# NBA SHOWTIME GOLD EDITION / NFL BLITZ 2000 GOLD EDITION

CHAPTER FIVE

# WIRING

| | |
|---|---|
|  | **WARNING:** Failure to reconnect ground wires or replace metal shields may result in radio frequency interference. |
|  | **NOTICE:** The term VGM refers to the video game machine. |

# JAMMA Chart

| Function | Wire Color | Pin | Function | Wire Color | Pin |
|---|---|---|---|---|---|
| Ground | Black | A | Ground | Black | 1 |
| Ground | Black | B | Ground | Black | 2 |
| +5VDC | Red | C | +5VDC | Red | 3 |
| +5VDC | Red | D | +5VDC | Red | 4 |
| -5VDC | Yellow | E | -5VDC | Yellow | 5 |
| +12VDC | Orange | F | +12VDC | Orange | 6 |
| Key | N/C | H | Key | N/C | 7 |
| Coin Counter 2 | Brown-Red | J | Coin Counter 1 | Brown | 8 |
| Not Used | N/C | K | Not Used | N/C | 9 |
| Speaker -, Left | Brown-Gray | L | Speaker +, Left | Red-Gray | 10 |
| Speaker -, Right | Brown-White | M | Speaker +, Right | Red-White | 11 |
| Video Green | Yellow-Green | N | Video Red | Yellow-Red | 12 |
| Video Sync | Yellow-White | P | Video Blue | Yellow-Blue | 13 |
| Service Credits | White-Gray | R | Video Ground | Yellow-Black | 14 |
| Slam Tilt | Black-Green | S | Test | Black-Blue | 15 |
| Coin 2 | Black-Red | T | Coin 1 | Black-Brown | 16 |
| 2 Start | Violet-White | U | 1 Start | White | 17 |
| 2 Up | Violet-Black | V | 1 Up | White-Black | 18 |
| 2 Down | Violet-Brown | W | 1 Down | White-Brown | 19 |
| 2 Left | Violet-Red | X | 1 Left | White-Red | 20 |
| 2 Right | Violet-Orange | Y | 1 Right | White-Orange | 21 |
| 2 Button A | Violet-Yellow | Z | 1 Button A | White-Yellow | 22 |
| 2 Button B | Violet-Green | a | 1 Button B | White-Green | 23 |
| 2 Turbo | Violet-Blue | b | 1 Turbo | White-Blue | 24 |
| Not Used | Violet | c | Not Used | White-Violet | 25 |
| Not Used | N/C | d | Not Used | N/C | 26 |
| Ground | Black | e | -5V Ground | Yellow-Brown | 27 |
| Ground | Black | f | Ground | Black | 28 |
| **Solder Side of Circuit Board** | | | **Component Side of Circuit Board** | | |

**Control Panel Wires That Aren't Part of Main JAMMA Harness**

| Function | Wire* | SIO Bd, P7- | Function | Wire* | SIO Bd, P14- |
|---|---|---|---|---|---|
| 4 Digital Ground | Blk | 1 | 3 Digital Ground | Blk | 1 |
| +5 Volts | Red | 2 | +5 Volts | Red | 2 |
| Unused | NC | 3/4/5/15 | Unused | NC | 3/4/5/15 |
| 4 Start | Gry-Wht | 6 | 3 Start | Blu-Wht | 6 |
| 4 Stick Up, Bit 0 | Gry-Blk | 7 | 3 Stick Up, Bit 0 | Blu-Blk | 7 |
| 4 Stick Down, Bit 1 | Gry-Brn | 8 | 3 Stick Down, Bit 1 | Blu-Brn | 8 |
| 4 Stick Left, Bit 2 | Gry-Red | 9 | 3 Stick Left, Bit 2 | Blu-Red | 9 |
| 4 Stick Right, Bit 3 | Gry-Orn | 10 | 3 Stick Right, Bit 3 | Blu-Orn | 10 |
| 4 Button A | Gry-Yel | 11 | 3 Button A | Blu-Yel | 11 |
| 4 Button B | Gry-Grn | 12 | 3 Button B | Blu-Grn | 12 |
| 4 Button C, Turbo | Gry-Blu | 13 | 3 Button C, Turbo | Blu | 13 |
| 4 Button D (N/U) | Gry-Vio | 14 | 3 Button D (N/U) | Blu-Vio | 14 |

*****Abbreviations: Bd = Board; NC = Not Connected; Blk = Black; Brn = Brown; Orn = Orange; Yel = Yellow; Grn = Green; Blu = Blue; Vio = Violet; Gry = Gray; Wht = White.

**Wires That Aren't Part of Main JAMMA Harness**

| Function | Wire* | Aux Adptr, P1- |
|---|---|---|
| Digital Ground | Blk | 1 |
| Output Bit 0 | Orn-Gry | 2 |
| Output Bit 1 | Yel- Gry | 3 |
| Output Bit 2 | Blu- Gry | 4 |
| Output Bit 3 | Vio- Gry | 5 |
| Unused | NC | 6 |
| Unused | NC | 7 |
| Unused | NC | 8 |
| Unused | NC | 9 |
| Unused | NC | 10 |
| Unused | NC | 11 |
| Unused | NC | 12 |
| Unused | NC | 13 |
| Unused | NC | 14 |
| Digital Ground | Blk | 15 |
| -- | -- | -- |

| Function | Wire* | SIO Bd, P23- |
|---|---|---|
| Digital Ground | Blk | 1 |
| Coin 3 | Blk- Orn | 2 |
| +5 Volts | Red | 3 |
| +12 Volts | Orn | 4 |
| Unused | Key | 5 |
| Coin 4 | Blk-Yel | 6 |
| Dollar Bill | Blk-Wht | 7 |
| Volume Down | Orn-Red | 8 |
| Volume Up | Orn-Grn | 9 |
| Unused | NC | 10 |
| Unused | NC | 11 |
| **Function** | **Wire Color*** | **SIO Bd, P3-** |
| +12 Volts | Orn | 1 |
| Digital Ground | Blk | 2 |
| Digital Ground | Blk | 3 |
| +5 Volts | Red | 4 |

*****Abbreviations: Bd = Board; NC = Not Connected; Blk = Black; Brn = Brown; Orn = Orange; Yel = Yellow; Grn = Green; Blu = Blue; Vio = Violet; Gry = Gray; Wht = White.

