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NOTE

An Arabian Troubleshooting Guide is included as part of this Schematic Package Supplement. The Arabian Troubleshooting Guide contains Atari CAT Bow* troubleshooting procedures and signal name descriptions.



Schematic Package Supplement to

ARABIANTM

Operators Manual

Includes
Troubleshooting Guide

*Manufactured under license from Sun Electronics Corporation.

4M

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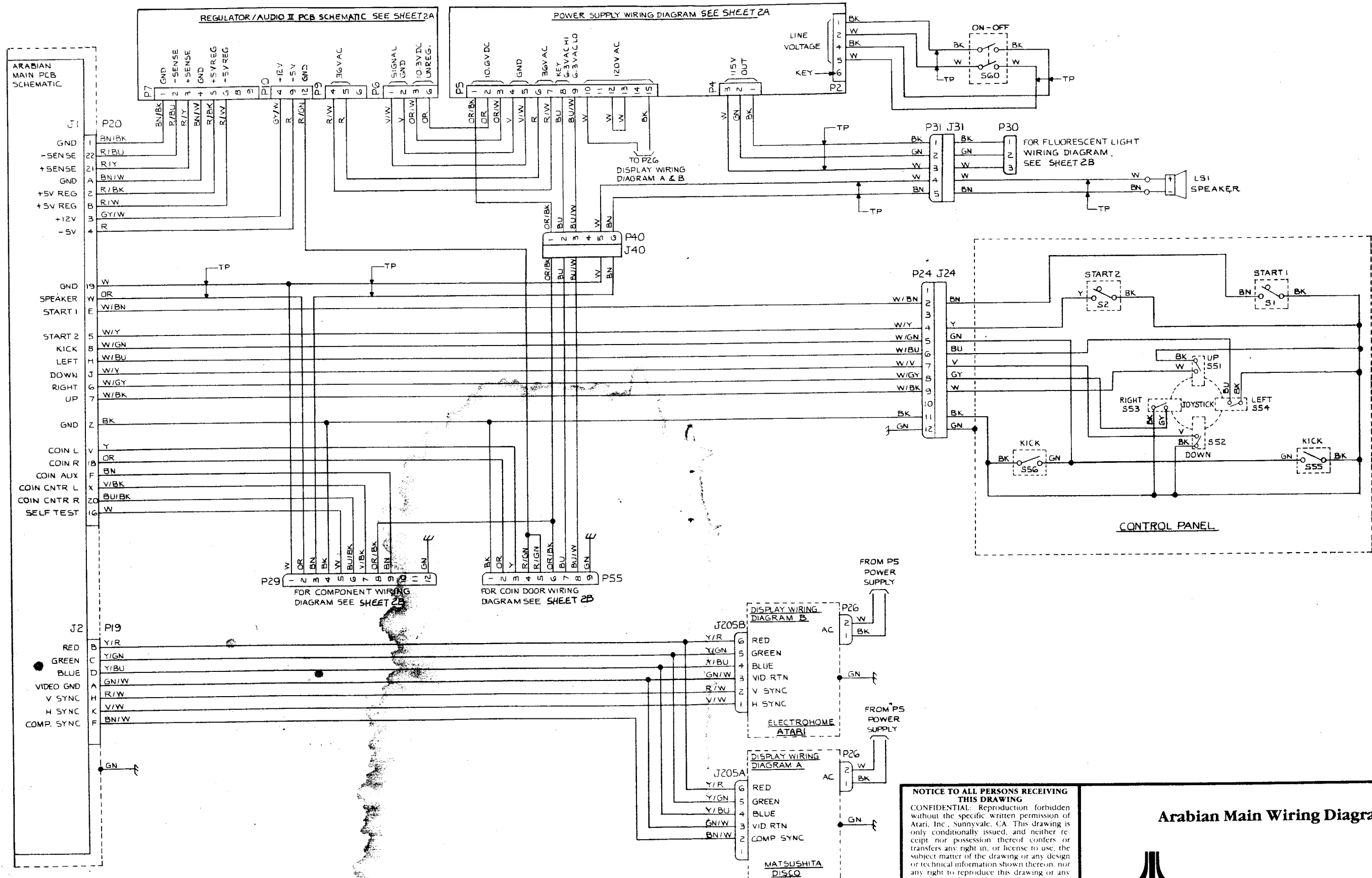
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Arabian Main Wiring Diagram



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Regulator/Audio II PCB Schematic Diagram


This schematic diagram illustrates the electrical layout for the Regulator/Audio II PCB. It features a multi-pin connector (J6) at the top left, providing +10.3 VDC UNREG and GND connections. The circuit includes a voltage regulator section with an LM305 (Q1) and a 2N3055 (Q3) transistor, regulated by a 5V REG output. The audio section consists of two TDA2020AV (Q1, Q2) op-amp stages, each driving a speaker (SPKR1, SPCR2) through a 10K resistor (R13, R28). The power supply section includes a 36VAC input (J9) connected to a bridge rectifier (CR5-CR8) and a 4PLCS (Q4) diode, followed by a 22VDC output (J10) and a 15VDC output (J11). The circuit is populated with various resistors (R1-R33) and capacitors (C1-C26) for filtering and timing. A 10W resistor (R31) is used for the 15VDC output. The GND connections are provided by a 12-pin connector (J12) at the bottom right.

[illegible]

**Arabian Regulator/Audio II PCB
and Power Supply Diagrams**

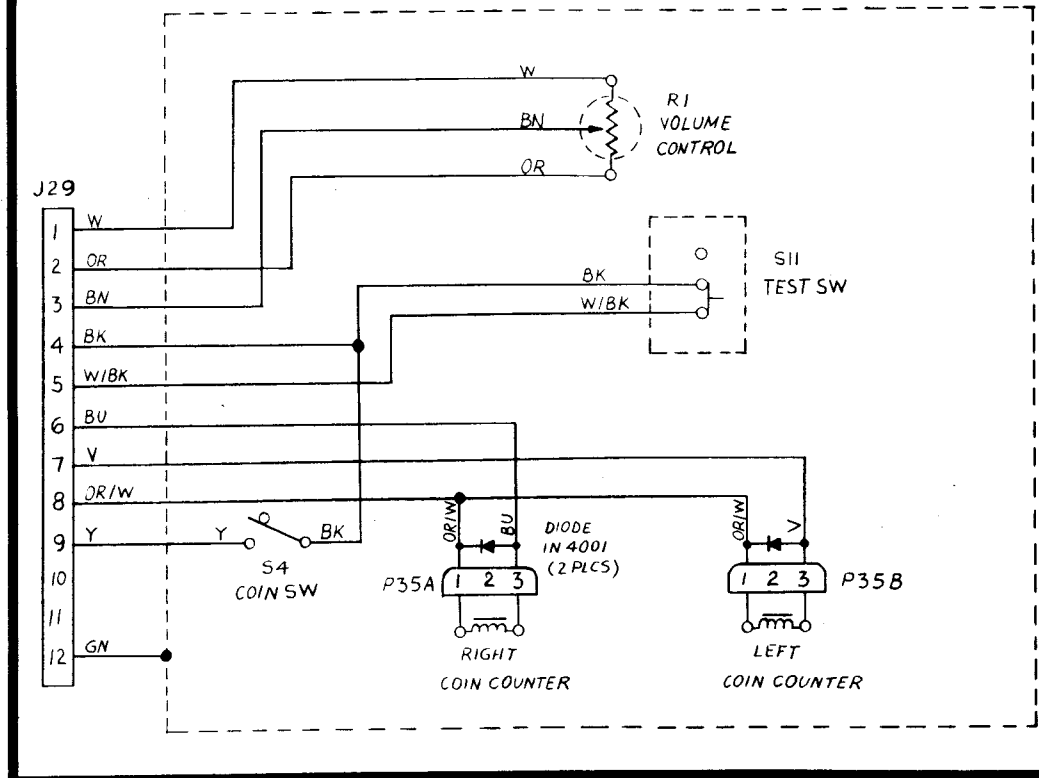

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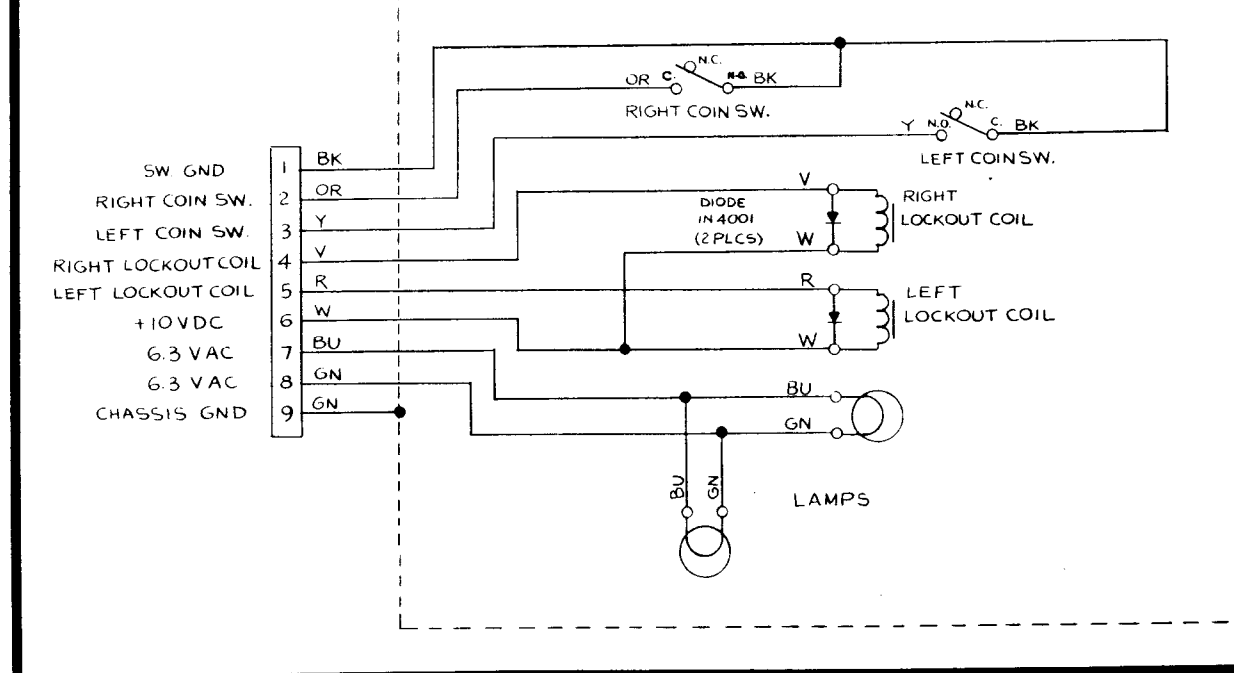
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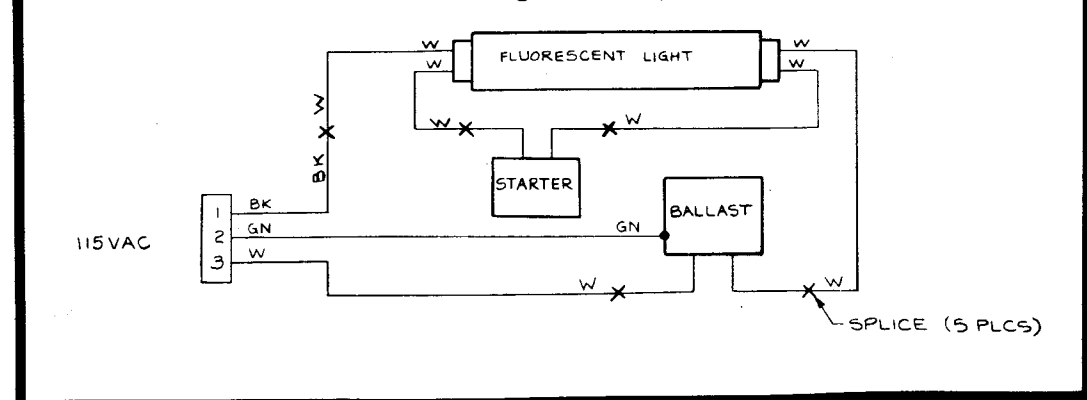
Utility Panel Wiring Diagram



