CCE Version
FIVE STAR REDEEMPTION

Raptor Capture

OPERATION MANUAL

April 26, 2004

Features

- Bright Attention Grabbing Graphics & Cabinet
- Hot looking Lights
- Exciting Super Fast Skill Stop
- Oversized Highly Reliability Buttons
- Operator Programmable

Specifications

Parameter	Value	Units
Voltage	115	VAC
Frequency	60	HZ
Weight	200	Pounds

Overview

Raptor Capture consists of a lighted Dinosaur panel with a gun. The player console has a gun for shooting, two numeric displays for game play, speakers for sound effects, two coin acceptors, and a ticket dispenser for winners. The objective is to skillfully shoot the ball into the colored dinosaur hoops or cups to obtain the highest point values.

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Game Play

Raptor Capture offers very fast and interesting play with many different strategies for maximizing points.

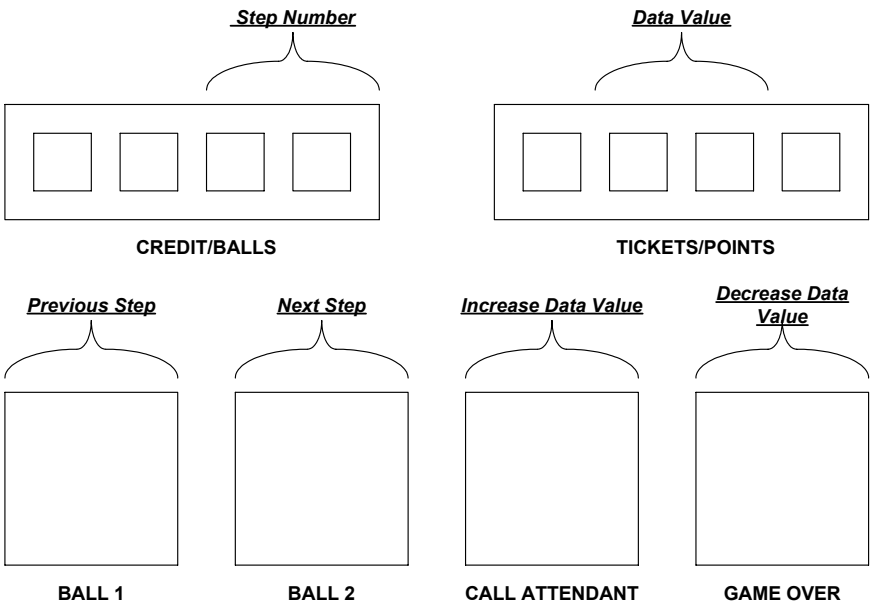
The objective is to skillfully shoot the ball into a cup; a stationary or swinging hoops to obtain points. The player can obtain jackpot points when they have landed or gone through a specific combination of dinosaur colors.

Tickets may be dispensed during or after game play, and Jackpots are only awarded at the game end.

Game Operator Options

Maintenance Mode allows the Game Operator the option of programming the Game by entering data through the Control Panel, which is located on the game's cabinet. This mode includes viewing the game's statistical data, running diagnostics, and changing game play values.

MAINTENANCE MODE BUTTONS



GOING INTO MAINTENANCE MODE

Pressing the *Maintenance Mode* button for ½ second or greater allows the operator to go into *Maintenance Mode.* The operator can view, run diagnostics or change games play values. Pressing this button a second time allows the operator to exit.

VIEWING THE STATISTICAL INFORMATION

Pressing the *Game 1 Button* will decrement the *Step Number*, and pressing the Game 2 Button will increase the Step Number.

STEP #	DESCRIPTION
0	Number of Coins Taken In (Lifetime)
1	Number of Coins Taken In (Since Last Reset)

CHANGING OR VIEWING MISCELLANEOUS SETTINGS

Press Call *Attendant* button to increase the value, or Press the *Game Over* button to decrease the value.

STEP #	DESCRIPTION
10	Number of Coins Required to Play Game 1
11	Number of Coins Required to play Game 2
12	Number of Coins Required to Play Game 3
13	Number of Balls for Game 1
14	Number of Balls for Game 2
15	Number of Balls for Game 3
16	Maximum Number of Balls Allowed Per Game
17	Number of Seconds Attraction Audio is On Per cycle
18	Number of Seconds Attraction Audio is Off per Cycle
19	Maximum Number of tickets that will dispense before calling Attendant
20	Ticket Dispensed After Last Ball or Dispense Tickets after Shooting Ball
21	Number of Seconds Before Returning to Attraction After Game Over
22	Number of Seconds Between Loading Balls During Attraction
23	The Spinner Speed in RPM's
24	The Spinner Percentage

RESETTING THE STATISTICS

Pressing the *Call Attendant* button will execute the reset.

STEP #	DESCRIPTION
30	Reset Statistics

RUNNING THE DIAGNOSTICS

Pressing the *Game 1 Button* will decrement the *Step Number*, and pressing the Game 2 Button will increase the Step Number.

STEP #	DESCRIPTION
31	Display the Value and Light Associated for the sensor that is blocked

Press the flashing Call Attendant button to execute each diagnostic.

32	Status of Tickets Out, Tickets Low, Gun Loaded, and Ramp Full.
33	Dispense Tickets
34	Load a ball by rotating the turntable.
35	Control Trough Gate Motor and Display Status of the Trough sensor.

CHANGING OR VIEWING THE PLAYING FIELD POINTS

Press Call *Attendant* button to increase the value, or Press the *Game Over* button to decrease the value.

STEP #	DESCRIPTION
40	Points for Green Paw (Y1)
41	Points for Pink Paw (P1)
42	Points for Orange Paw (O1)
43	Points for Yellow Paw (Y1)
44	Points for Red Paw (R1)
45	Points for Cave #1
46	Points for Hole #1
47	Points for Hole #2
48	Points for Cave #2
49	Points for Volcano

CHANGING OR VIEWING JACKPOT POINTS

Press Call *Attendant* button to increase the value, or Press the *Game Over* button to decrease the value.

STEP #	DESCRIPTION
50	Jackpot #1 Points
51	Jackpot #2 Points
52	Jackpot #3 Points
53	Jackpot #4 Points

CHANGING OR VIEWING HOOP POINTS

Press Call *Attendant* button to increase the value, or Press the *Game Over* button to decrease the value.

STEP #	DESCRIPTION
54	Points for Hoop #1
55	Points for Hoop #2
56	Points for Hoop #3
57	Points for Hoop #4
58	Points for Hoop #5

CHANGING OR VIEWING CLOCK FACE POINTS

Press Call *Attendant* button to increase the value, or Press the *Game Over* button to decrease the value.

STEP #	DESCRIPTION
60	Points for 01:00 O'clock Position
61	Points for 02:00 O'clock Position
62	Points for 03:00 O'clock Position
63	Points for 04:00 O'clock Position
64	Points for 05:00 O'clock Position
65	Points for 06:00 O'clock Position
66	Points for 07:00 O'clock Position
67	Points for 08:00 O'clock Position
68	Points for 09:00 O'clock Position
69	Points for10:00 O'clock Position
70	Points for11:00 O'clock Position
71	Points for12:00 O'clock Position

Appendix A Input/Output Signals

CPU AUXILIARY INPUTS

W4 – VTMUX BOARD P2 TO PUSHBUTTONS & MISC SWITCHES

Control Panel Output	Wire #	Auxiliary Inputs	To VTMUX Board Location
NOT USED	1	V+	JP2 PIN 1
GROUND	2	GROUND	JP2 PIN 2
CONNECTOR KEY	3	KEY	JP2 PIN 3
CONNECTOR KEY	4	KEY	JP2 PIN 4
MAINTENANCE MODE BUTTON	5	IN 1	JP2 PIN 5
TILT SWITCH	6	IN 2	JP2 PIN 6
COIN ACCEPTOR	7	IN 3	JP2 PIN 7
NOT USED	8	IN 4	JP2 PIN 8
OPEN DOOR SWITCH	9	IN 5	JP2 PIN 9
NOT USED	10	IN 6	JP2 PIN 10
NOT USED	11	IN 7	JP2 PIN 11
NOT USED	12	IN 8	JP2 PIN 12

W7 – VTMUX BOARD P3 TO PUSHBUTTON SWITCHES

Control Panel Outputs	Wire #	Auxiliary Inputs	To VTMUX Board Location
NOT USED	1	V+	JP3 PIN 1
GROUND	2	GROUND	JP3 PIN 2
CONNECTOR KEY	3	KEY	JP3 PIN 3
START BUTTON #1	4	IN 9	JP3 PIN 4
CONNECTOR KEY	5	KEY	JP3 PIN 5
START BUTTON # 2	6	IN 10	JP3 PIN 6
START BUTTON # 3	7	IN 11	JP3 PIN 7
NOT USED	8	IN 12	JP3 PIN 8
NOT USED	9	IN 13	JP3 PIN 9
NOT USED	10	IN 14	JP3 PIN 10
GAME OVER BUTTON	11	IN 15	JP3 PIN 11
CALL ATTENDANT BUTTON	12	IN 16	JP3 PIN 12

W90 – VTMUX BOARD P4 TO OPTO BOARD #1 P9

Control Panel Outputs	Wire #	Auxiliary Inputs	To VTMUX Board Location
12V	*1*	*V+*	*JP4 PIN 1*
GROUND	*2*	*GROUND*	*JP4 PIN 2*
CONNECTOR KEY	*3*	*KEY*	*JP4 PIN 3*
SENSOR CUP # 1	*4*	*IN 17*	*JP4 PIN 4*
SENSOR CUP #2	*5*	*IN 18*	*JP4 PIN 5*
CONNECTOR KEY	*6*	*KEY*	*JP4 PIN 6*
SENSOR CUP #3	*7*	*IN 19*	*JP4 PIN 7*
SENSOR CUP #4	*8*	*IN 20*	*JP4 PIN 8*
SENSOR CUP #5	*9*	*IN 21*	*JP4 PIN 9*
SENSOR CUP #6	*10*	*IN 22*	*JP4 PIN 10*
SENSOR CUP #7	*11*	*IN 23*	*JP4 PIN 11*
SENSOR CUP #8	*12*	*IN 24*	*JP4 PIN 12*

W91 – VTMUX BOARD P5 TO OPTO BOARD #2 P9

Inputs	Wire #	Auxiliary Inputs	To VTMUX Board Location
12V	*1*	*V+*	*JP5 PIN 1*
GROUND	*2*	*GROUND*	*JP5 PIN 2*
CONNECTOR KEY	*3*	*KEY*	*JP5 PIN 3*
SENSOR CUP #9	*4*	*IN 25*	*JP5 PIN 4*
SENSOR CUP #10	*5*	*IN 26*	*JP5 PIN 5*
SENSOR CUP #11	*6*	*IN 27*	*JP5 PIN 6*
CONNECTOR KEY	*7*	*KEY*	*JP5 PIN 7*
SENSOR CUP #12	*8*	*IN 28*	*JP5 PIN 8*
SENSOR CUP #12	*9*	*IN 29*	*JP5 PIN 9*
SENSOR CUP #14	*10*	*IN 30*	*JP5 PIN 10*
SENSOR CUP #15	*11*	*IN 31*	*JP5 PIN 11*
SENSOR CUP #16	*12*	*IN 32*	*JP5 PIN 12*

W95 – VTMUX BOARD P11 TO OPTO BOARD #3 P9

Inputs	Wire #	Auxiliary Inputs	To VTMUX Board Location
12V	*1*	*V+*	*JP11 PIN 1*
GROUND	*2*	*GROUND*	*JP11 PIN 2*
CONNECTOR KEY	*3*	*KEY*	*JP11 PIN 3*
SENSOR HOOP #17	*4*	*IN 57*	*JP11 PIN 4*
SENSOR HOOP #18	*5*	*IN 58*	*JP11 PIN 5*
SENSOR HOOP #19	*6*	*IN 59*	*JP11 PIN 6*
SENSOR HOOP #20	*7*	*IN 60*	*JP11 PIN 7*
SENSOR HOOP #21	*8*	*IN 61*	*JP11 PIN 8*
SENSOR HOOP #22	*9*	*IN 62*	*JP11 PIN 9*
SENSOR HOOP #23	*10*	*IN 63*	*JP11 PIN 10*
CONNECTOR KEY	*11*	*KEY*	*JP11 PIN 11*
SENSOR HOOP #24	*12*	*IN 64*	*JP11 PIN 12*