**D.C. Power Source Voltage Limits**

| Function | Range Limits | ID |
|---|---|---|
| Digital Circuits | +4.90V to +5.10V | +5V |
| Audio, DBV | +11.5V to +12.5V | +12V |

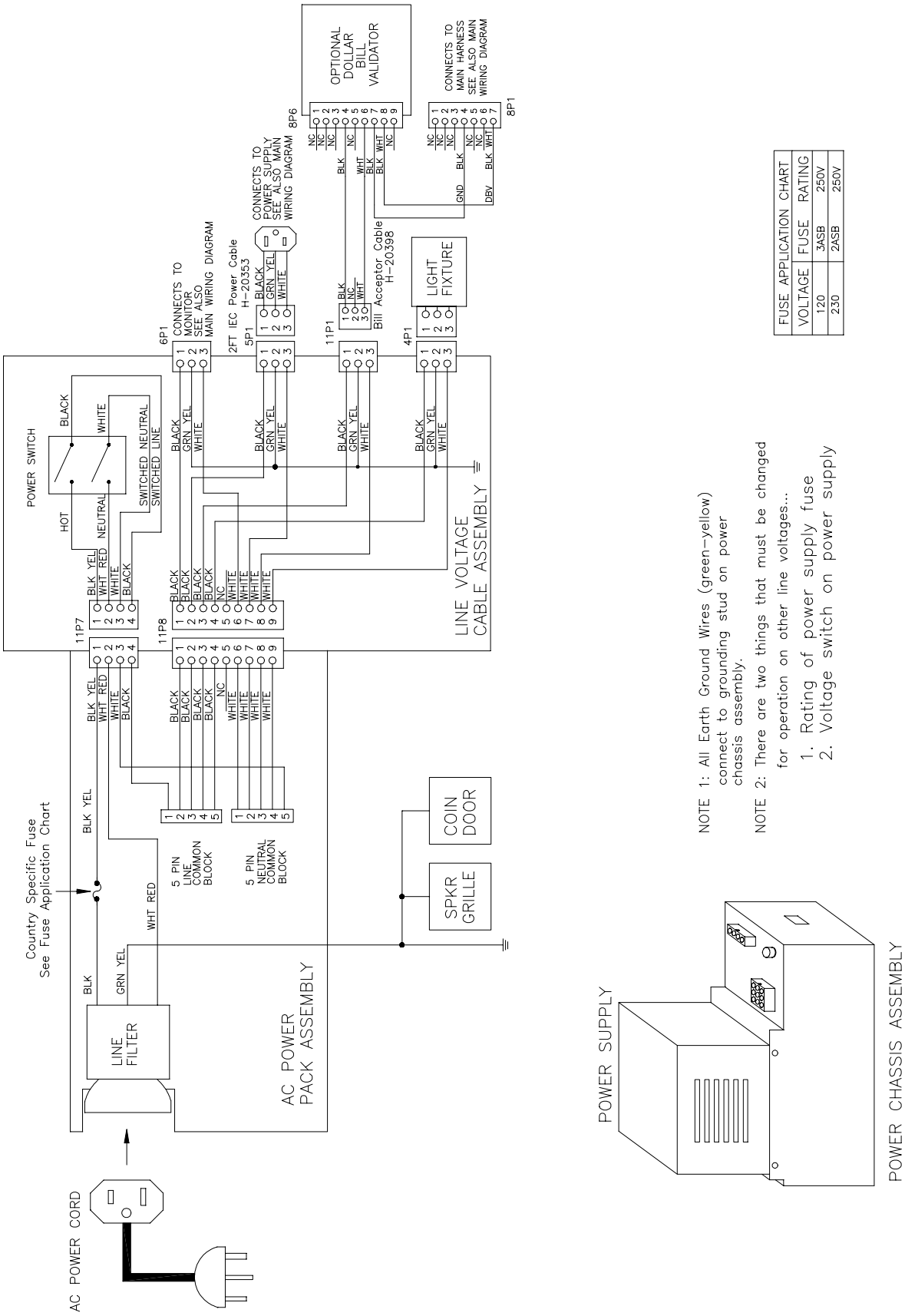
| Function | Range Limits | ID |
|---|---|---|
| Audio, Lights | -4.75V to -5.25V | -5V |
| NOTE: +5V is adjustable at the Power Supply | | |

**Harness Connector Prefixes**

| Prefix | Connector Location | Example |
|---|---|---|
| 1 | CPU Board | 1P1 |
| 2 | -- | -- |
| 3 | Sound / Interface (SIO) Board | 3P1 |
| 4 | Fluorescent Lamp | 4P1 |
| 5 | Power Supply | 5P1 |
| 6 | Video Monitor | 6P1 |
| 7 | Video Board | 7P1 |
| 8 | Coin Door Area | 8P1 |
| 9 | I40 Joystick Multiplexer Board | 9P1 |
| 10 | Auxiliary Output Adapter Bd | 10P1 |
| 11 | Cabinet | 11P1 |
| 12 | Hard Drive | 12P1 |
| 13 | Fans | 13P1 |
| 14 | Joysticks | 14P1 |
| 15 | Speakers | 15P1 |
| 16 | -- | 16P1 |
| 17 | -- | 17P1 |