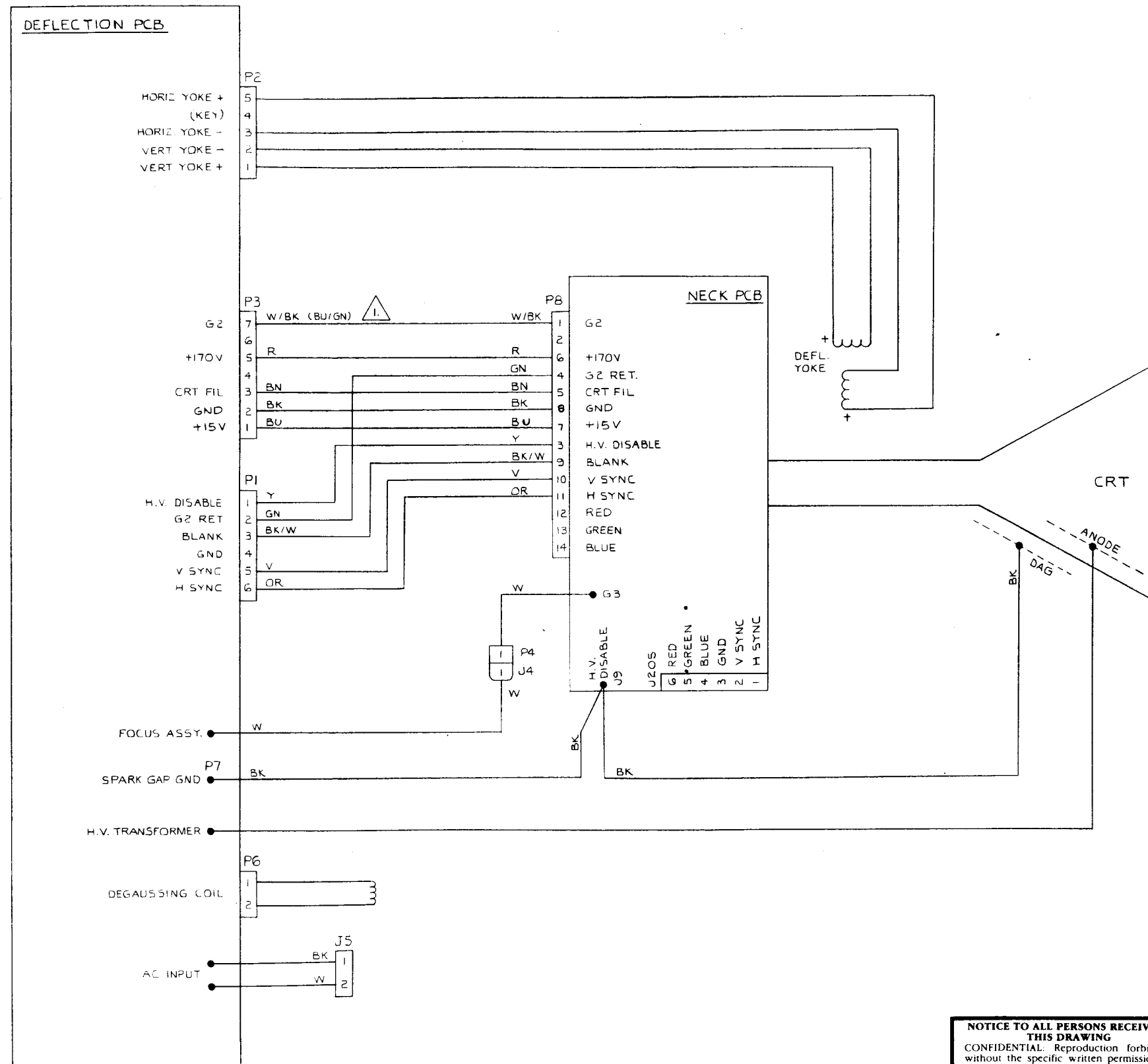
Coin Door Wiring Diagram



Fluorescent Light Wiring Diagram



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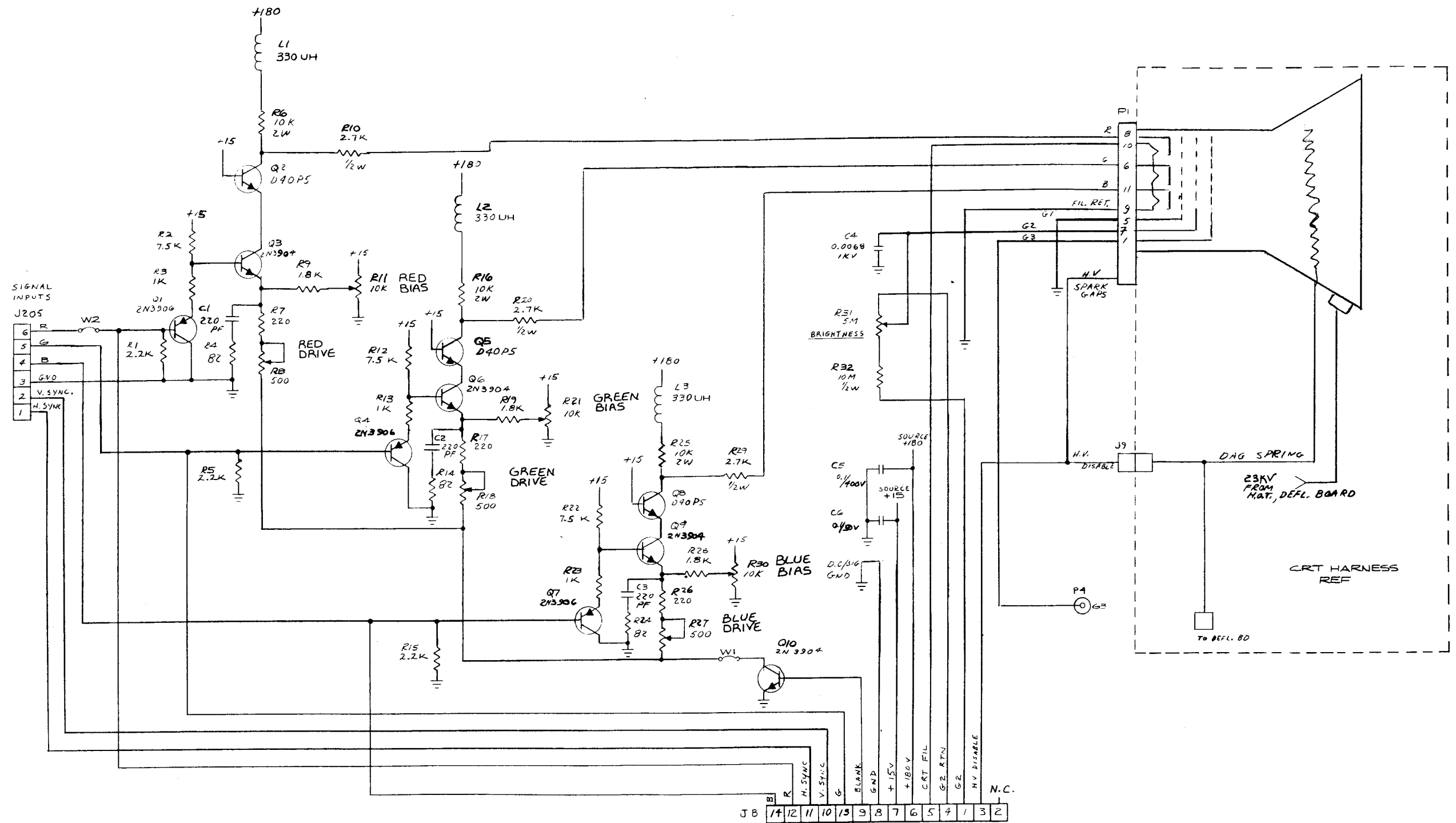
Atari Color Raster Display Wiring Diagram



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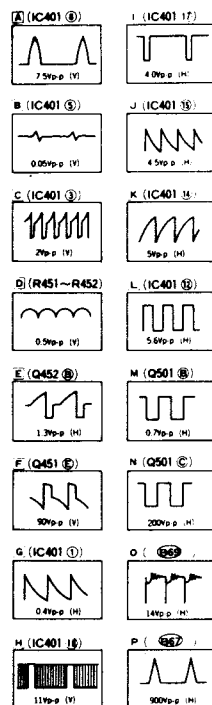
Atari Color Raster Display Neck PCB Schematic Diagram

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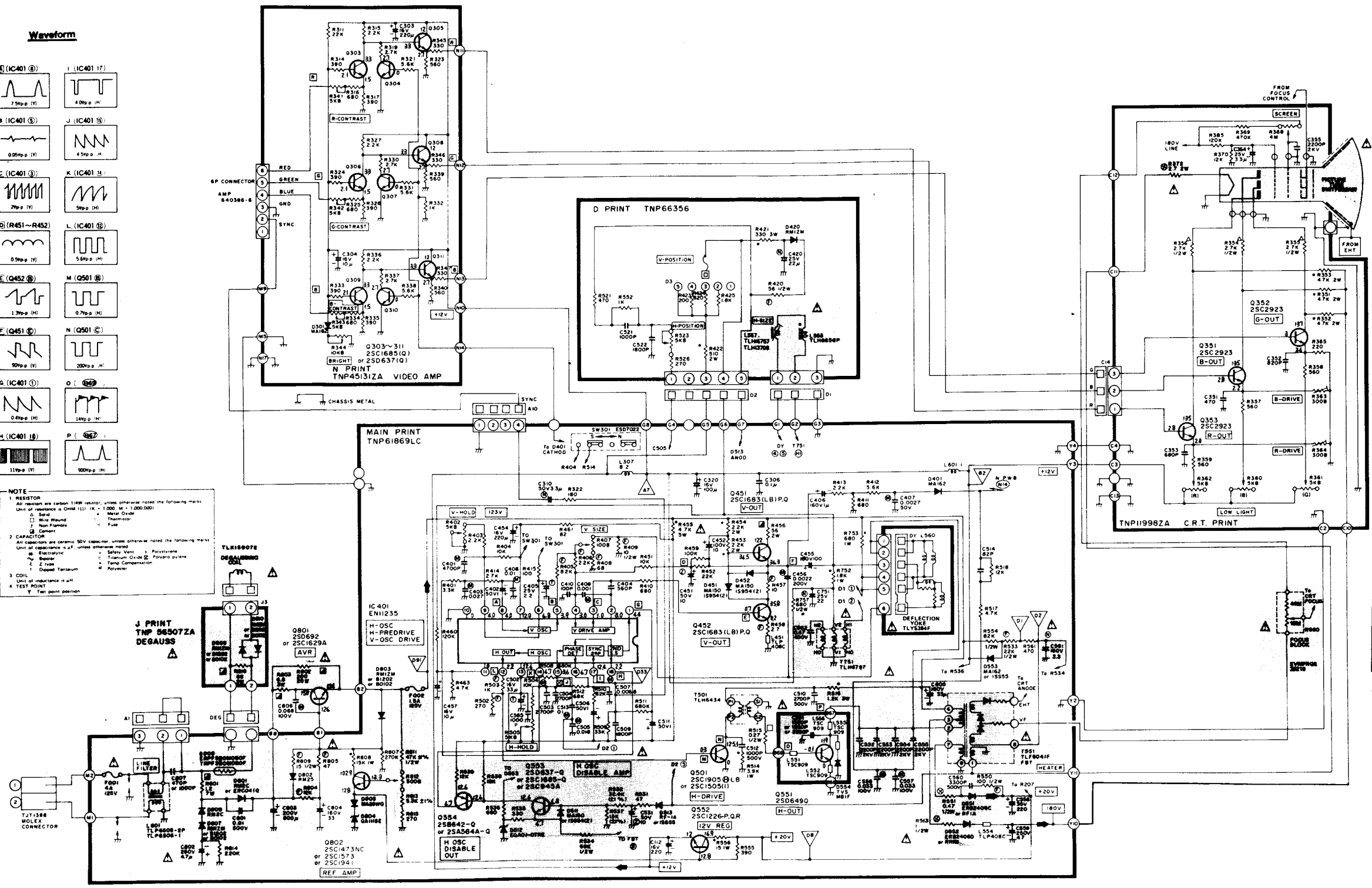
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Waveform



