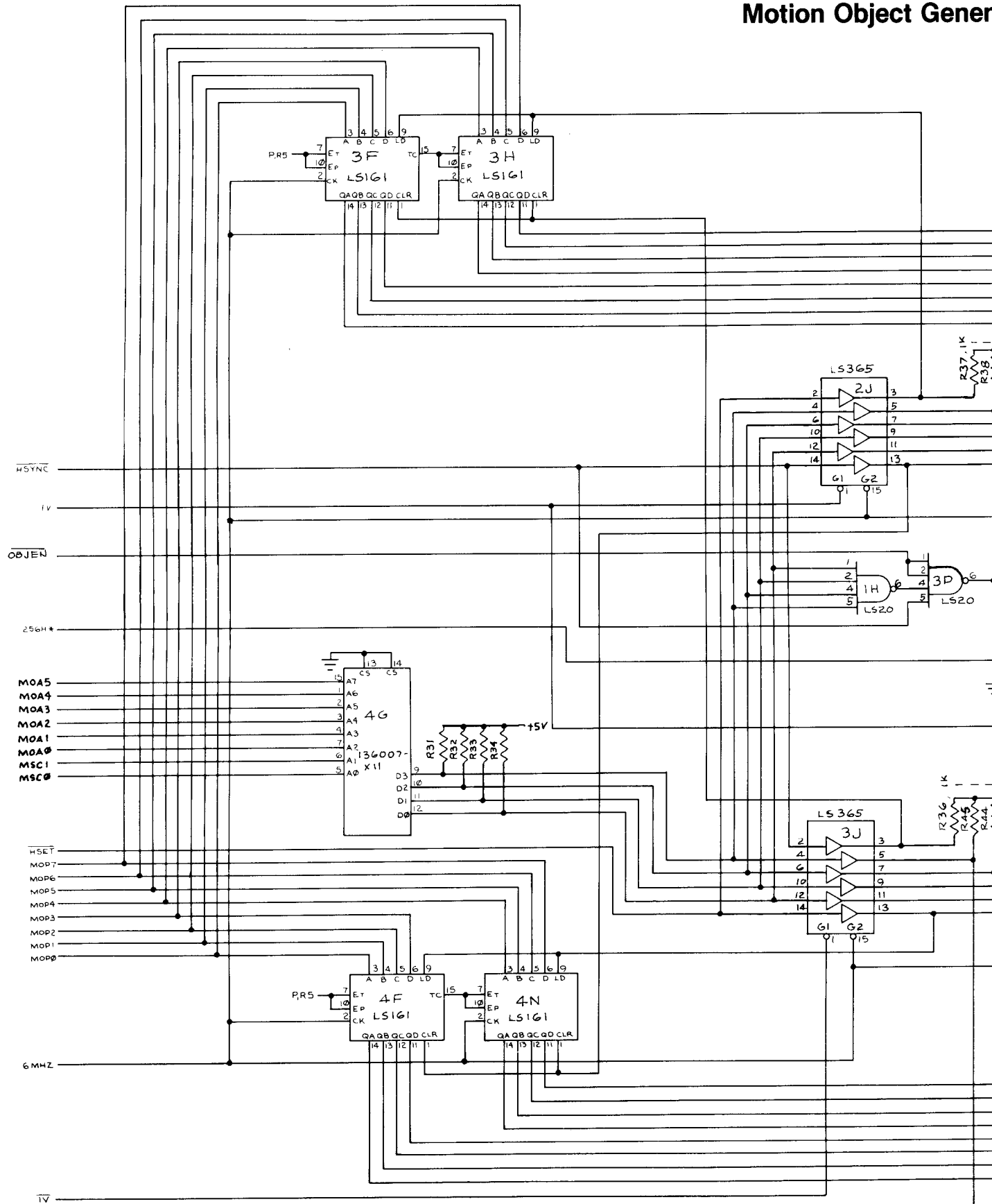
## Dig Dug Video PCB Schematic Diagram

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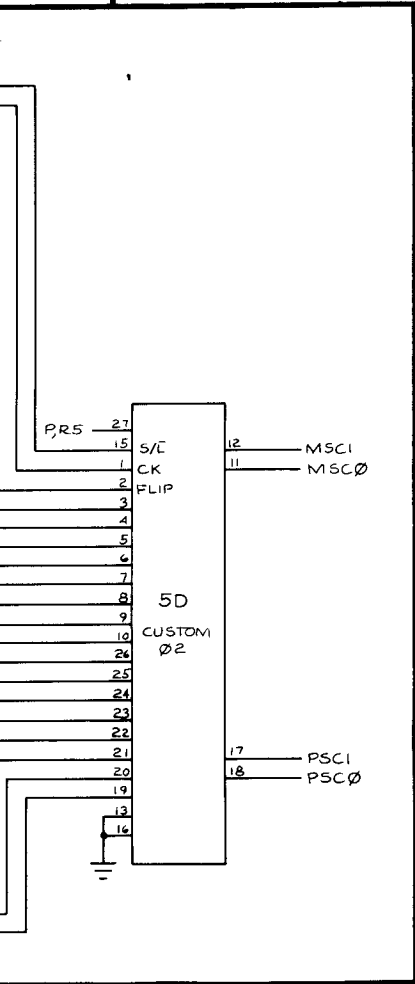