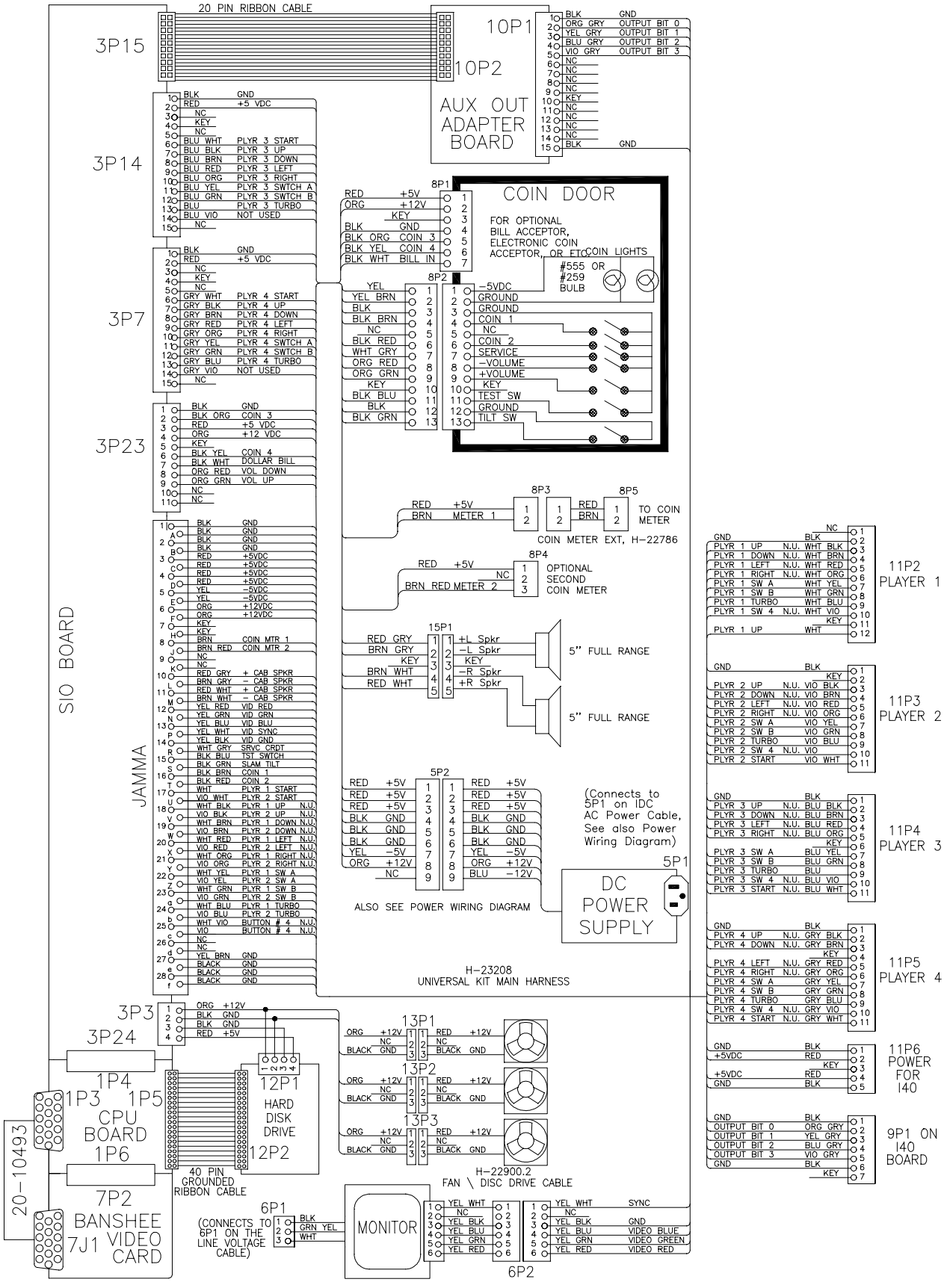
**NOTICE:** Look for the connector prefix on wiring diagrams. The prefix shows you where you'll find the connector.