W96 – VTMUX BOARD P12 TO OPTO BOARD #4 P9

Inputs	Wire #	Auxiliary Inputs	To VTMUX Board Location
12V	*1*	*V+*	*JP12 PIN 1*
GROUND	*2*	*GROUND*	*JP12 PIN 2*
CONNECTOR KEY	*3*	*KEY*	*JP12 PIN 3*
BALL PRELOADED SENSOR	*4*	*IN 65*	*JP12 PIN 4*
GUN & TROUGH SENSOR	*5*	*IN 66*	*JP12 PIN 5*
TICKETS LOW SENSOR	*6*	*IN 67*	*JP12 PIN 6*
TICKETS OUT SENSOR	*7*	*IN 68*	*JP12 PIN 7*
RAMP FULL SENSOR	*8*	*IN 69*	*JP12 PIN 8*
NOT USED	*6*	*IN 70*	*JP12 PIN 9*
NOT USED	*10*	*IN 71*	*JP12 PIN 10*
NOT USED	*11*	*IN 72*	*JP12 PIN 11*
CONNECTOR KEY	*12*	*KEY*	*JP12 PIN 12*

CPU AUXILIARY OUTPUTS

W6 – VTMUX BOARD P16 TO MISC PANEL LIGHTS

Outputs	Wire #	Auxiliary Outputs	To VTMUX Board Location
CONNECTOR KEY	*1*	*KEY*	*JP16 PIN 1*
GROUND	*2*	*GROUND*	*JP16 PIN 2*
GROUND	*3*	*GROUND*	*JP16 PIN 3*
CONNECTOR KEY	*4*	*KEY*	*JP16 PIN 4*
START #1 BUTTON LIGHT	*5*	*OUT 1*	*JP16 PIN 5*
START #2 BUTTON LIGHT	*6*	*OUT 2*	*JP16 PIN 6*
START # 3 BUTTON LIGHT	*7*	*OUT 3*	*JP16 PIN 7*
NOT USED	*8*	*OUT 4*	*JP16 PIN 8*
NOT USED	*6*	*OUT 5*	*JP16 PIN 9*
NOT USED	*10*	*OUT 6*	*JP16 PIN 10*
GAME OVER LIGHT	*11*	*OUT 7*	*JP16 PIN 11*
CALL ATTENDANT LIGHT	*12*	*OUT 8*	*JP16 PIN 12*

W15 – VTMUX BOARD P17 CLOCKFACE LIGHTS 1 - 8

Outputs	Wire #	Auxiliary Outputs	To VTMUX Board Location
CONNECTOR KEY	*1*	*KEY*	*JP17 PIN 1*
GROUND	*2*	*GROUND*	*JP17 PIN 2*
GROUND	*3*	*GROUND*	*JP17 PIN 3*
CLOCKFACE #1	*4*	*OUT 9*	*JP17 PIN 4*
CONNECTOR KEY	*5*	*KEY*	*JP17 PIN 5*
CLOCKFACE #2	*6*	*OUT 10*	*JP17 PIN 6*
CLOCKFACE #3	*7*	*OUT 11*	*JP17 PIN 7*
CLOCKFACE #4	*8*	*OUT 12*	*JP17 PIN 8*
CLOCKFACE #5	*6*	*OUT 13*	*JP17 PIN 9*
CLOCKFACE #6	*10*	*OUT 14*	*JP17PIN 10*
CLOCKFACE #7	*11*	*OUT 15*	*JP17 PIN 11*
CLOCKFACE #8	*12*	*OUT 16*	*JP17 PIN 12*

W16 – VTMUX BOARD P18 CLOCKFACE LIGHTS 9 -12

Outputs	Wire #	Auxiliary Outputs	To VTMUX Board Location
CONNECTOR KEY	*1*	*KEY*	*JP18 PIN 1*
GROUND	*2*	*GROUND*	*JP18 PIN 2*
GROUND	*3*	*GROUND*	*JP18 PIN 3*
CLOCKFACE #9	*4*	*OUT 17*	*JP18 PIN 4*
CLOCKFACE #10	*5*	*OUT 18*	*JP18 PIN 5*
CONNECTOR KEY	*6*	*KEY*	*JP18 PIN 6*
CLOCKFACE #11	*7*	*OUT 19*	*JP18 PIN 7*
CLOCKFACE #12	*8*	*OUT 20*	*JP18 PIN 8*
NOT USED	*6*	*OUT 21*	*JP18 PIN 9*
NOT USED	*10*	*OUT 22*	*JP18 PIN 10*
NOT USED	*11*	*OUT 23*	*JP18 PIN 11*
NOT USED	*12*	*OUT 24*	*JP18 PIN 12*

W17 – VTMUX BOARD P22 HOOP LIGHTS

Outputs	Wire #	Auxiliary Outputs	To VTMUX Board Location
CONNECTOR KEY	*1*	*KEY*	*JP22 PIN 1*
GROUND	*2*	*GROUND*	*JP22 PIN 2*
GROUND	*3*	*GROUND*	*JP22 PIN 3*
HOOP #1	*4*	*OUT 25*	*JP22 PIN 4*
HOOP #2	*5*	*OUT 26*	*JP22 PIN 5*
HOOP #3	*6*	*OUT 27*	*JP22 PIN 6*
CONNECTOR KEY	*7*	*KEY*	*JP22 PIN 7*
HOOP #4	*8*	*OUT 28*	*JP22 PIN 8*
HOOP #5	*6*	*OUT 29*	*JP22 PIN 9*
HOOP #6	*10*	*OUT 30*	*JP22 PIN 10*
NOT USED	*11*	*OUT 31*	*JP22 PIN 11*
NOT USED	*12*	*OUT 32*	*JP22 PIN 12*

W18 – VTMUX BOARD P23 DINOSAUR LIGHTS WITH JACKPOT LIGHT

Outputs	Wire #	Auxiliary Outputs	To VTMUX Board Location
CONNECTOR KEY	*1*	*KEY*	*JP23 PIN 1*
GROUND	*2*	*GROUND*	*JP23 PIN 2*
GROUND	*3*	*GROUND*	*JP23 PIN 3*
DINO YELLOW	*4*	*OUT 33*	*JP23 PIN 4*
DINO ORANGE	*5*	*OUT 34*	*JP23 PIN 5*
DINO PINK	*6*	*OUT 35*	*JP23 PIN 6*
DINO GREEN	*7*	*OUT 36*	*JP23 PIN 7*
CONNECTOR KEY	*8*	*KEY*	*JP23 PIN 8*
DINO RED	*6*	*OUT 37*	*JP23 PIN 9*
NOT USED	*10*	*OUT 38*	*JP23 PIN 10*
NOT USED	*11*	*OUT 39*	*JP23 PIN 11*
SUPER JACKPOT	*12*	*OUT 40*	*JP23 PIN 12*

W19 – VTMUX BOARD P24 PLAYFIELD LIGHTS 1-8

Inputs	Wire #	Auxiliary Inputs	To VTMUX Board Location
CONNECTOR KEY	*1*	*KEY*	*JP24 PIN 1*
GROUND	*2*	*GROUND*	*JP24 PIN 2*
GROUND	*3*	*GROUND*	*JP24 PIN 3*
PLAYFIELD #1	*4*	*OUT 41*	*JP24PIN 4*
PLAYFIELD #2	*5*	*OUT 42*	*JP24 PIN 5*
PLAYFIELD #3	*6*	*OUT 43*	*JP24 PIN 6*
PLAYFIELD #4	*7*	*OUT 44*	*JP24 PIN 7*
PLAYFIELD #5	*8*	*OUT 45*	*JP24 PIN 8*
CONNECTOR KEY	*9*	*KEY*	*JP24 PIN 9*
PLAYFIELD #6	*10*	*OUT 46*	*JP24 PIN 10*
PLAYFIELD #7	*11*	*OUT 47*	*JP24 PIN 11*
PLAYFIELD #8	*12*	*OUT 48*	*JP24 PIN 12*

W20 – VTMUX BOARD P29 PLAYFIELD LIGHTS 9-10

Inputs	Wire #	Auxiliary Inputs	To VTMUX Board Location
CONNECTOR KEY	*1*	*KEY*	*JP29 PIN 1*
GROUND	*2*	*GROUND*	*JP29 PIN 2*
GROUND	*3*	*GROUND*	*JP29 PIN 3*
PLAYFIELD #9	*4*	*OUT 49*	*JP29PIN 4*
PLAYFIELD #10	*5*	*OUT 50*	*JP29 PIN 5*
NOT USED	*6*	*OUT 51*	*JP29 PIN 6*
NOT USED	*7*	*OUT 52*	*JP29 PIN 7*
NOT USED	*8*	*OUT 53*	*JP29 PIN 8*
NOT USED	*9*	*OUT 54*	*JP29 PIN 9*
CONNECTOR KEY	*10*	*KEY*	*JP29 PIN 10*
NOT USED	*11*	*OUT 55*	*JP29 PIN 11*
NOT USED	*12*	*OUT 56*	*JP29 PIN 12*

W26 – VTMUX BOARD P29 PLAYFIELD LIGHTS 9-10

Inputs	Wire #	Auxiliary Inputs	To VTMUX Board Location
CONNECTOR KEY	*1*	*KEY*	*JP29 PIN 1*
GROUND	*2*	*GROUND*	*JP29 PIN 2*
GROUND	*3*	*GROUND*	*JP29 PIN 3*
PLAYFIELD #9	*4*	*OUT 49*	*JP29PIN 4*
PLAYFIELD #10	*5*	*OUT 50*	*JP29 PIN 5*
NOT USED	*6*	*OUT 51*	*JP29 PIN 6*
NOT USED	*7*	*OUT 52*	*JP29 PIN 7*
NOT USED	*8*	*OUT 53*	*JP29 PIN 8*
NOT USED	*9*	*OUT 54*	*JP29 PIN 9*
CONNECTOR KEY	*10*	*KEY*	*JP29 PIN 10*
NOT USED	*11*	*OUT 55*	*JP29 PIN 11*
NOT USED	*12*	*OUT 56*	*JP29 PIN 12*

W24 - VTMUX BOARD P25 TO SMALL DISPLAY

Outputs	Display Outputs	From CPU Board Location
NOT CONNECTED	*GROUND*	*JP25-1*
*SMALL DISPLAY **ENABLE***	*DISP 0E1*	*JP25-2*
*SMALL DISPLAY **CLK***	*DISP CLK*	*JP25-3*
SMALL DISPLAY NOT CONNECTED	*V+*	*JP25-4*
*SMALL DISPLAY **VPP & VLED***	*VCC*	*JP25-5*
SMALL DISPLAY NOT CONNECTED	*DISP STB1*	*JP25-6*
*SMALL DISPLAY **DATA***	*DISP DATA1*	*JP25-7*
GROUND	*GROUND*	*JP25-8*

W25 - VTMUX BOARD P26 TO SMALL DISPLAY

NOT CONNECTED	*GROUND*	*JP26-1*
*SMALL DISPLAY **ENABLE***	*DISP 0E2*	*JP26-2*
*SMALL DISPLAY **CLK***	*DISP CLK*	*JP26-3*
SMALL DISPLAY NOT CONNECTED	*V+*	*JP26-4*
*SMALL DISPLAY **VPP & VLED***	*VCC*	*JP26-5*
SMALL DISPLAY NOT CONNECTED	*DISP STB2*	*JP26-6*
*SMALL DISPLAY **DATA***	*DISP DATA2*	*JP26-7*
GROUND	*GROUND*	*JP26-8*