NOTE
 1. RESISTOR
 All resistors are carbon 1/8W resistor, unless otherwise noted the following marks:
 Unit of resistance is Ohm (10³ = 1,000, M = 1,000,000)
 ① Solid ② Metal Glaze
 ③ Wire Wound ④ Thermistor
 ⑤ Non-Flammable ⑥ Fuse
 ⑦ Cement
 2. CAPACITOR
 All capacitors are ceramic 50V capacitor, unless otherwise noted the following marks:
 Unit of capacitance is pF, unless otherwise noted
 ① Electronic ② Safety Vent ③ Polystyrene
 ④ Electrolytic ⑤ Titanium Oxide ⑥ Polypropylene
 ⑦ Z-Case ⑧ Temp. Compensation ⑨ Polyester
 ⑩ Dipped Tantalum ⑪ Polyester
 3. COIL
 Unit of inductance is μH
 4. TEST POINT
 ① Test point position



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

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Matsushita Color Raster Display Schematic Diagram

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Arabian Memory Map

HEXA- DECIMAL ADDRESS	ADDRESS BUS SIGNAL LINES																READ/ WRITE	DATA BUS SIGNAL LINES								FUNCTION
	A15	A14	A13	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0		D7	D6	D5	D4	D3	D2	D1	D0	
E006	1	1	1	0	A	A	A	A	A	A	A	A	A	1	1	0	W	D	D	D	D	D	D	D	D	Picture Size and DMA Start
E005	1	1	1	0	A	A	A	A	A	A	A	A	A	1	0	1	W	D	D	D	D	D	D	D	D	
E004	1	1	1	0	A	A	A	A	A	A	A	A	A	1	0	0	W	D	D	D	D	D	D	D	D	DMA RAM Start Address
E003	1	1	1	0	A	A	A	A	A	A	A	A	A	0	1	1	W	D	D	D	D	D	D	D	D	
E002	1	1	1	0	A	A	A	A	A	A	A	A	A	0	1	0	W	D	D	D	D	D	D	D	D	DMA ROM Start Address
E001	1	1	1	0	A	A	A	A	A	A	A	A	A	0	0	1	W	D	D	D	D	D	D	D	D	
E000	1	1	1	0	A	A	A	A	A	A	A	A	A	0	0	0	W					D	D	D	D	BSEL Bank Select
DFFF-D000	1	1	0	1	A	A	A	A	A	A	A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	Custom Microprocessor RAM
CA00	1	1	0	0	1	0	1	0	A	A	A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	Sound Chip Data
C800	1	1	0	0	1	0	0	0	A	A	A	A	A	A	A	A	W	D	D	D	D	D	D	D	D	Sound Chip Address
C200	1	1	0	0	0	0	1	0	A	A	A	A	A	A	A	A	R					D	D	D	D	Option Switches
C000	1	1	0	0	0	0	0	0	A	A	A	A	A	A	A	A	R					D	D	D	D	Coin Inputs
BFFF-8000	1	0	1	1	A	A	A	A	A	A	A	A	A	A	A	A	R/W	D	D	D	D	D	D	D	D	Bit Map RAM
6000-7FFF	0	1	1	A	A	A	A	A	A	A	A	A	A	A	A	A	R	D	D	D	D	D	D	D	D	Program ROM (Z-80)
4000-5FFF	0	1	0	A	A	A	A	A	A	A	A	A	A	A	A	A	R	D	D	D	D	D	D	D	D	
2000-3FFF	0	0	1	A	A	A	A	A	A	A	A	A	A	A	A	A	R	D	D	D	D	D	D	D	D	
0000-1FFF	0	0	0	A	A	A	A	A	A	A	A	A	A	A	A	A	R	D	D	D	D	D	D	D	D	

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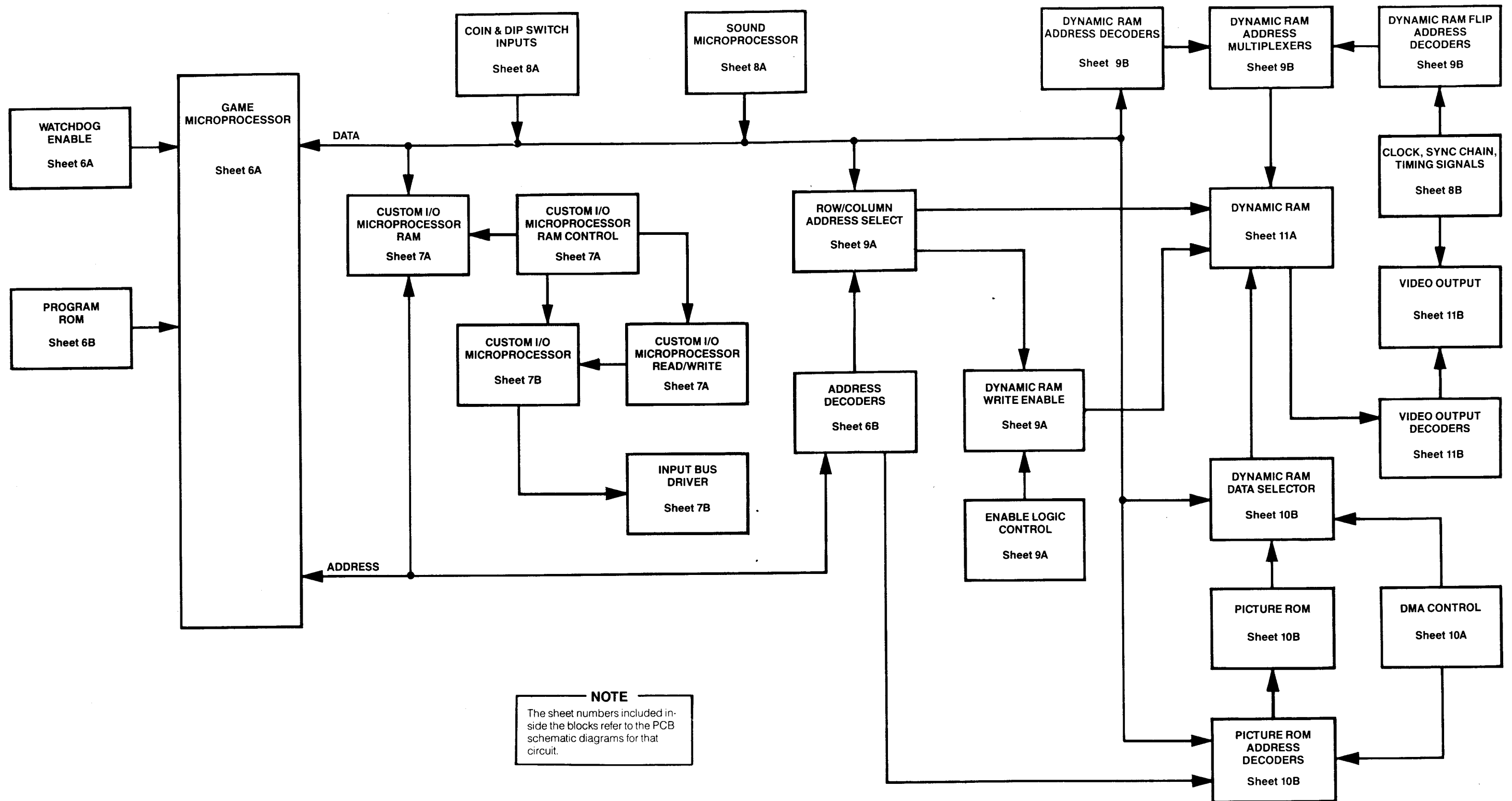
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Arabian Memory Map



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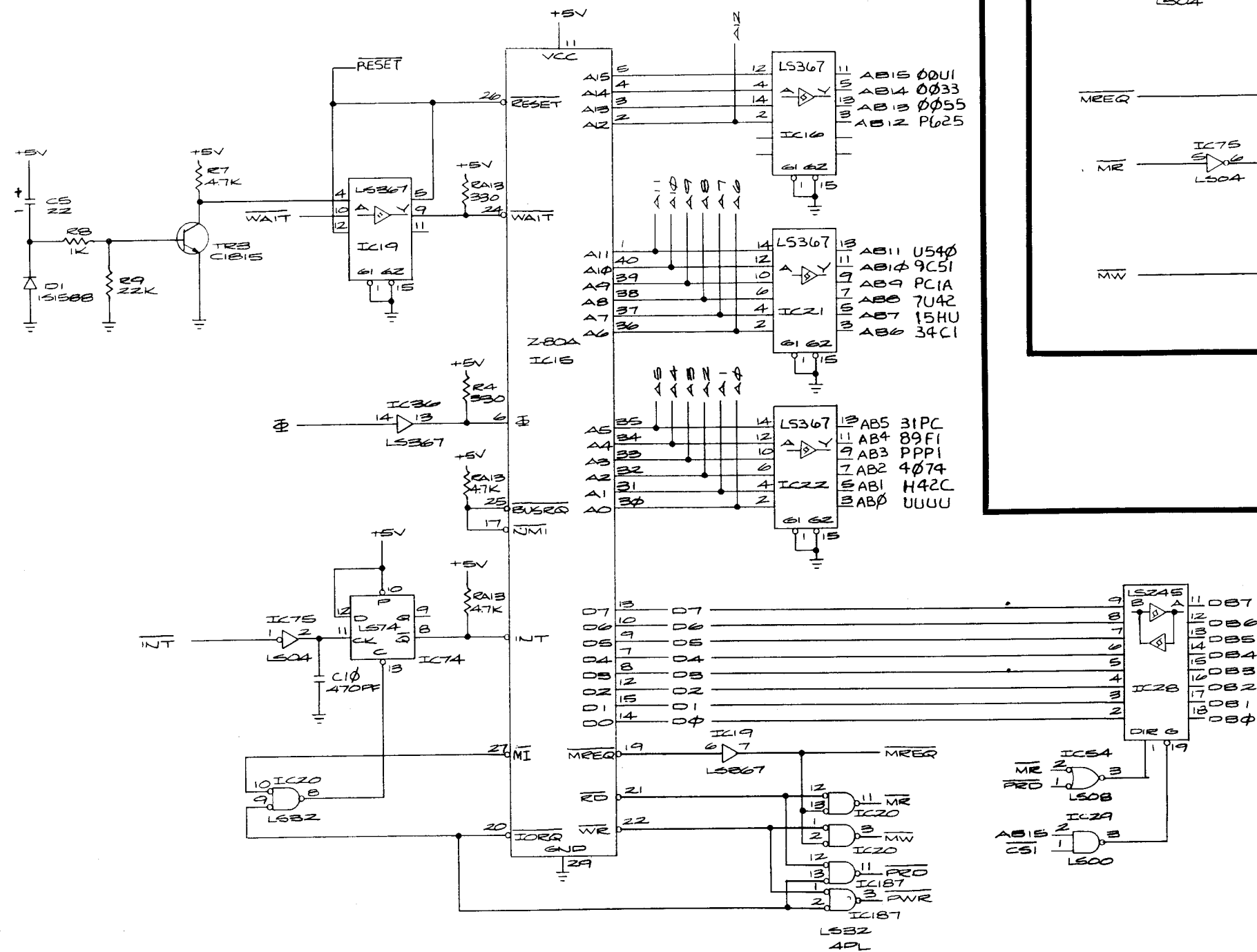
Arabian Block Diagram/Guide to PCB Schematics