# POWER WIRING DIAGRAM

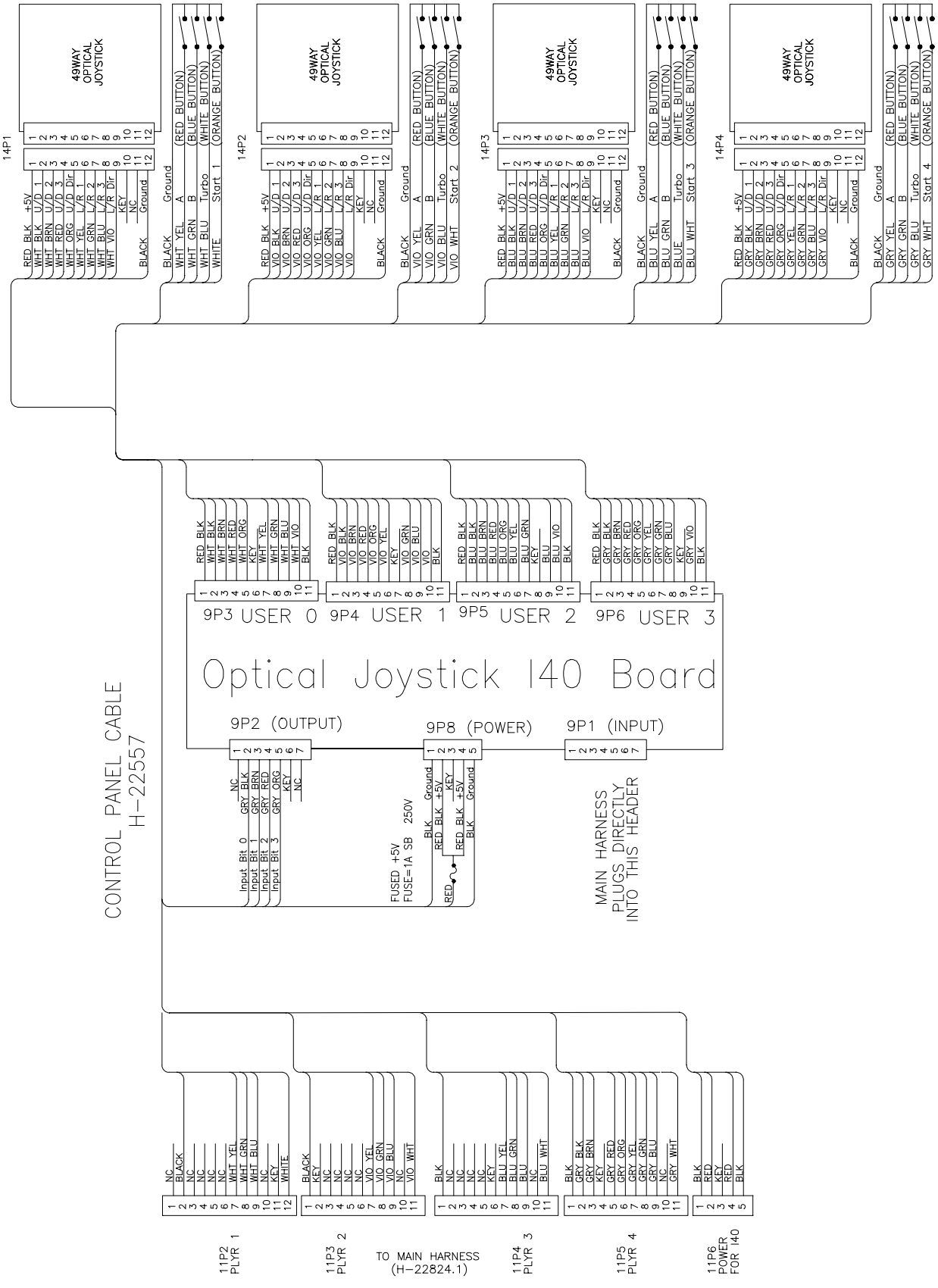



| FUSE APPLICATION CHART | | |
|---|---|---|
| VOLTAGE | FUSE | RATING |
| 120 | 3ASB | 250V |
| 230 | 2ASB | 250V |

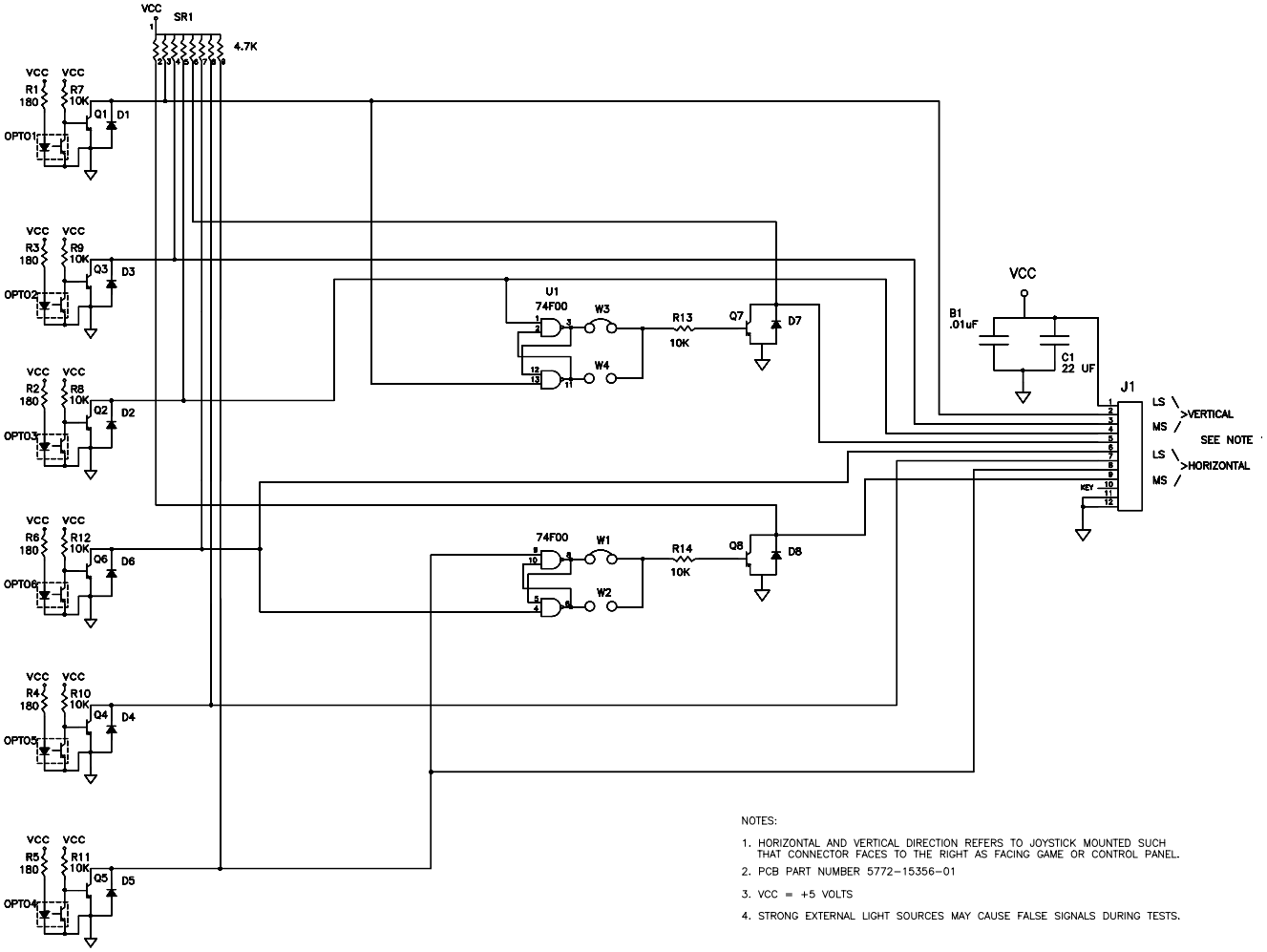
# CABINET WIRING DIAGRAM



# CONTROL PANEL WIRING DIAGRAM



## CONTROL WIRING DIAGRAM
## (49-WAY JOYSTICK)




NOTES:

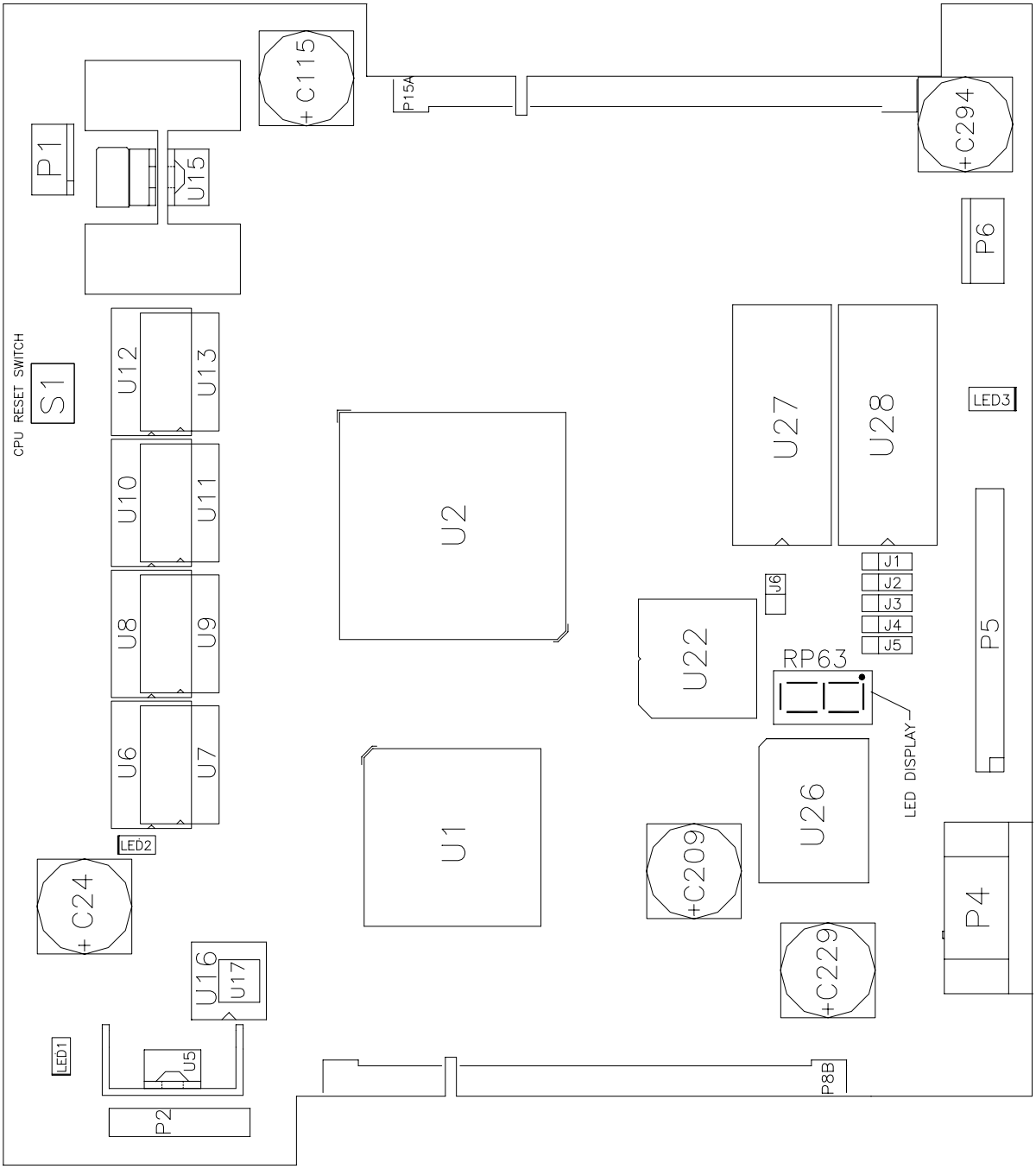
1. HORIZONTAL AND VERTICAL DIRECTION REFERS TO JOYSTICK MOUNTED SUCH THAT CONNECTOR FACES TO THE RIGHT AS FACING GAME OR CONTROL PANEL.
2. PCB PART NUMBER 5772-15356-01
3. VCC = +5 VOLTS
4. STRONG EXTERNAL LIGHT SOURCES MAY CAUSE FALSE SIGNALS DURING TESTS.