Appendix B Wiring Diagrams

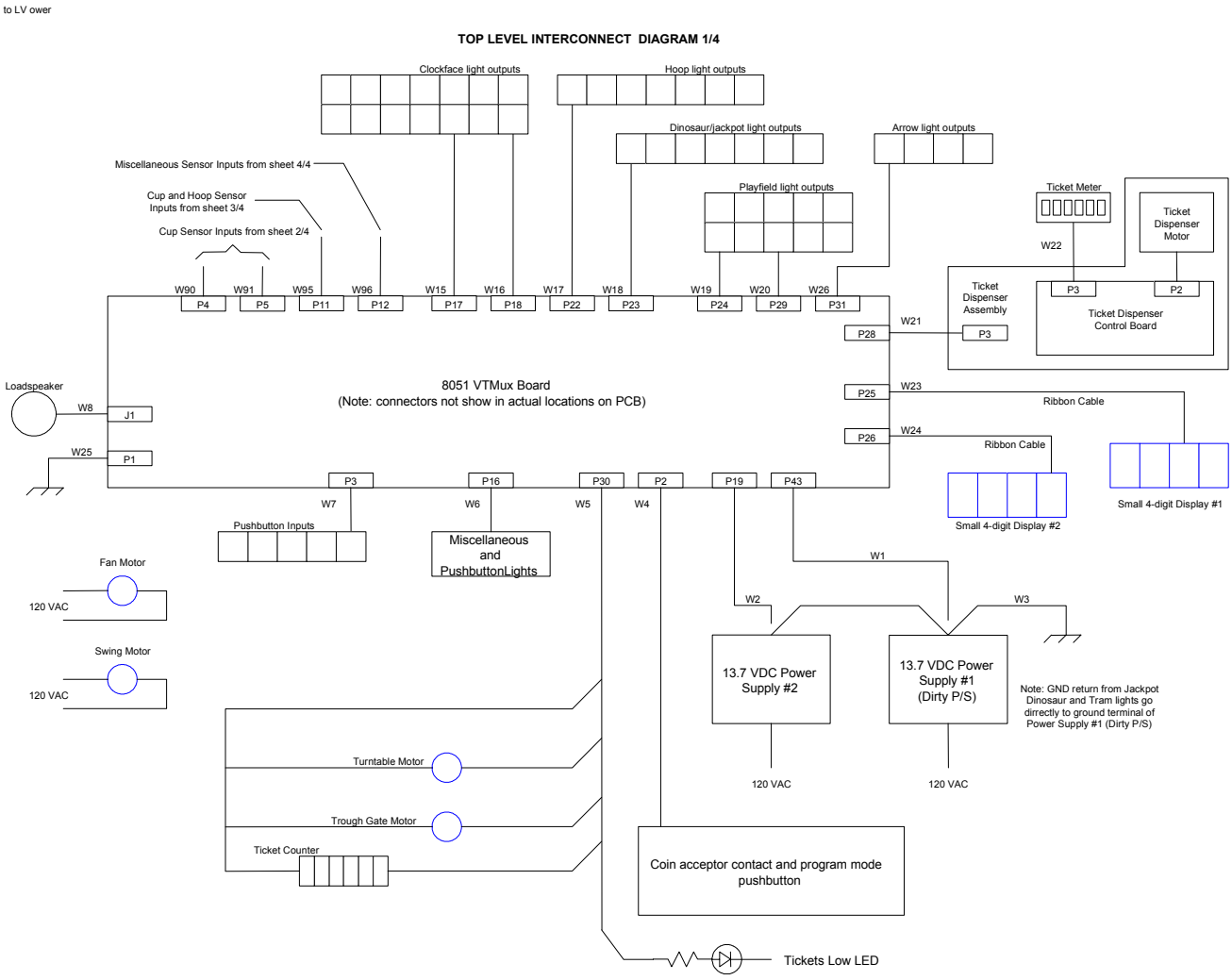


DIAGRAM 1 – TOP LEVEL INTERCONNECT DIAGRAM

APPENDIX B WIRING DIAGRAMS

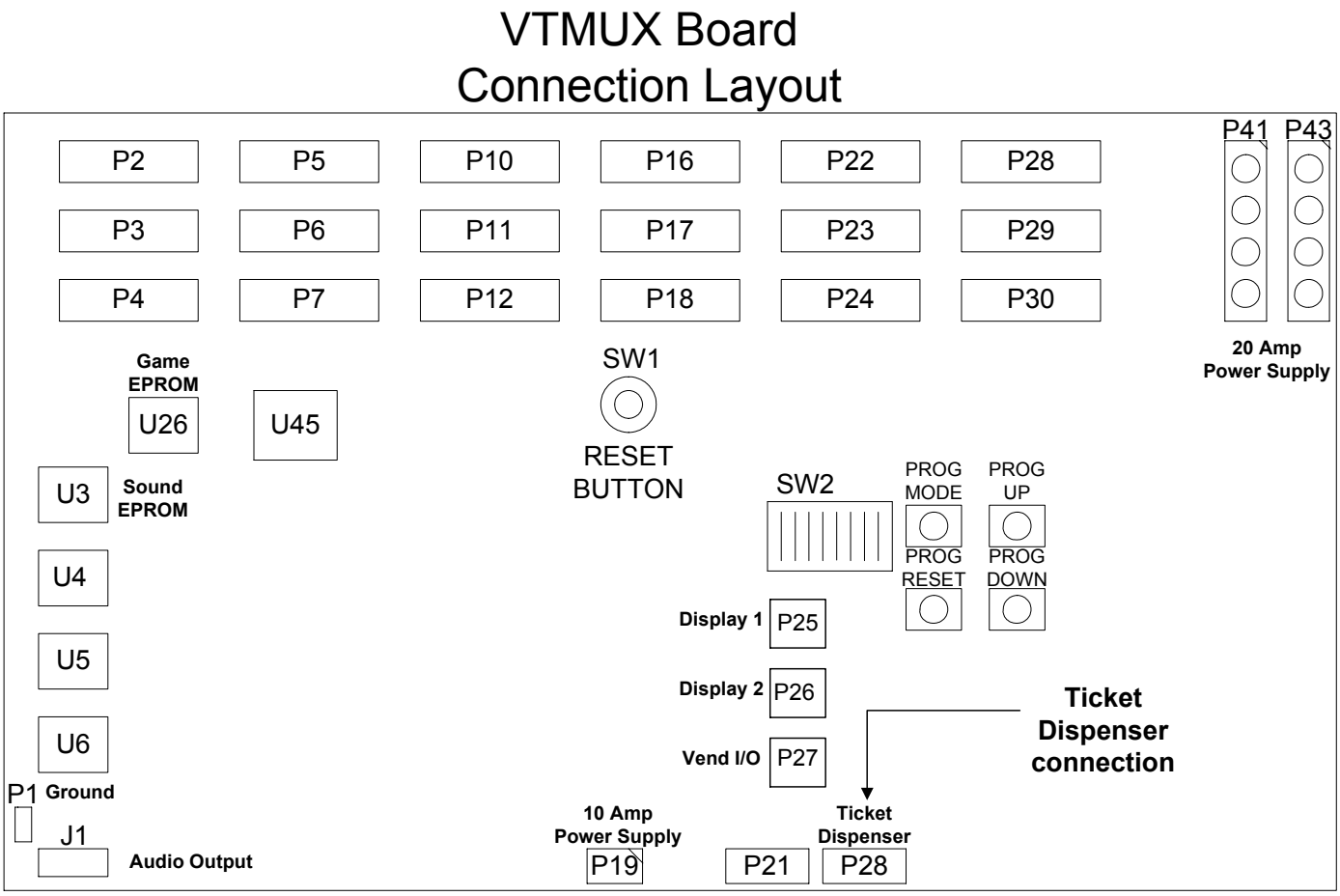


DIAGRAM 2 – VTMUX BOARD ACTUAL CONNECTION LAYOUT

WIRING DIAGRAMS APPENDIX B

TOP LEVEL INTERCONNECT DIAGRAM 2/4

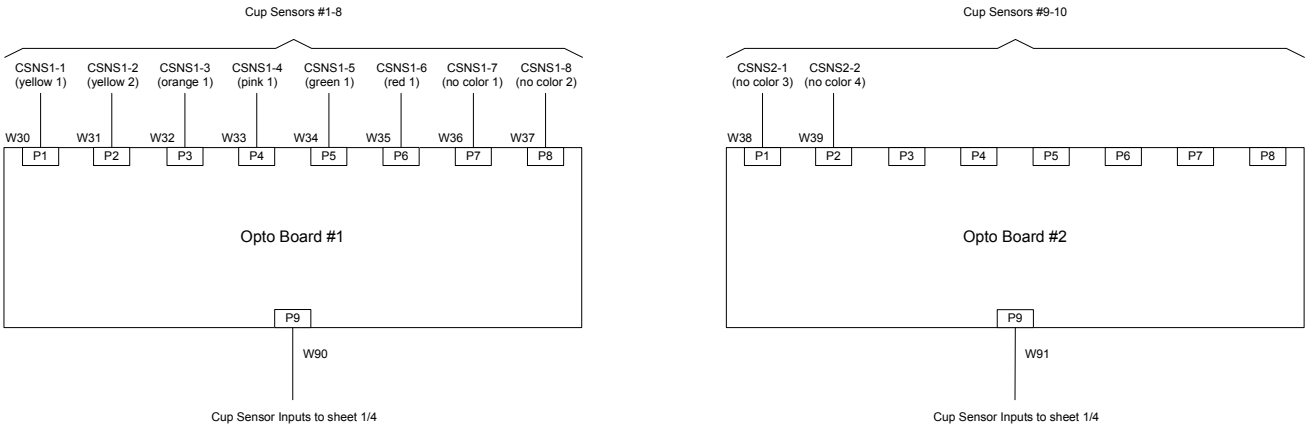


DIAGRAM 3 – TOP LEVEL INTERCONNECT DIAGRAM 2/4

TOP LEVEL INTERCONNECT DIAGRAM 3/4

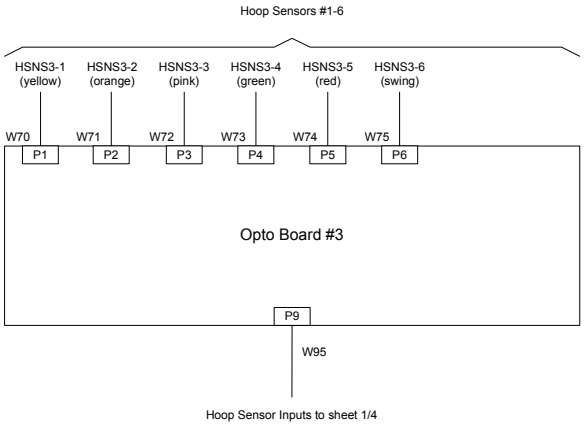


DIAGRAM 3 – TOP LEVEL INTERCONNECT DIAGRAM 3/4

WIRING DIAGRAMS APPENDIX B

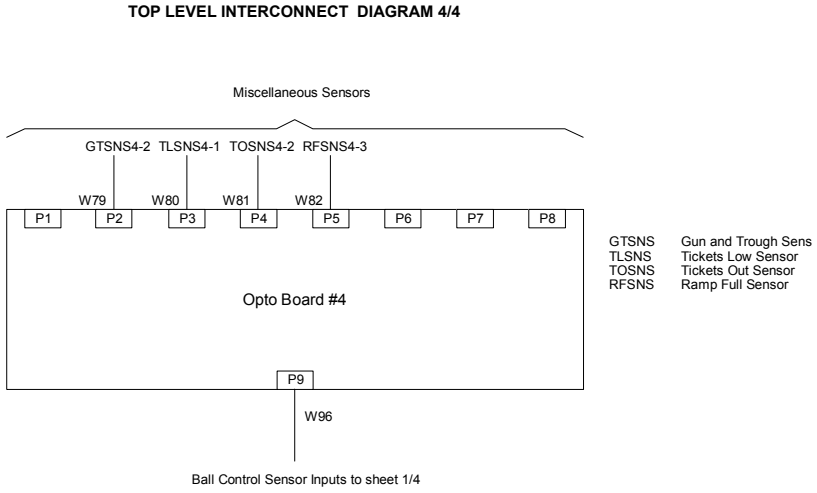


DIAGRAM 4 – TOP LEVEL INTERCONNECT DIAGRAM 4/4

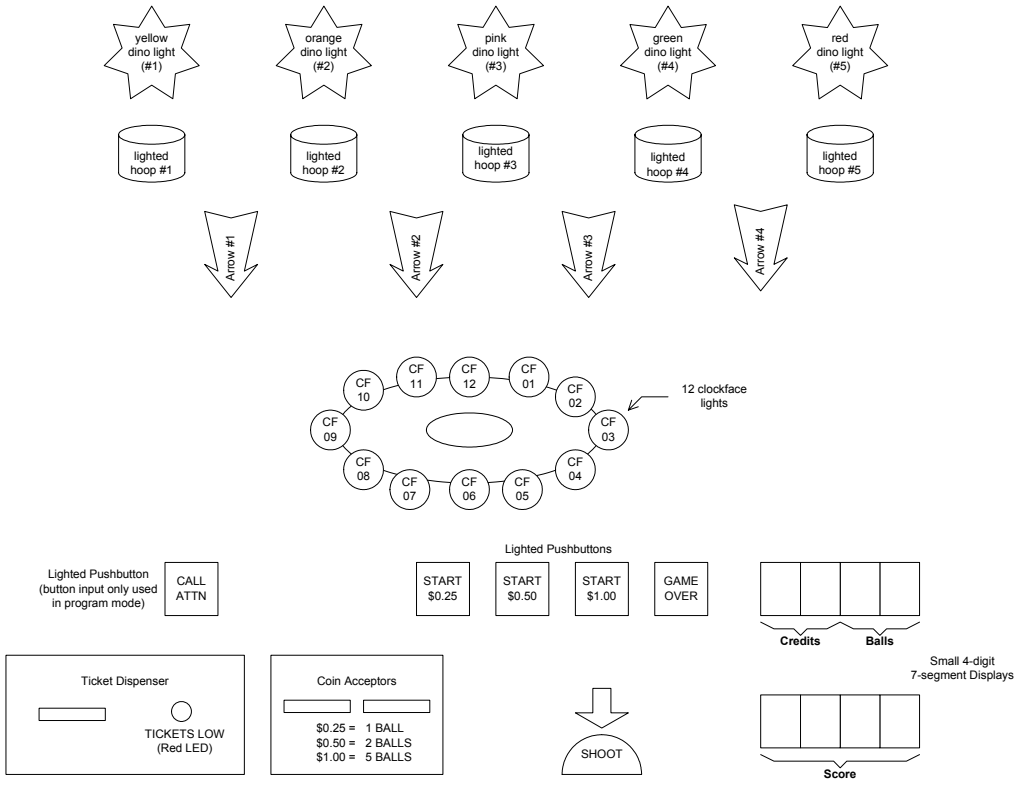


DIAGRAM 5 – FUNCTIONAL COMPONENTS

WIRING DIAGRAMS APPENDIX B

Legend:

GREEN PAW	opto board #1 P1
PINK PAW	opto board #1 P2
ORANGE PAW	opto board #1 P3
YELLOW PAW	opto board #1 P4
RED PAW	opto board #1 P5
CAVE #1	opto board #1 P6
HOLE #1	opto board #1 P7
HOLE #2	opto board #1 P8
CAVE #2	opto board #2 P1
VOLCANO	opto board #2 P2

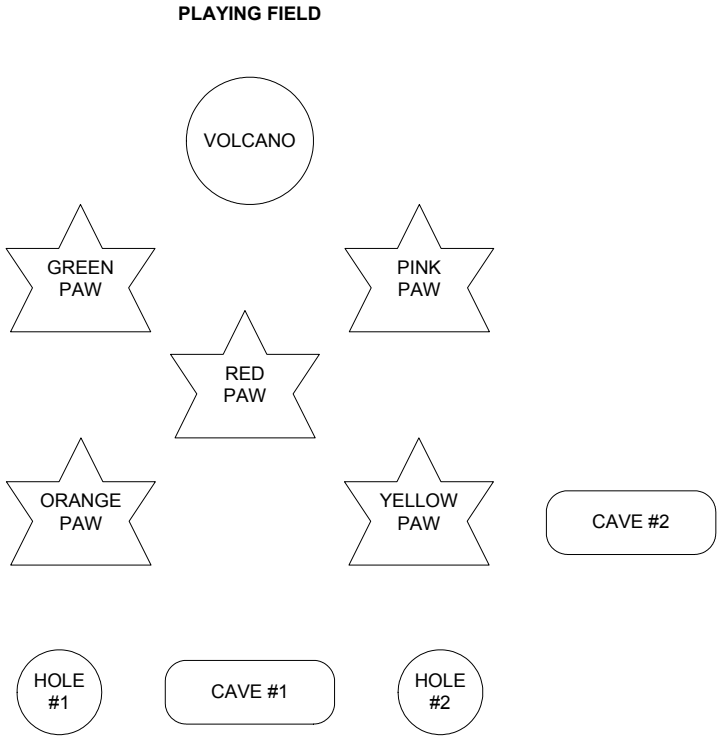


DIAGRAM 6 - PLAYFIELD LAYOUT

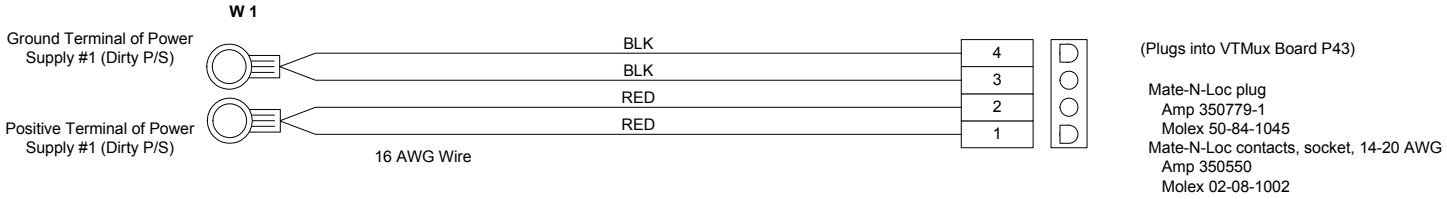


FIGURE 1 – W1 (13.7 VDC POWER SUPPLY TO 8051 VTMUX BOARD P43)

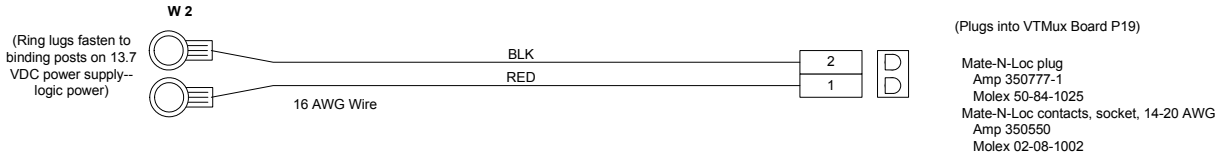


FIGURE 2 – W2 (13.7 VDC POWER SUPPLY TO 8051 VTMUX BOARD P19)

WIRING DIAGRAMS APPENDIX B

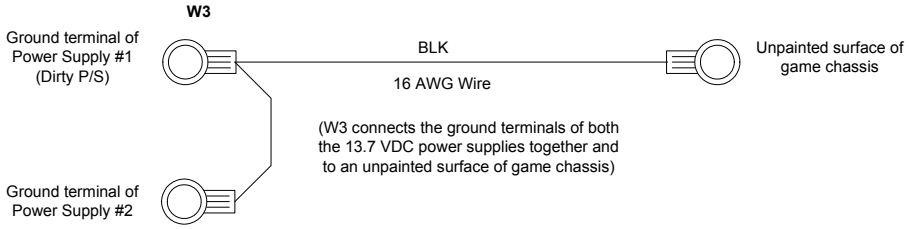


FIGURE 3 -W3 (13.7 VDC POWER SUPPLY AND CHASSIS GROUND)

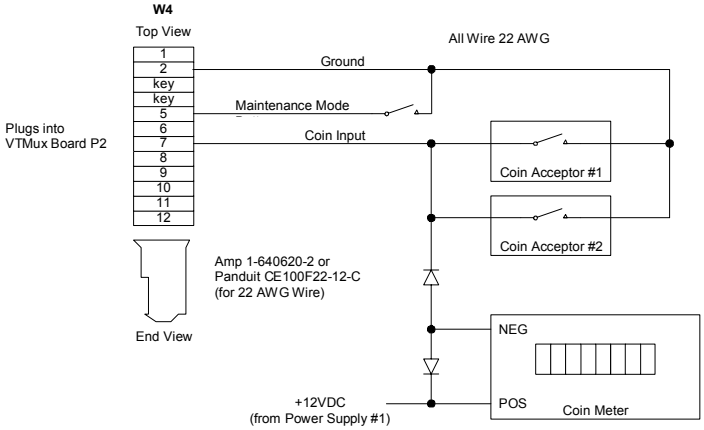


FIGURE 4 - W4 (TO MAINTENANCE MODE AND COIN ACCEPTOR SWITCHES)

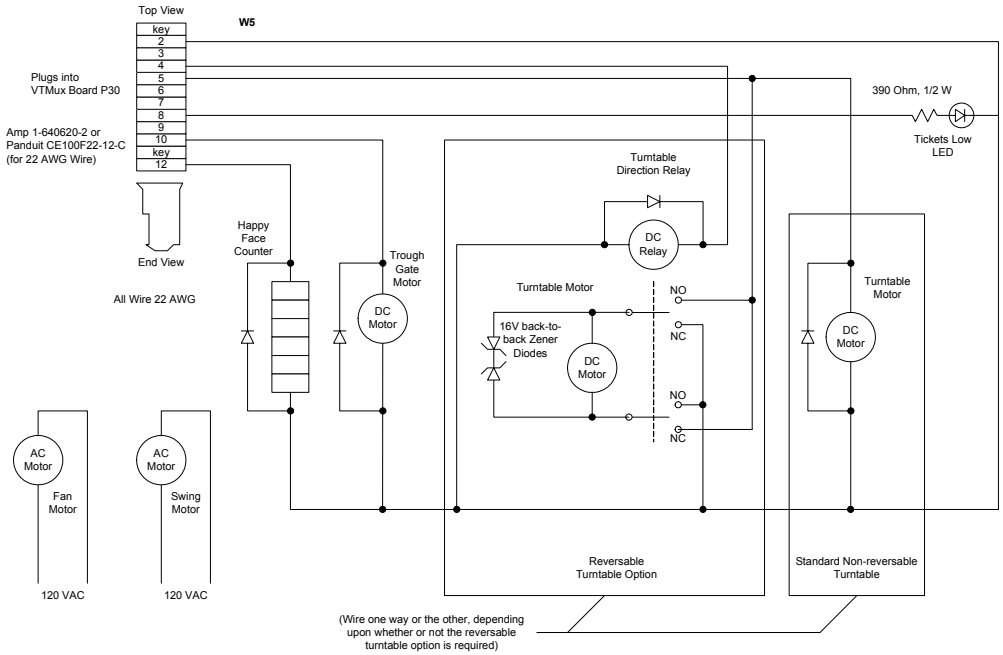


FIGURE 5 - W5 (VTMUX BOARD P30 TO AC RELAYS AND TICKETS LOW LED)

WIRING DIAGRAMS APPENDIX B

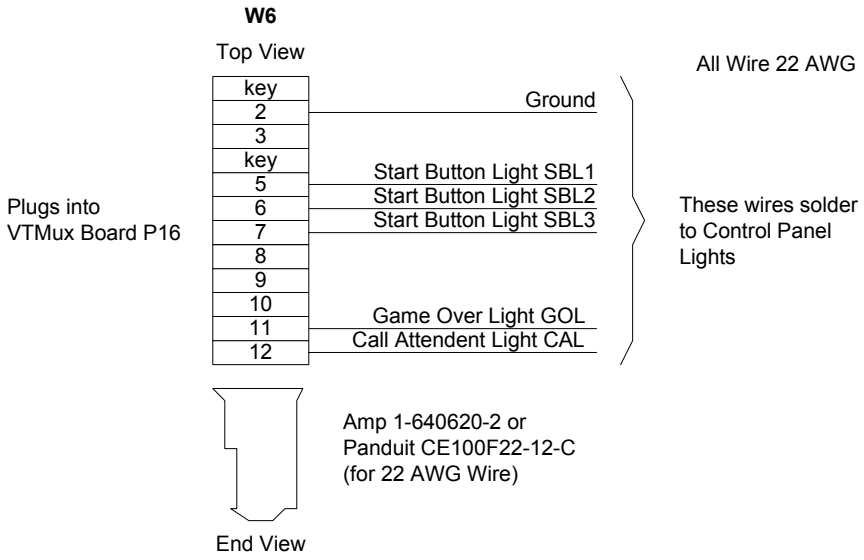


FIGURE 6 - W6 - (VTMUX BOARD P16 TO MISCELLANEOUS PANEL LIGHTS)

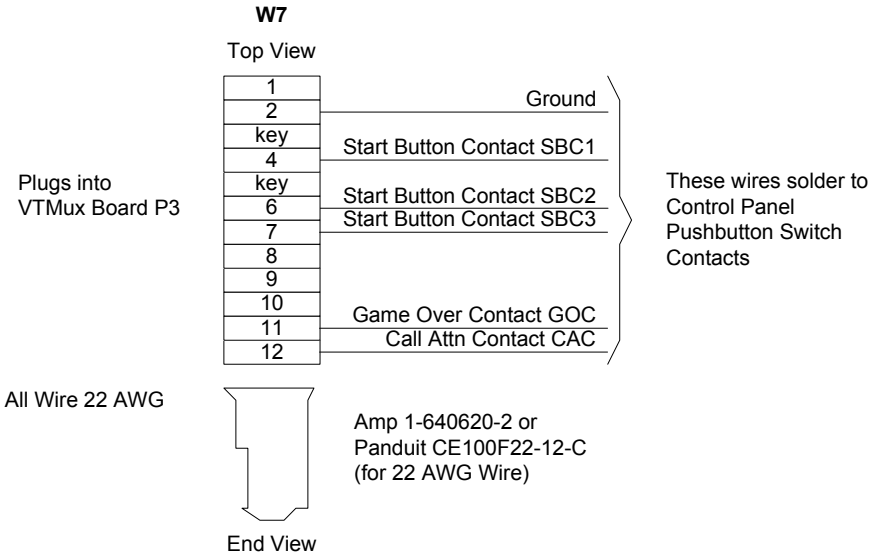


FIGURE 7 – W7 (MISCELLANEOUS PANEL INPUTS TO VTMUX P3)