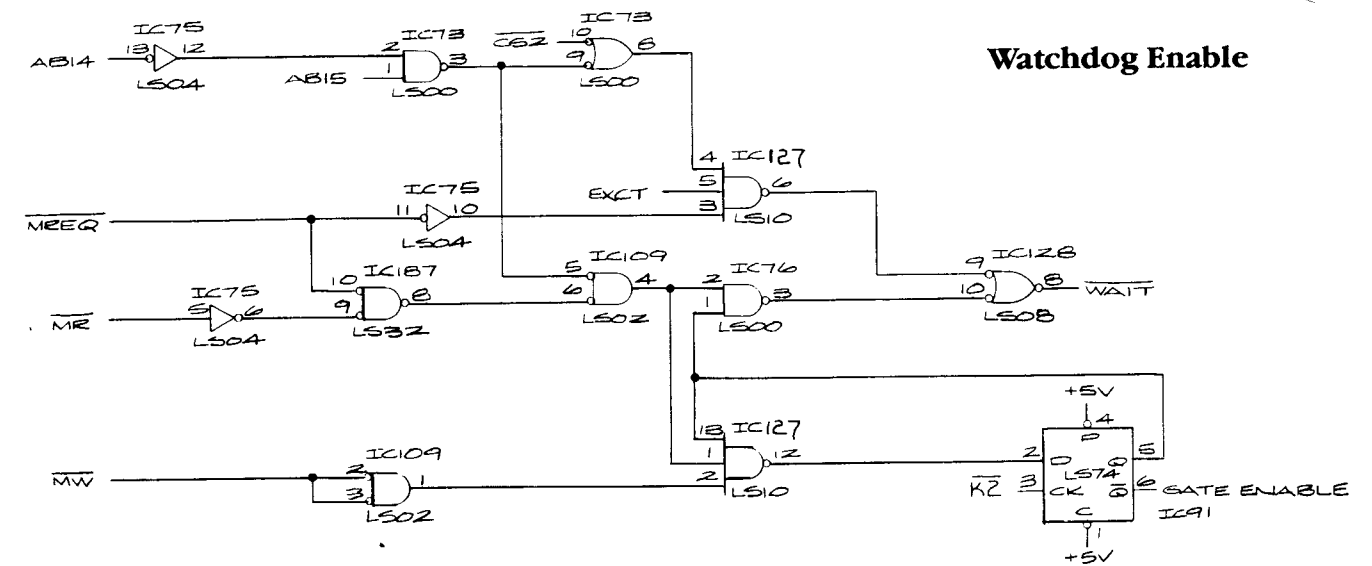
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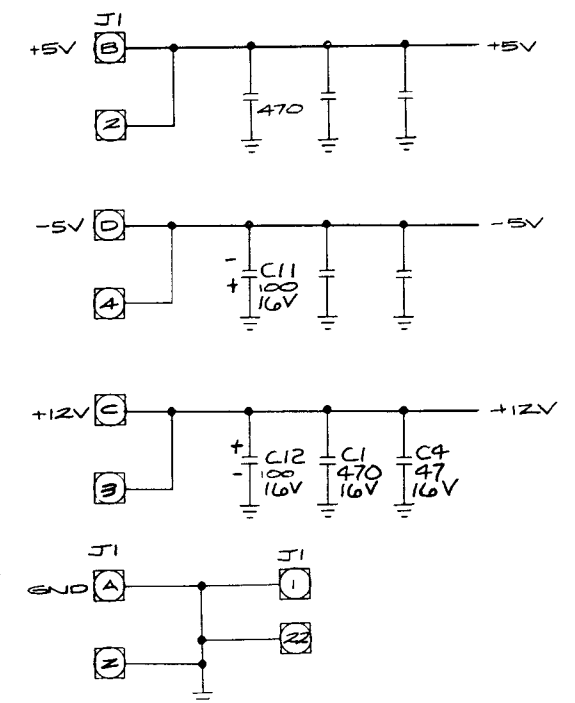
Game Microprocessor





Watchdog Enable



Game Power Input



NOTES:

-  DENOTES J1 CONNECTOR
-  DENOTES J2 CONNECTOR

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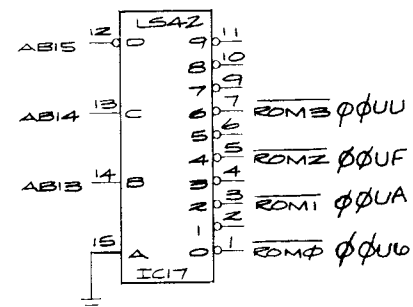
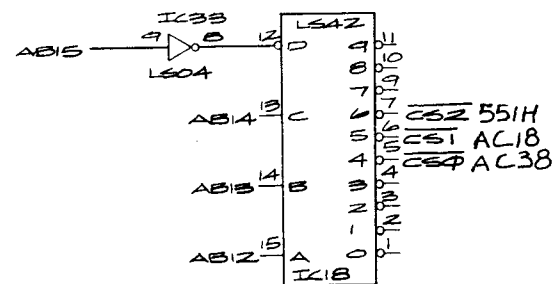
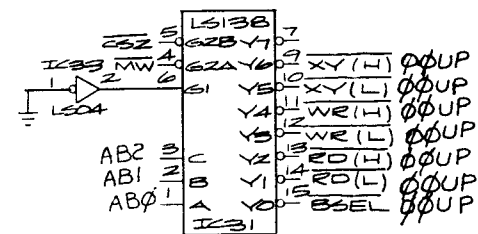
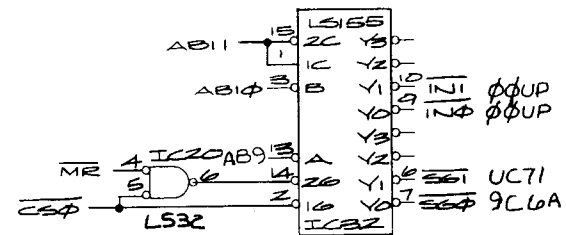
Arabian PCB Schematic Diagram



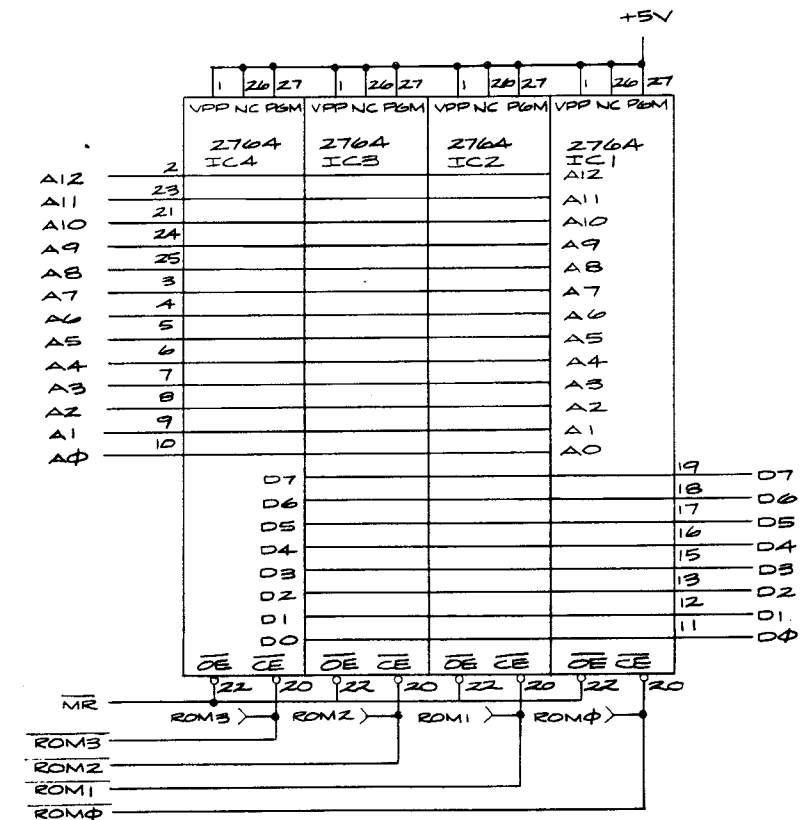
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Address Decoders



Program ROM




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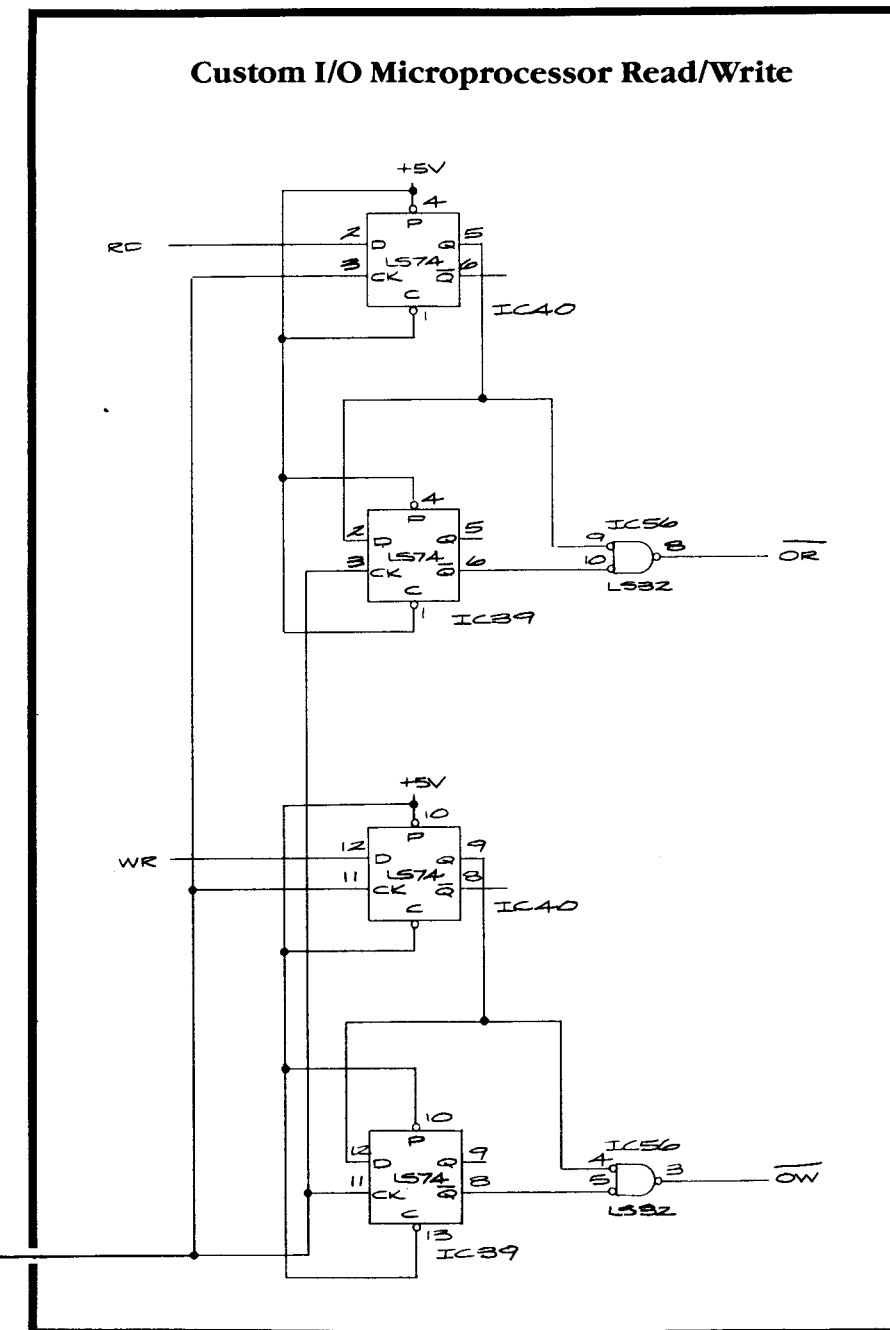
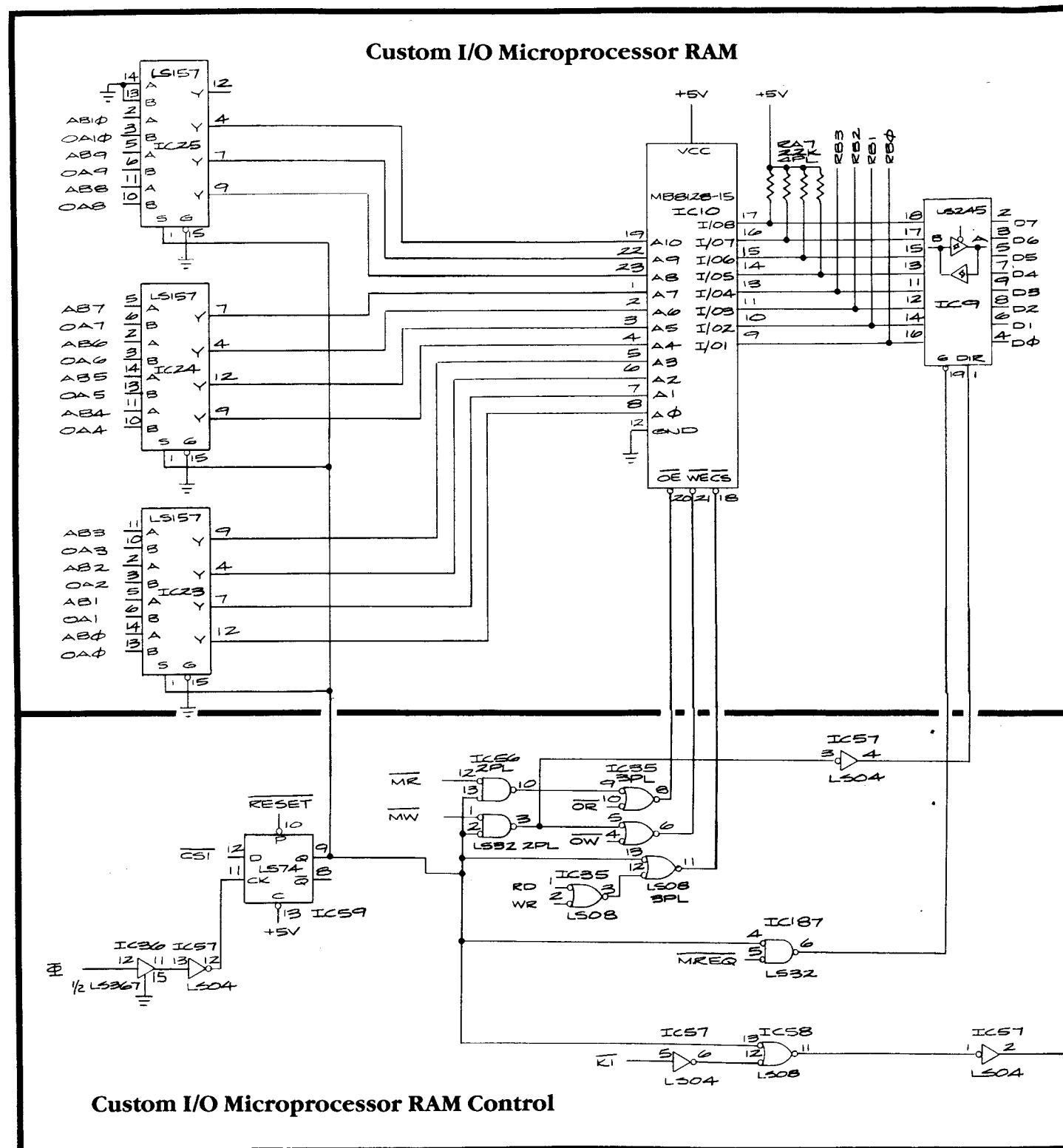
Arabian PCB Schematic Diagram