## POSITION LOGIC TABLE

| DIRECTION | FULLY LEFT | MODERATELY LEFT | SLIGHTLY LEFT | DEAD CENTER | SLIGHTLY RIGHT | MODERATELY RIGHT | FULLY RIGHT |
|---|---|---|---|---|---|---|---|
| FULLY UP | 01110111 (00) | 01110011 (01) | 01110001 (02) | 01110000 (03) | 01111100 (04) | 01111110 (05) | 01111111 (06) |
| MODERATELY UP | 00110111 (07) | 00110011 (08) | 00110001 (09) | 00110000 (10) | 00111100 (11) | 00111110 (12) | 00111111 (13) |
| SLIGHTLY UP | 00010111 (14) | 00010011 (15) | 00010001 (24) | 00010000 (24) | 00011100 (24) | 00011110 (19) | 00011111 (20) |
| DEAD CENTER | 00000111 (21) | 00000011 (22) | 00000001 (24) | 00000000 (24) | 00001100 (24) | 00001110 (26) | 00001111 (27) |
| SLIGHTLY DOWN | 11000111 (28) | 11000011 (29) | 11000001 (24) | 11000000 (24) | 11001100 (24) | 11001110 (33) | 11001111 (34) |
| MODERATELY DOWN | 11100111 (35) | 11100011 (36) | 11100001 (37) | 11100000 (38) | 11101100 (39) | 11101110 (40) | 11101111 (41) |
| FULLY DOWN | 11110111 (42) | 11110011 (43) | 11110001 (44) | 11110000 (45) | 11111100 (46) | 11111110 (47) | 11111111 (48) |

NOTE: 1. Connector pin sequence for the above data is as follows: 9 8 7 6 5 4 3 2 referred to ground at pin 12.
2. Numbers in parentheses are found in the Switch Test. Program does not use the “slightly” positions.

## CPU BOARD INDICATOR AND SWITCH LOCATIONS




## CPU BOARD SWITCH

| Switch | Location | Function | Positions | State | Meaning |
|---|---|---|---|---|---|
| S1* | Edge Near U10 and U12 | Resets and Restarts Game | 2 | Off | Normal Operation |
| | | | | On | Forced Reset |

***Notes**
This switch resets the CPU Board without shutting off power at the power supply.

## CPU BOARD JUMPER LOCATION TABLE

| Jumper | J1 | J2 | J3 | J4 | J5 | J6 |
|---|---|---|---|---|---|---|
| **Located Near…** | U28 & Connector P5 | | | | | U22 & U27 |

## CPU BOARD JUMPER POSITION TABLE

| ROM Type | Default | Options* | J1 | J2 | J3 | J4 | J5 | J6 |
|---|---|---|---|---|---|---|---|---|
| **Boot (U27)** | | 27C080, 1M X 8, EPROM | 1-2 | 2-3 | 1-2 | 1-2 | -- | -- |
| | ■ | 27C040, 512K x 8, EPROM | 1-2 | 1-2 | 1-2 | 1-2 | -- | -- |
| | | 27C010, 128K x 8, EPROM | 1-2 | 1-2 | 1-2 | 2-3 | -- | -- |
| | | 29F040, 512K x 8, Flash | 2-3 | 1-2 | 2-3 | 1-2 | -- | -- |
| | | 29F020, 256K x 8, Flash | 1-2 | 1-2 | 2-3 | 1-2 | -- | -- |
| | | 29F010, 128K x 8, Flash | 1-2 | 1-2 | 2-3 | 1-2 | -- | -- |
| **Expansion (U28)** | | 27C080, 1M x 8, EPROM | -- | -- | -- | -- | 2-3 | -- |
| | ■ | 27C040, 512K x 8, EPROM | -- | -- | -- | -- | 1-2 | -- |
| | | 27C010, 128K x 8, EPROM | -- | -- | -- | -- | 1-2 | -- |
| **External Boot** | ■ | Boot from CPU ROM | -- | -- | -- | -- | -- | 1-2 |
| | | Boot from SIO ROM | -- | -- | -- | -- | -- | Re-moved |

***Notes**

1. -- = Not Applicable

2. Memory type numbers shown are for blank parts. Your game requires programmed parts.

## CPU BOARD LED INDICATOR STATUS TABLE

| Device | Location | Function | Color | State | Meaning |
|---|---|---|---|---|---|
| LED1 | Near U6, U7 & U16 | 3.3V CPU Power Indicator | Red | Off | Insufficient Power |
| | | | | On | Power OK |
| | | | | Blinking | Power Supply Fault |
| LED2 | Near U28 & Connector P5 | Hard Disk Drive Activity | Green | Off | Disk Not in Use |
| | | | | On | Locked Up Disk |
| | | | | Blinking | Normal Disk Activity |
| RP63 | Near U22 & U26 | Indicator | Red | Off* | See Note 3, Below. |
| | | | | On* | |
| | | | | Blinking* Sequentially | |

