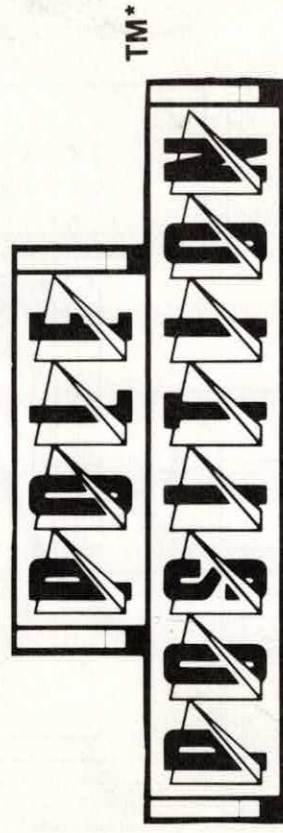


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NOTE  
This staple temporarily holds the schematic package together. Re-move the staple before using these schematics.

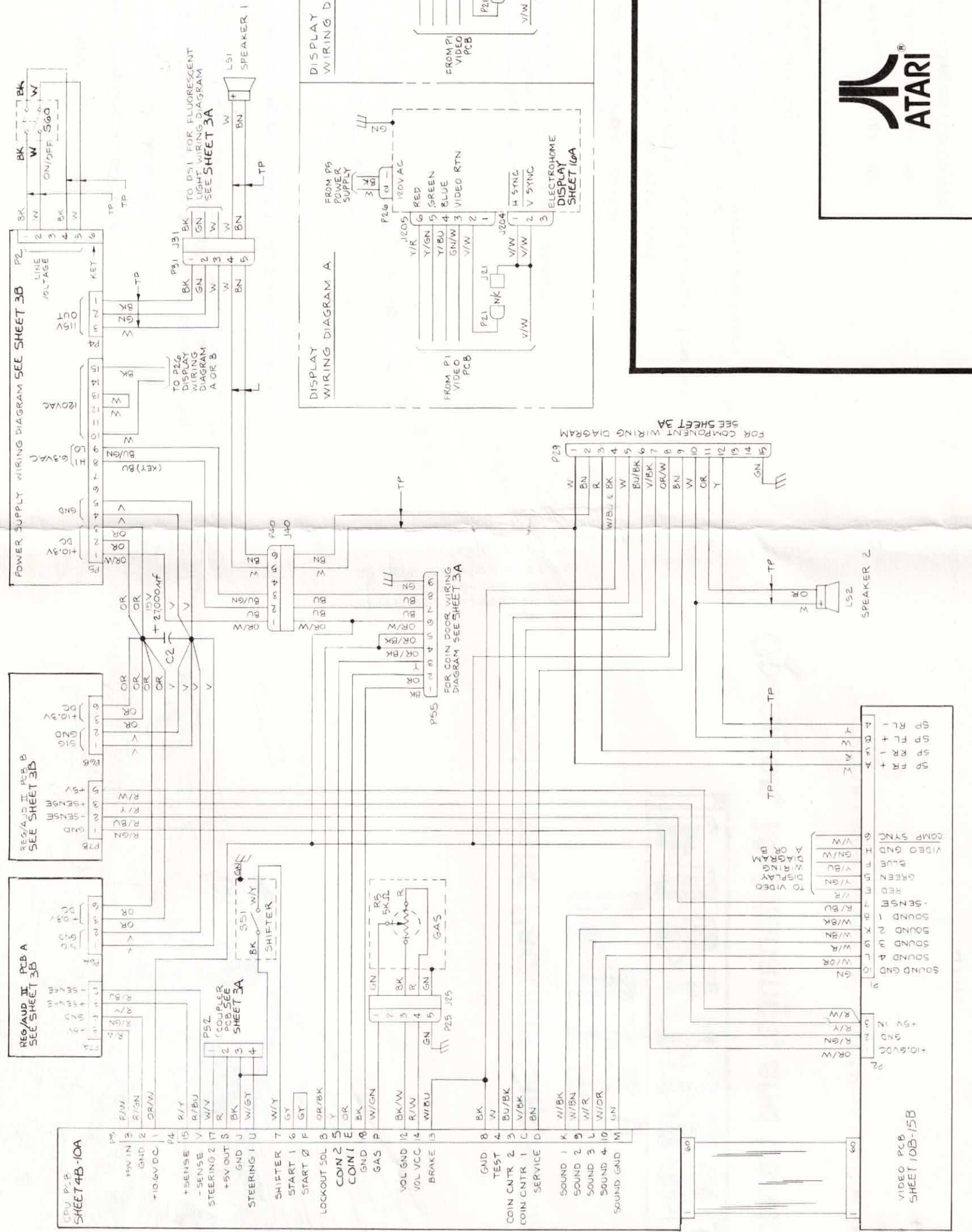
## Schematic Package Supplement to



## Operation, Maintenance, and Service Manual

\*Pole Position is engineered and designed by Namco Ltd. Manufactured under license by Atari, Inc.





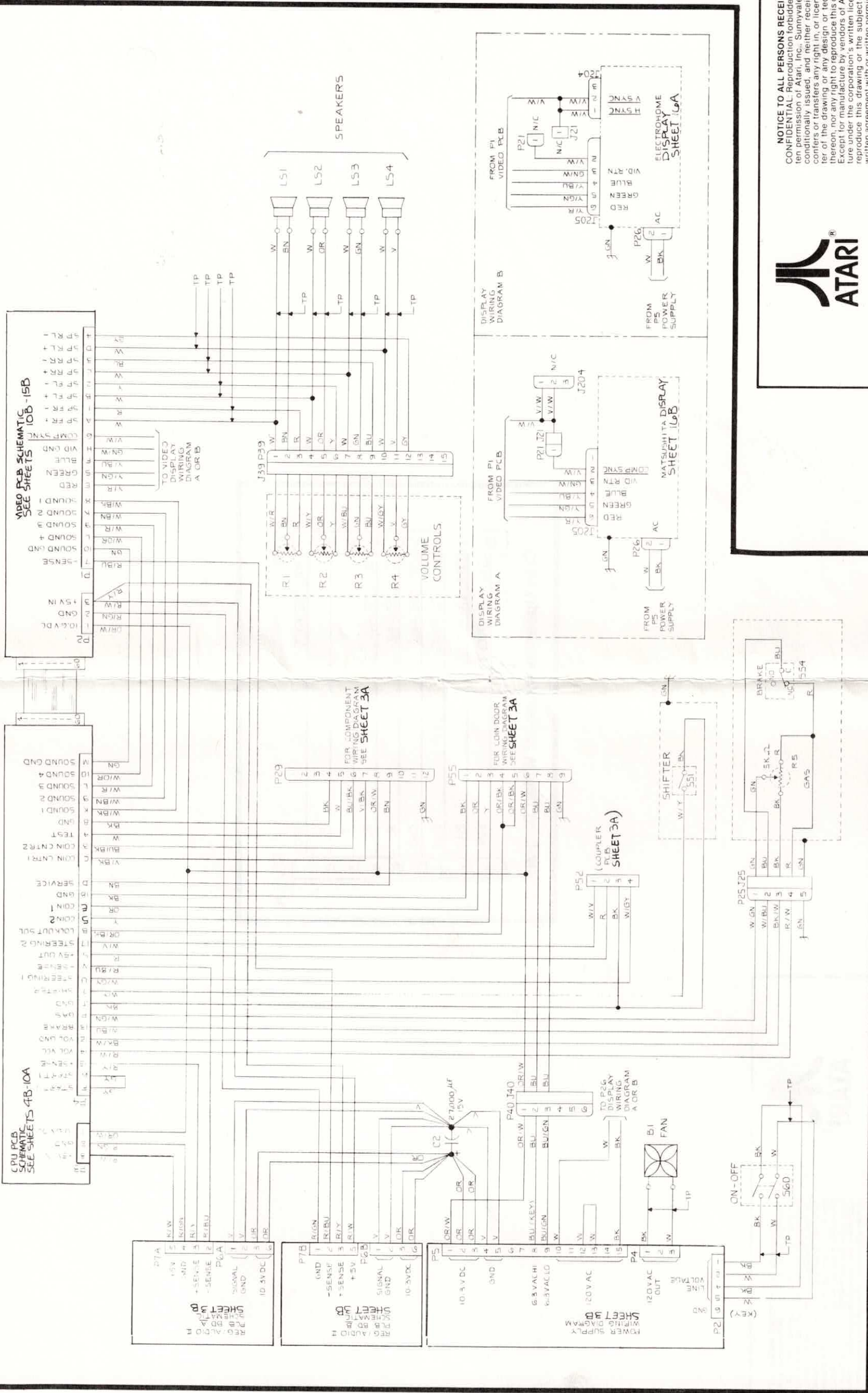
# Pole Position Upright Main Wiring Diagram

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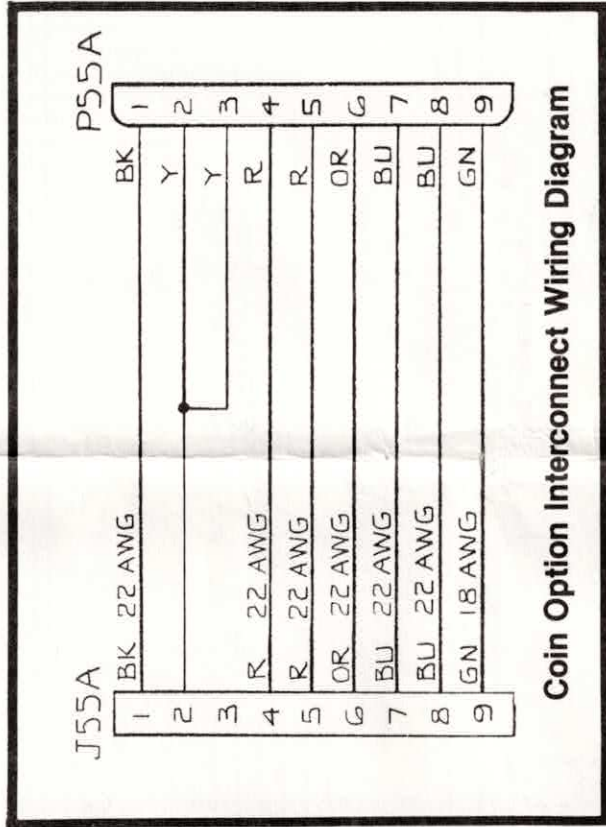
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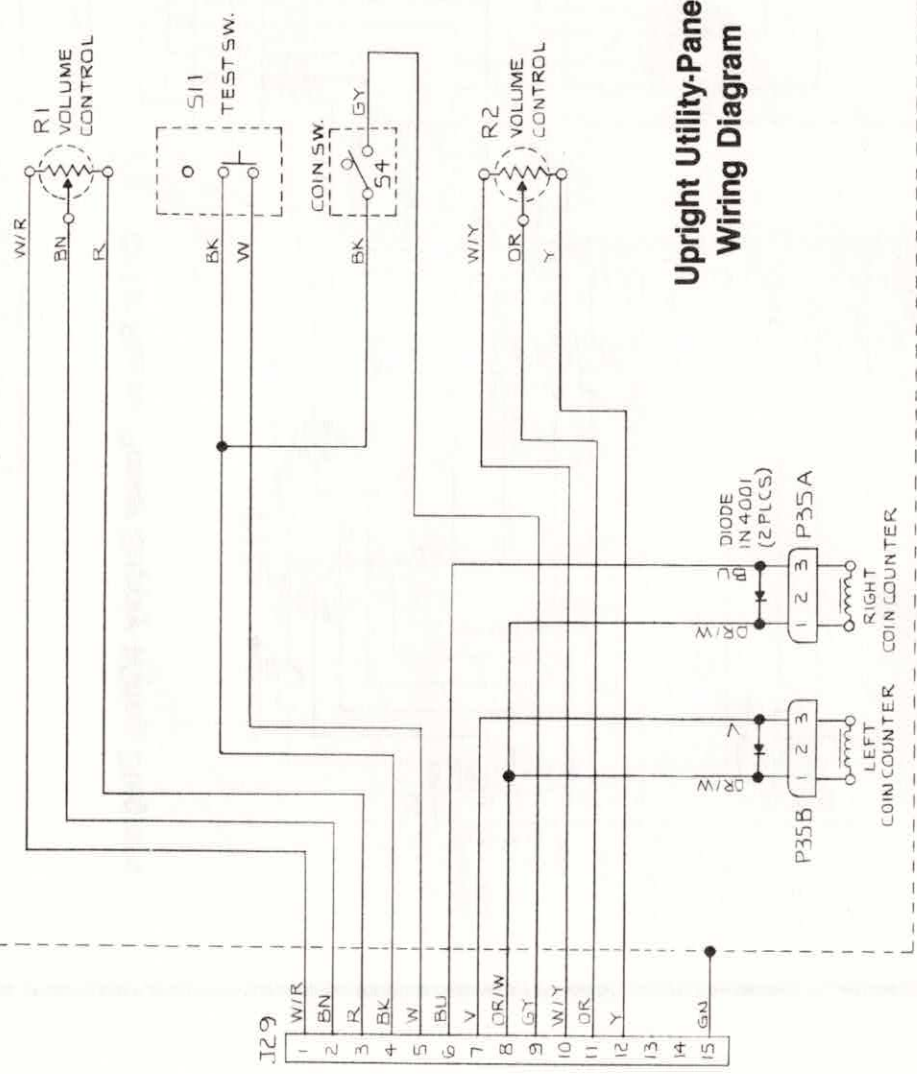


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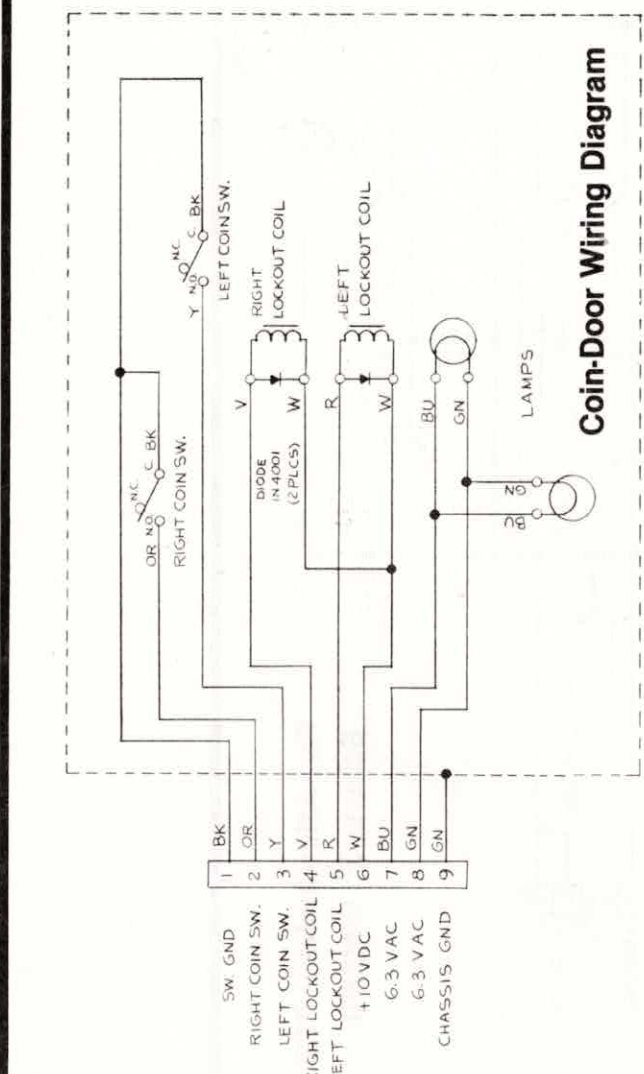
## Pole Position Game Wiring Interface



**WIRING DIAGRAM**



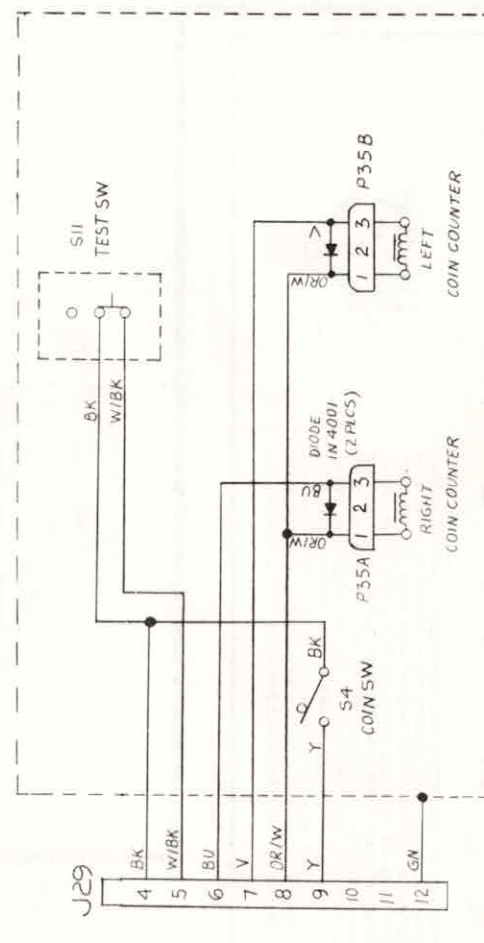
**Upright Utility-Panel Wiring Diagram**



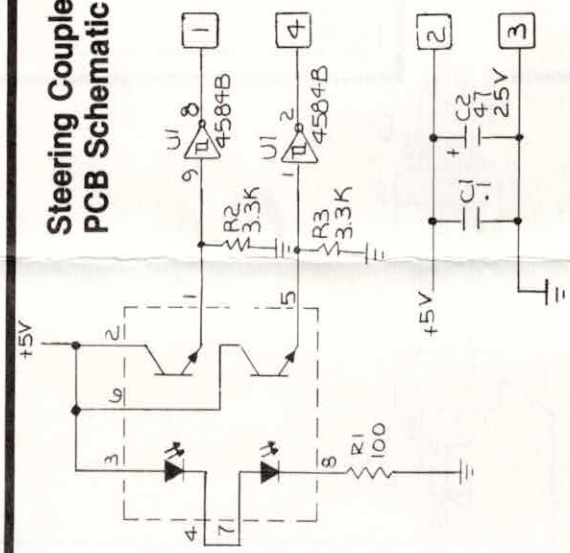
**Coin-Door Wiring Diagram**

- 1 BK SW. GND
- 2 OR RIGHT COIN SW.
- 3 Y LEFT COIN SW.
- 4 V RIGHT LOCKOUT COIL
- 5 R LEFT LOCKOUT COIL
- 6 W +10VDC
- 7 BU 6.3 VAC
- 8 GN 6.3 VAC
- 9 GN CHASSIS GND