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Arabian PCB Schematic Diagram

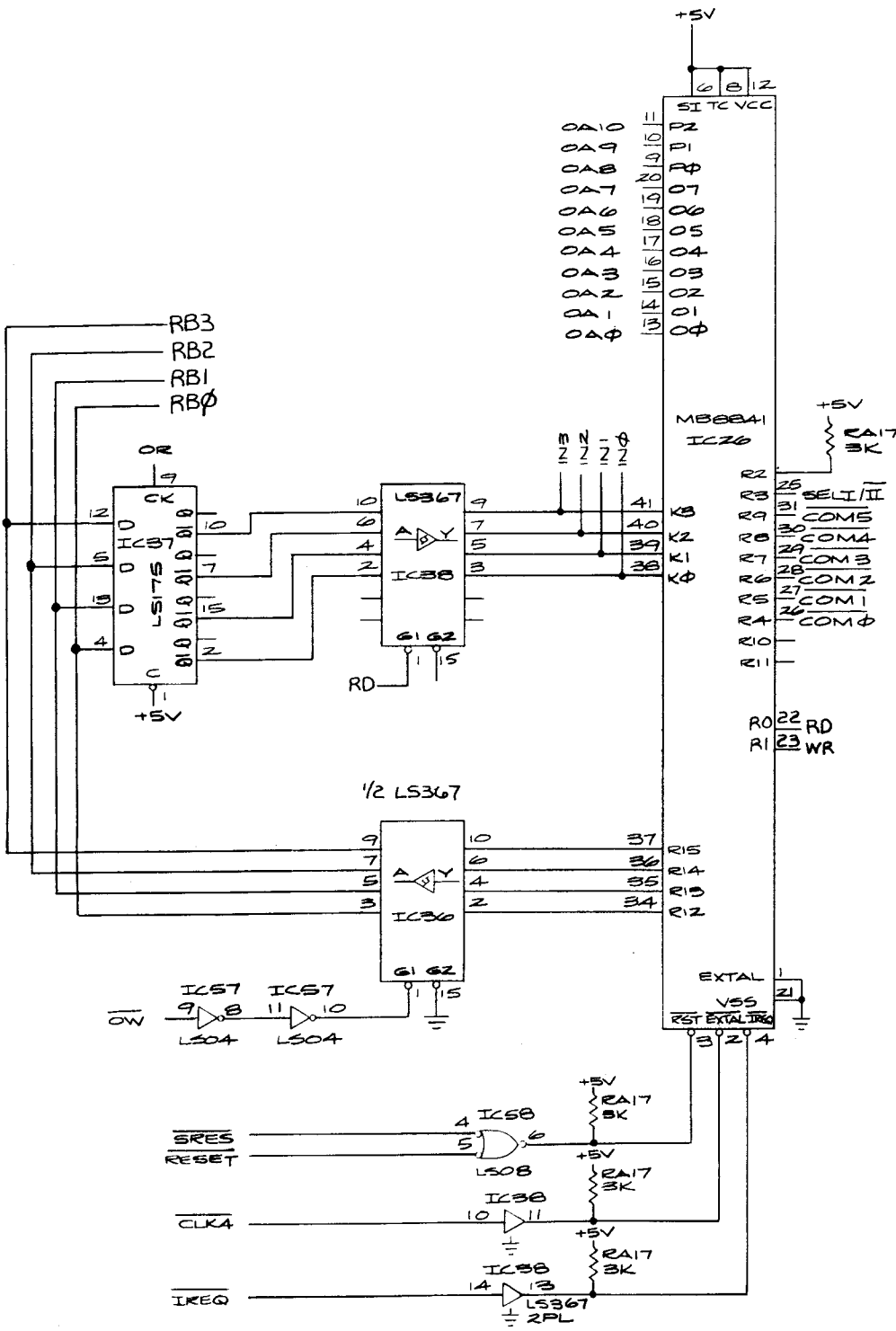


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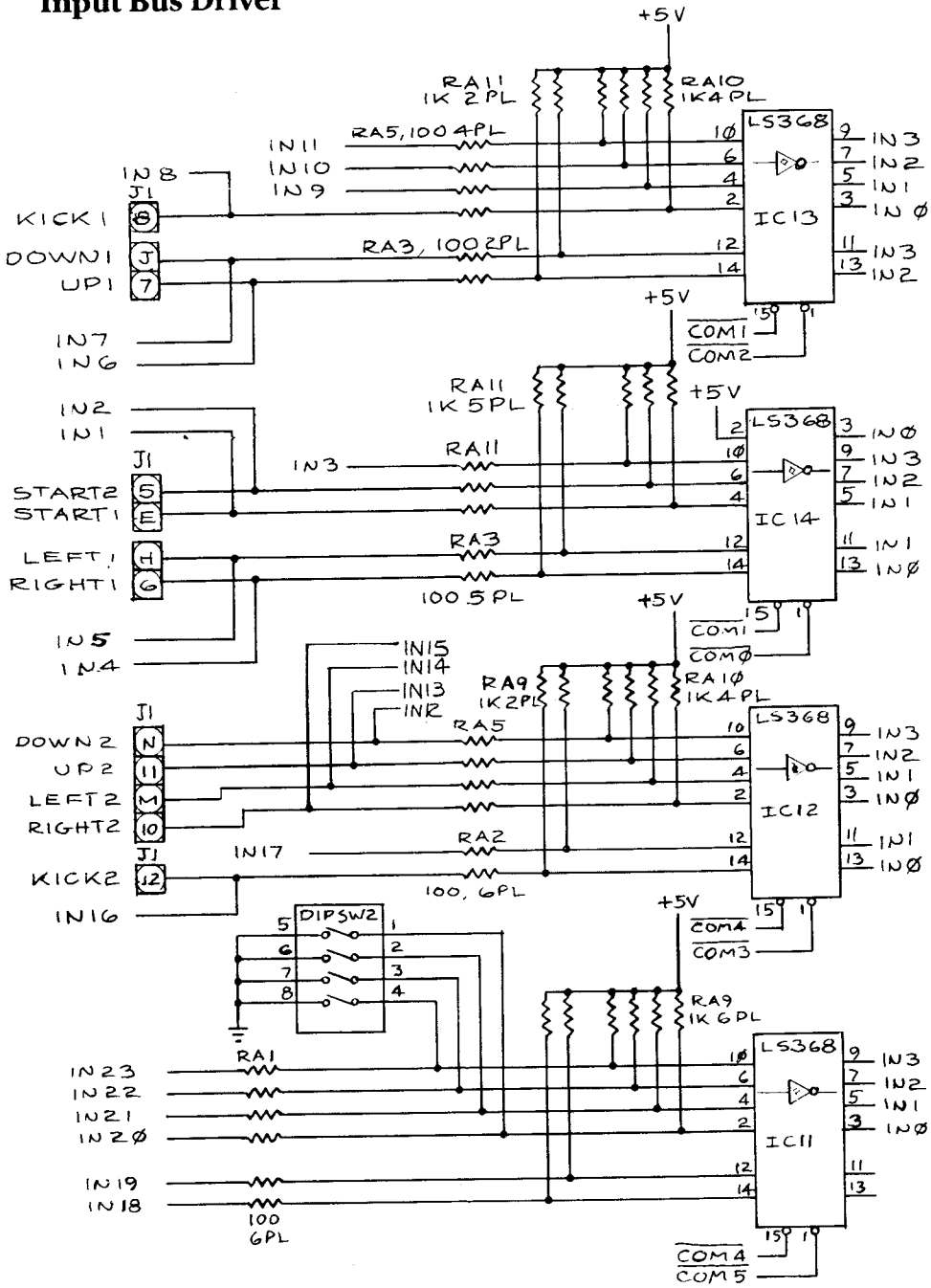
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Custom I/O Microprocessor



Input Bus Driver



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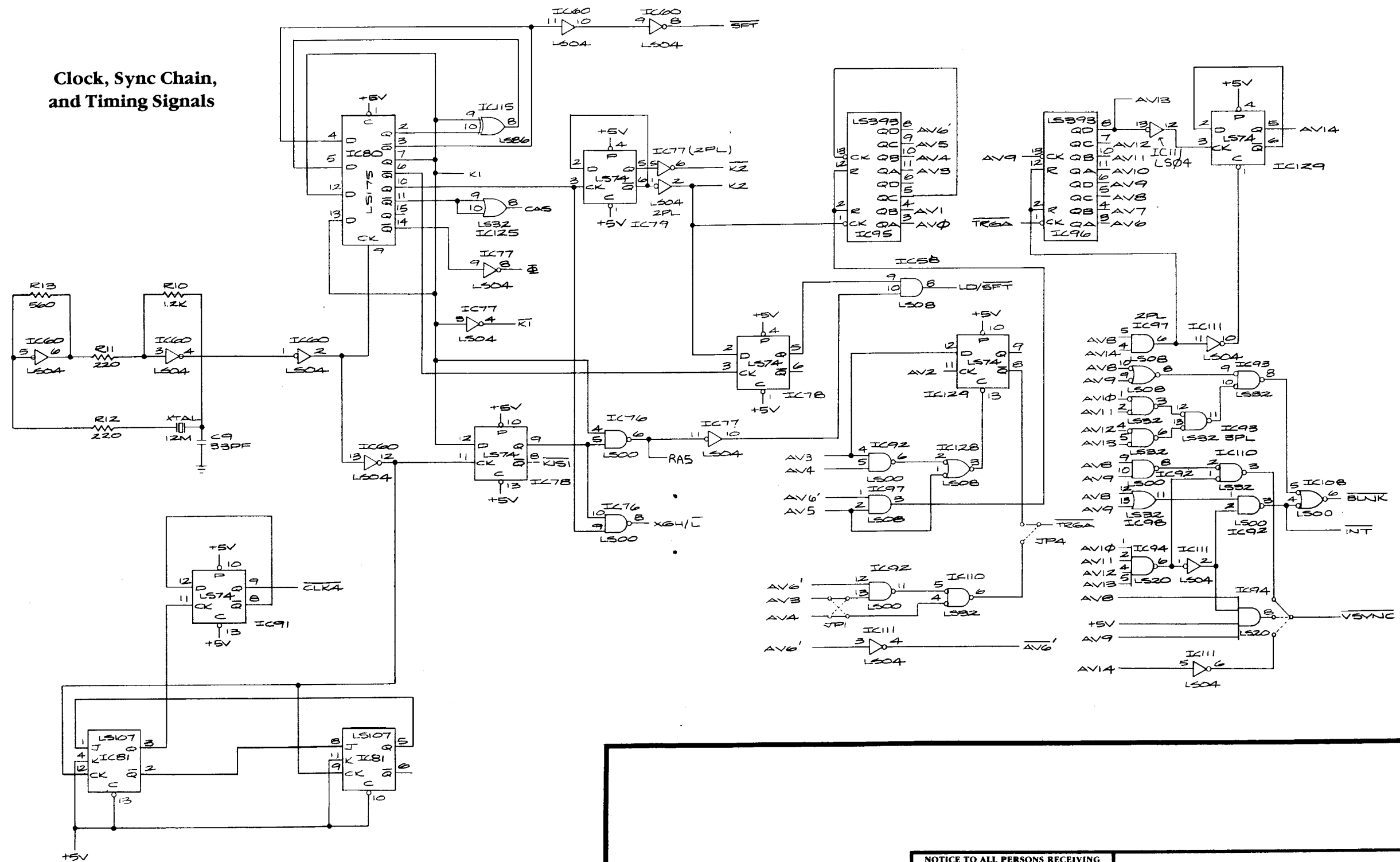
Arabian PCB Schematic Diagram