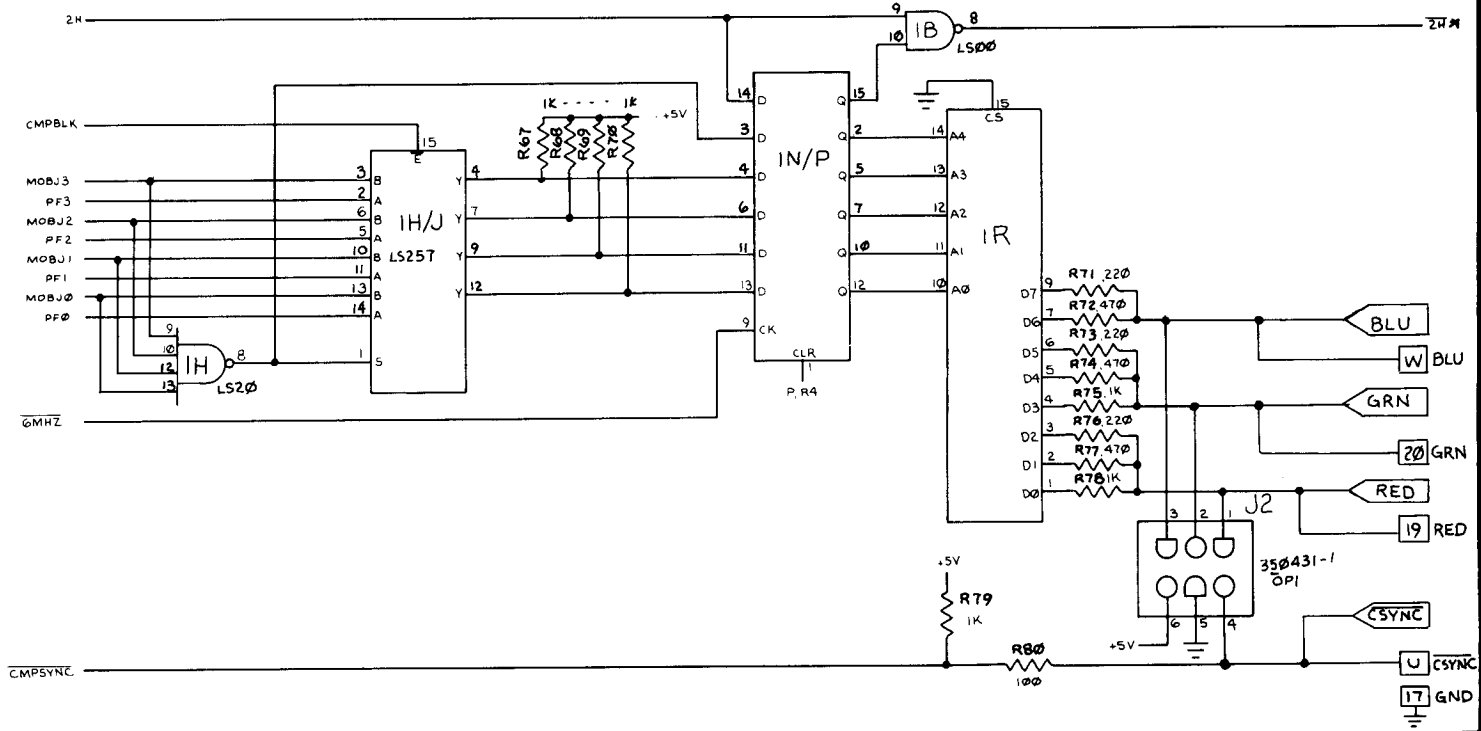
SP-203 Sheet 7A  
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# Motion Object Gener