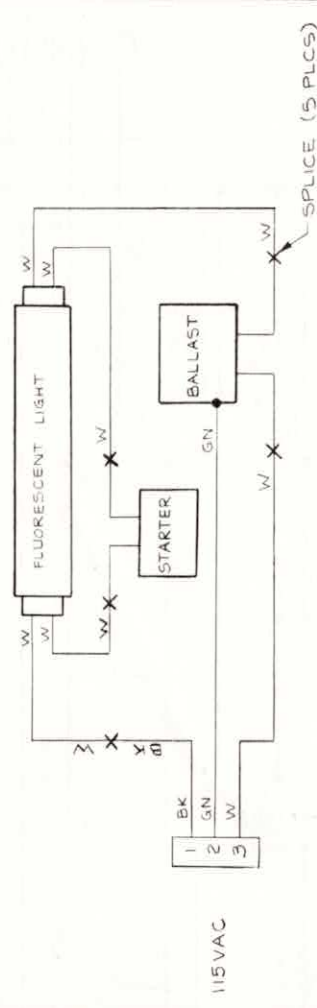
**Sit-Down Utility-Panel Wiring Diagram**



**Steering Coupler PCB Schematic**



**Upright-Only Fluorescent Light Wiring Diagram**

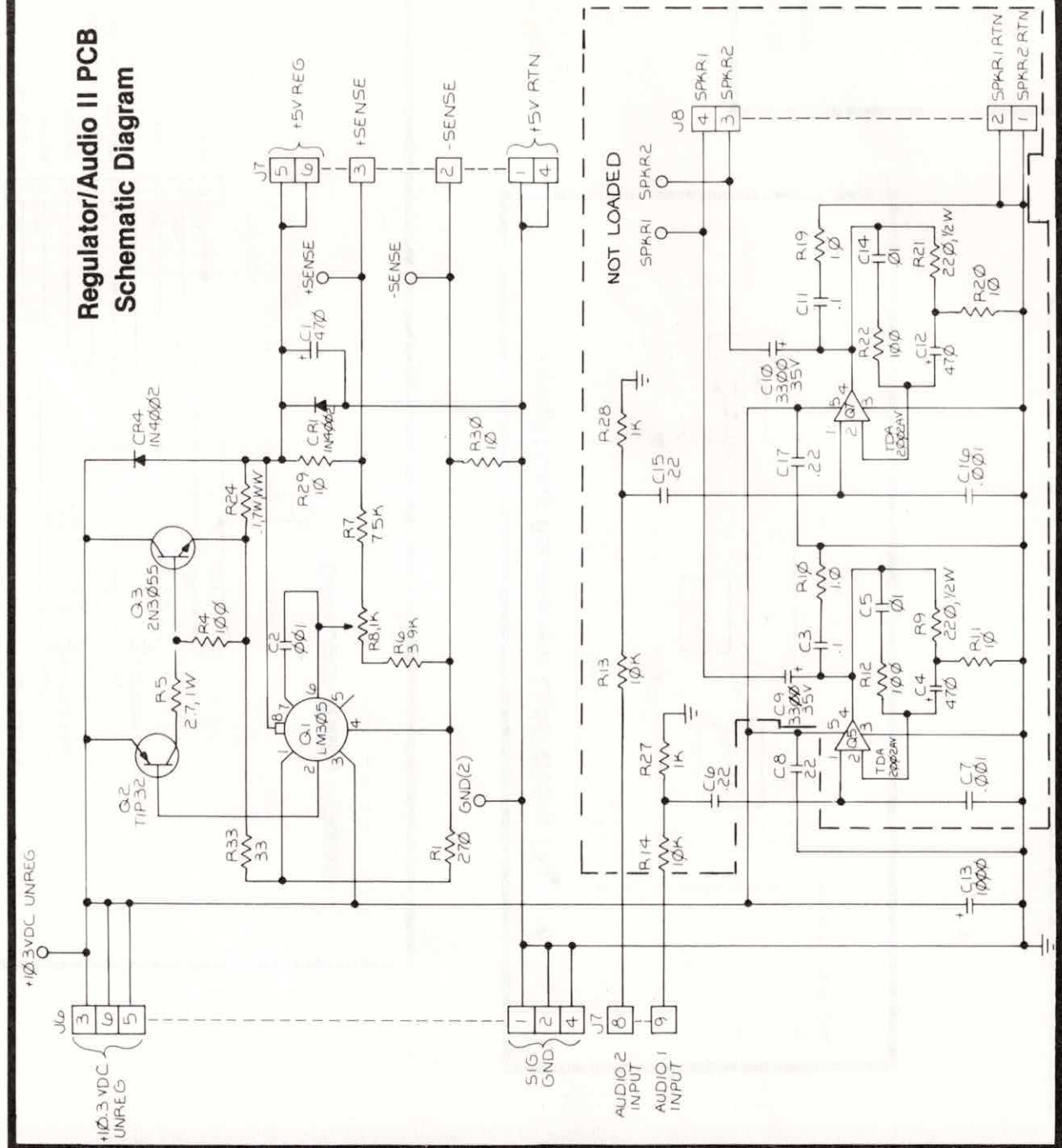


**Pole Position Game Wiring Interfaces**

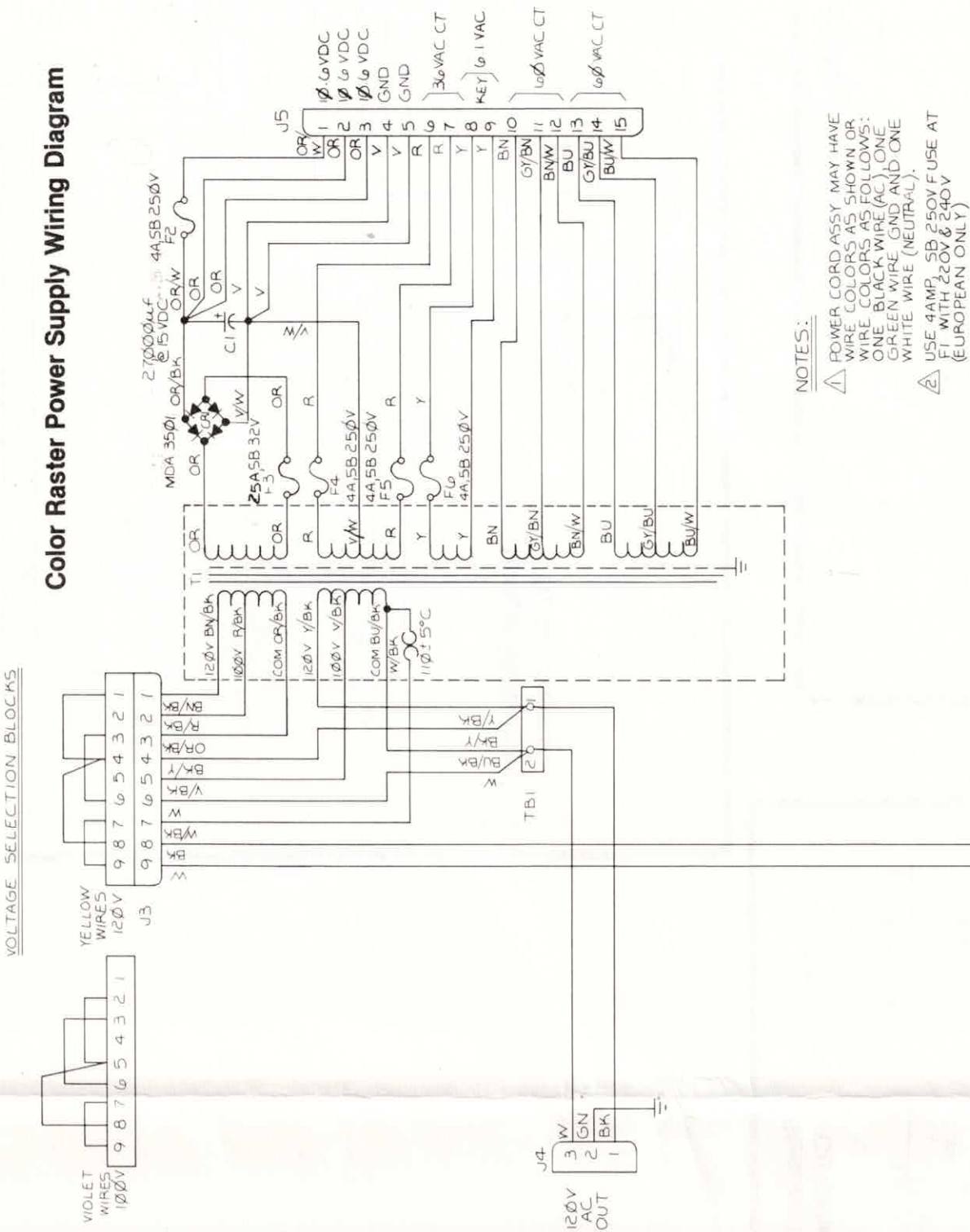
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### Regulator/Audio II PCB Schematic Diagram



### Color Raster Power Supply Wiring 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 5B 250V FUSE AT F1 WITH 220V & 240V (EUROPEAN ONLY)



### Pole Position Reg./Audio II PCB and Power Supply Diagrams

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## CPU A AND B MEMORY MAP

HEXADECIMAL ADDRESS	READ/ WRITE	FUNCTION
0000-37FFF	R	Program Memory
4000-7FFF	R	Program Memory
8000-8FFF (8700-87FF) (8F00-8FFF)	R/W	Motion Object Memory Vertical and Horizontal Position Character, Color, Vertical Size, Horizontal Size
9000-97FF (9000-93FF) (9700-97FF)	R/W	Road Memory Character Horizontal Scroll
9800-9FFF (A000-AFFF)	R/W	Alphanumeric Memory View Character Memory
C000	W	View Horizontal Position
C100	W	Road Vertical Position

## SOUND CPU MEMORY MAP

HEXADECIMAL ADDRESS	READ/ WRITE	FUNCTION
0000-1FFF	R	Program Memory
2000-2FFF	R	Program Memory
3000-37FF	R/W	Battery Back-Up RAM
4000-43FF (4380-43FF)	R/W	Motion Object Memory Vertical and Horizontal Position
4400-47FF (4780-47FF)	R/W	Motion Object Memory Character, Color, Vertical Size, Horizontal Size
4800-48FF (4800-49FF) (4B80-4BFF)	R/W	Road Memory Character Horizontal Scroll
4C00-57FF (4C00-4FFF) (5000-53FF)	R/W	Alphanumeric Memory Alphanumeric View Character
8000-83FF (83C0-83FF)	R/W	Sound Memory Sound
9000	R/W	4-Bit CPU Controller
A000	R/W	Input/Output
A000	W	IRQ Enable (1 = enable, 0 = disable)
	R	Bit 0: Not Used
		Bit 1: 128 V
		Bit 2: Power-Line Sense
		Bit 3: ADC End Flag
A001	W	4-Bit CPU Enable
A002	W	Sound Enable
A003	W	ADC Input Select
A004	W	CPU 1 Enable
A005	W	CPU 2 Enable
A006	W	Start Switch
S007	W	Color Enable
A100	W	Watchdog Reset
A200	W	Car Sound (Lower Nybble)
A300	W	Car Sound (Upper Nybble)

## Schematic Reference Designators and Symbols

Logic symbols depict the logic function performed by that particular device and may differ from the manufacturer's data.

### REFERENCE DESIGNATORS:

C	Capacitor
CR	Diode, signal or rectifier
F	Fuse
J	Connector
L	Inductor, fixed or variable
LS	Speaker
P	Connector
Q	Transistor or silicon-controlled rectifier
R	Resistor, fixed or variable
S	Switch
T	Transformer
TP	Twisted wire pair
VR	Voltage regulator
Y	Crystal

### WIRE COLORS:

R	Red
GN	Green
Y	Yellow
W	White
BU	Blue
BN	Brown
BK	Black
OR	Orange
V	Violet
GY	Gray

Electrical components shown on the schematic diagrams are in the following units unless otherwise noted:

Capacitors = microfarads ( $\mu$ f)  
Resistors = ohms ( $\Omega$ )  
Inductors = microhenrys ( $\mu$ h)



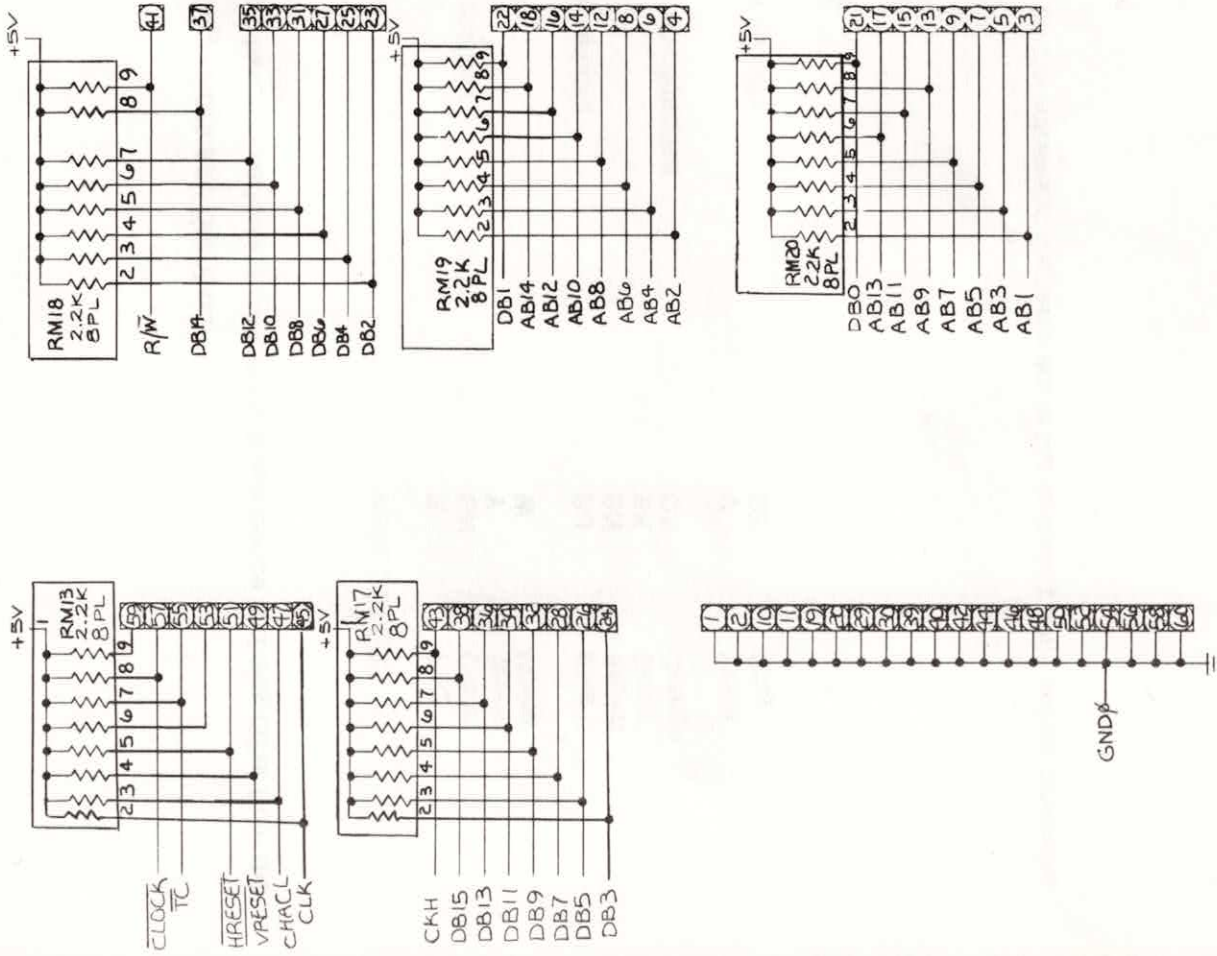
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## Pole Position Memory Map and Schematic Notes

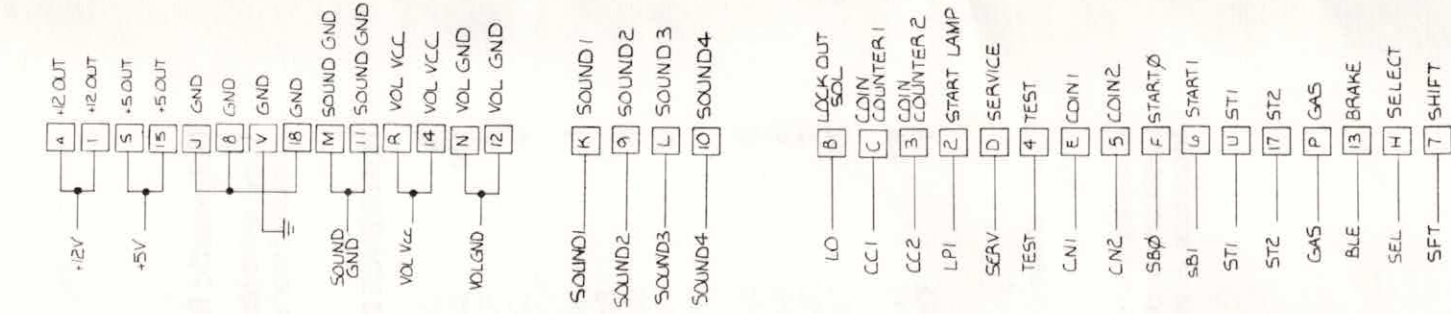
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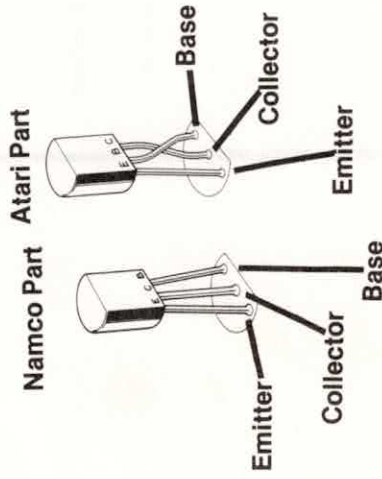




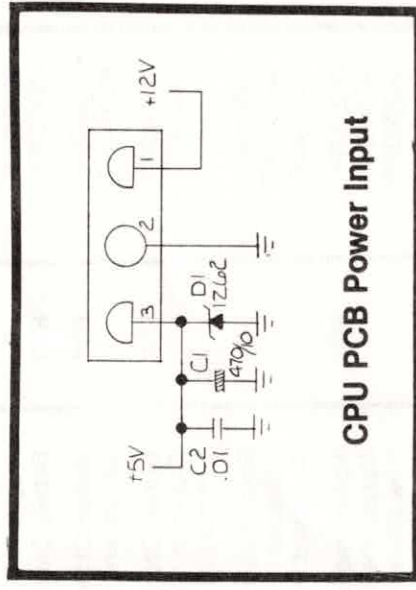
**CPU PCB Edge Connector**



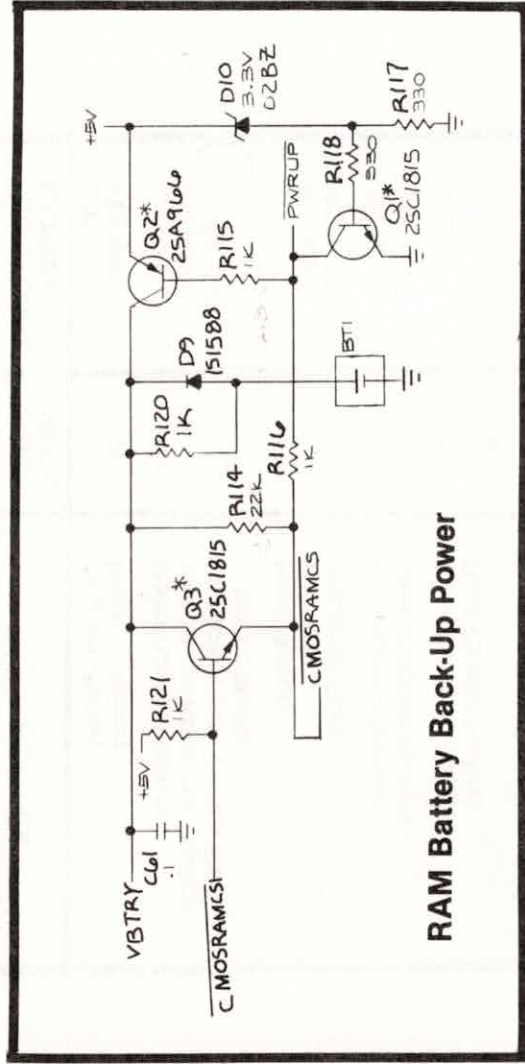
**RAM Battery Back-Up Power**



\*The orientation of leads on the Atari replacement part for this transistor differs from that on the originally-supplied Namco part. When replacing this transistor with the Atari part use the following illustration to ensure proper lead orientation.