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Clock, Sync Chain, and Timing Signals



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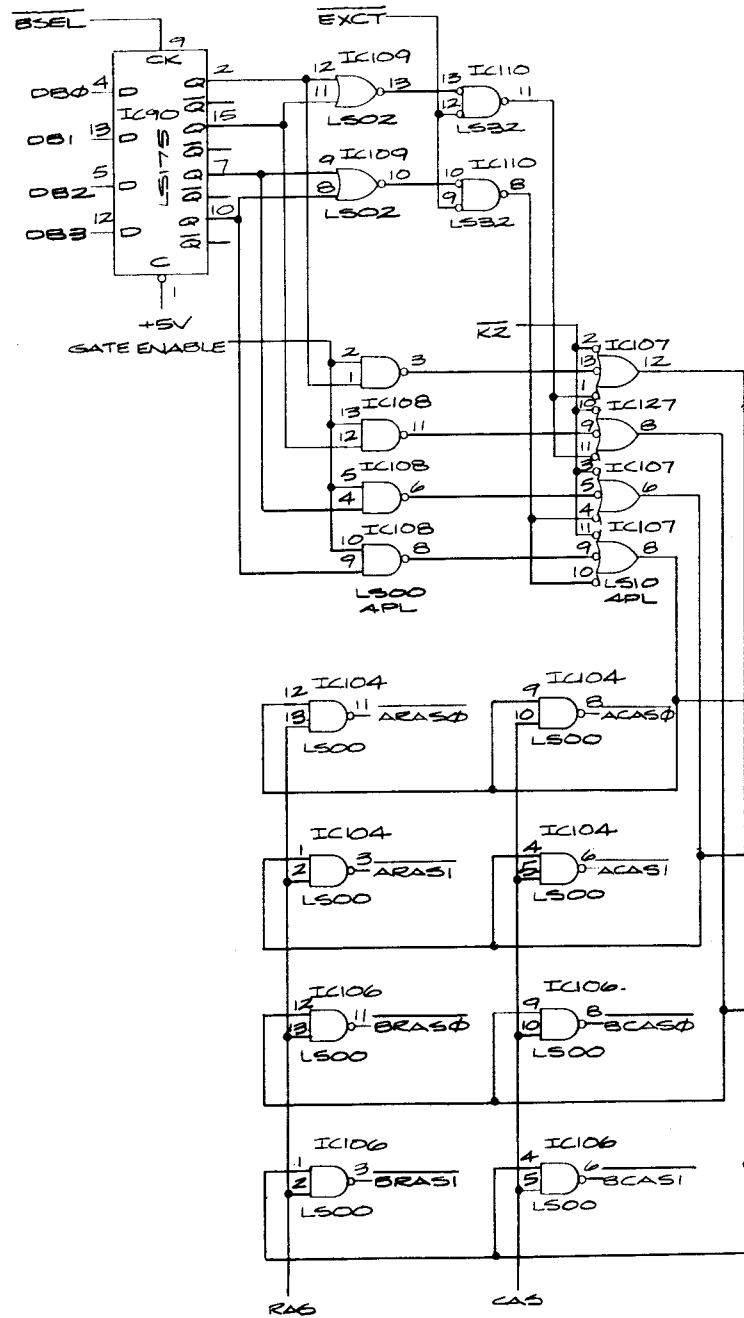
Arabian PCB Schematic Diagram



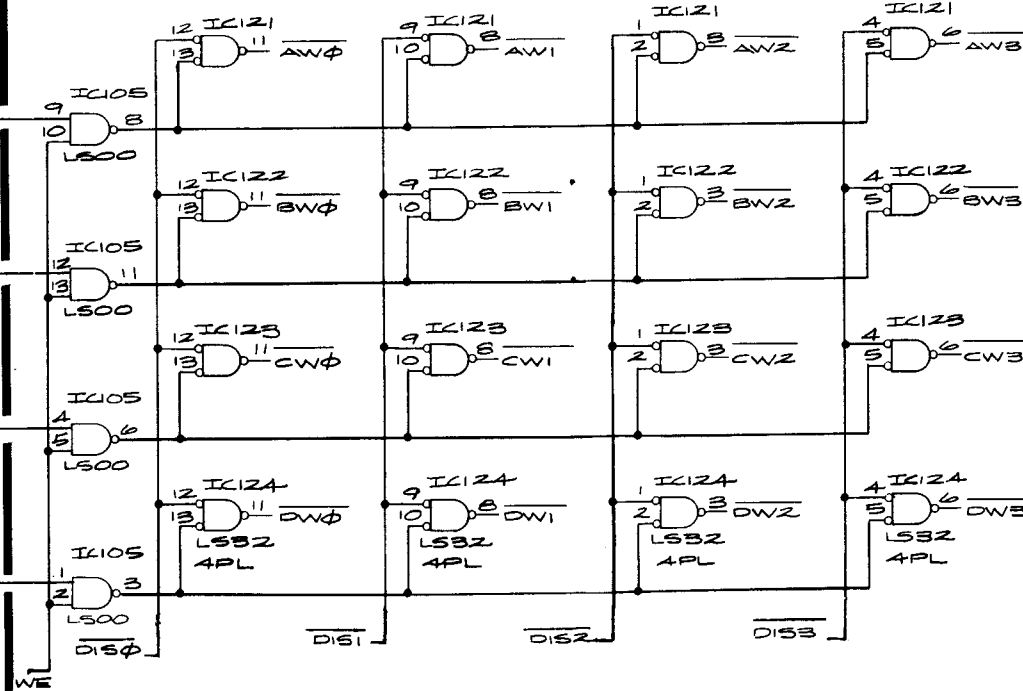
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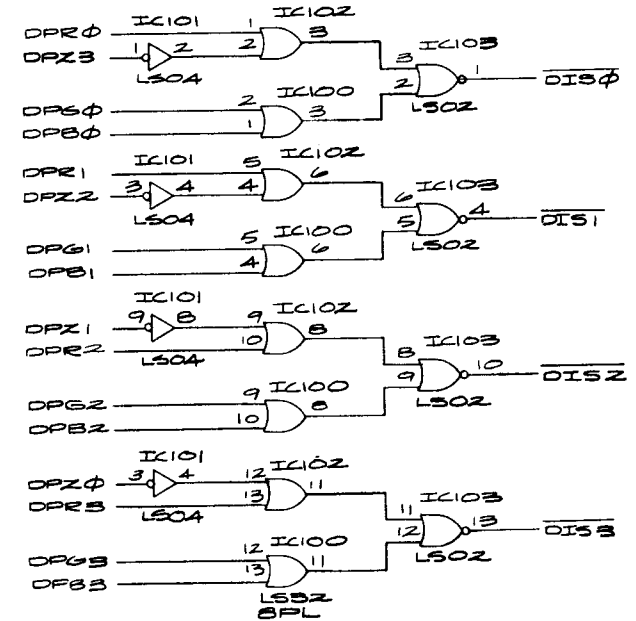
Row/Column Address Select



Dynamic RAM Write Enable



Enable Logic Control



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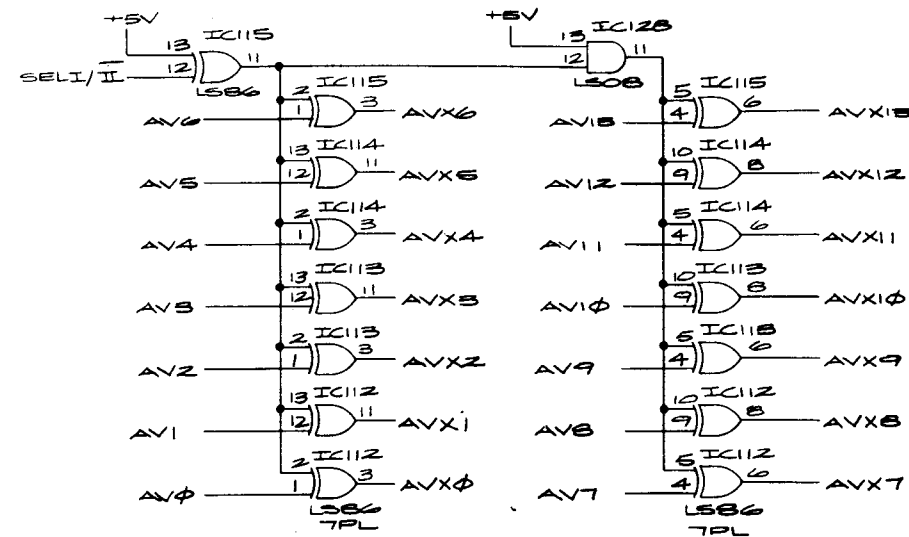
Arabian PCB Schematic Diagram