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

# Video Output



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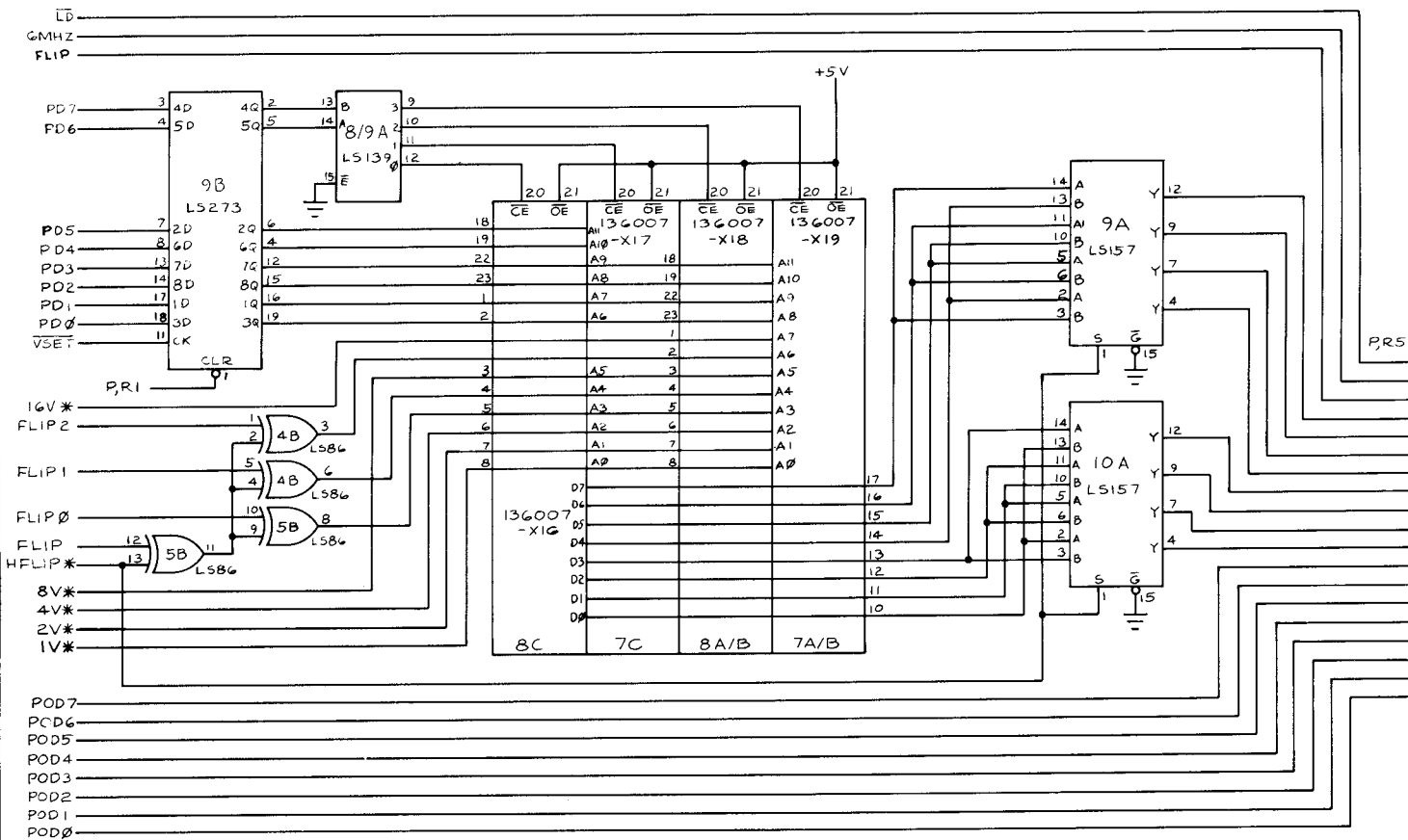
## Dig Dug Video PCB Schematic Diagram