WIRING DIAGRAMS APPENDIX B

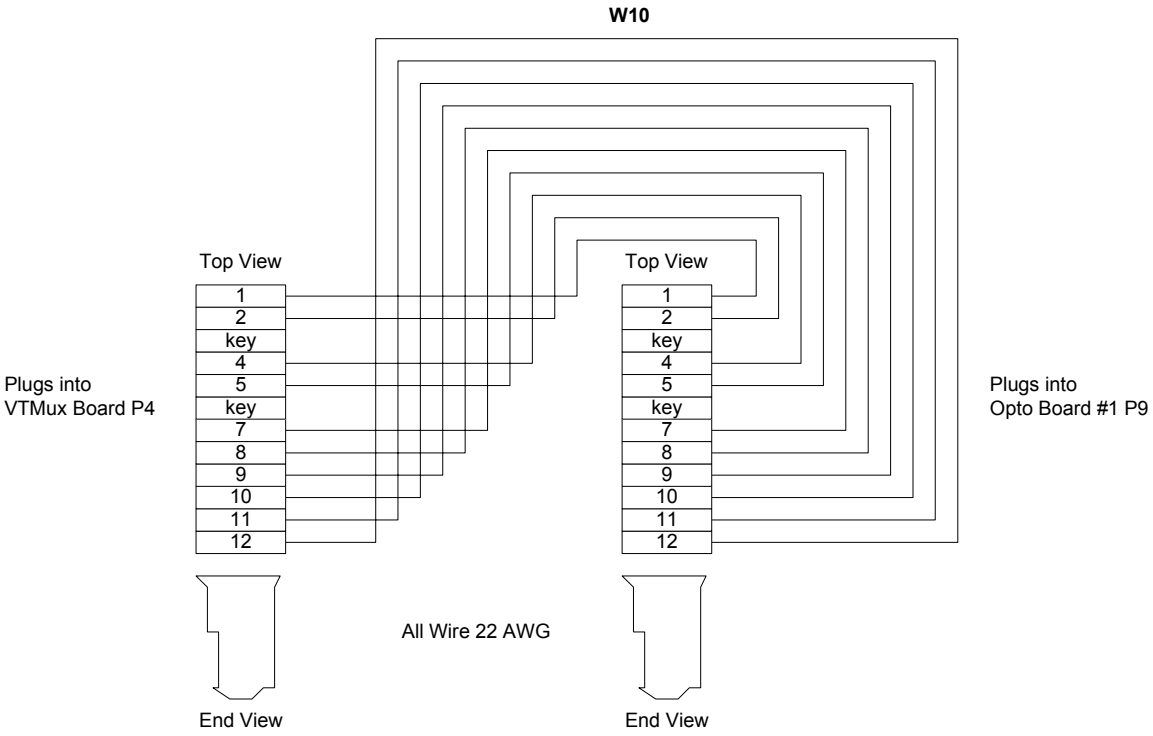


FIGURE 8 - W10 (VTMUX BOARD P4 TO OPTO BOARD #1 P9)

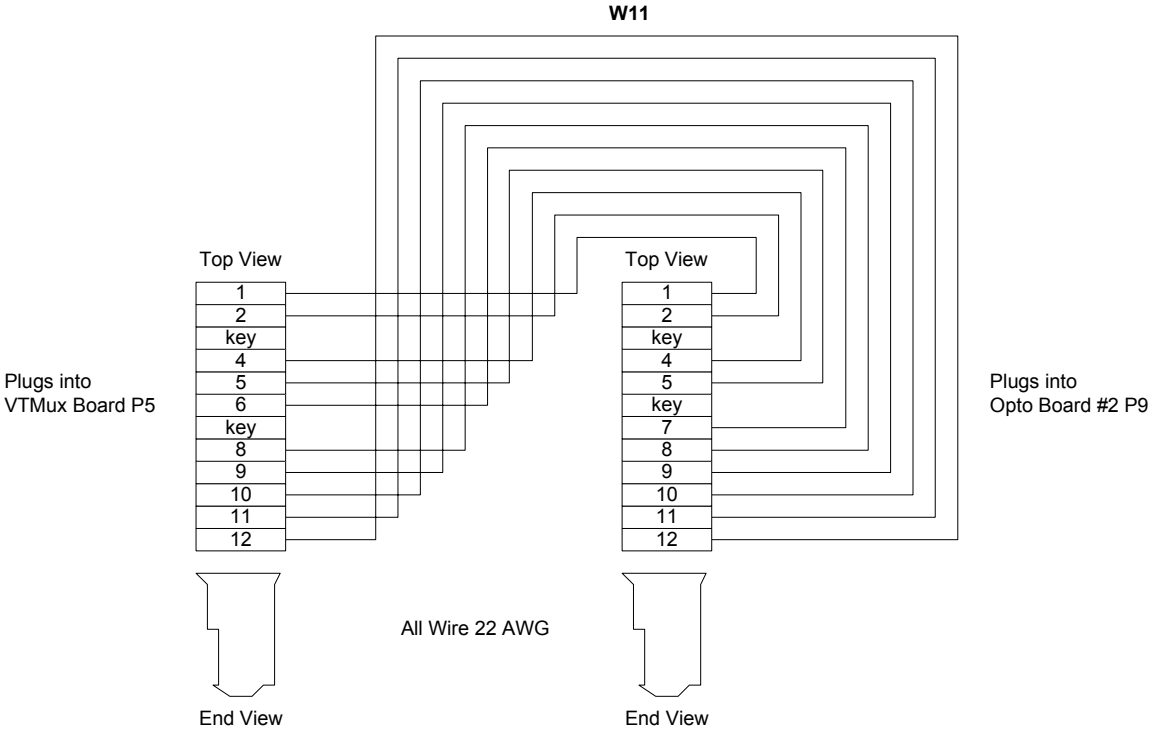


FIGURE 9 - W11 (VTMUX BOARD P4 TO OPTO BOARD #2 P9)

WIRING DIAGRAMS APPENDIX B

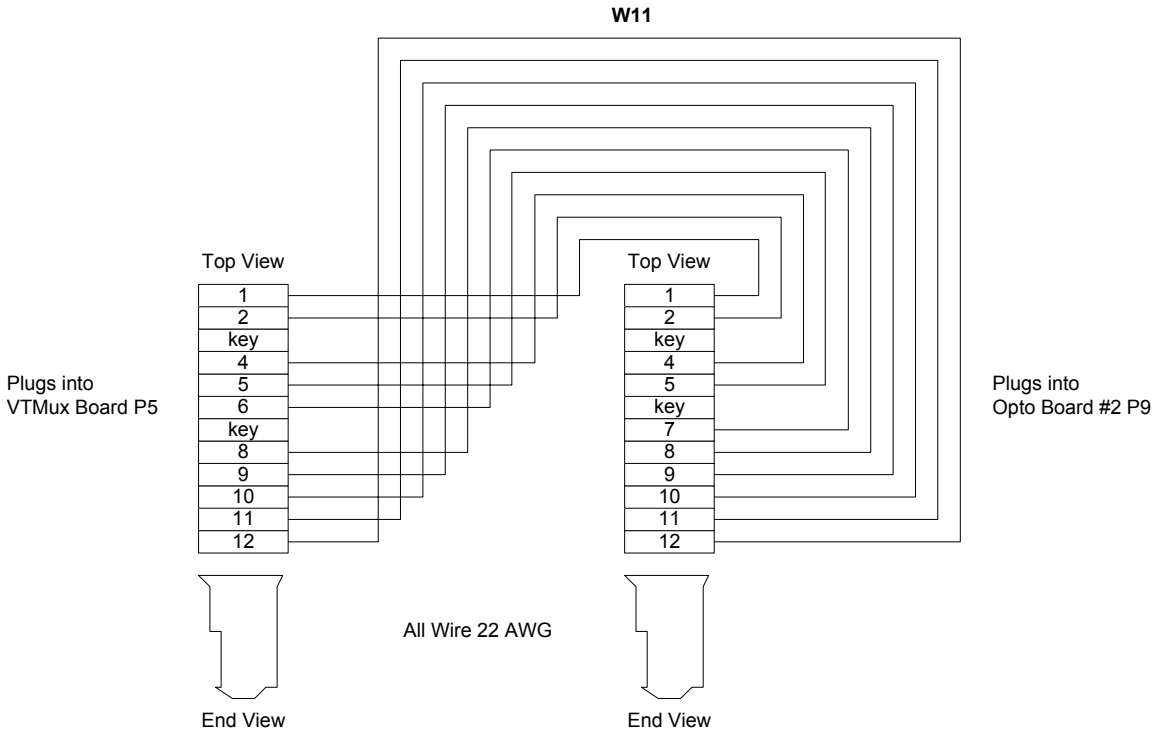


FIGURE 10 - W12 (VTMUX BOARD P5 TO OPTO BOARD #2 P9)

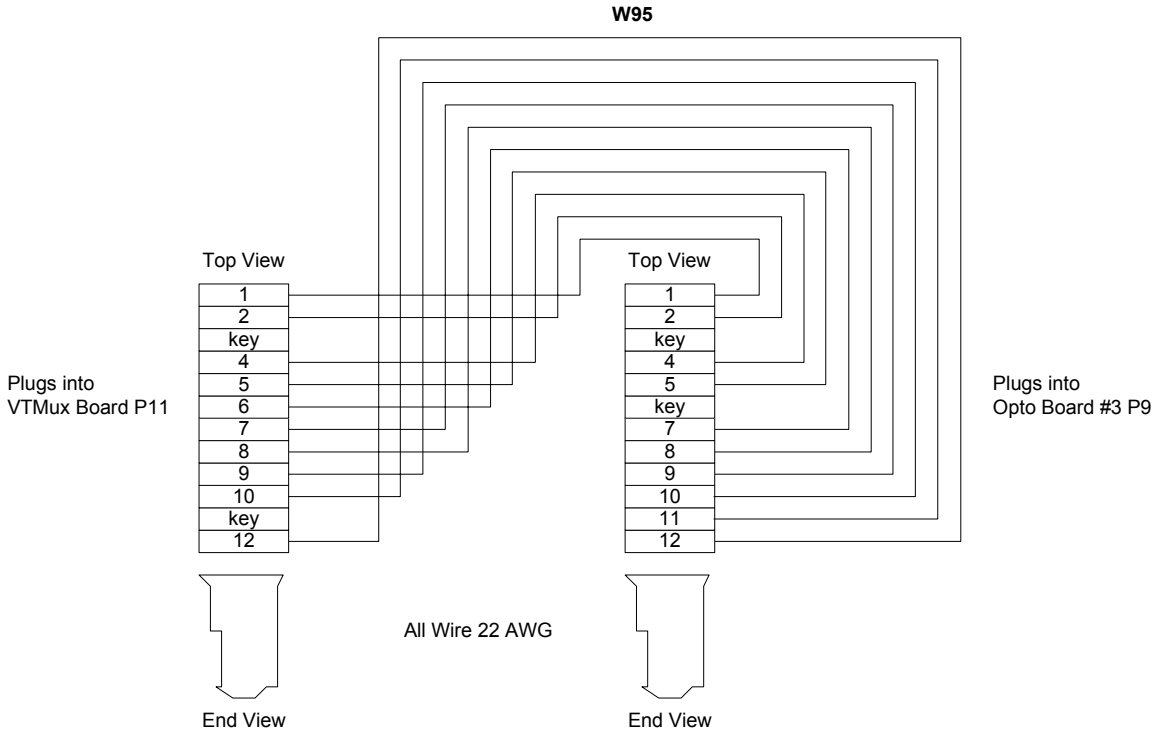


FIGURE 11 - W11 (VTMUX BOARD P11 TO OPTO BOARD #3 P9)