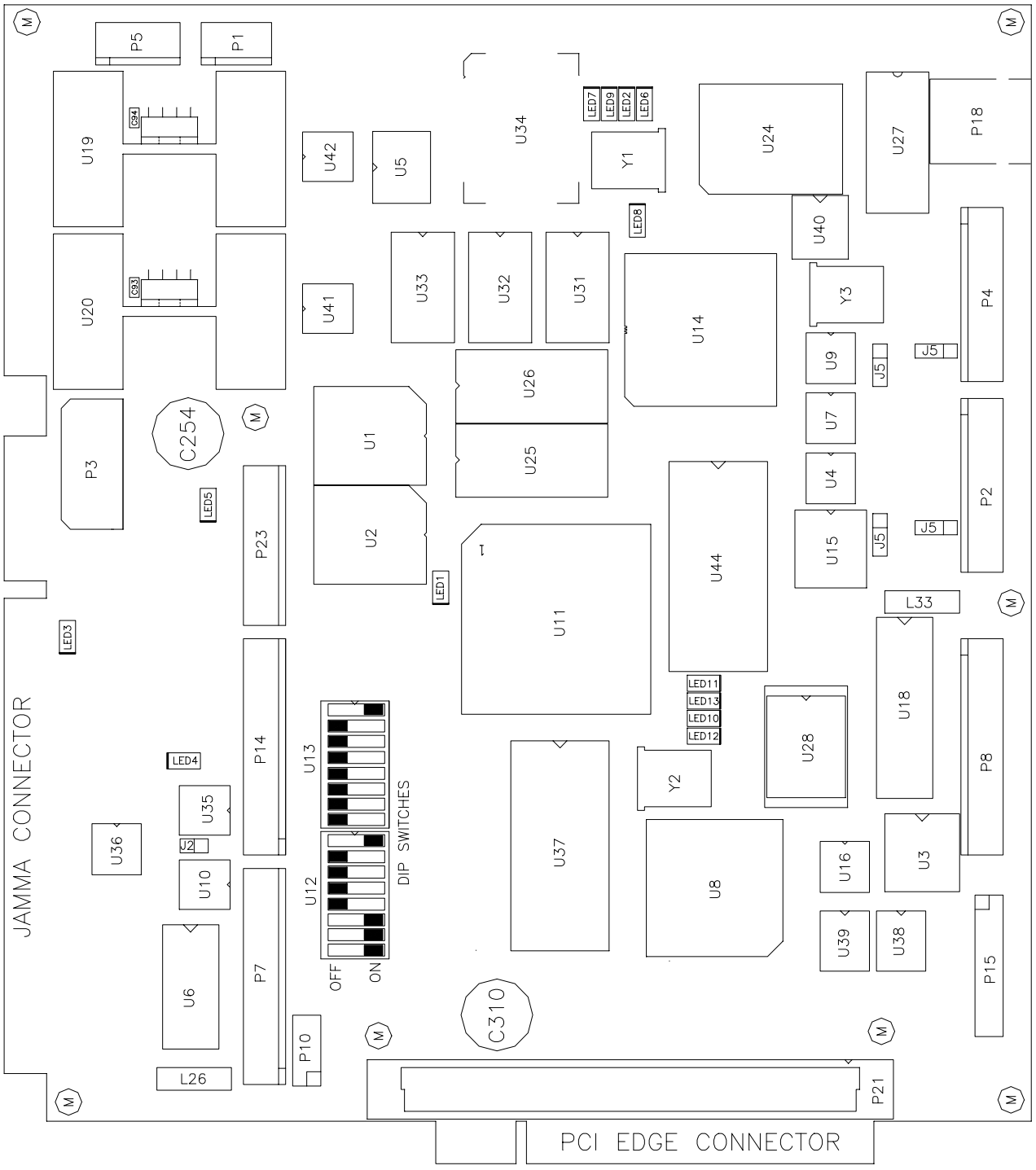
**Notes**

1. LED1 monitors CPU power (+3.3 volts). If his LED is off or blinking, investigate processor circuits. If other LEDs are off or blinking at the same time, check +5-volt circuits or the game power supply.

2. LED2 flashes when the hard disk is operating during game play. LED2 may light continuously during startup. If this LED remains lighted, the hard drive may be locked up or faulty.

3. Software controls RP63. In this game, RP63 initially indicates program startup stages. This LED is a seven-segment, alphanumeric display device. Normally, RP63 displays a lowercase “b,” or an “O” pattern with sequentially blinking segments. During Self-Test screens, RP63 displays a “bouncing bar” that resembles a hyphen (“-“).

## SOUND I/O BOARD ASSEMBLY



## SOUND I/O BOARD JUMPER POSITION TABLE *

| Jumper | Location | Function | Meaning | Position | State |
|---|---|---|---|---|---|
| J1 (Note 1) | Near U9 & Crystal Y3 | I/O Connector P2 | Input Mode | Pins 1 & 2 | ■ |
| | | | Output Mode | Pins 2 & 3 | |
| J2 | Between U35 & U10 | Video Sync | Positive Sync | Jumper Not Installed | ■ |
| | | | Negative Sync | Pins 1 & 2 | |
| J3 (Note 2) | Near U15 | I/O Connector P4 | Input Mode | Pins 1 & 2 | ■ |
| | | | Output Mode | Pins 2 & 3 | |
| J4 | None | None | Not Used | None | --- |
| J5 (Note 2) | Between U15 & Connector P2 | I/O Connector P4 | Input Mode | Pins 1 & 2 | ■ |
| | | | Output Mode | Pins 2 & 3 | |
| J6 | None | None | Not Used | None | --- |
| J7 | None | None | Not Used | None | --- |
| J8 (Note 1) | Between U9 & Connector P4 | I/O Connector P2 | Input Mode | Pins 1 & 2 | ■ |
| | | | Output Mode | Pins 2 & 3 | |