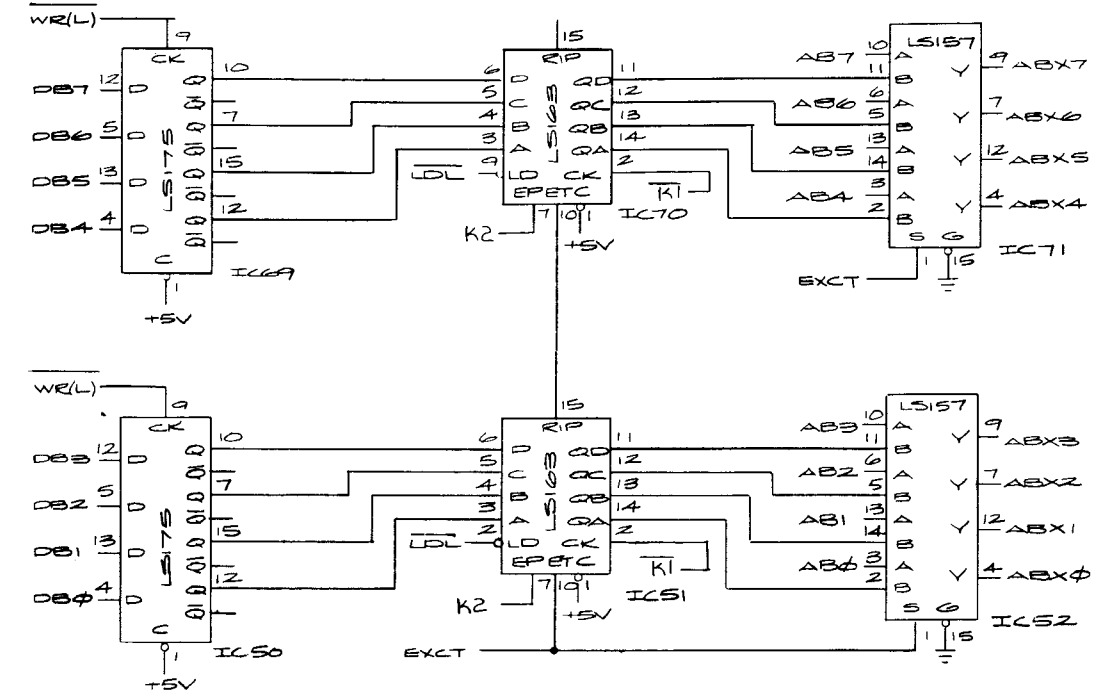
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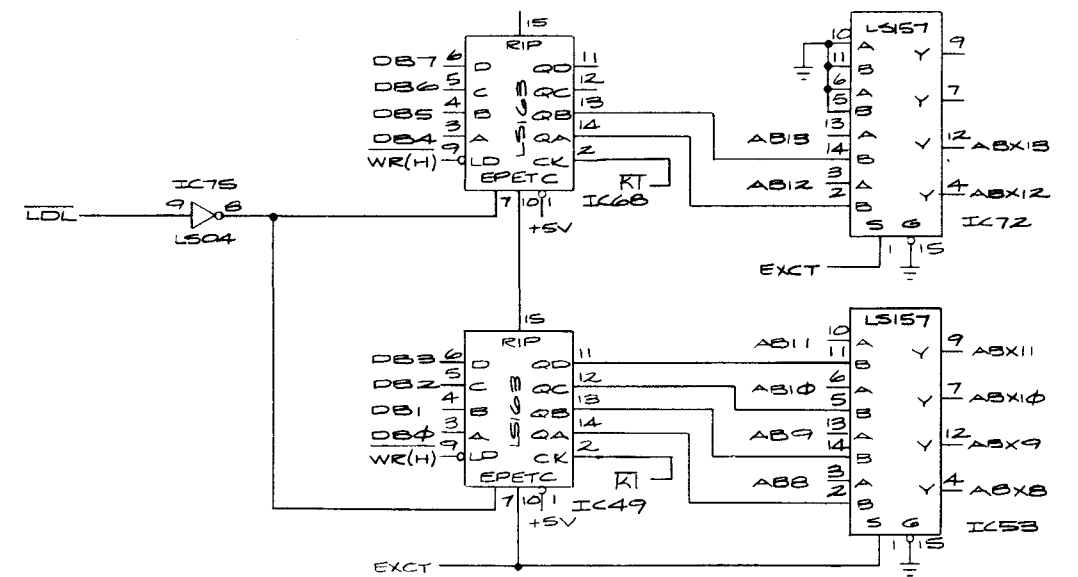
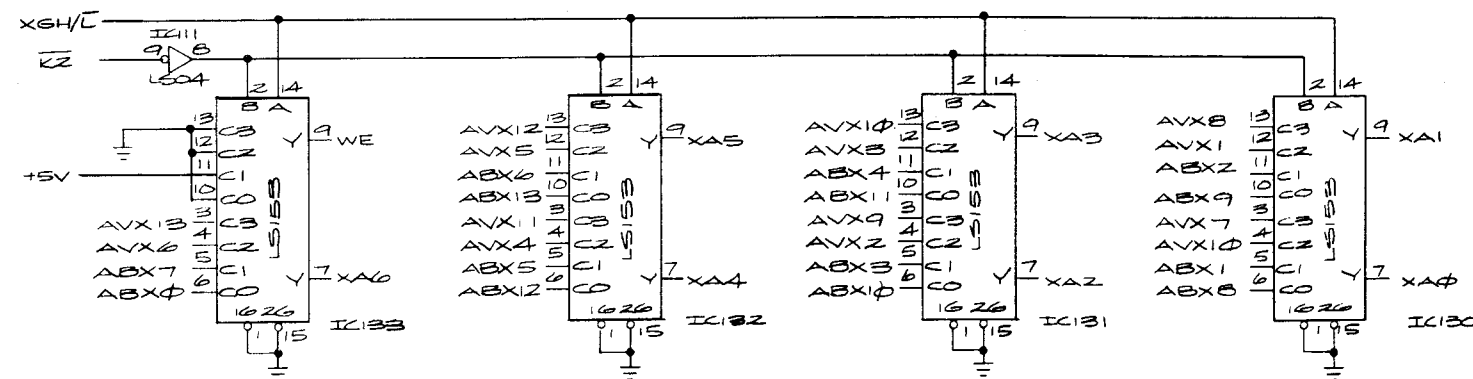
Dynamic RAM Flip Address Decoders



Dynamic RAM Address Decoders



Dynamic RAM Address Multiplexers



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Arabian PCB Schematic Diagram

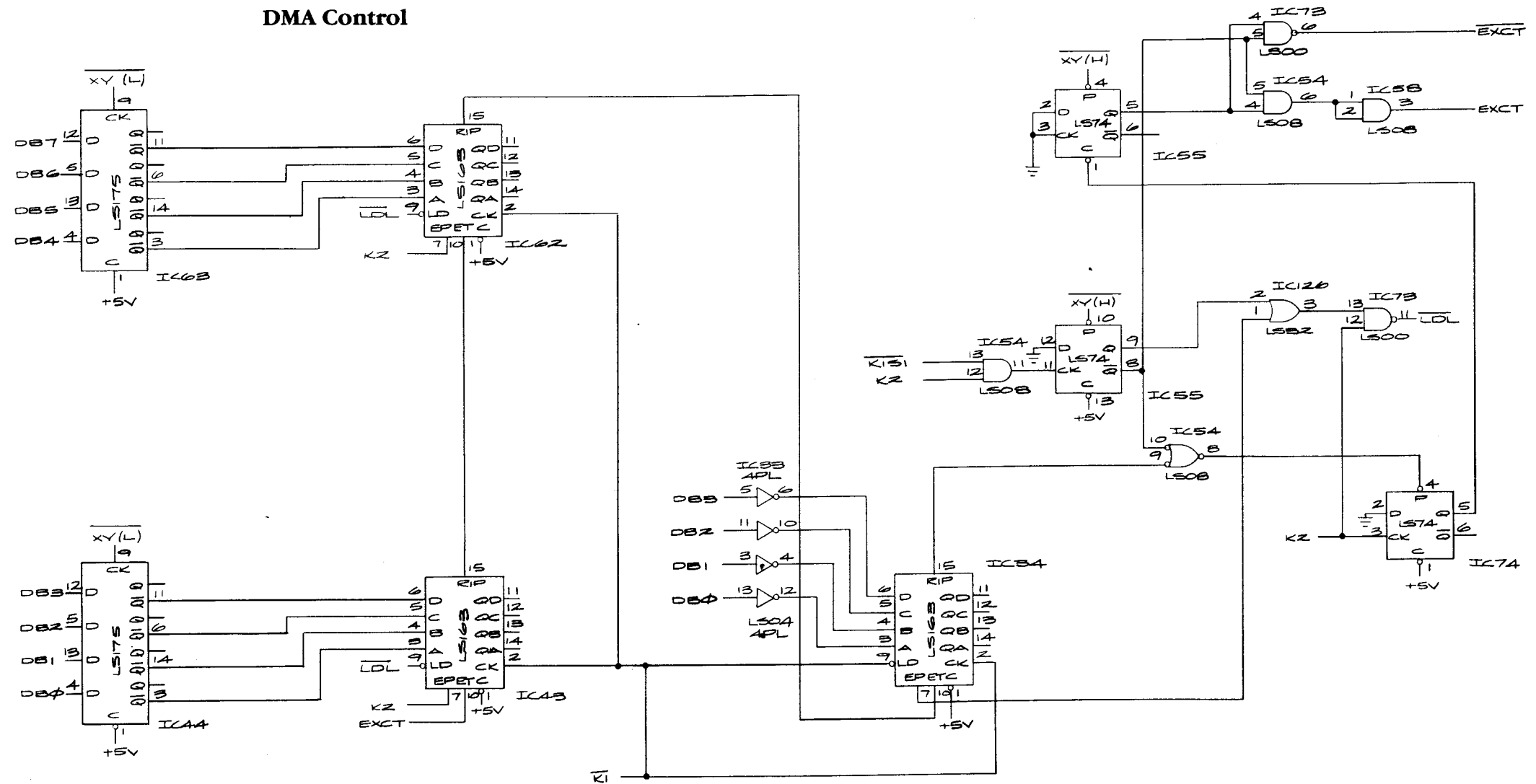


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DMA Control



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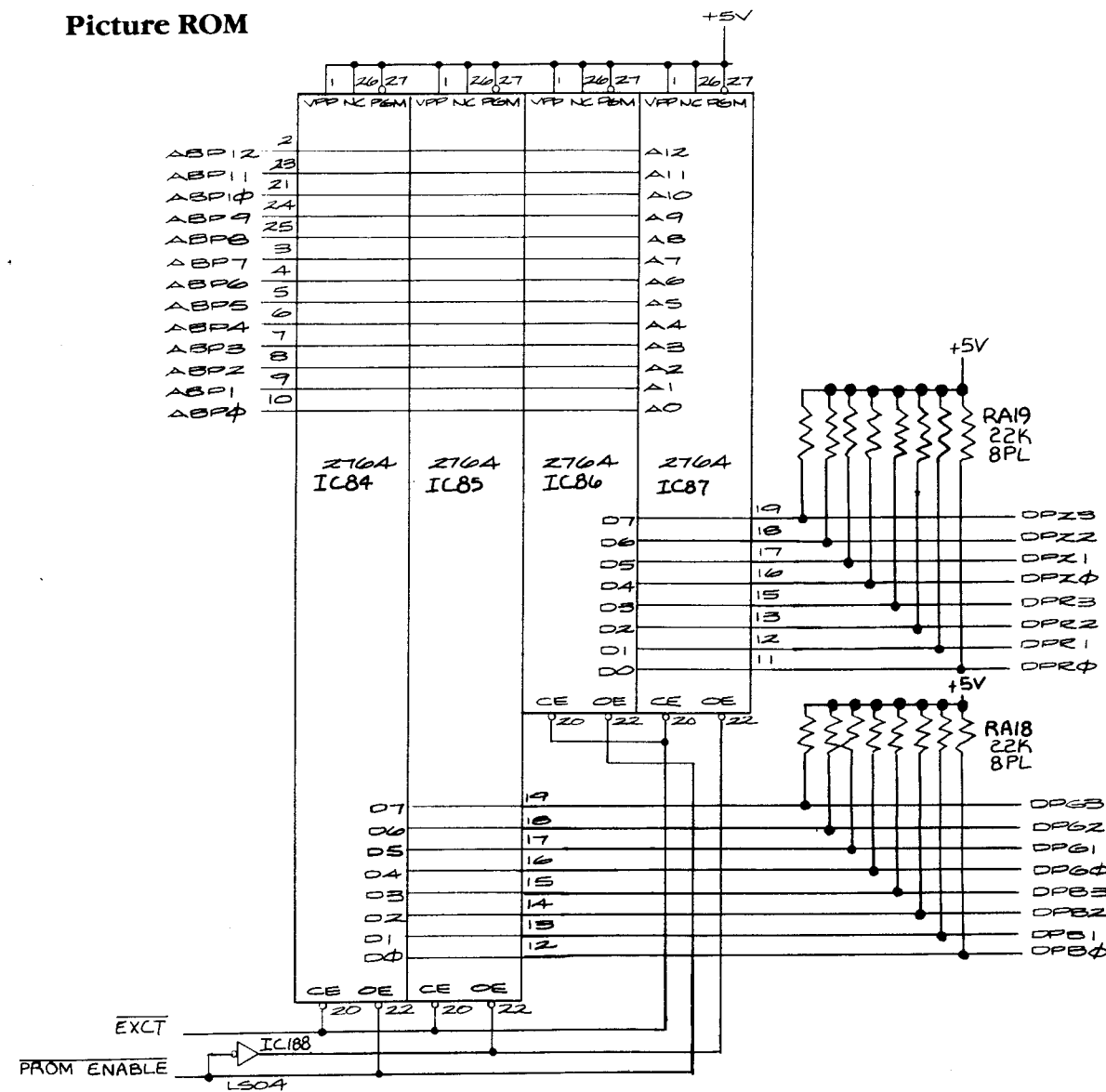
Arabian PCB Schematic Diagram