WIRING DIAGRAMS APPENDIX B

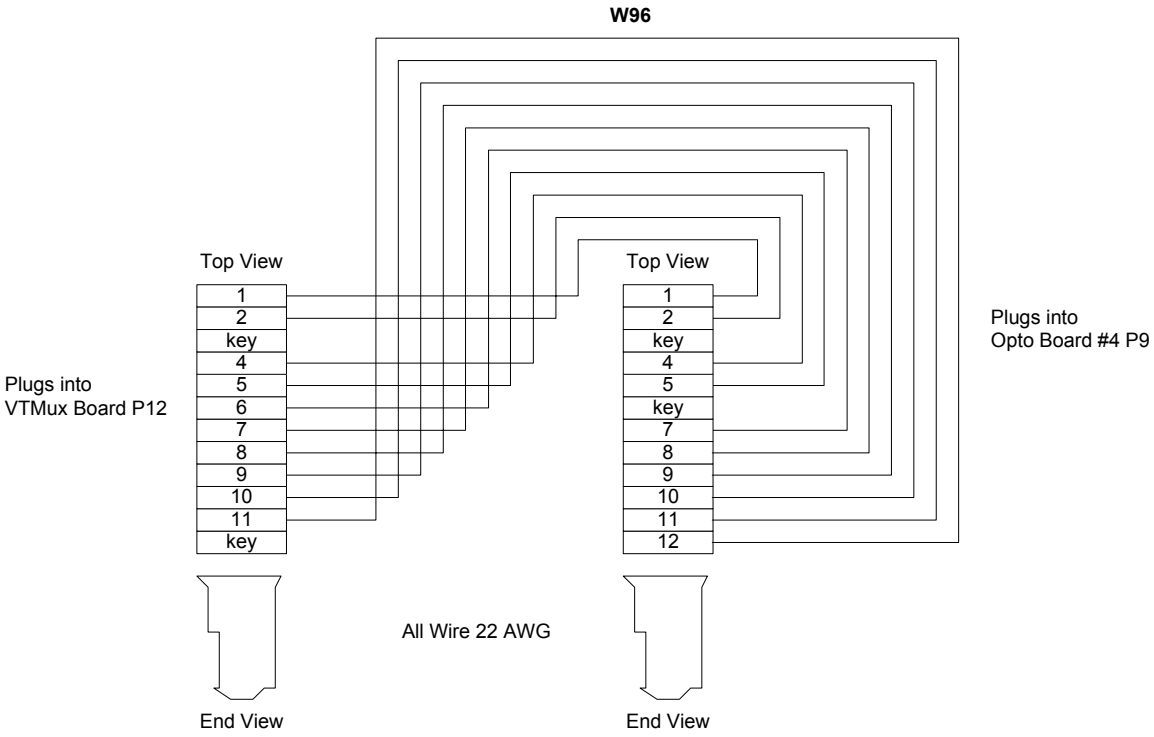


FIGURE 12 - W13 (VTMUX BOARD P6 TO OPTO BOARD #4 P9)