**CPU PCB Power Input**

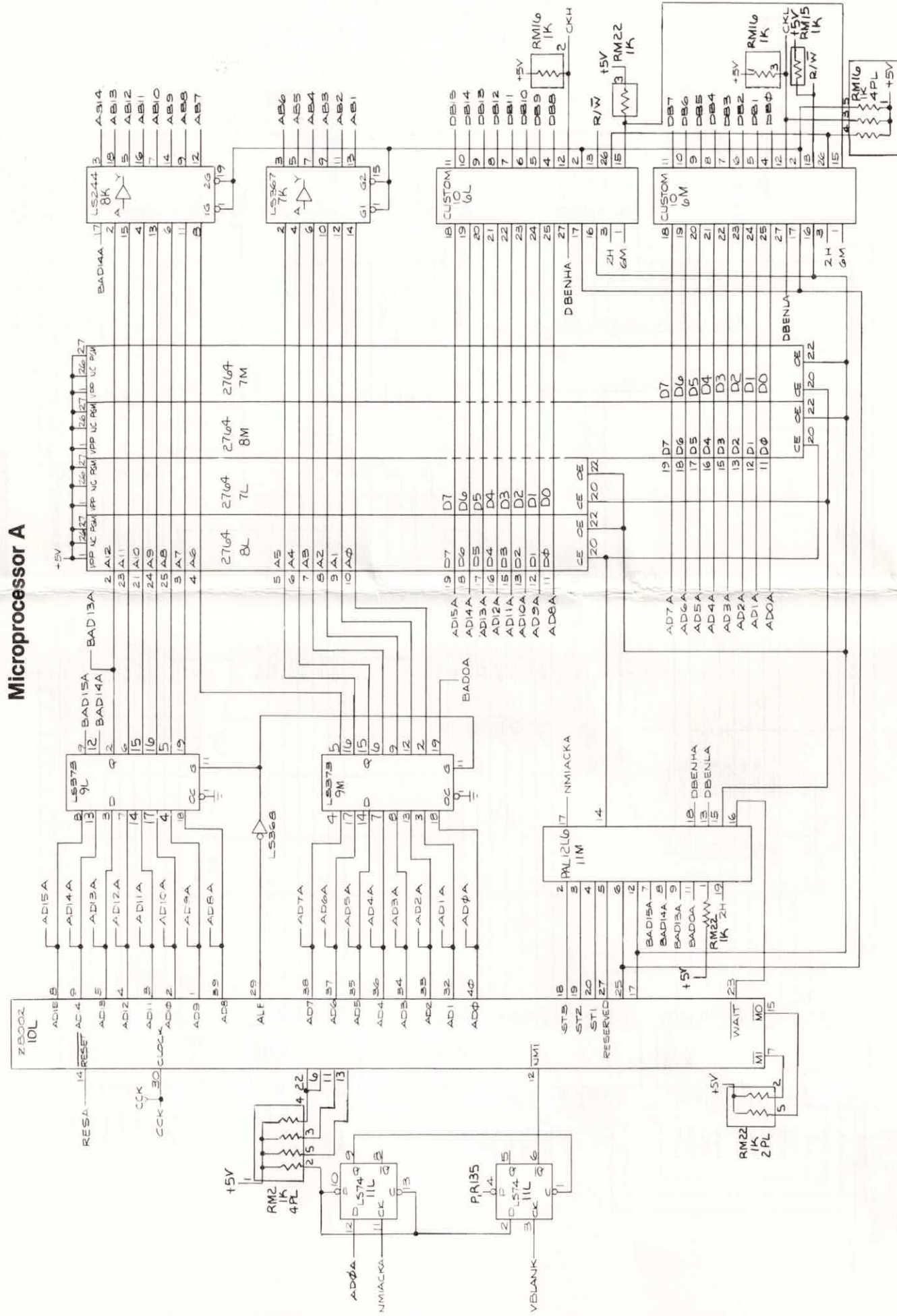


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**Pole Position CPU PCB Schematic Diagram**



# Microprocessor A

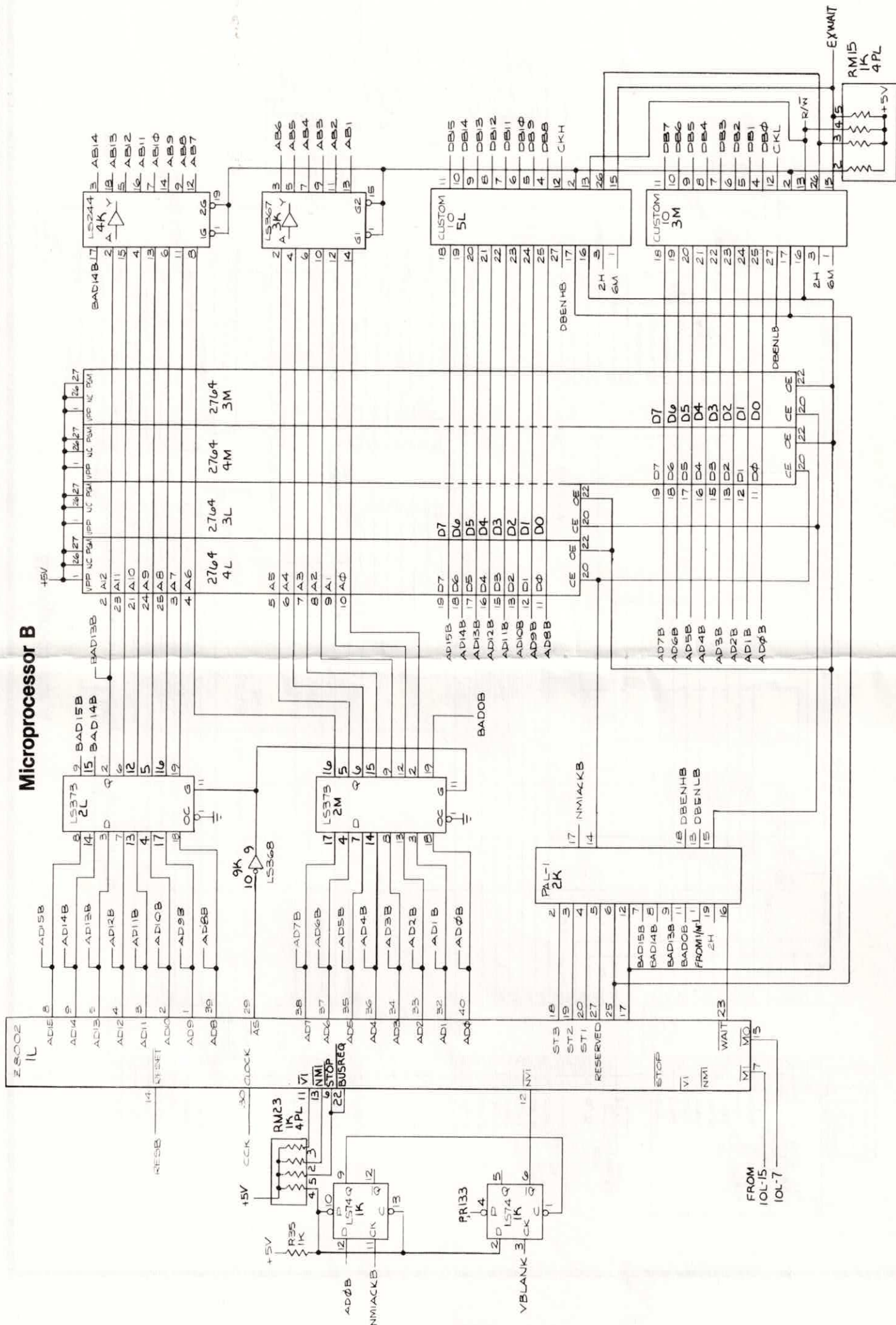


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## Pole Position CPU PCB Schematic Diagram



# Microprocessor B



## Pole Position CPU PCB Schematic Diagram

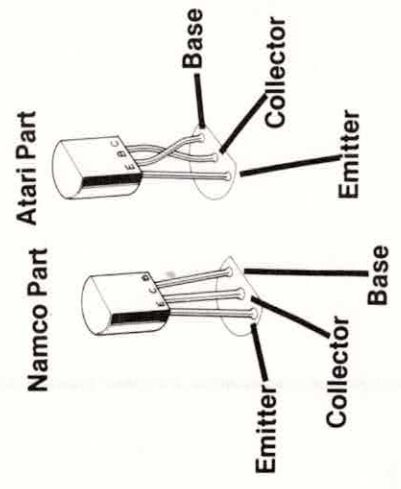
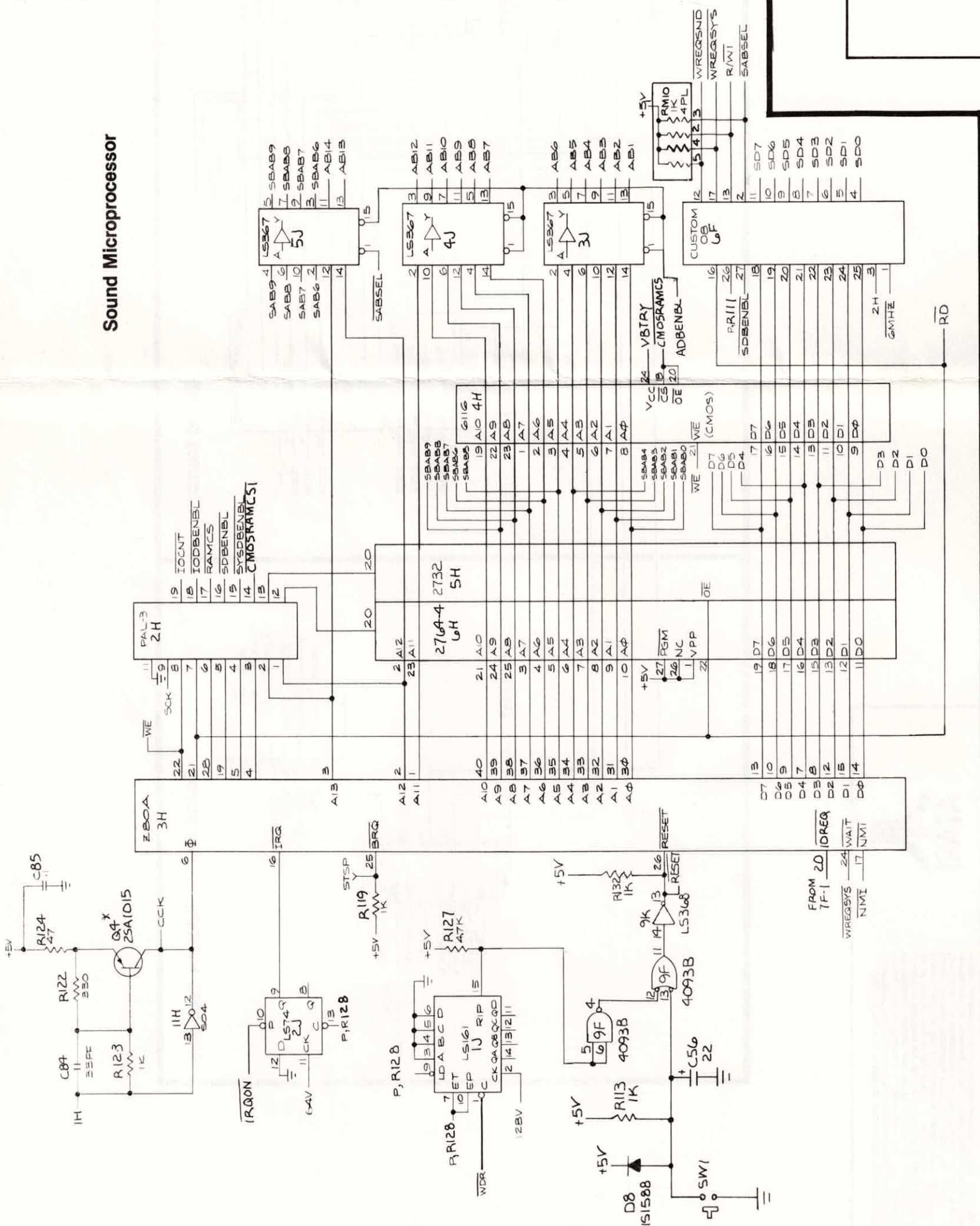
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# Sound Microprocessor



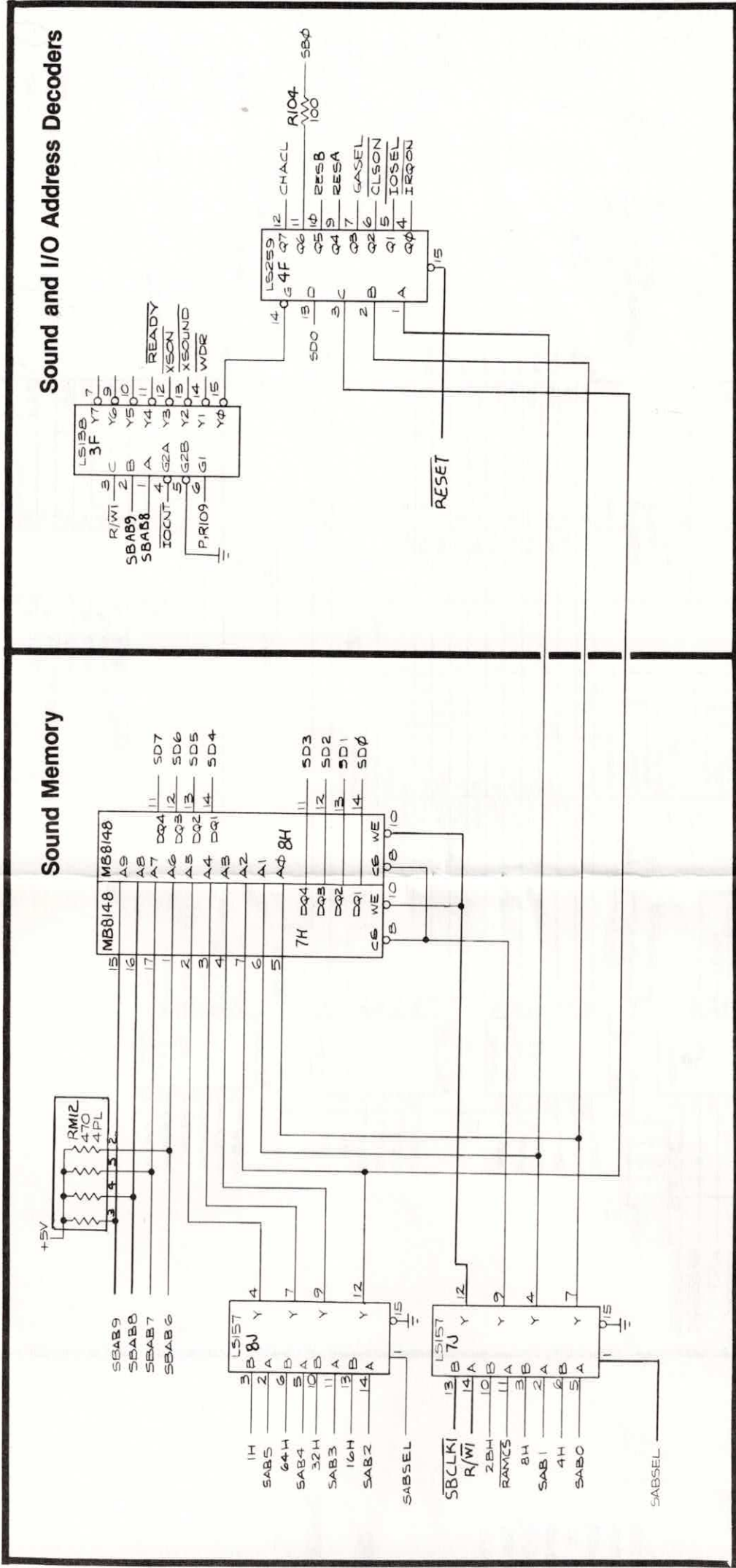
\*The orientation of leads on the Atari replacement part for this transistor differs from that on the originally-supplied Namco part. When replacing this transistor with the Atari part use the following illustration to ensure proper lead orientation.