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# Video Color Controller





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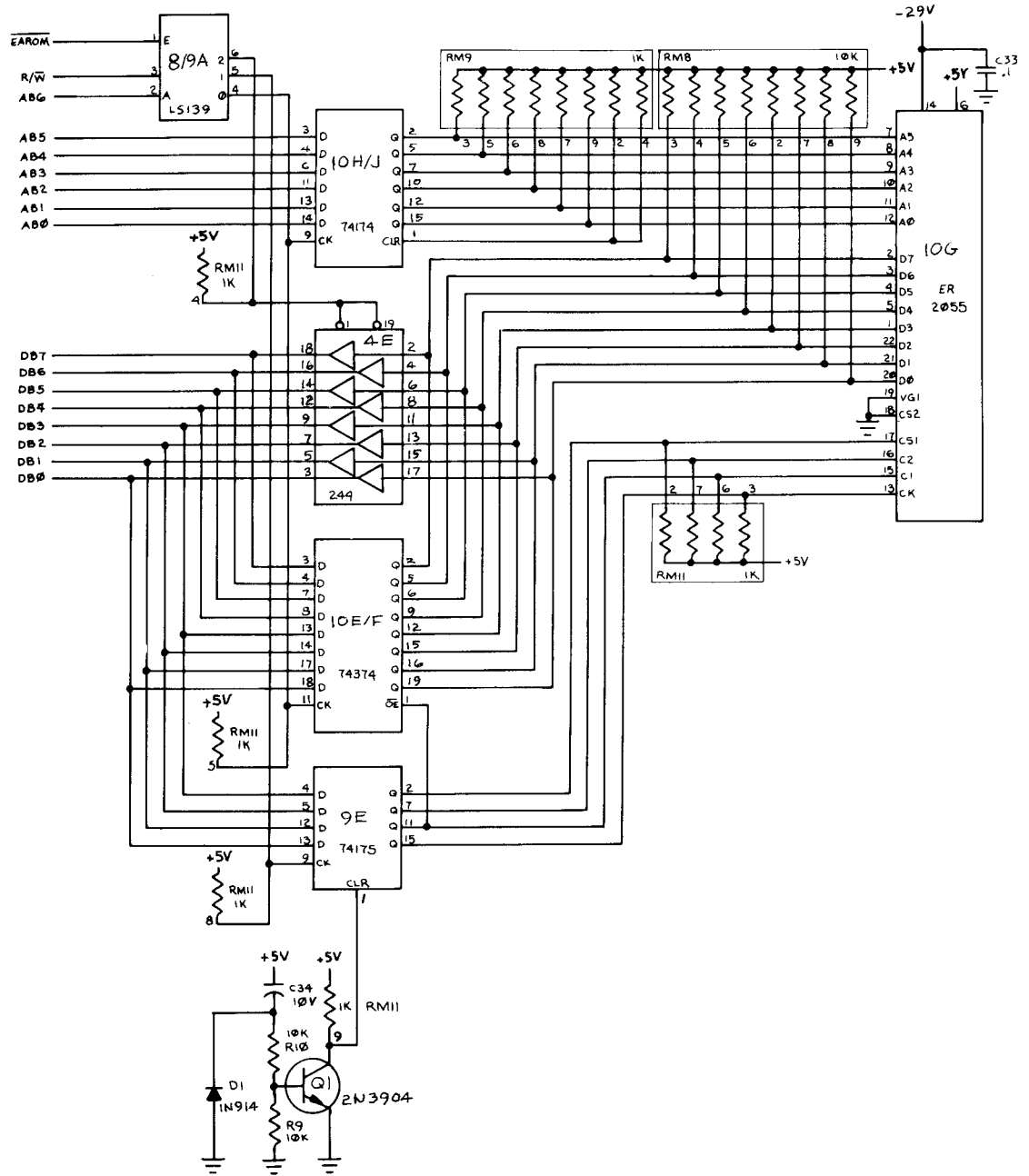
## Dig Dug Video PCB Schematic Diagram