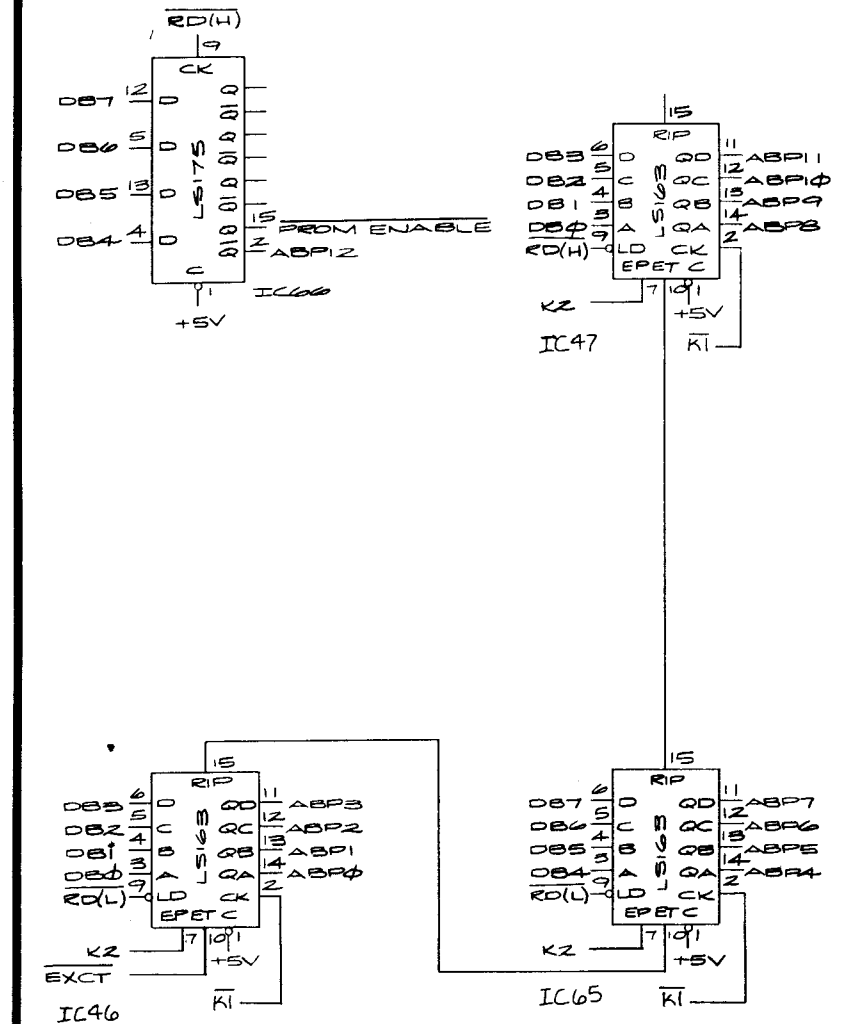
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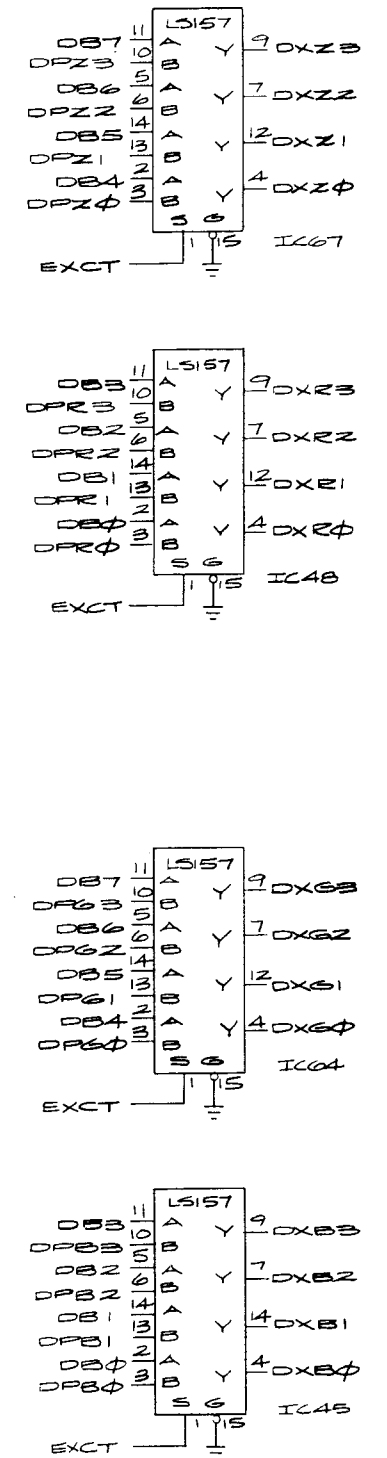
Picture ROM



Picture ROM Address Decoders



Dynamic RAM Data Selector



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Arabian PCB Schematic Diagram



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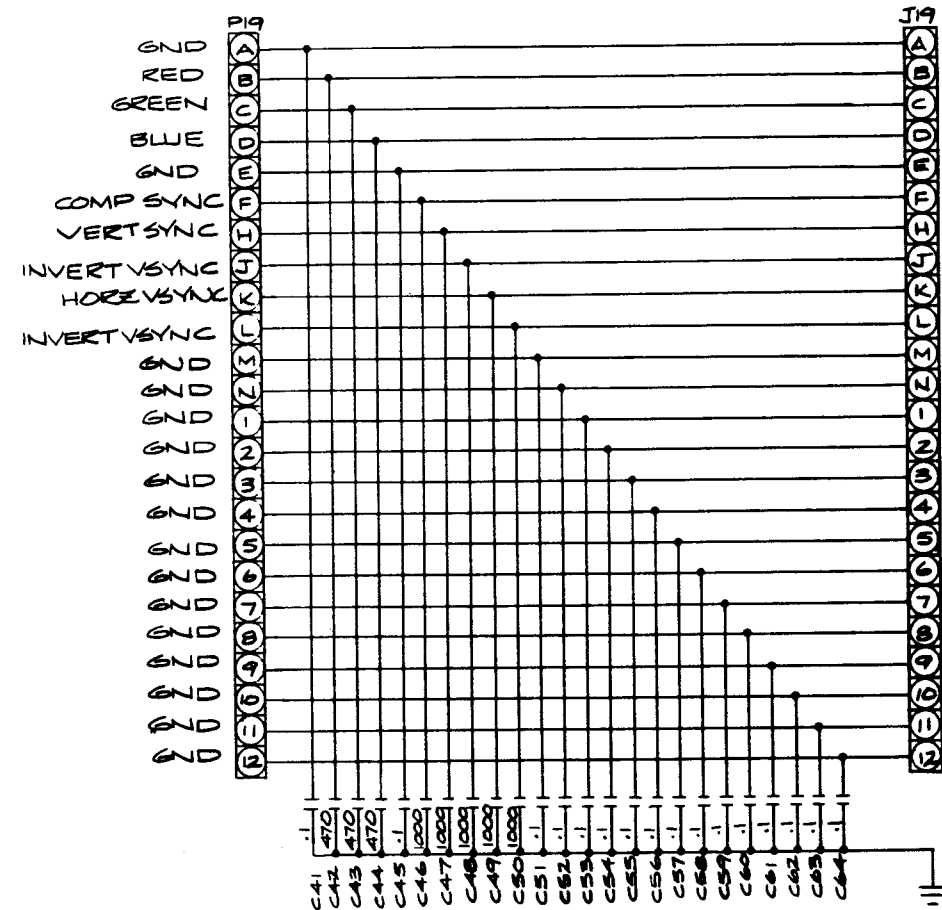
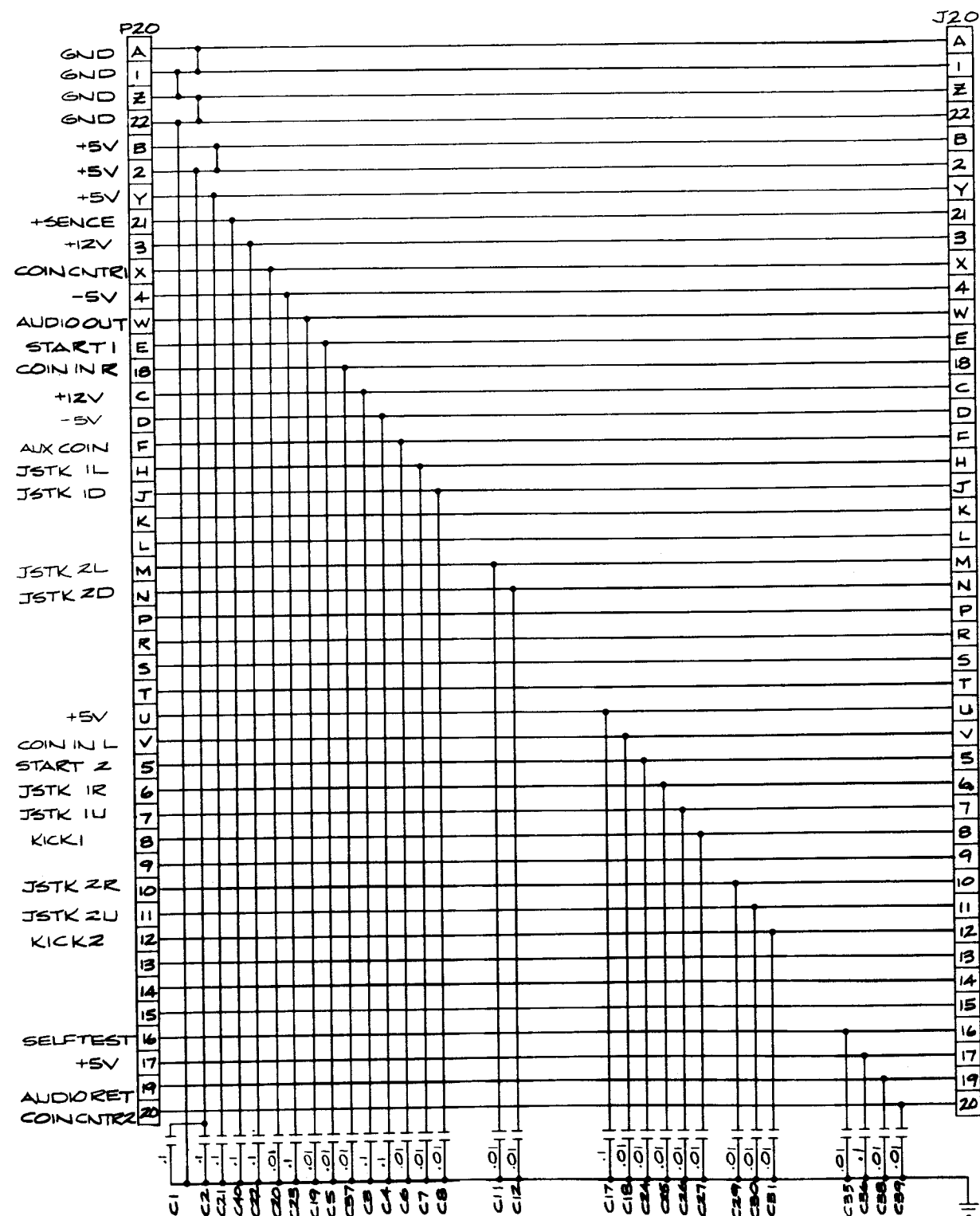
Video Output

The circuit diagram for the Video Output section is a complex logic circuit. It features a central IC1 (LS00) which is a video amplifier. The input to IC1 is a combination of video signals (ARHF, ABHF, ABHF, AZ, AR, AG, BLNK, AB, BR, BG, BB) and a video sync signal (VSYNC). The output of IC1 is connected to a video output driver (IC2, LS00) which drives a video output relay (JZ). The video output driver is also connected to a video sync separator (IC3, LS00) which outputs a video sync signal (VSYNC) to a video output driver (IC4, LS00) which drives a video output relay (JZ). The video sync separator is also connected to a video color separator (IC5, LS00) which outputs a color signal (VSYNC) to a video output driver (IC6, LS00) which drives a video output relay (JZ). The video color separator is also connected to a video control separator (IC7, LS00) which outputs a control signal (VSYNC) to a video output driver (IC8, LS00) which drives a video output relay (JZ). The video control separator is also connected to a video test separator (IC9, LS00) which outputs a test signal (VSYNC) to a video output driver (IC10, LS00) which drives a video output relay (JZ).

Arabian PCB Schematic Diagram



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1st printing



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Arabian EMI Shield PCB Schematic Diagram



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