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## Pole Position CPU PCB Schematic Diagram

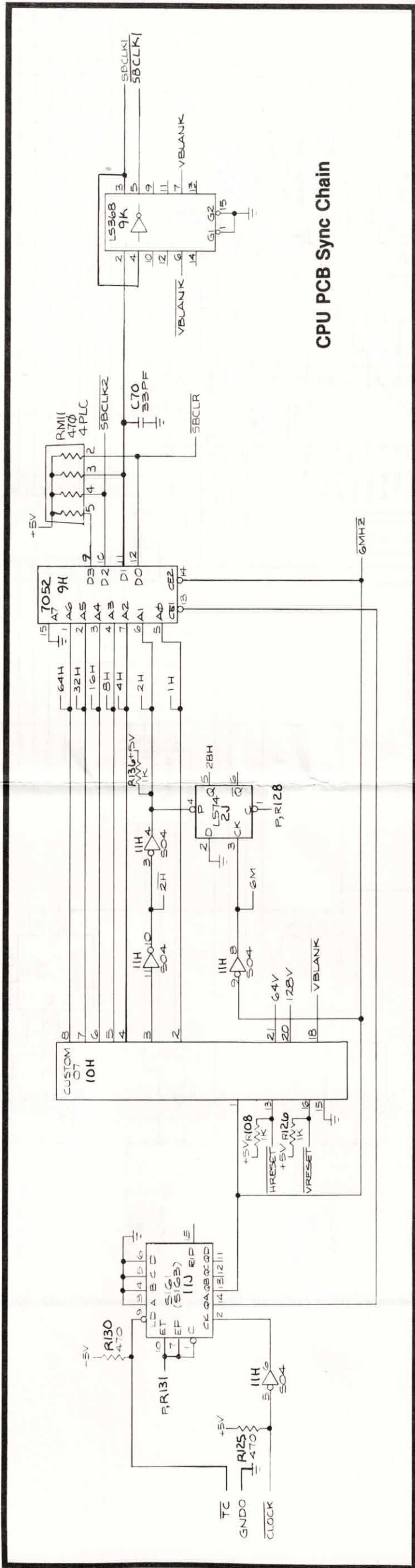




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**Pole Position CPU PCB Schematic Diagram**





CPU PCB Sync Chain

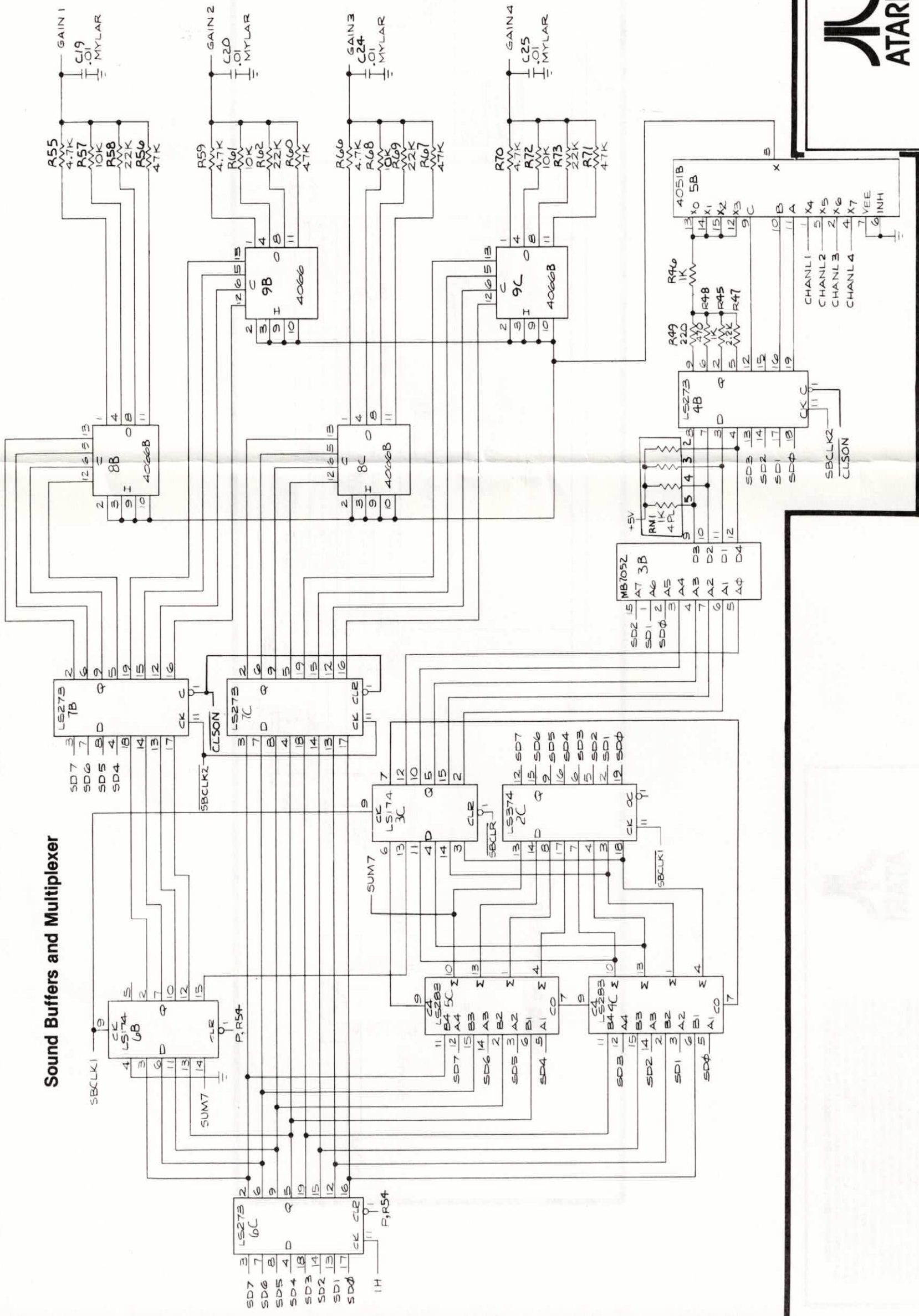


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Pole Position CPU PCB Schematic Diagram



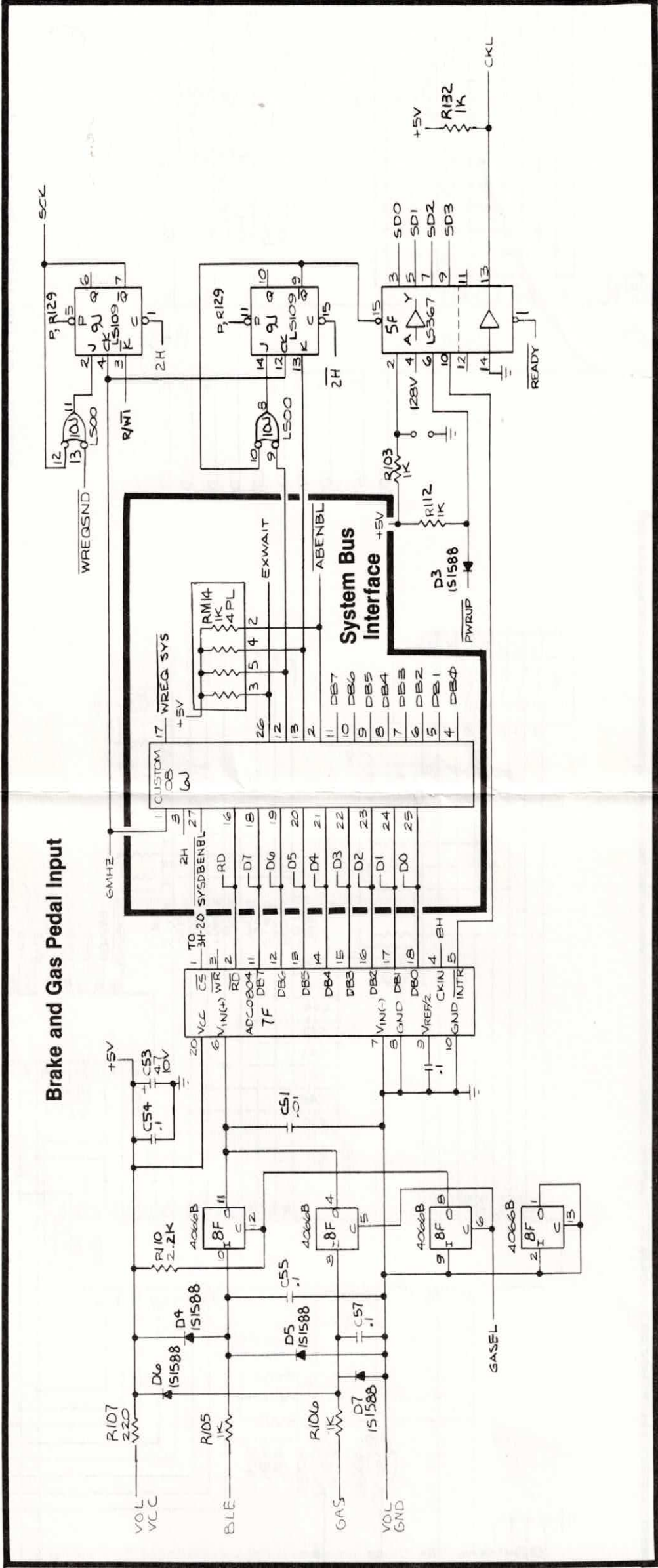
### Sound Buffers and Multiplexer



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## Pole Position CPU PCB Schematic Diagram





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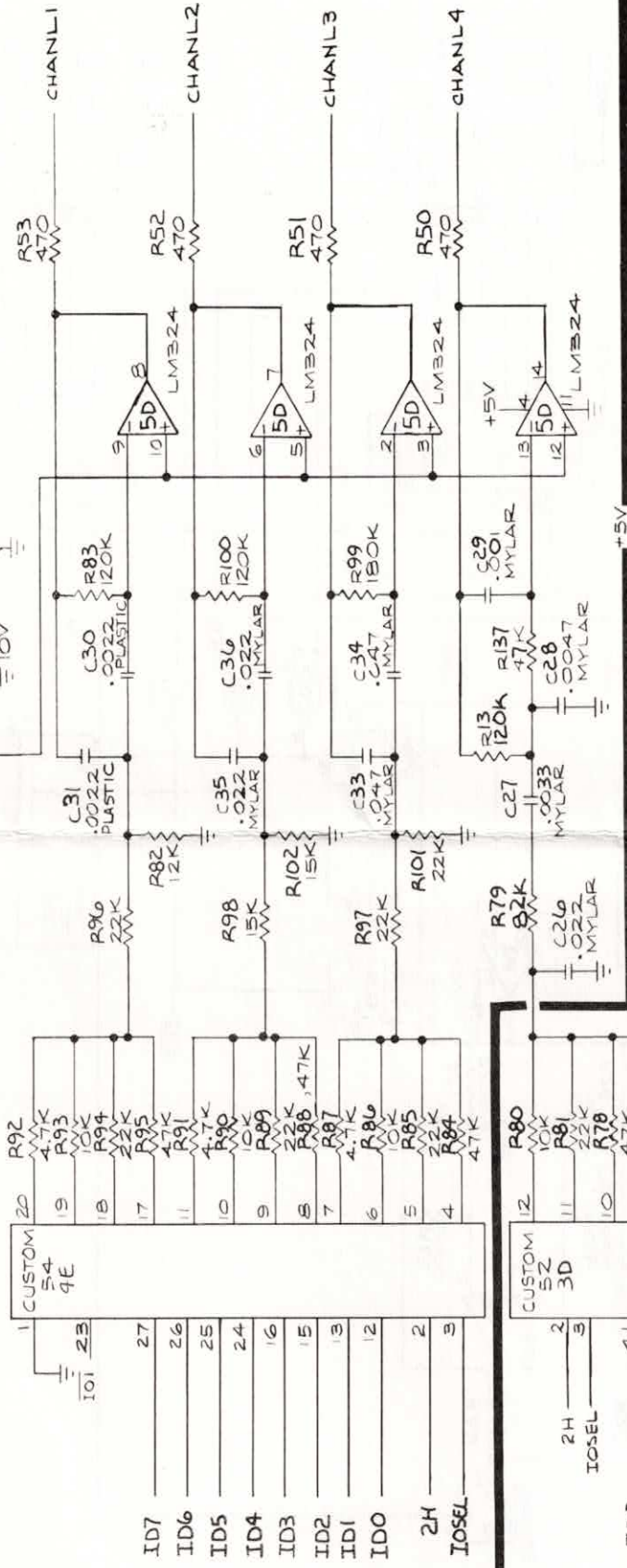
Pole Position CPU PCB Schematic Diagram



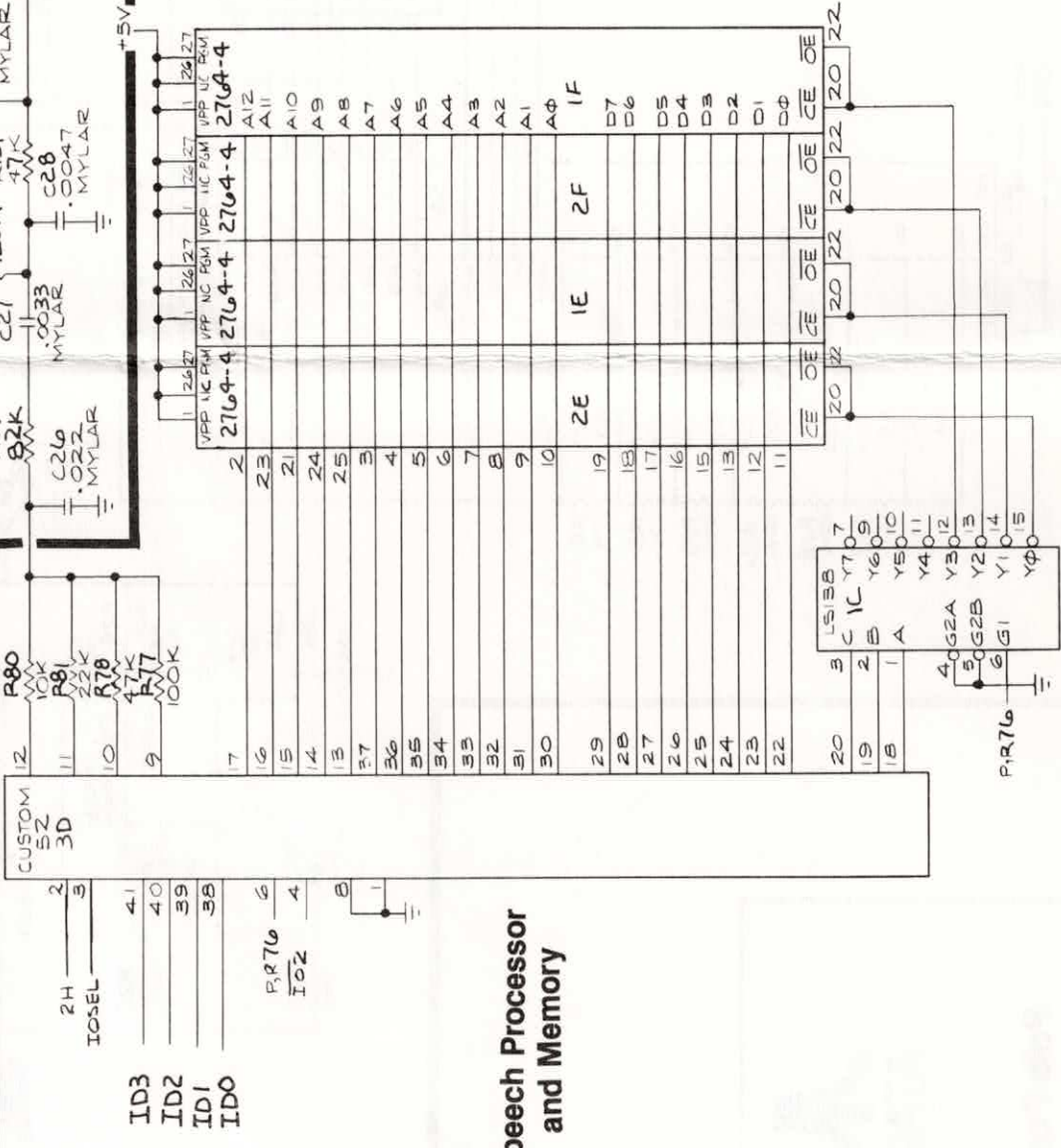




### Miscellaneous Sound Generators



### Speech Processor and Memory

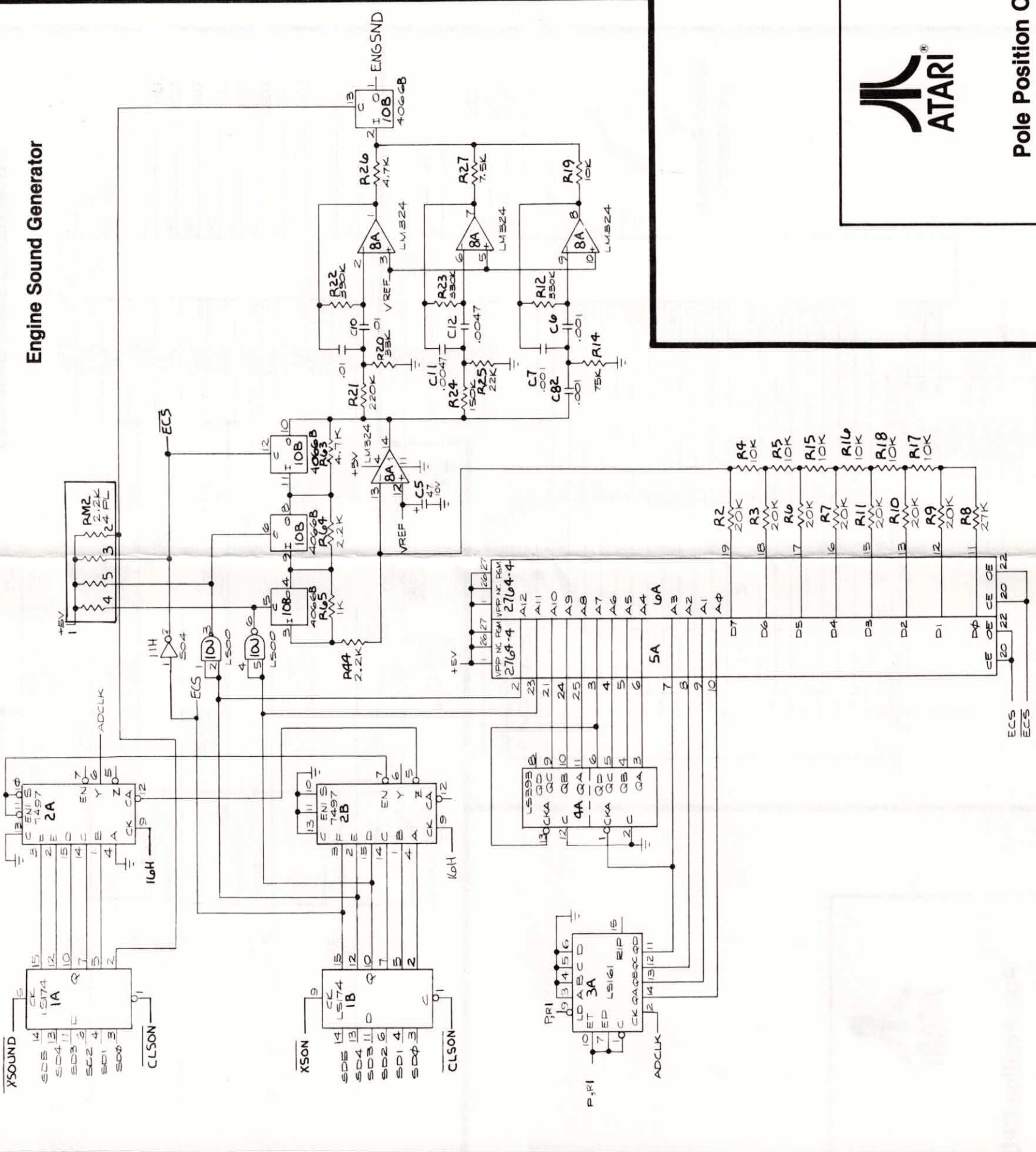


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### Pole Position CPU PCB Schematic Diagram