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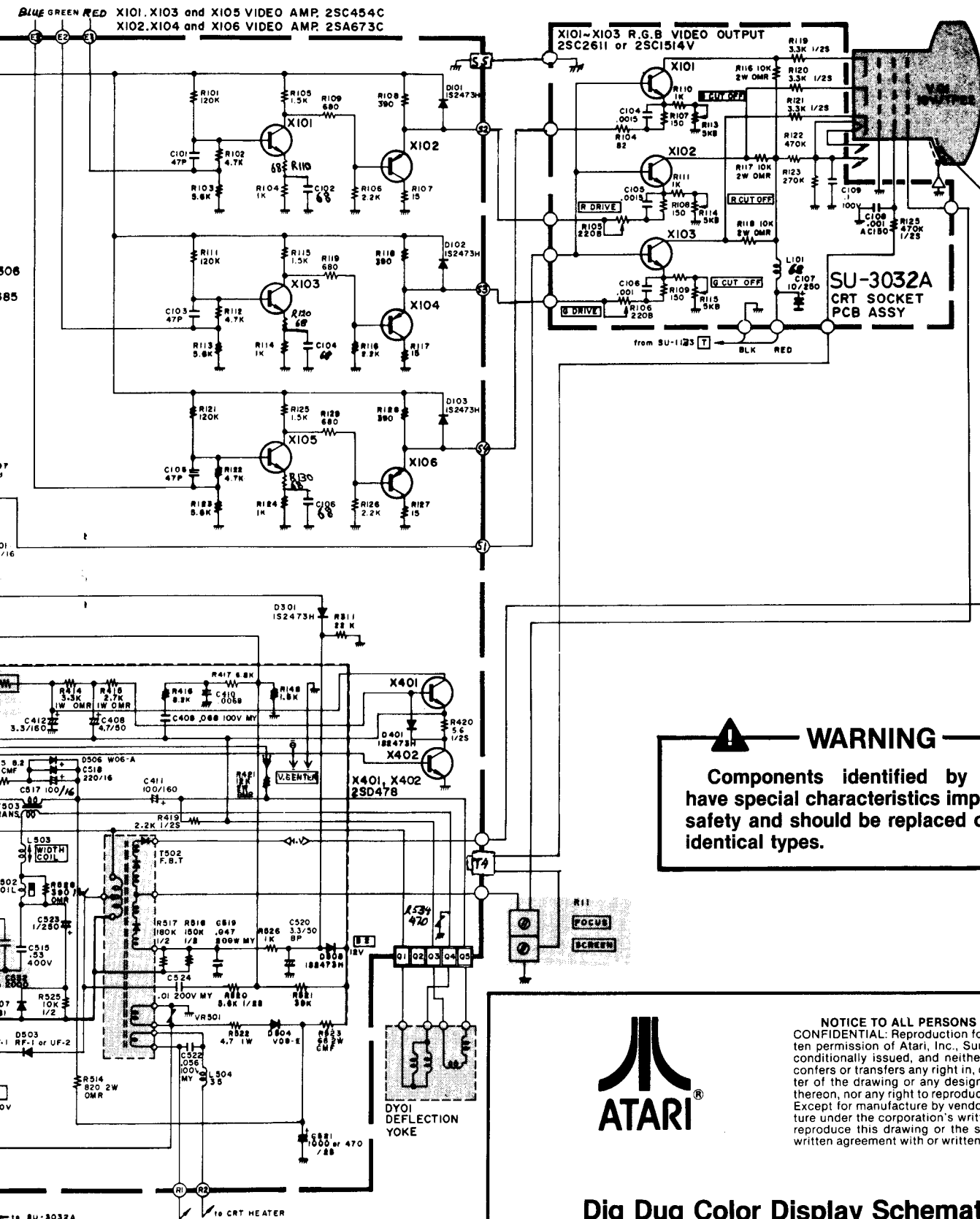
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# High-Score Table



# Schematic Diagram



## Schematic Notes

Unless otherwise specified

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

Capacitance: 1 or higher  $\rightarrow$  (pF), less than 1  $\rightarrow$  ( $\mu$ 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.

$\text{\textcircled{P}}$  indicates test point connection

$\text{\textcircled{G}}$  indicates chassis ground unless otherwise specified

Hz indicates cycles per second

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

$\text{\textcircled{\Delta}}$  replace all components marked with safety symbol with identical type.

NOTE: FR  $\rightarrow$  fusible resistor ( $\text{\textcircled{FR}}$ )

Parts identification on circuit boards:

e.g. SU1126A (R107 = R1107)

SU3030A (R113 = R3113)