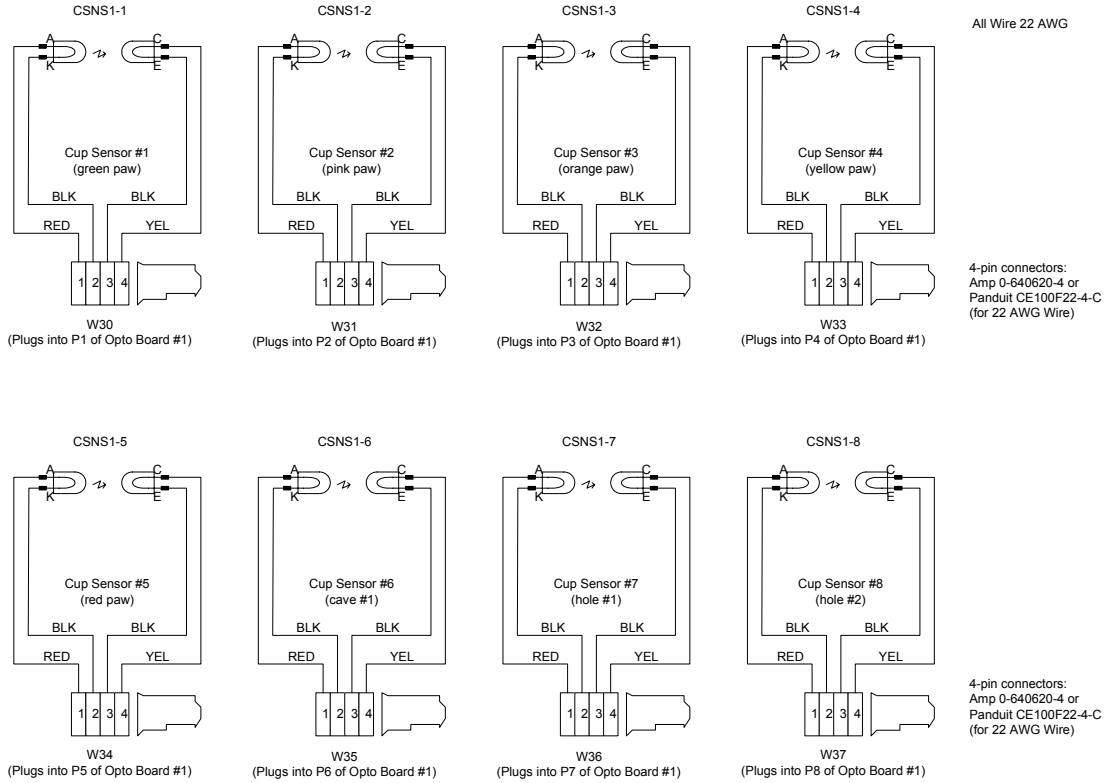


FIGURE 13 - TARGET SENSORS 1-8

WIRING DIAGRAMS APPENDIX B

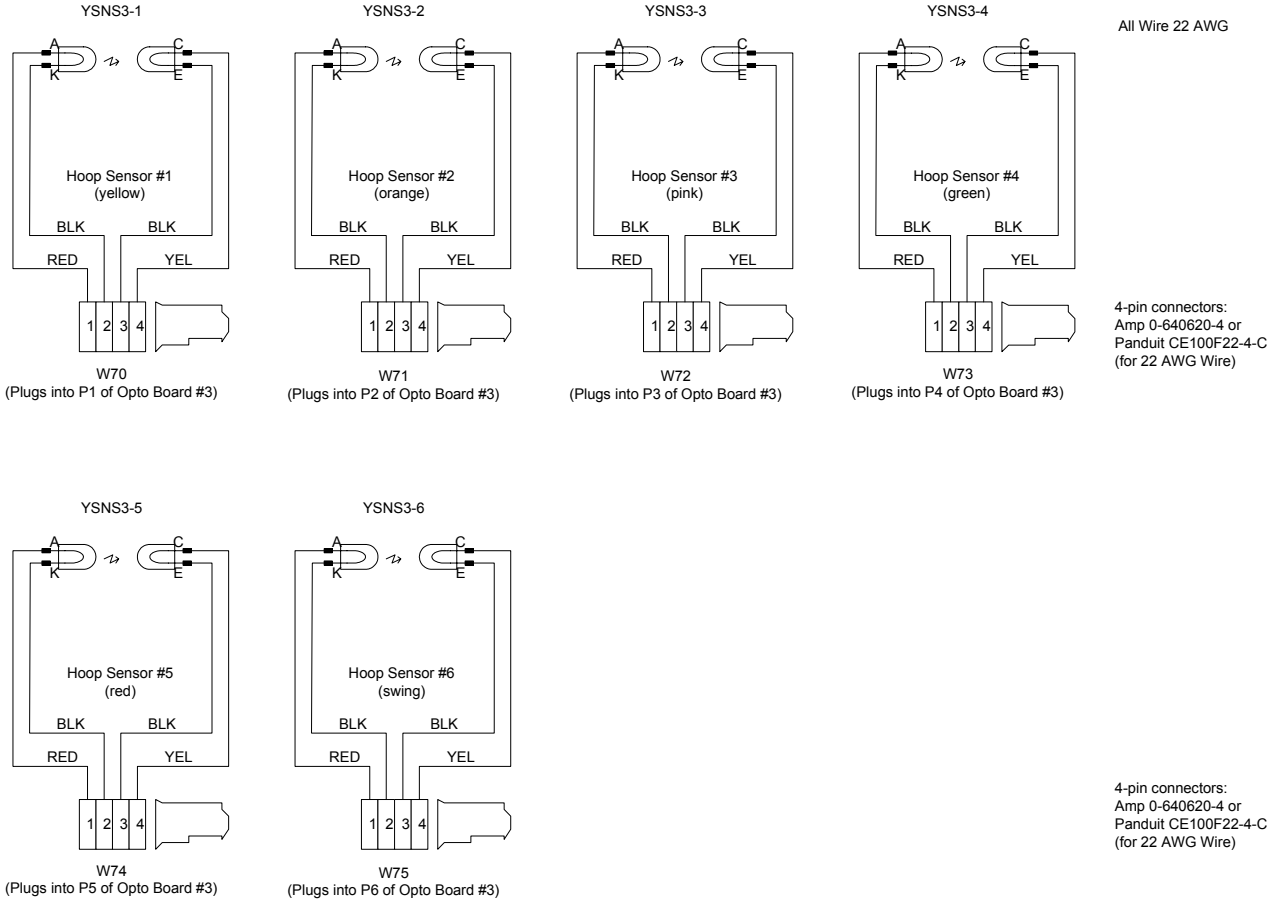


FIGURE 14 – TARGET SENSOR 9 –10

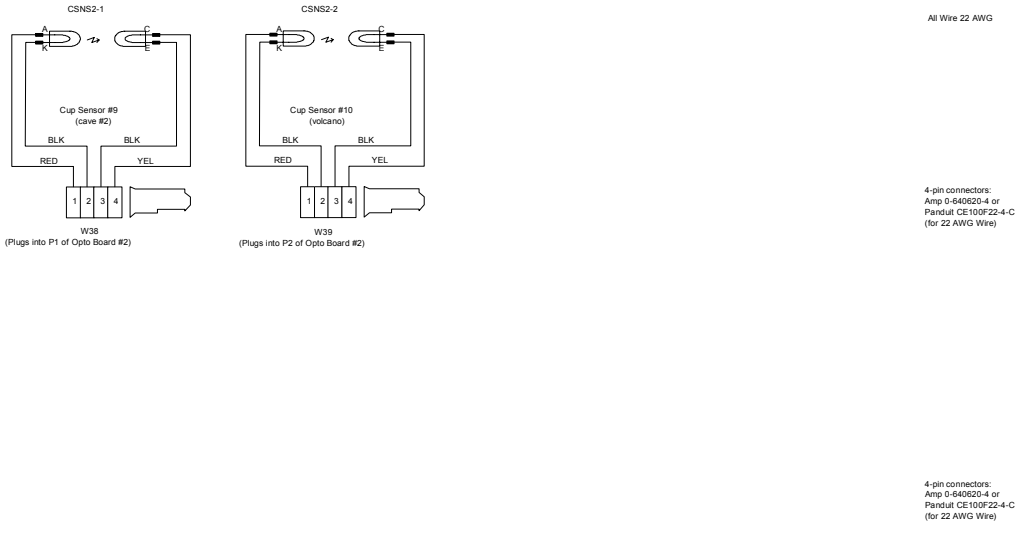


FIGURE 15 – TARGET SENSOR 17 - 24

WIRING DIAGRAMS APPENDIX B

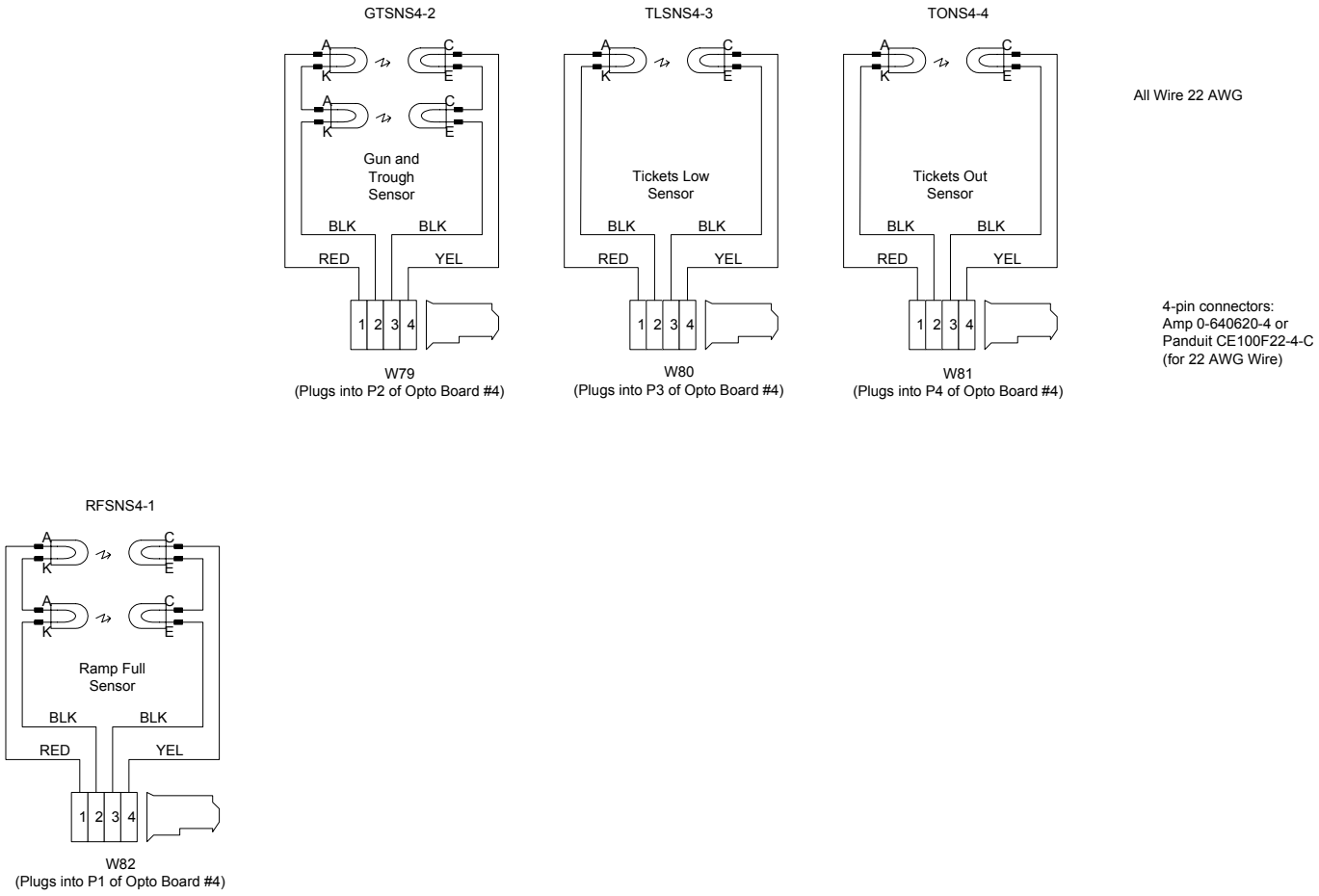


FIGURE 16 – MISCELLANEOUS SENSOR INPUTS

WIRING DIAGRAMS APPENDIX B

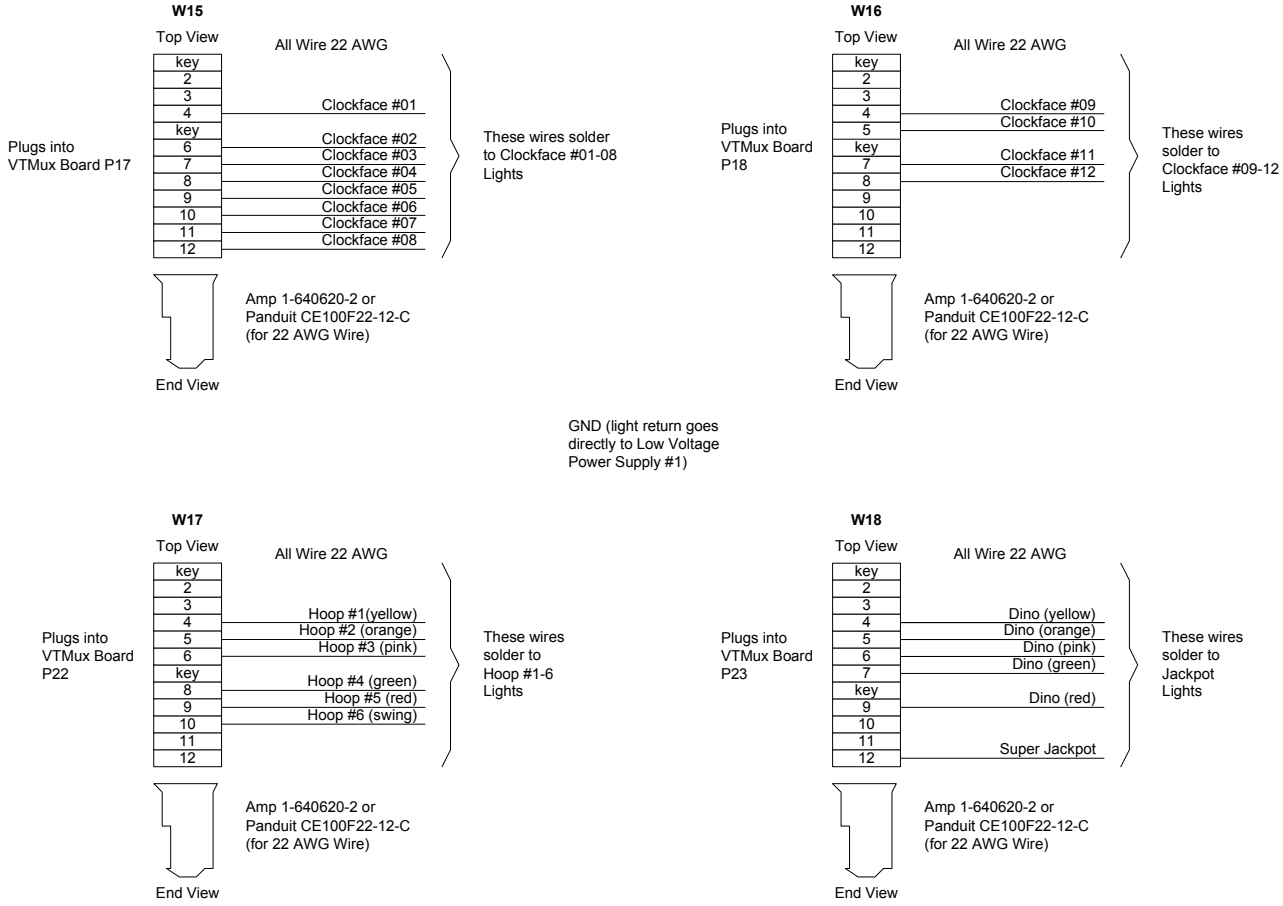


FIGURE 17 - W15, W16, W17, W18 (VTMUX BOARD P17, P18, P22, P23 TO CLOCKFACE AND DINOSAUR JACKPOT LIGHTS)

WIRING DIAGRAMS APPENDIX B

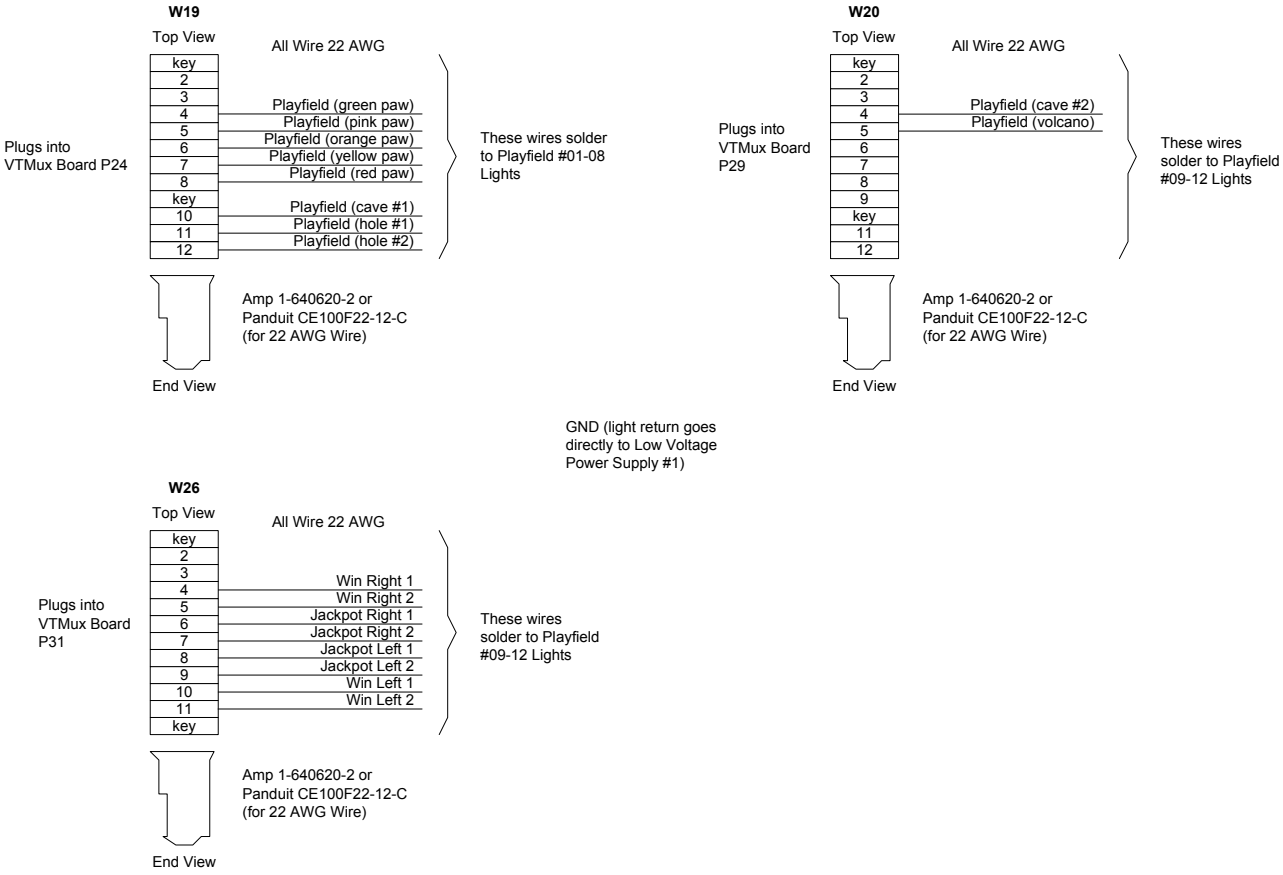


FIGURE 18 - W19, W20, 26 (VTMUX BOARD P24, P29, P31 TO PLAYFIELD AND ARROW LIGHTS)

WIRING DIAGRAMS APPENDIX B

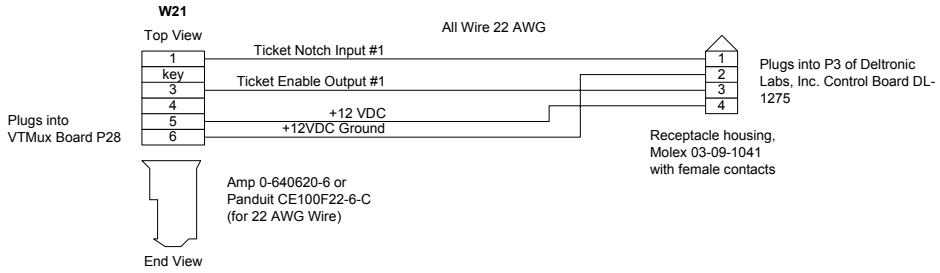


FIGURE 19 - W21 (VTMUX BOARD P28 TO TICKET DISPENSER)

Pin	Signal
1	Brightness
2	Vpp
3	Clock
4	DATA
5	ENABLE
6	Ground
7	VLED
8	N/A

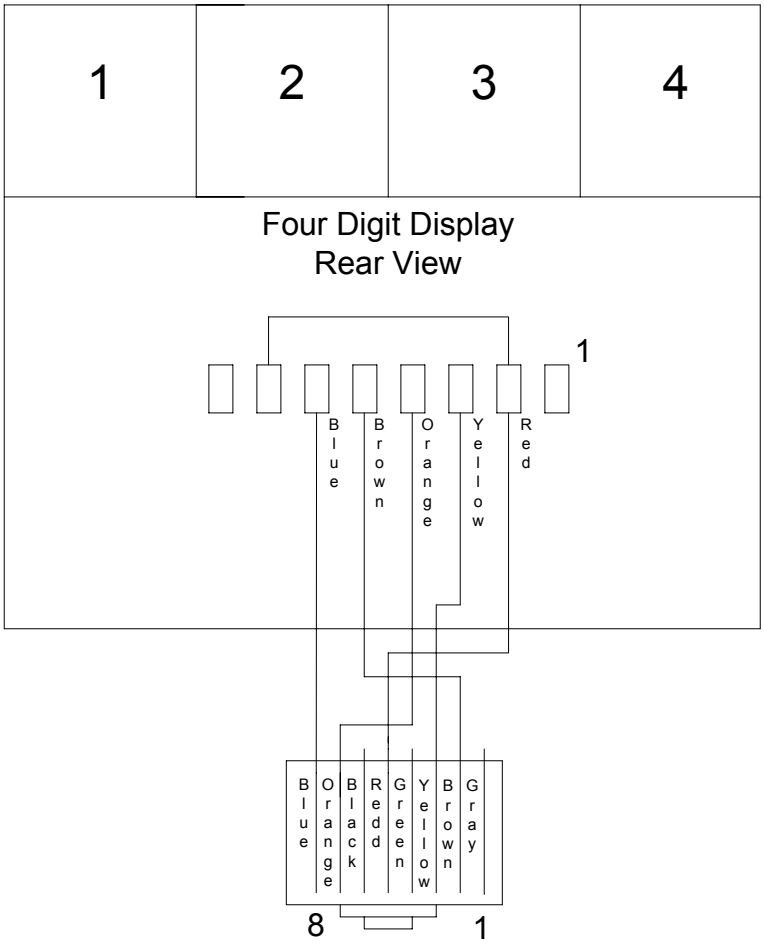


FIGURE 20 - W23 (VTMUX BOARD P25 TO SMALL 4-DIGIT DISPLAY #1)
W24 (VTMUX BOARD P26 TO SMALL 4-DIGIT DISPLAY #2)