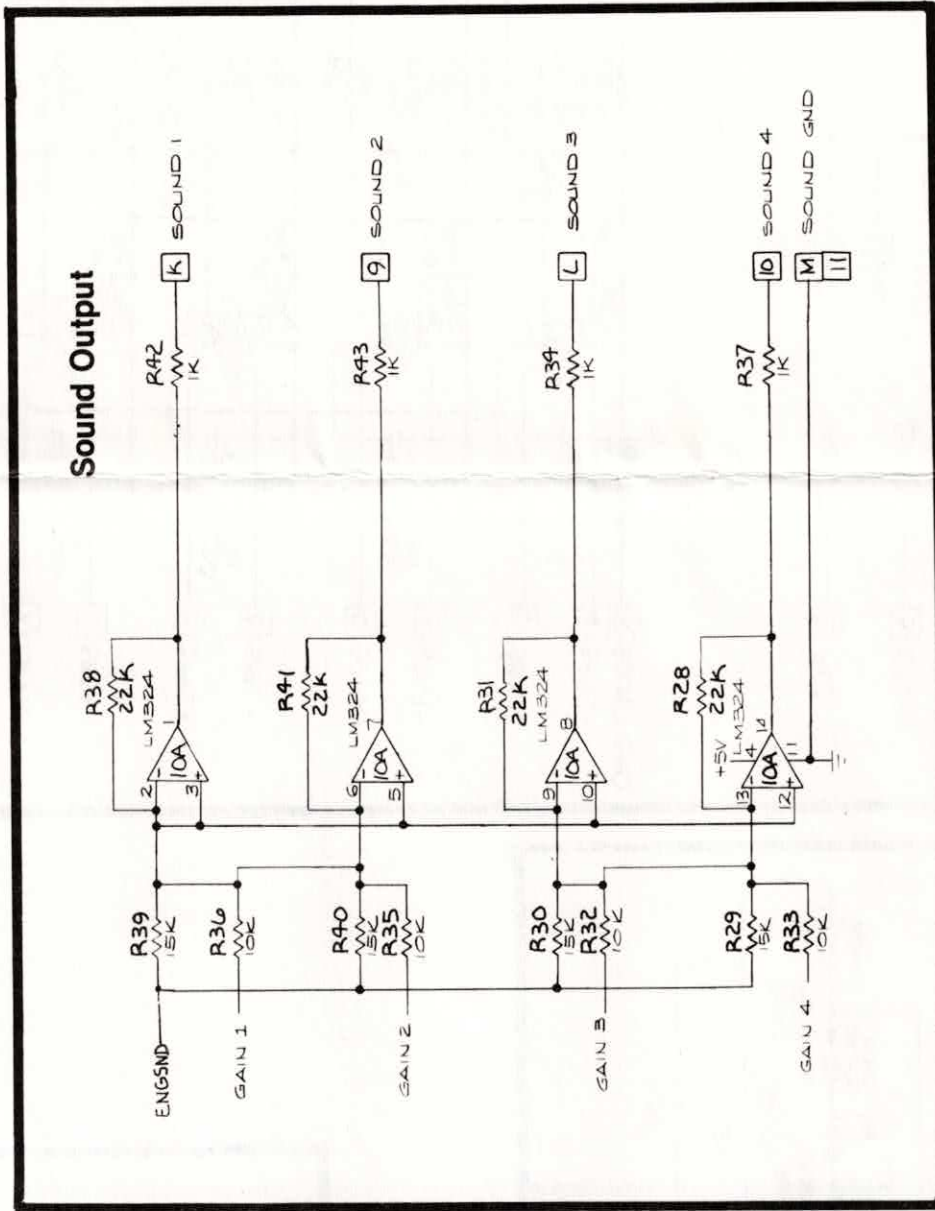
# Engine Sound Generator



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## Pole Position CPU PCB Schematic Diagram





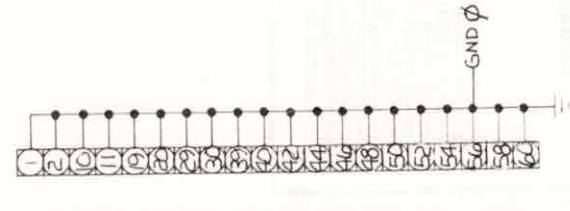
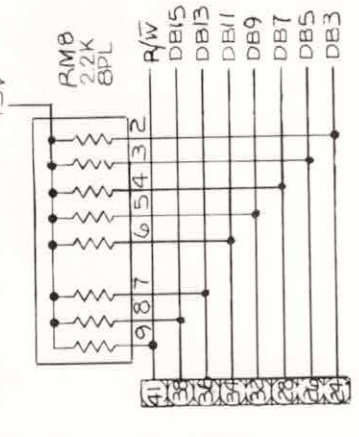
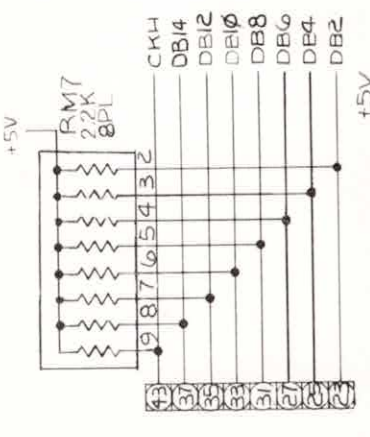
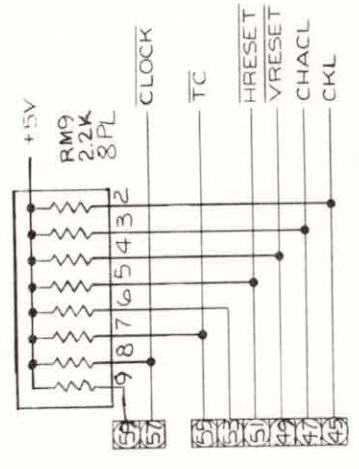
**Pole Position CPU PCB Schematic Diagram**

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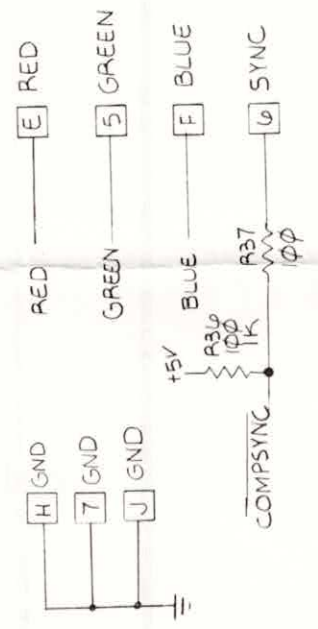
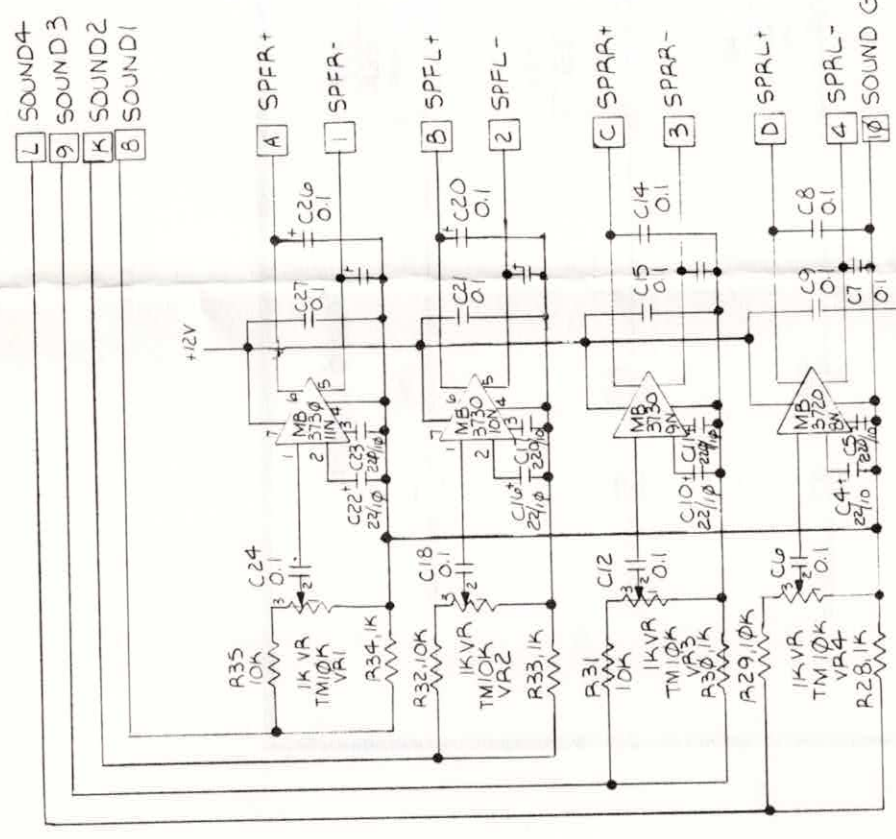
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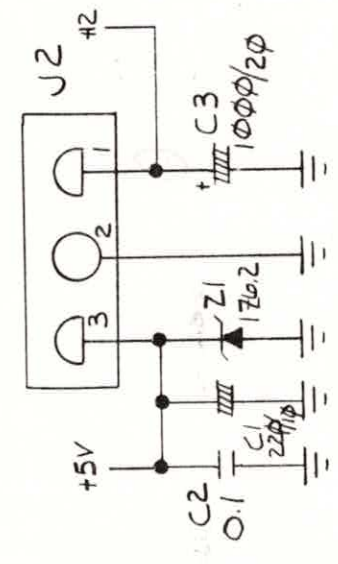




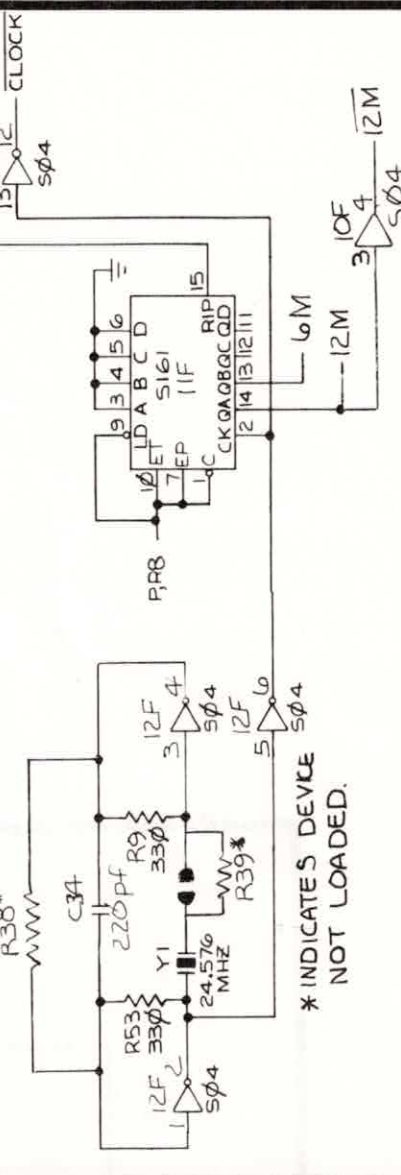
**Video PCB Edge Connector**



**Video PCB Power Input**



**Clock**



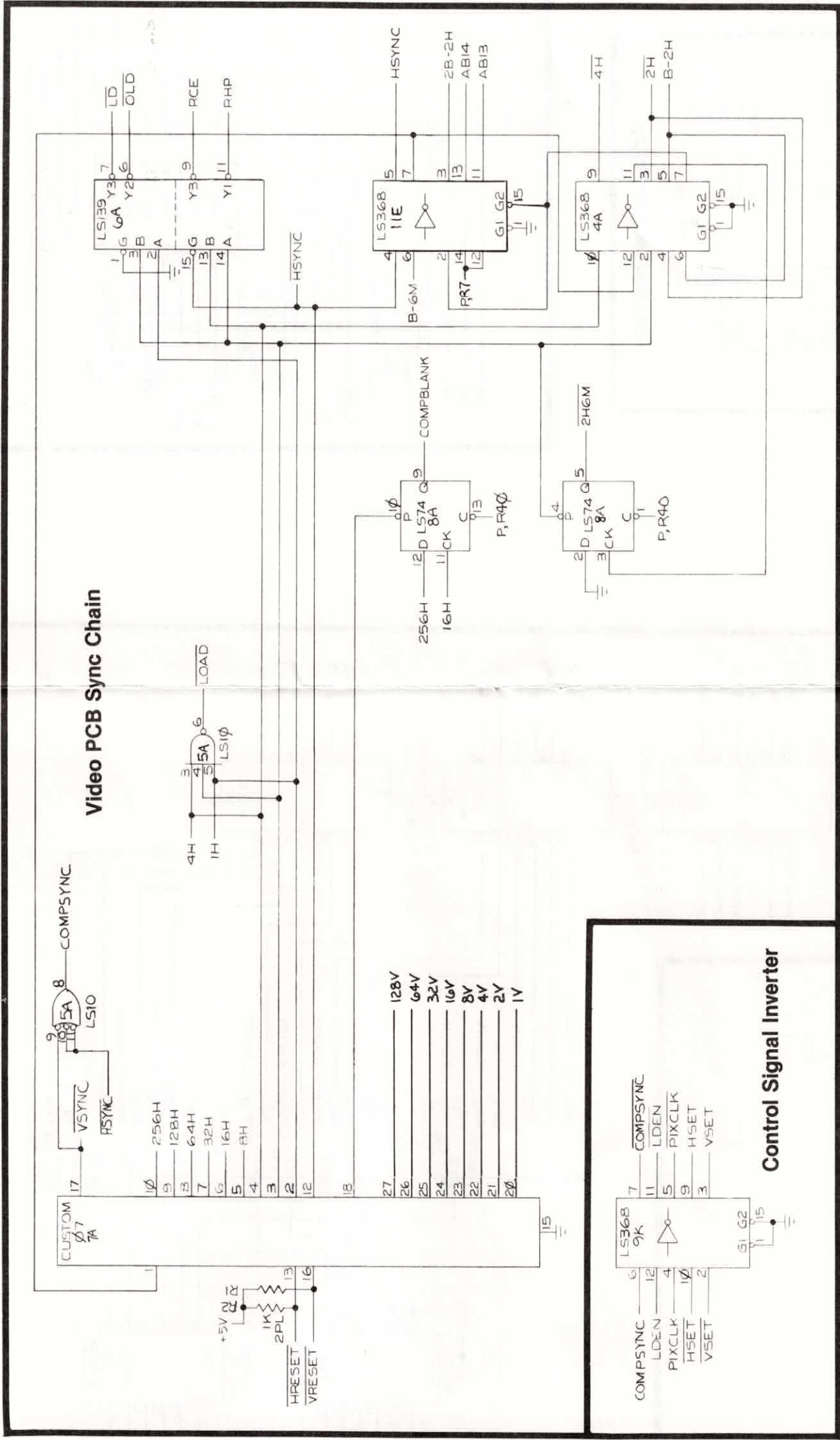
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**Pole Position Video PCB Schematic Diagram**

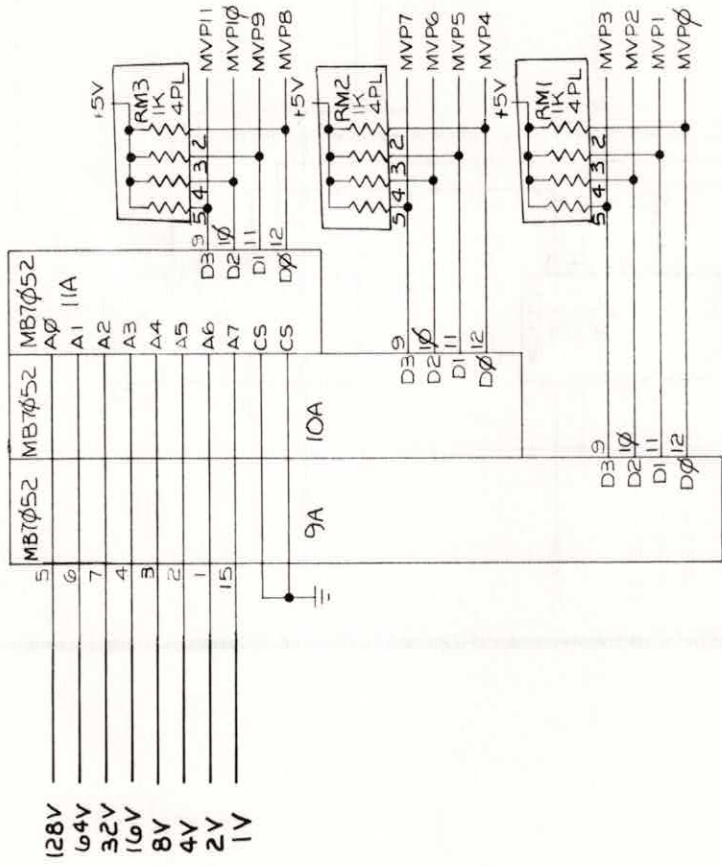




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## Pole Position Video PCB Schematic Diagram