**Notes**

1. Configure I/O port P2 by setting both jumpers J1 and J8 to input or output mode.

2. Configure I/O port P4 by setting both jumpers J3 and J5 to input or output mode.

## SOUND I/O BOARD LED INDICATOR STATUS TABLE

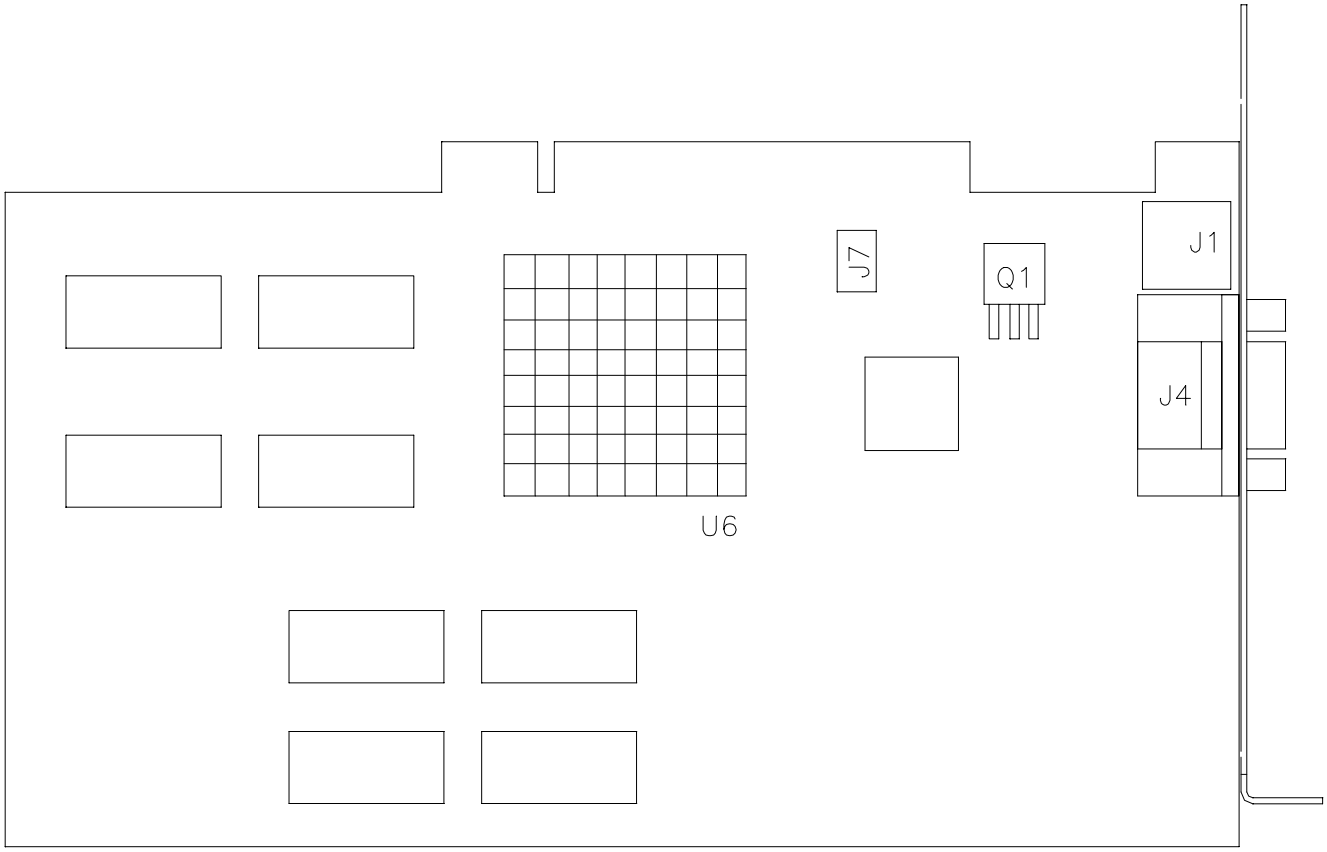
| LED | Location | Function | Color | State | Meaning |
|---|---|---|---|---|---|
| LED1 (Note 1) | Near U11 | Not Used (Remains Off) | Green | Off | -- |
| | | | | On | -- |
| | | | | Blinking | -- |
| LED2 (Note 2) | Near U34 & Crystal Y1 | Linking Connector Status | Green | Off | Not in Use (No Game Linking) |
| | | | | On | Link Continuity Good |
| LED3 (Note 2) | Near the JAMMA Connector | -5V Power Indicator | Red | Off* | No Power |
| | | | | On* | Normal Operation |
| LED4 (Note 2) | Near U35 & Connector P14 | +12V Power Indicator | Red | Off | No Power |
| | | | | On | Normal Operation |
| LED5 (Note 2) | Near Connector P23 | +5V Power Indicator | Red | Off | No Power |
| | | | | On | Normal Operation |
| LED6 (Note 2) | Near U34 & Crystal Y1 | CPU Linking Activity | Red | Off | Not in Use |
| | | | | On | CPU Communicating with Ethernet Controller |
| LED7 (Note 2) | Near U34 & Crystal Y1 | Linking Transmitting Data | Red | Off | Not in Use (No Game Linking) |
| | | | | On | Sending Data |
| | | | | Blinking | Normal Operation |
| LED8 (Note 1) | Near U14 & Crystal Y1 | Audio Activity | Yellow | Off | No Sound Boot ROM |
| | | | | On | Locked Up |
| | | | | Blinking | Normal Operation |
| LED9 (Note 2) | Near U34 & Crystal Y1 | Linking Receiving Data | Yellow | Off | Not in Use (No Game Linking) |
| | | | | On | Receiving Data |
| LED10 (Note 1) | Near U44 & Crystal Y2 | Not Used (Remains On) | Green | Off | -- |
| | | | | On | -- |
| | | | | Blinking | -- |
| LED11 (Note 1) | Near U44 & Crystal Y2 | Not Used (Remains On) | Red | Off | -- |
| | | | | On | -- |
| | | | | Blinking | -- |
| LED12 (Note 1) | Near U44 & Crystal Y2 | Not Used (Remains On) | Yellow | Off | -- |
| | | | | On | -- |
| | | | | Blinking | -- |
| LED13 (Note 1) | Near U44 & Crystal Y2 | Not Used (Remains On) | Yellow | Off | -- |
| | | | | On | -- |
| | | | | Blinking | -- |

**Notes**

1. Software controls this LED. Indications are game and revision-specific. Changing the EPROMs on this board may alter the function of this LED. Firmware damage may also cause new or different LED behavior.

2. Hardware controls this LED. Indications depend on hard-wired circuitry. A change in normal LED behavior may indicate a circuit fault. Changing the EPROMs on this board shouldn't alter the function of this LED.

## VIDEO BOARD INDICATOR AND JUMPER LOCATIONS




**Note**
This video board has no jumpers or LEDs