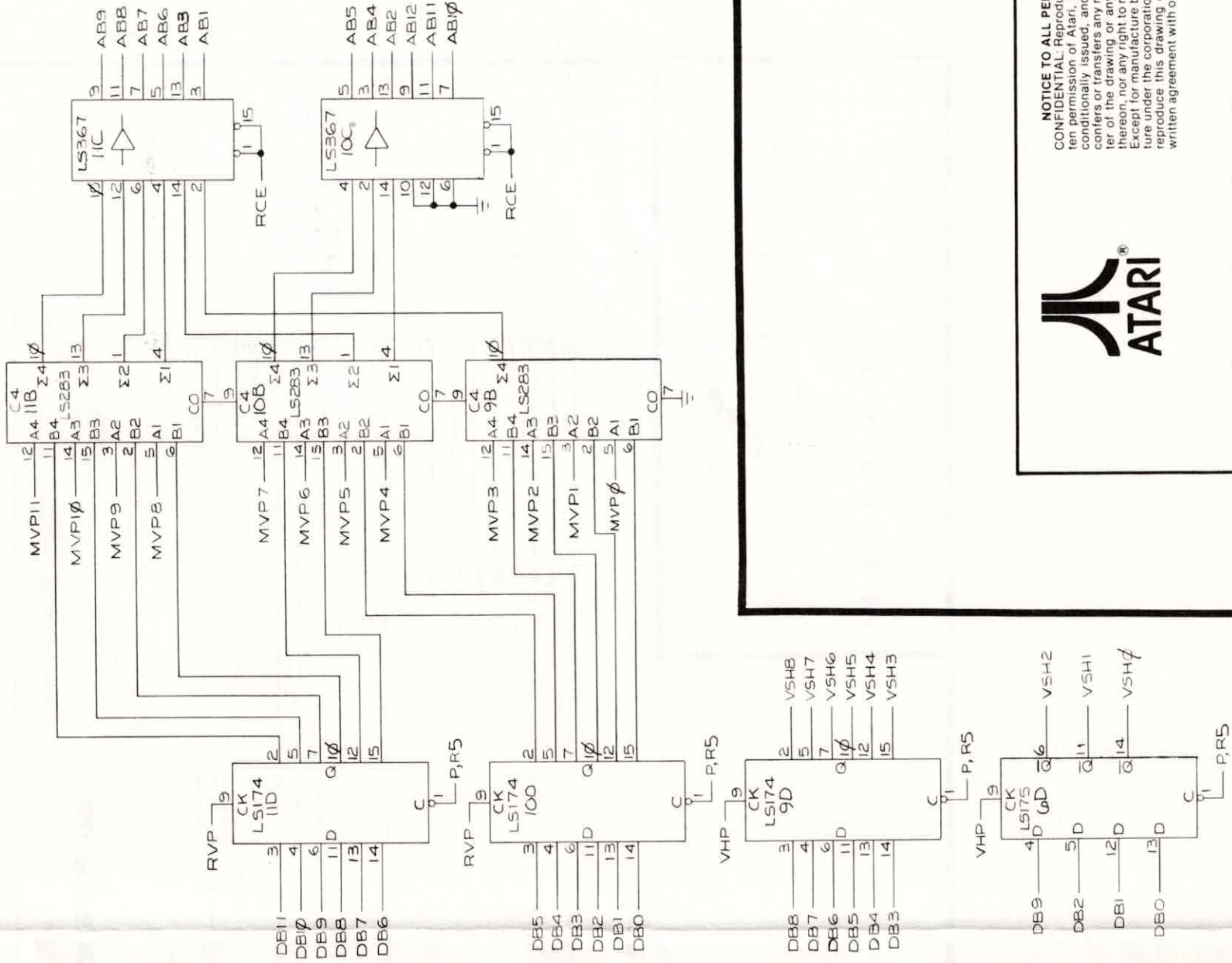
### Vertical Position Modifiers



### Address Bus Interface



### Vertical Position Buffers and Adders

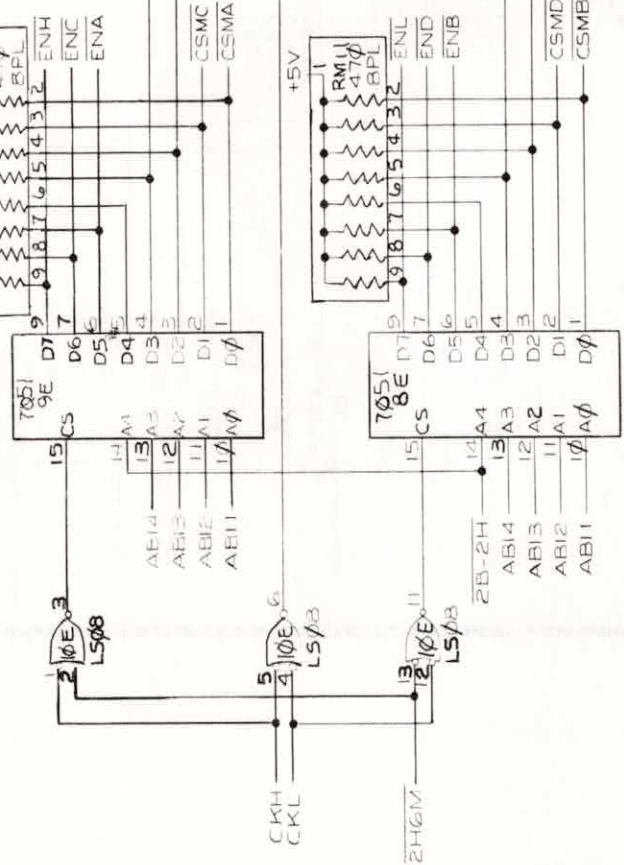


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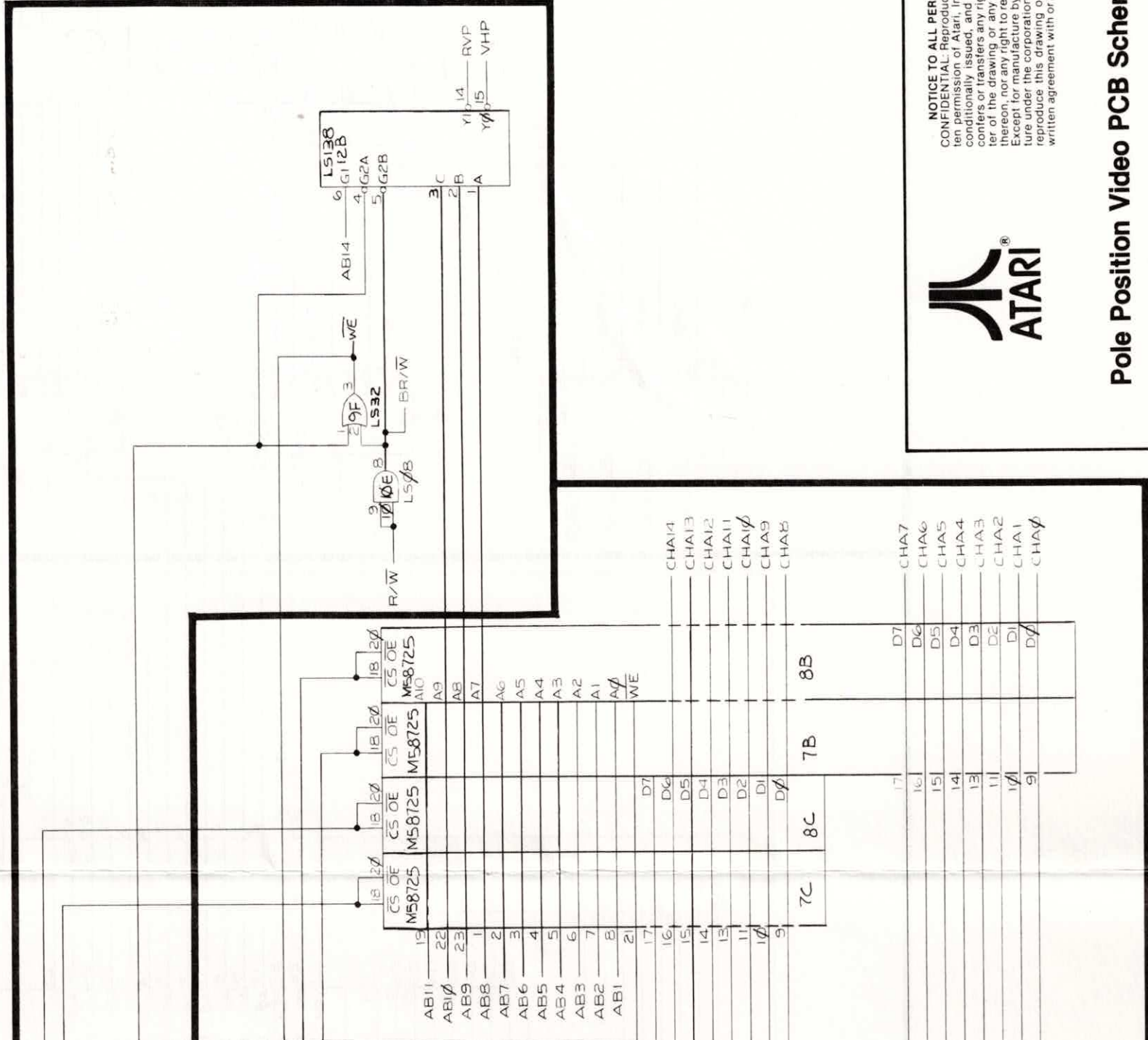
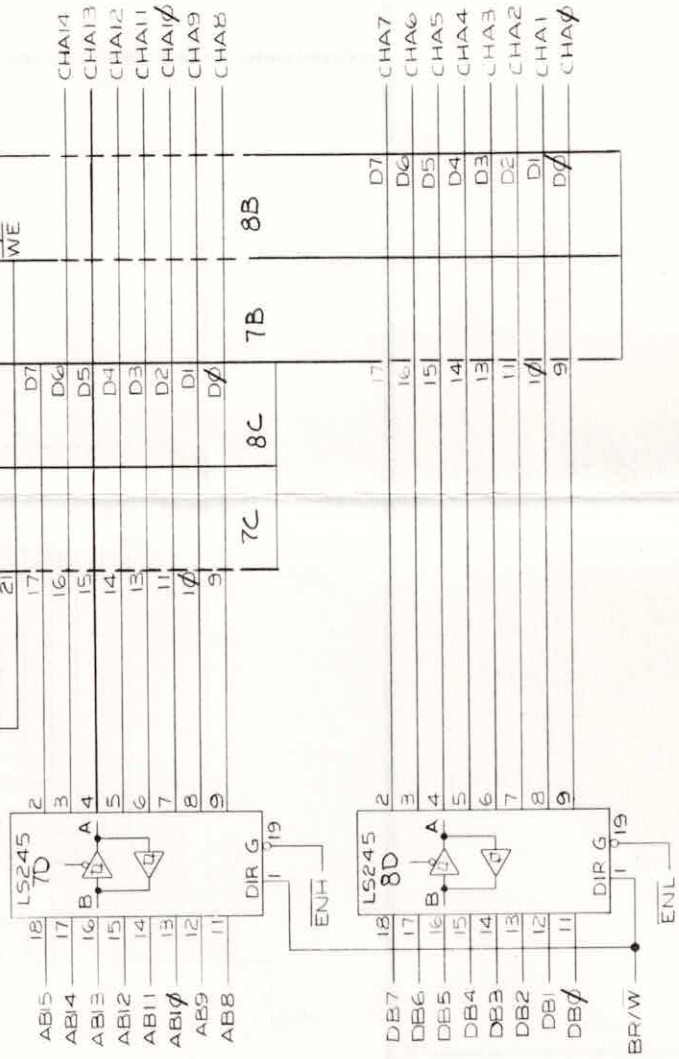
### Pole Position Video PCB Schematic Diagram



### Video RAM Address Decoders



### Playfield Video Memory



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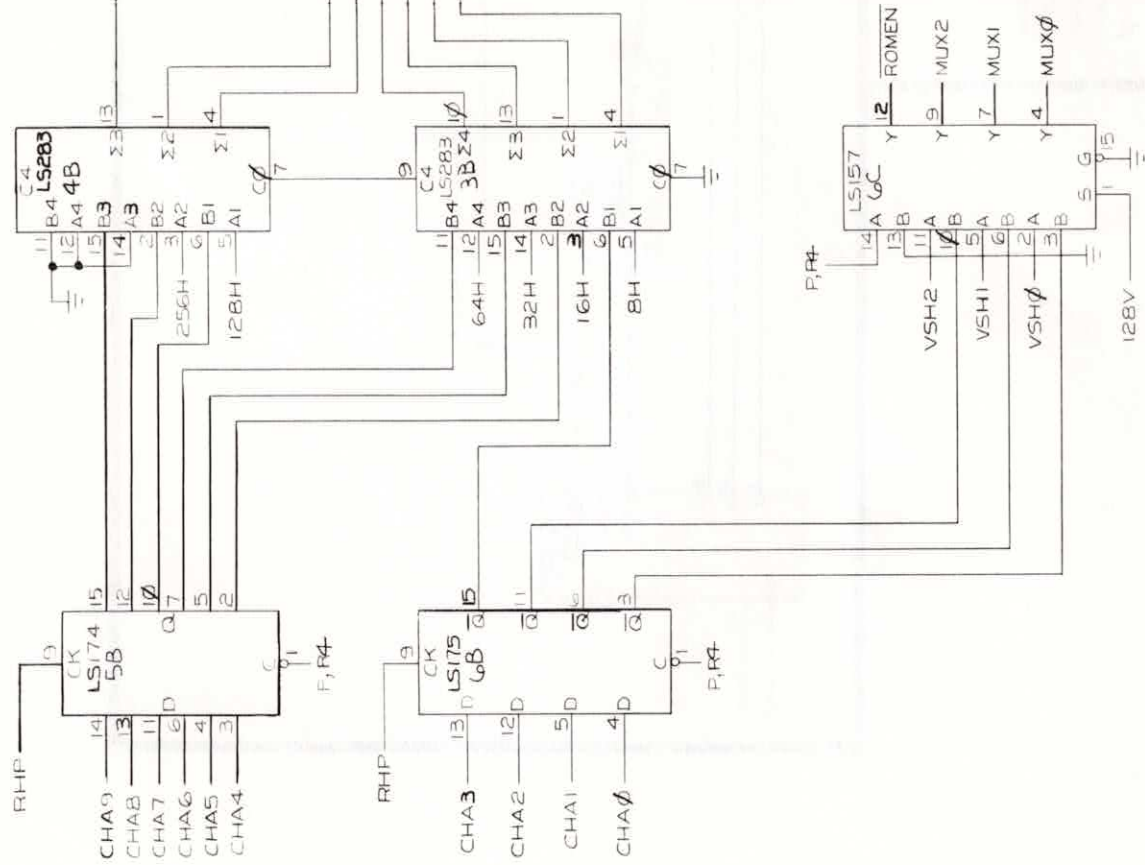
### Pole Position Video PCB Schematic Diagram

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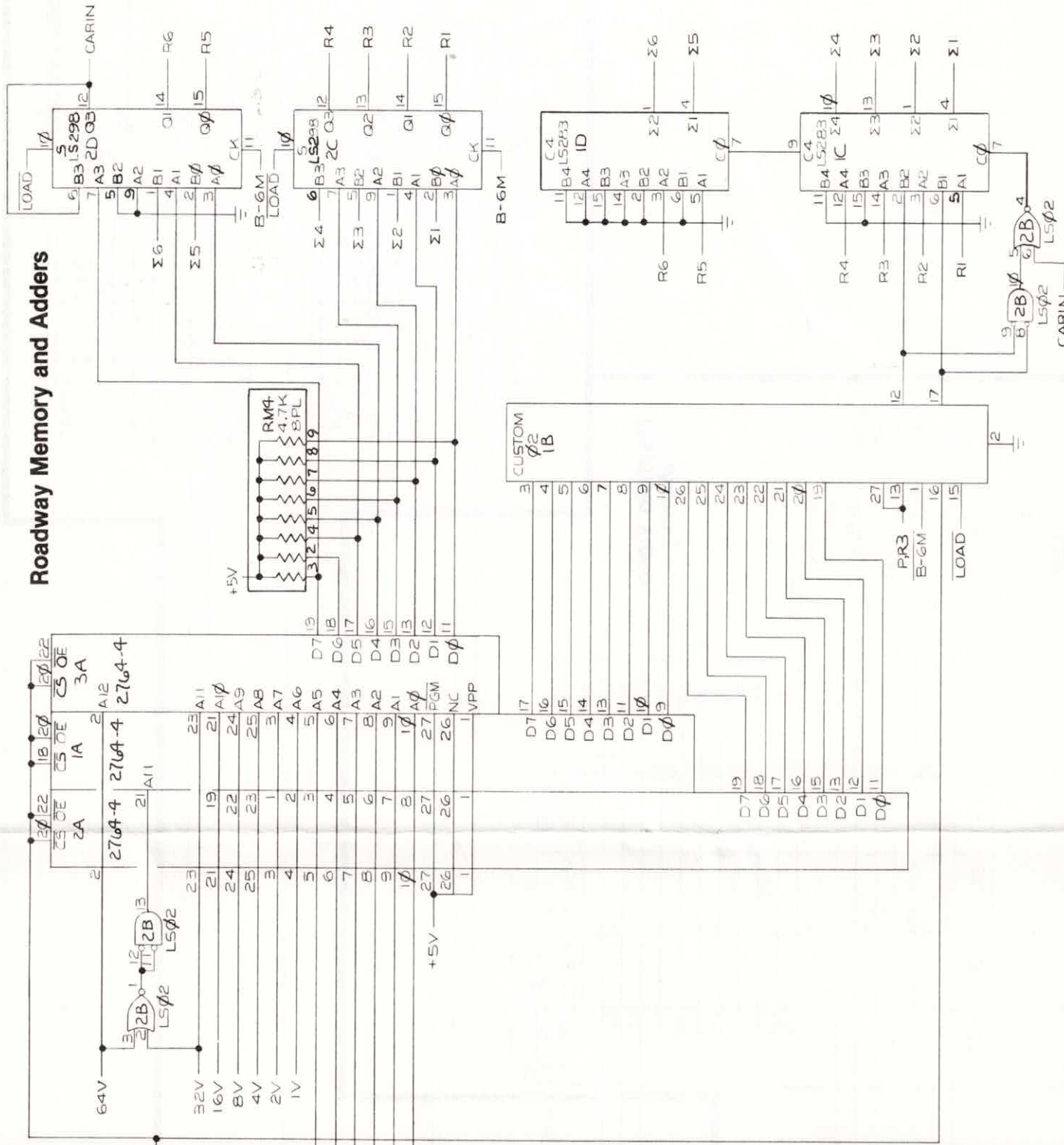
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 1st printing

### Picture Data Memory Address Modifier



### Roadway Memory and Adders

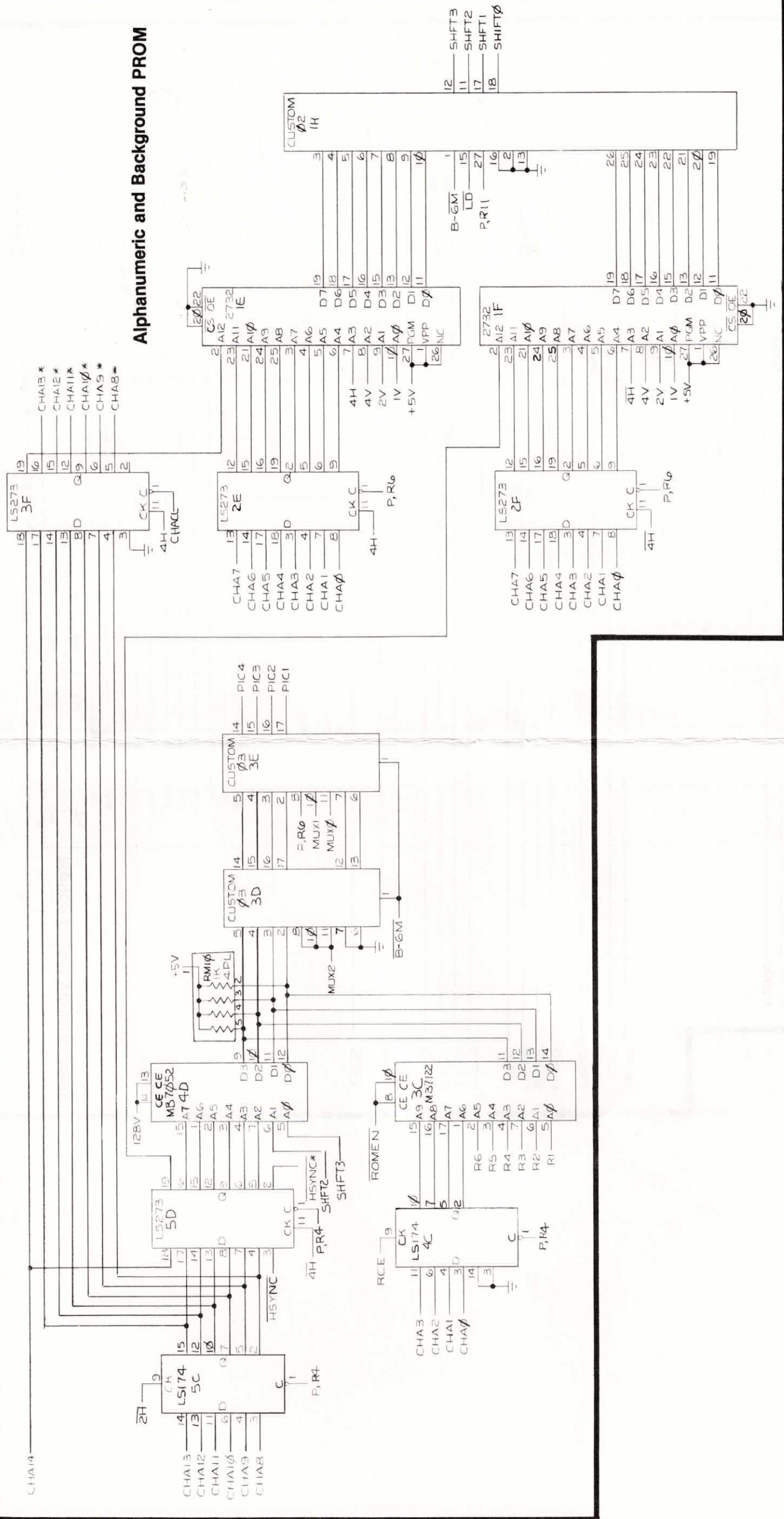


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## Pole Position Video PCB Schematic Diagram



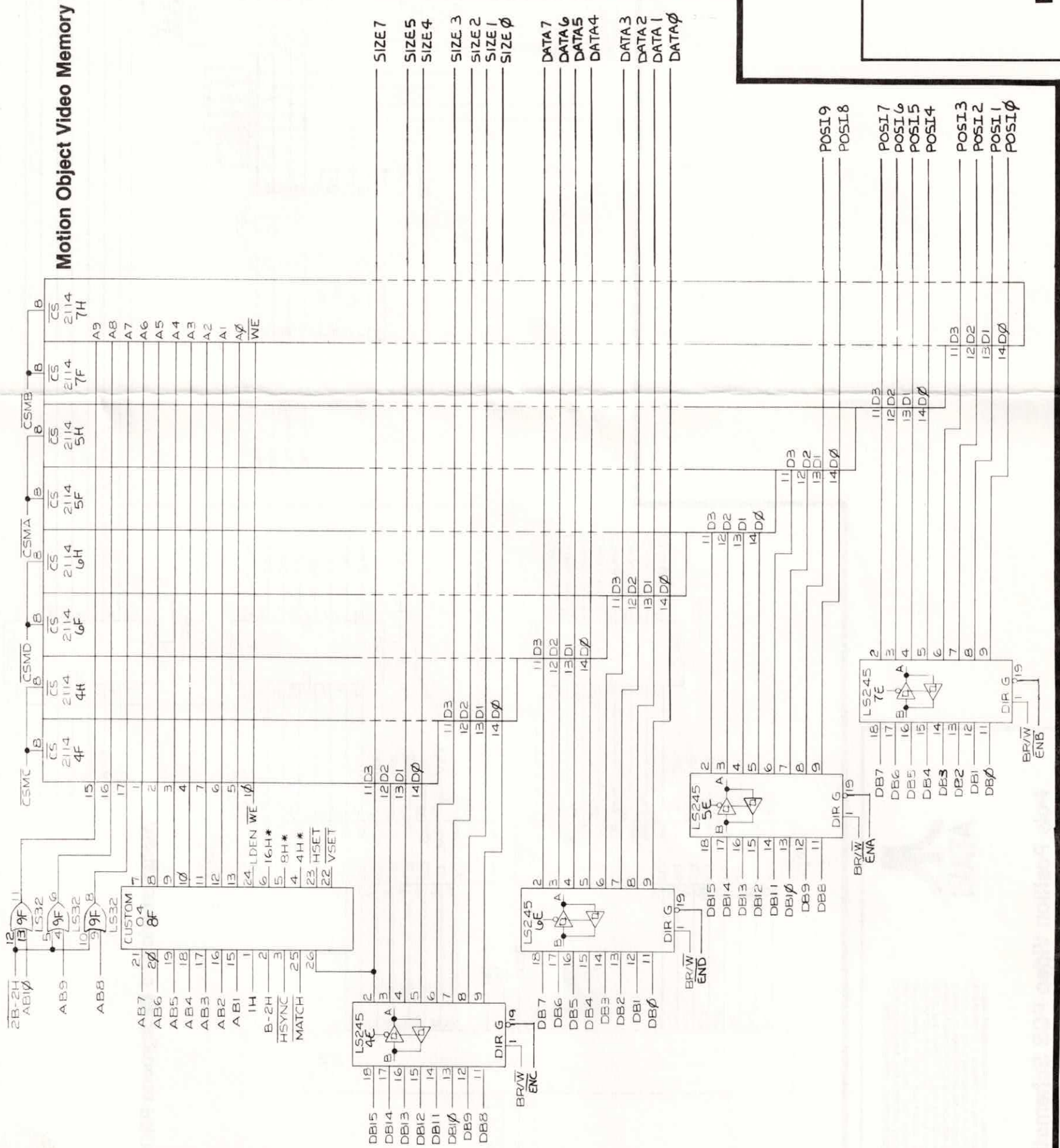
# Alphanumeric and Background PROM



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## Pole Position Video PCB Schematic Diagram

# Motion Object Video Memory

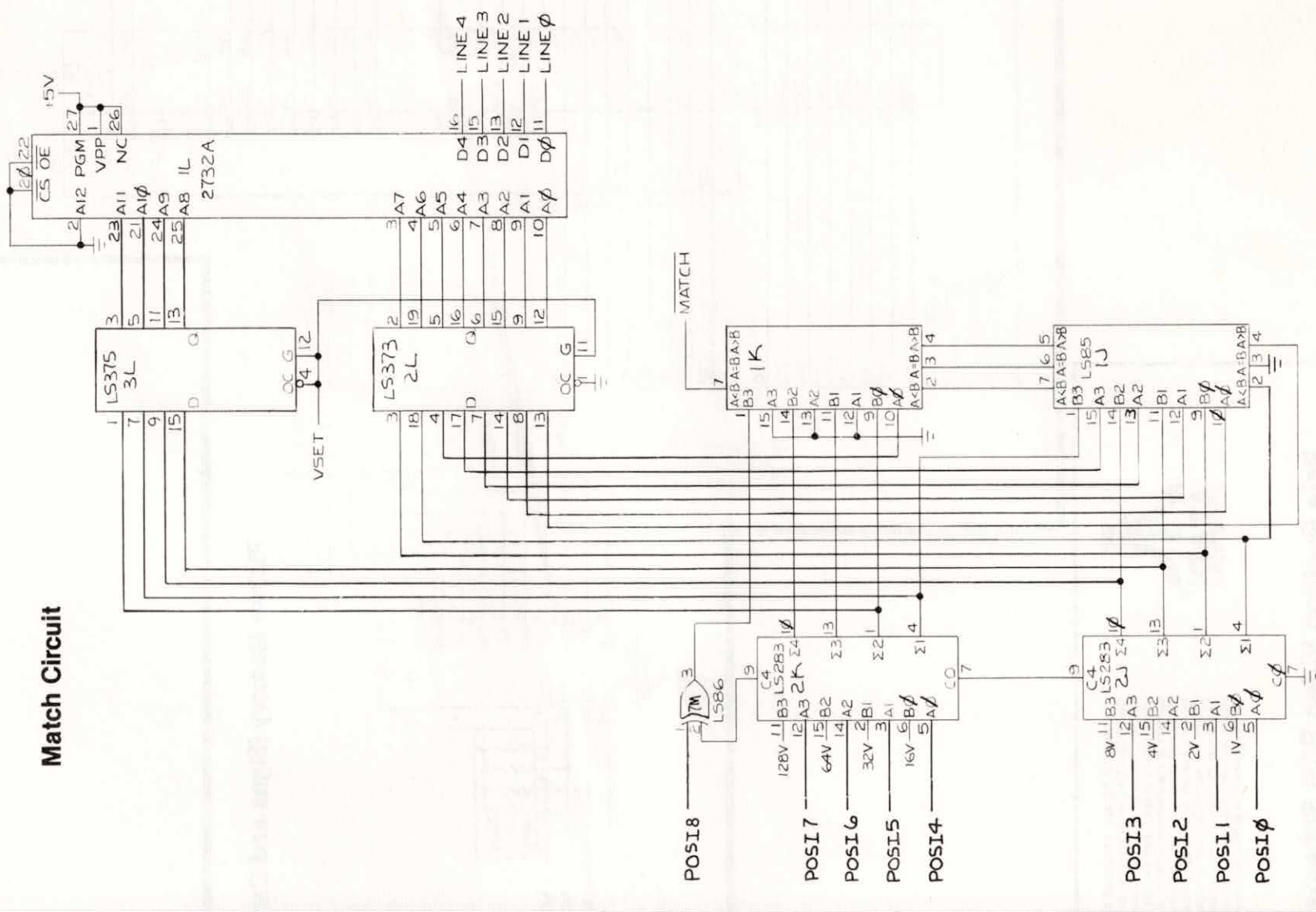


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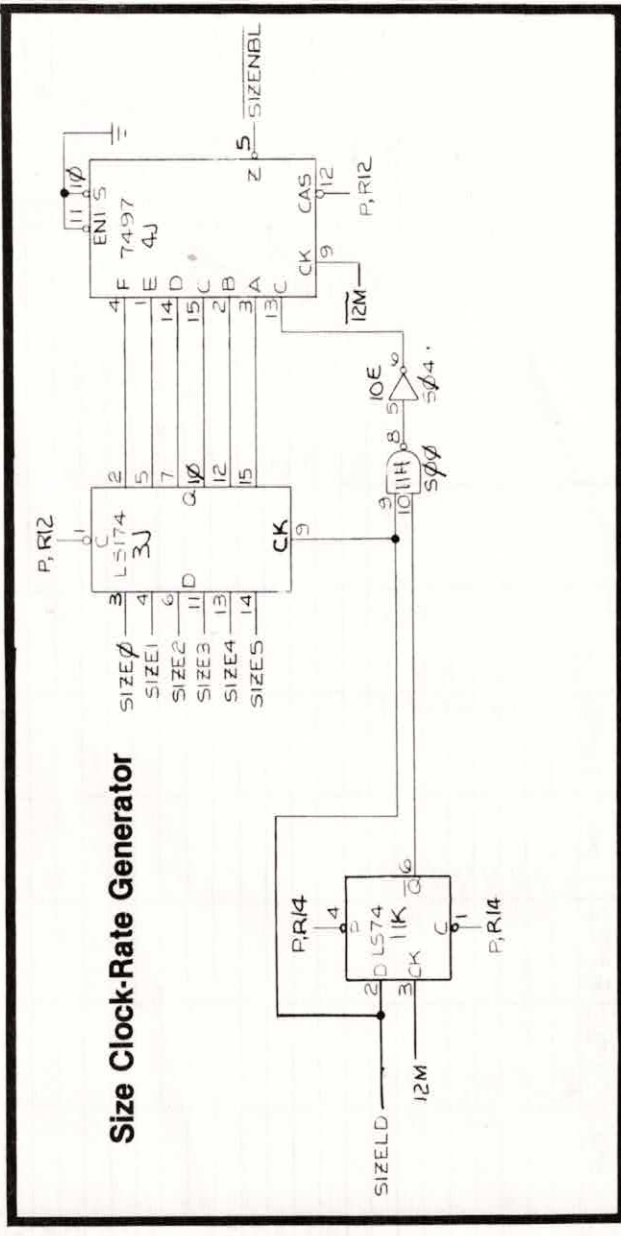
## Pole Position Video PCB Schematic Diagram



**Match Circuit**



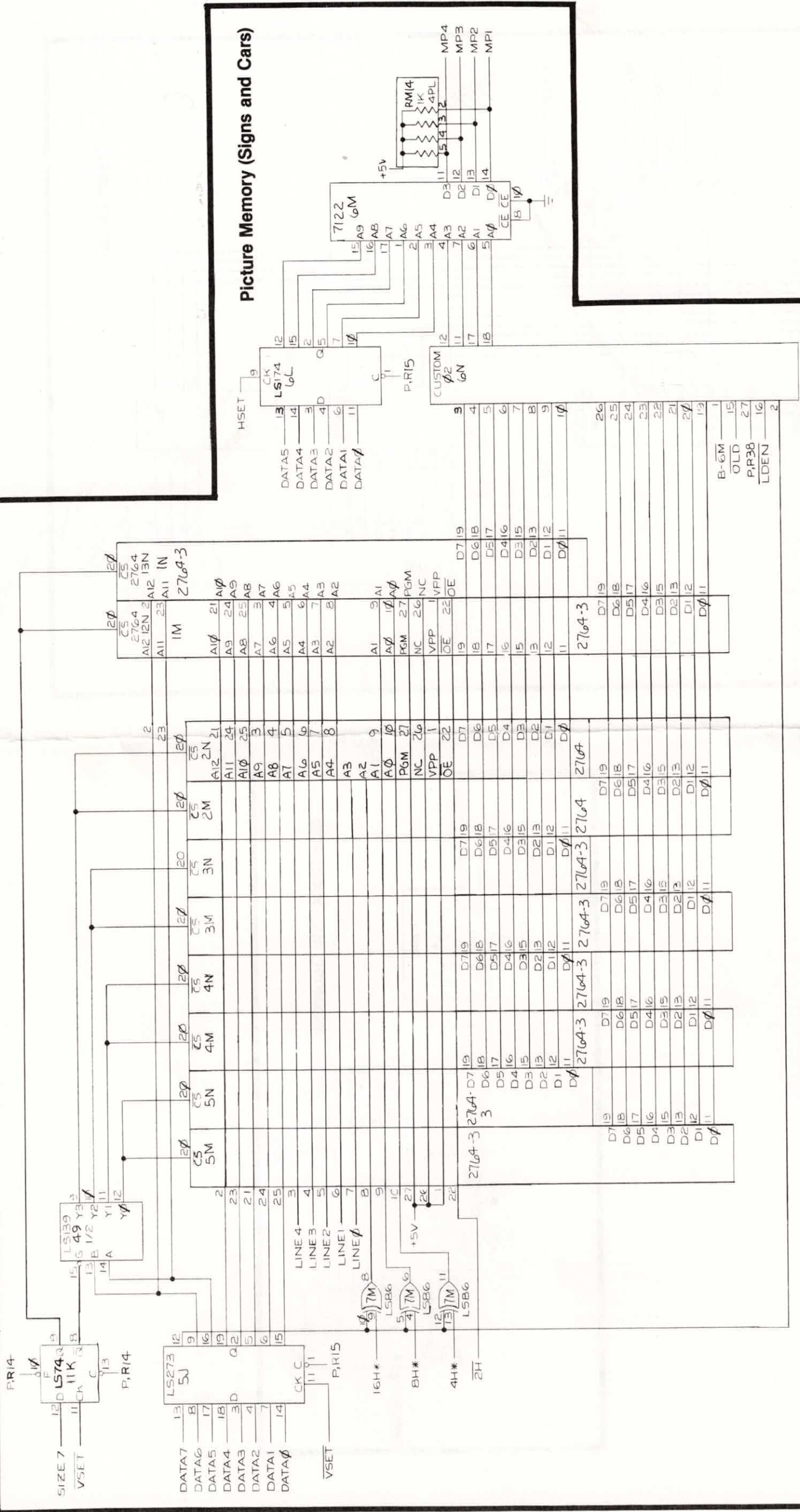
**Size Clock-Rate Generator**



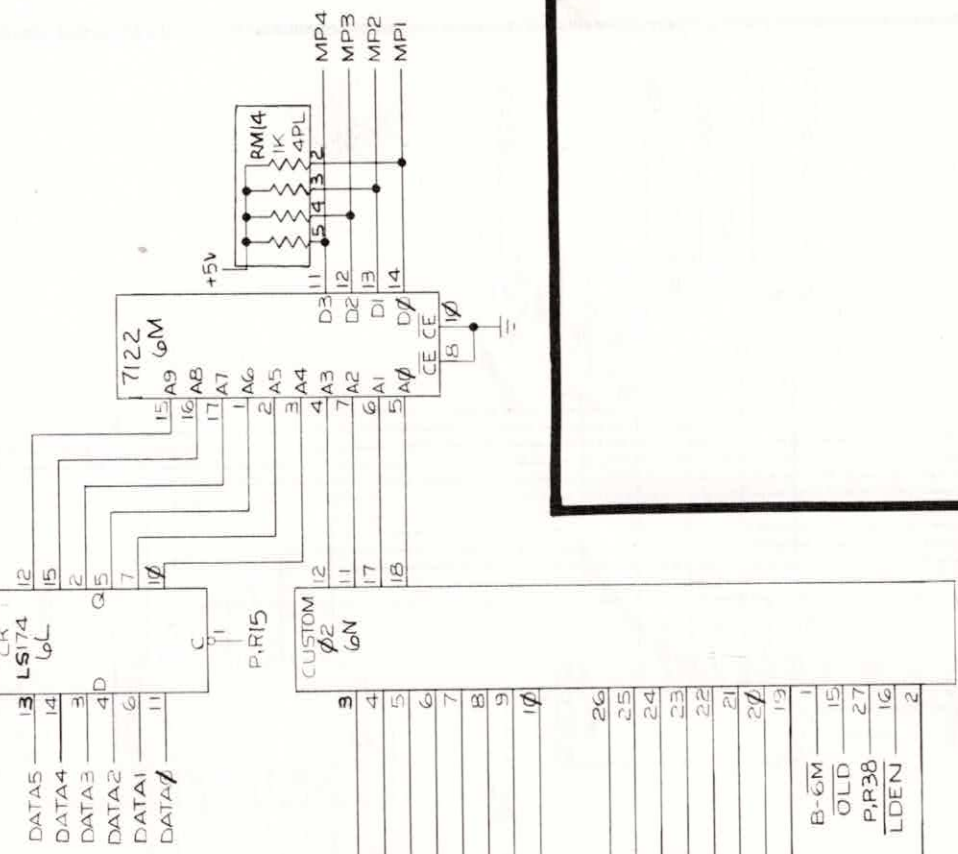
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**Pole Position Video PCB Schematic Diagram**





**Picture Memory (Signs and Cars)**



**Pole Position Video PCB Schematic Diagram**

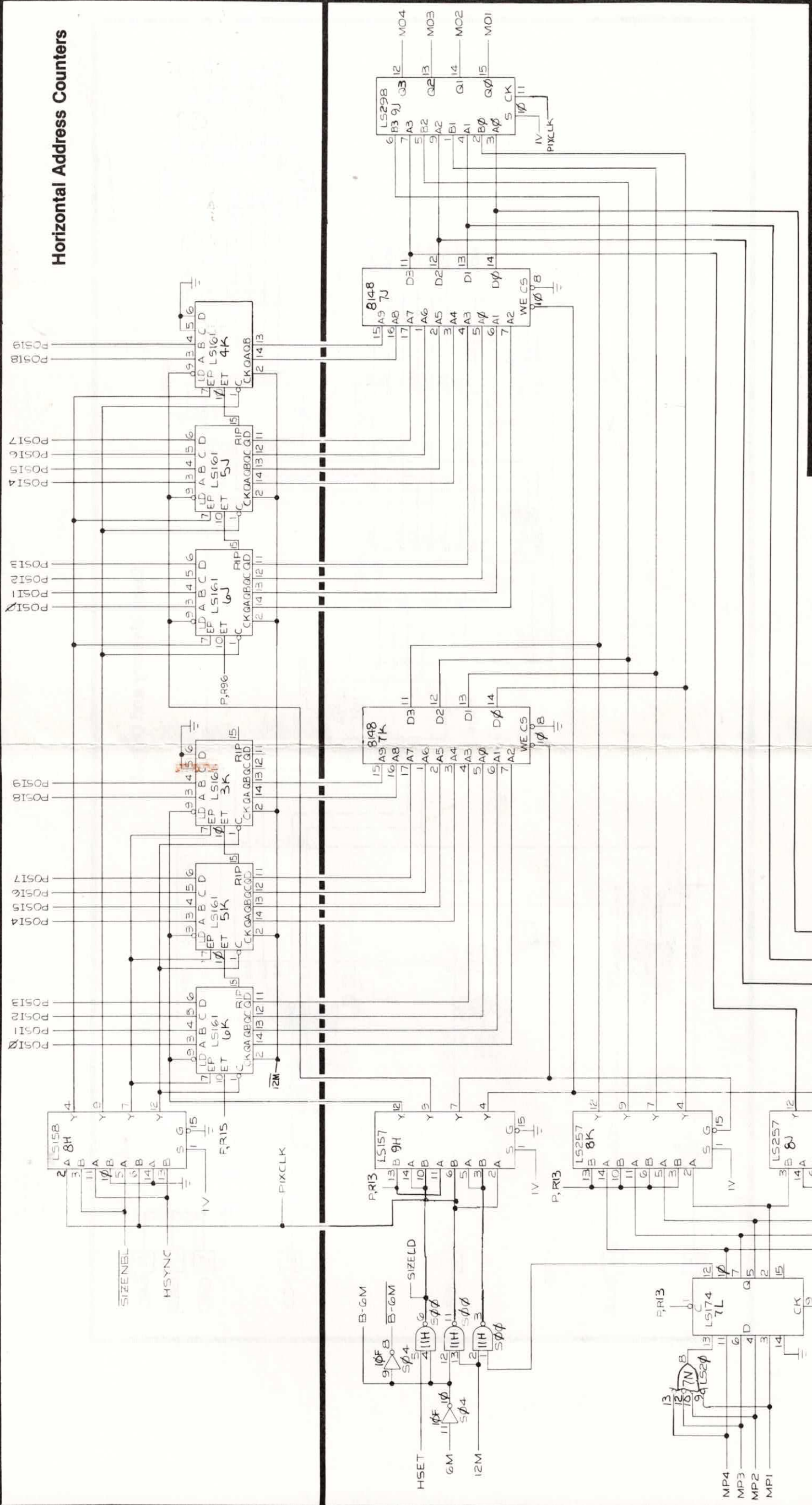
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# Horizontal Address Counters

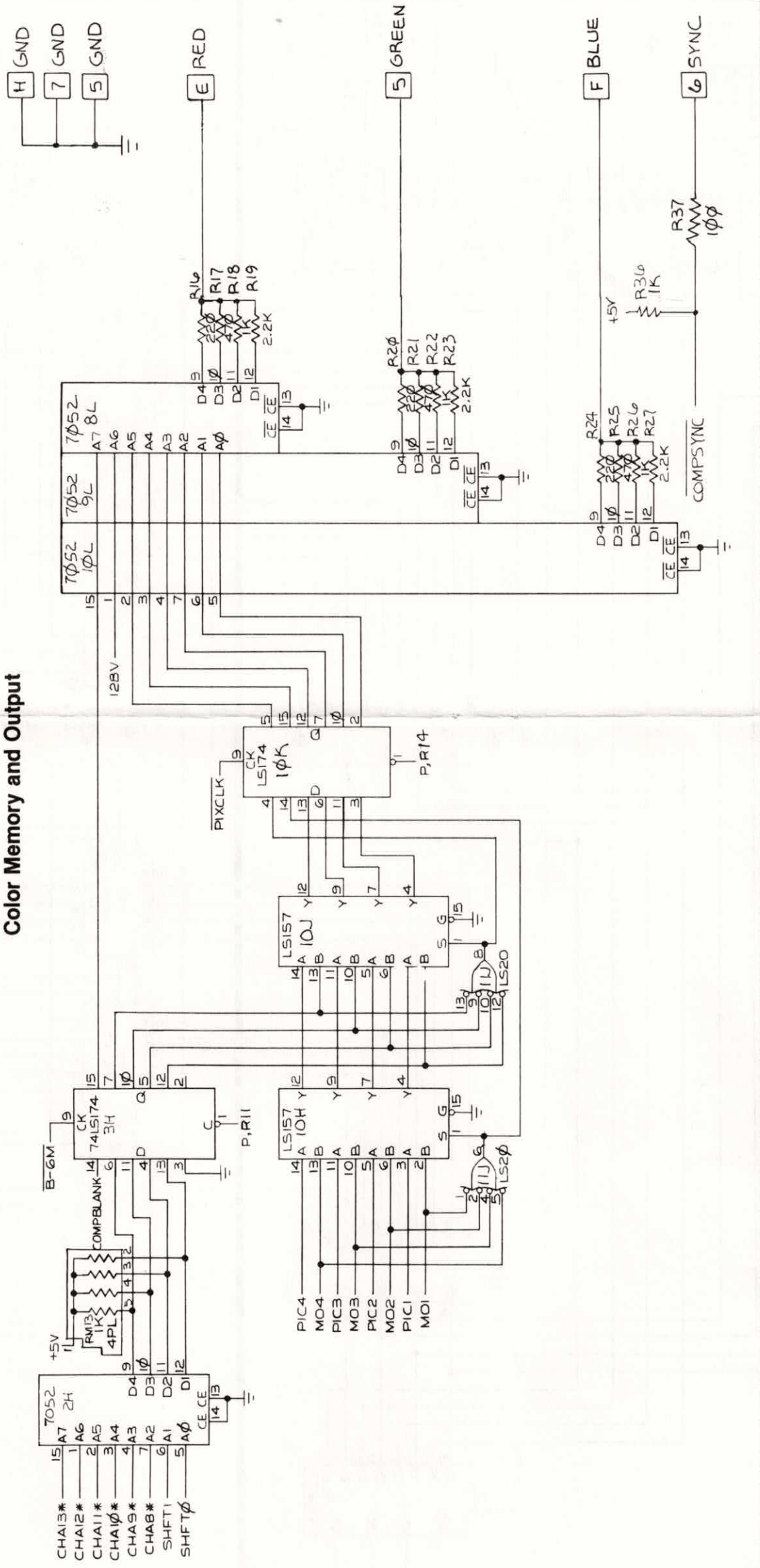


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# Pole Position Video PCB Schematic Diagram



### Color Memory and Output



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### Pole Position Video PCB Schematic Diagram

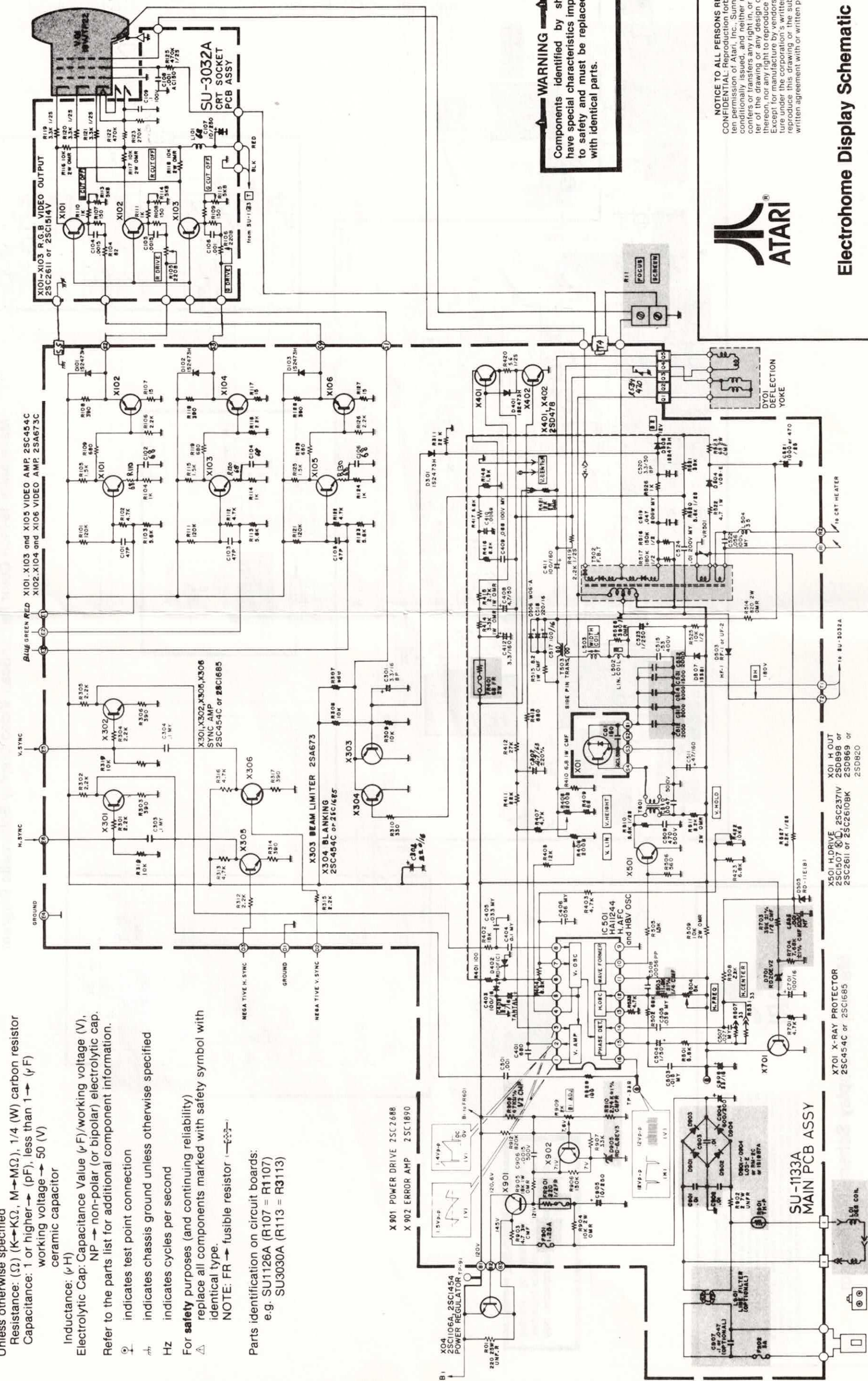


# Electrohome 19-Inch Color Raster-Scan Video Display Schematic Diagram

## Schematic Notes

- Unless otherwise specified
- Resistance: (Ω) (K→KΩ, M→MΩ), 1/4 (W) carbon resistor
- Capacitance: 1 or higher → (pF), less than 1 → (μF)
- working voltage → 50 (V)
- ceramic capacitor
- Inductance: (μH)
- Electrolytic Cap: Capacitance Value (μF)/working voltage (V), NP → non-polar (or bipolar) electrolytic cap.
- Refer to the parts list for additional component information.
- ⊕ indicates test point connection
- ⊕ indicates chassis ground unless otherwise specified
- Hz indicates cycles per second
- For safety purposes (and continuing reliability) replace all components marked with safety symbol with identical type.
- NOTE: FR → fusible resistor

Parts identification on circuit boards:  
 e.g. SU1126A (R107 = R1107)  
 SU3030A (R113 = R3113)



**WARNING**  
 Components identified by shading have special characteristics important to safety and must be replaced only with identical parts.



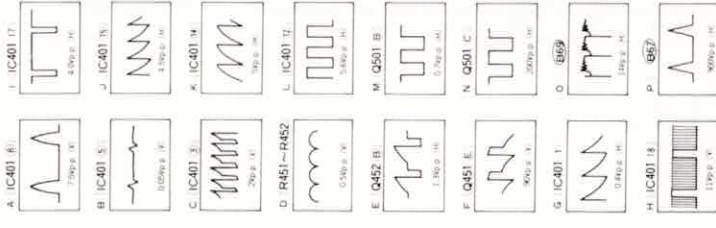
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## Electrohome Display Schematic Diagram

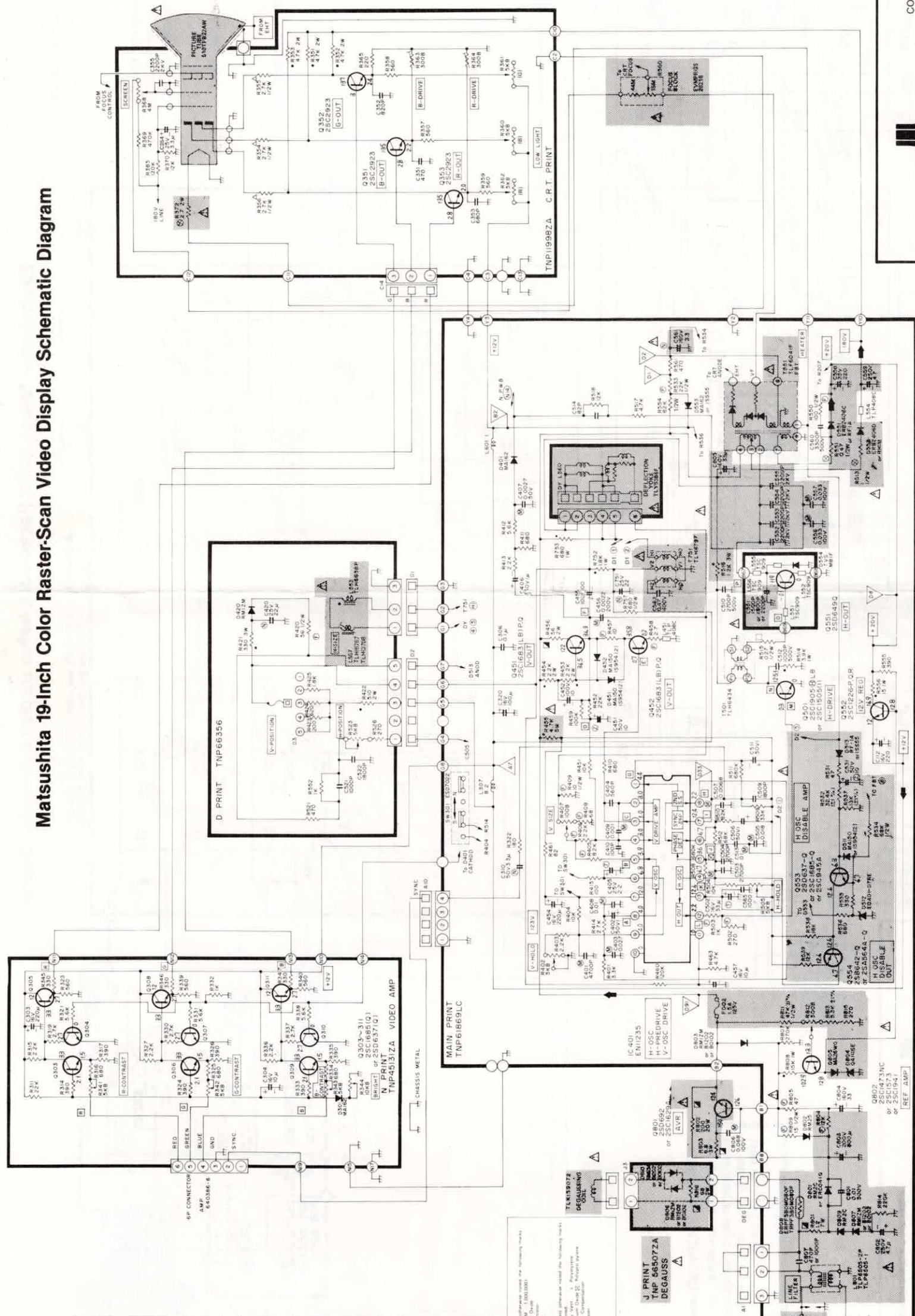


# Matsushita 19-Inch Color Raster-Scan Video Display Schematic Diagram

## Waveform



**NOTE**  
 1 RESISTOR values in ohms, 1.0K, 10K, 100K, 1M, 1000K, 10M, 100M, 1000M.  
 2 CAPACITOR values in picofarads (P), nanofarads (N), microfarads (U), millifarads (M), farads (F).  
 3 DIMENSIONAL values in inches and millimeters.  
 4 TEST POINTS are indicated by a triangle symbol.  
 5 DIMENSIONS are in inches and millimeters.  
 6 TEST POINTS are indicated by a triangle symbol.  
 7 TEST POINTS are indicated by a triangle symbol.



**WARNING**  
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## Matsushita Display Schematic Diagram