APPENDIX B WIRING DIAGRAMS

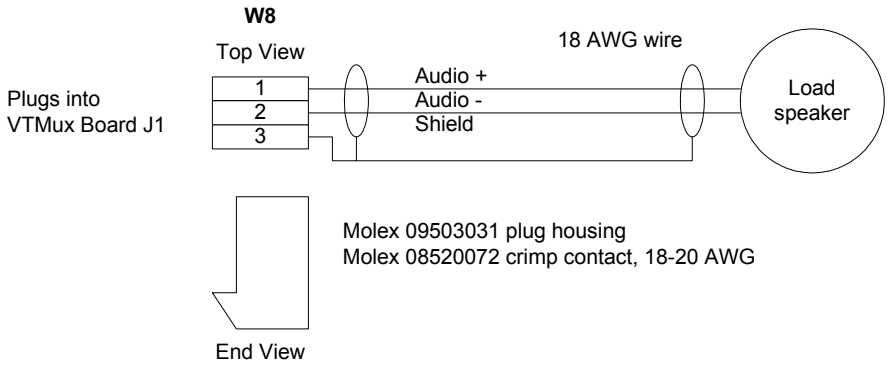


FIGURE 21 - W8 (VTMUX BOARD J1 TO LOUDSPEAKER)

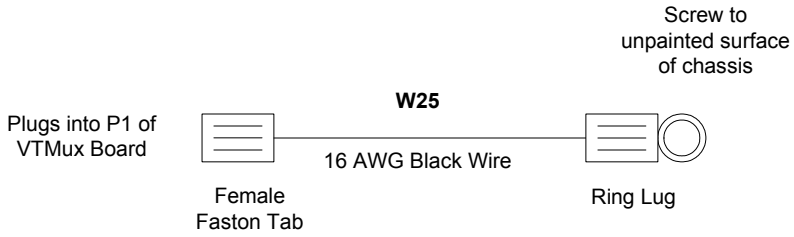
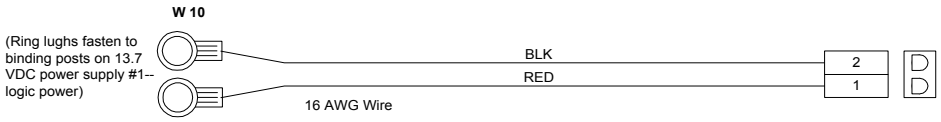


FIGURE 22 - W25 (VTMUX BOARD P1 TO CHASSIS GROUND)

Appendix C Power Supplies Connection

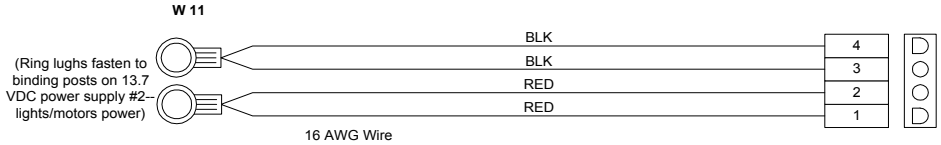
W10 (13.7 VDC POWER SUPPLY #1 TO 8051 VTMUX BOARD P19)



(Plugs into VTMux Board P19)

Mate-N-Loc plug
Amp 350777-1
Molex 50-84-1025
Mate-N-Loc contacts, socket, 14-20 AWG
Amp 350550
Molex 02-08-1002

W11 (13.7 VDC POWER SUPPLY #2 TO 8051 VTMUX BOARD P43)



(Plugs into VTMux Board P43)

Mate-N-Loc plug
Amp 350779-1
Molex 50-84-1045
Mate-N-Loc contacts, socket, 14-20 AWG
Amp 350550
Molex 02-08-1002

W13 (13.7 VDC POWER SUPPLIES GROUND INTERCONNECT)

(W39 connects the two ground terminals of the two 13.7 VDC power supplies together)

Appendix D Programmable Options with Defaults

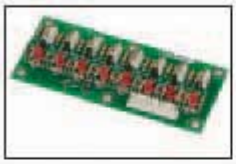
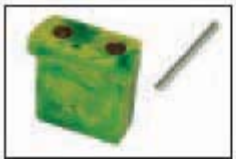
GAME PLAY PROGRAMMING TABLE

STEP#	PROGRAM OPTION	TYPE	PROGRAMMABLE	VALUE
0	*NUMBER OF COINS TAKEN IN (LIFETIME)*	*COINS*	*NO*	*N/A*
1	*NUMBER OF COINS TAKEN IN (SINCE RESET)*	*COINS*	*NO*	*N/A*
10	*COINS REQUIRED TO PLAY GAME 1*	*COINS*	*YES*	*1*
11	*COINS REQUIRED TO PLAY GAME 2*	*COINS*	*YES*	*2*
12	*COINS REQUIRED TO PLAY GAME 3*	*COINS*	*YES*	*4*
13	*NUMBER OF BALLS FOR GAME 1*	*BALLS*	*YES*	*1*
14	*NUMBER OF BALLS FOR GAME 2*	*BALLS*	*YES*	*2*
15	*NUMBER OF BALLS FOR GAME 3*	*BALLS*	*YES*	*5*
16	*MAXIMUM NUMBER OF BALLS PER GAME*	*BALLS*	*YES*	*5*
17	*AUDIO ATTRACTION ON TIME*	*SECONDS*	*YES*	*30*
18	*AUDIO ATTRACTION OFF TIME*	*SECONDS*	*YES*	*10*
19	*MAXIMUM TICKETS WITHOUT ATTENDANT*	*TICKETS*	*YES*	*500*
20	*DISPENSE TICKET AFTER OR DURING GAME*	*BOOL*	*YES*	*1*
21	*NUMBER OF SECONDS BEFORE LEAVING GAME*	*SECONDS*	*YES*	*20*
22	*NUMBER OF SECONDS BETWEEN BALL LOADING*	*SECONDS*	*YES*	*15*
23	*SPINNER SPEED*	*RPM'S*	*YES*	*60*
24	*SPINNER PERCENTAGE*	*PERCENT*	*YES*	*5*
30	*RESET ALL RESETABLE STATISTICS*	*N/A*	*NO*	*N/A*
31	*DISPLAY NUMBER OF SENSOR THAT IS BLOCKED*	*N/A*	*N/A*	*N/A*
32	*DISPLAY MISC OPTO SENSOR STATUS*	*N/A*	*N/A*	*N/A*
33	*DISPENSE TICKETS*	*N/A*	*N/A*	*N/A*
34	*TEST TURNTABLE MOTOR*	*N/A*	*N/A*	*N/A*
35	*TEST GUN TROUGH MOTOR*	*N/A*	*N/A*	*N/A*
40	*POINTS FOR GREEN PAW (G1)*	*POINTS*	*YES*	*10*
41	*POINTS FOR PINK PAW (P1)*	*POINTS*	*YES*	*10*
42	*POINTS FOR ORANGE PAW (O1)*	*POINTS*	*YES*	*5*
43	*POINTS FOR YELLOW PAW (Y1)*	*POINTS*	*YES*	*5*
44	*POINTS FOR RED PAW (R1)*	*POINTS*	*YES*	*15*
45	*POINTS FOR CAVE #1*	*POINTS*	*YES*	*10*
46	*POINTS FOR HOLE #1*	*POINTS*	*YES*	*1*
47	*POINTS FOR HOLE #2*	*POINTS*	*YES*	*1*
48	*POINTS FOR CAVE #2*	*POINTS*	*YES*	*15*
49	*POINTS FOR VOLCANO*	*POINTS*	*YES*	*100*

GAME PLAY PROGRAMMING TABLE (CONTINUED)

50	*JACKPOT #1 POINTS*	*POINTS*	*YES*	*20*
51	*JACKPOT #2 POINTS*	*POINTS*	*YES*	*50*
52	*JACKPOT #3 POINTS*	*POINTS*	*YES*	*100*
53	*JACKPOT #4 POINTS*	*POINTS*	*YES*	*1000*
54	*POINTS FOR HOOP #1*	*POINTS*	*YES*	*100*
55	*POINTS FOR HOOP #2*	*POINTS*	*YES*	*15*
56	*POINTS FOR HOOP #3*	*POINTS*	*YES*	*500*
57	*POINTS FOR HOOP #4*	*POINTS*	*YES*	*25*
58	*POINTS FOR HOOP #5*	*POINTS*	*YES*	*250*
60	*CLOCKFACE POINTS FOR 1:00 POSITION*	*POINTS*	*YES*	*10*
61	*CLOCKFACE POINTS FOR 2:00 POSITION*	*POINTS*	*YES*	*25*
62	*CLOCKFACE POINTS FOR 3:00 POSITION*	*POINTS*	*YES*	*10*
63	*CLOCKFACE POINTS FOR 4:00 POSITION*	*POINTS*	*YES*	*5*
64	*CLOCKFACE POINTS FOR 5:00 POSITION*	*POINTS*	*YES*	*10*
65	*CLOCKFACE POINTS FOR 6:00 POSITION*	*POINTS*	*YES*	*50*
66	*CLOCKFACE POINTS FOR 7:00 POSITION*	*POINTS*	*YES*	*10*
67	*CLOCKFACE POINTS FOR 8:00 POSITION*	*POINTS*	*YES*	*5*
68	*CLOCKFACE POINTS FOR 9:00 POSITION*	*POINTS*	*YES*	*10*
69	*CLOCKFACE POINTS FOR 10:00 POSITION*	*POINTS*	*YES*	*25*
70	*CLOCKFACE POINTS FOR 11:00 POSITION*	*POINTS*	*YES*	*5*
71	*CLOCKFACE POINTS FOR 12:00 POSITION*	*POINTS*	*YES*	*250*

Appendix E Replacement Parts

	Power Supply	CA1-0046-RC
	Display Board	PC1-1007-RC
	Opto Board	PC1-1025-RC
	Coin Switch	TB4-2004
	Shooter Flapper and Pin	TB3-0042-CEC
	Play Field PAW Sensor Large	HH6-0018-Y
	Play Field PAW Sensor Small (Red)	HH6-0018-R
	Shooter Block & Set Screw	MA2-0011-CEC

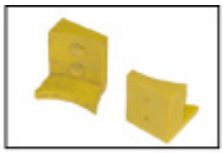
Replacment Parts continued

	Ticket Board	TT1-0008-RC
	Ramp Sensor	PC1-1025-R
	Spindle (Plastic)	MA2-0023-RC
	Handle Rubber & Spring	HH1-0001
	Springs & E-Clips	
	Front of Shooter	GU3-0000-C
	Shooter Assembly	MA2-0006-RC
	Shooter Handle	GU3-0012-RC

REPLACEMENT PARTS CONTINUED

	Turntable Assembly	**TB6-X044-RC**
	Turntable Motor	**MA2-0041-RC**
	Blower	**BE1-0002**
	Sensor Cave 1	**PC1-1055-1**
	Sensor Cave 2	**PC1-1055-2**
	Trough Sensor	**BU2-0006**
	Ball	**MA2-0111-B**
	Shooter Pivot Stop	**GU3-0066**

REPLACEMENT PARTS CONTINUED

	**Door Extension Block**	**GU3-0066**
	Claw Sensor	**CA4-0094-S**
	Shooter Pull Handle	**CA1-0135**
	Control Panel	**TB4-1001-R/C**
	Control Panel	**TB4-1001-RC**
	Claw (Bck & Frnt)	**TB1-0005-RC**
	Playfield Small Sensor Cup Assembly #1	
	Playfield Large Sensor Cup Assembly #2	

REPLACEMENT PARTS CONTINUED

	Playfield Small Sensor Cup Assembly #3
	Playfield Large Sensor Cup Assembly #4
	Playfield Small Sensor Cup Assembly #5
	Cup Assembly #1 CA4-0080-Y
	Cup Assembly #2 CA4-0080-G
	Cup Assembly #3 CA4-0080-P
	Cup Assembly #4 CA4-0080-O
	Cup Assembly #5 CA4-0080-R

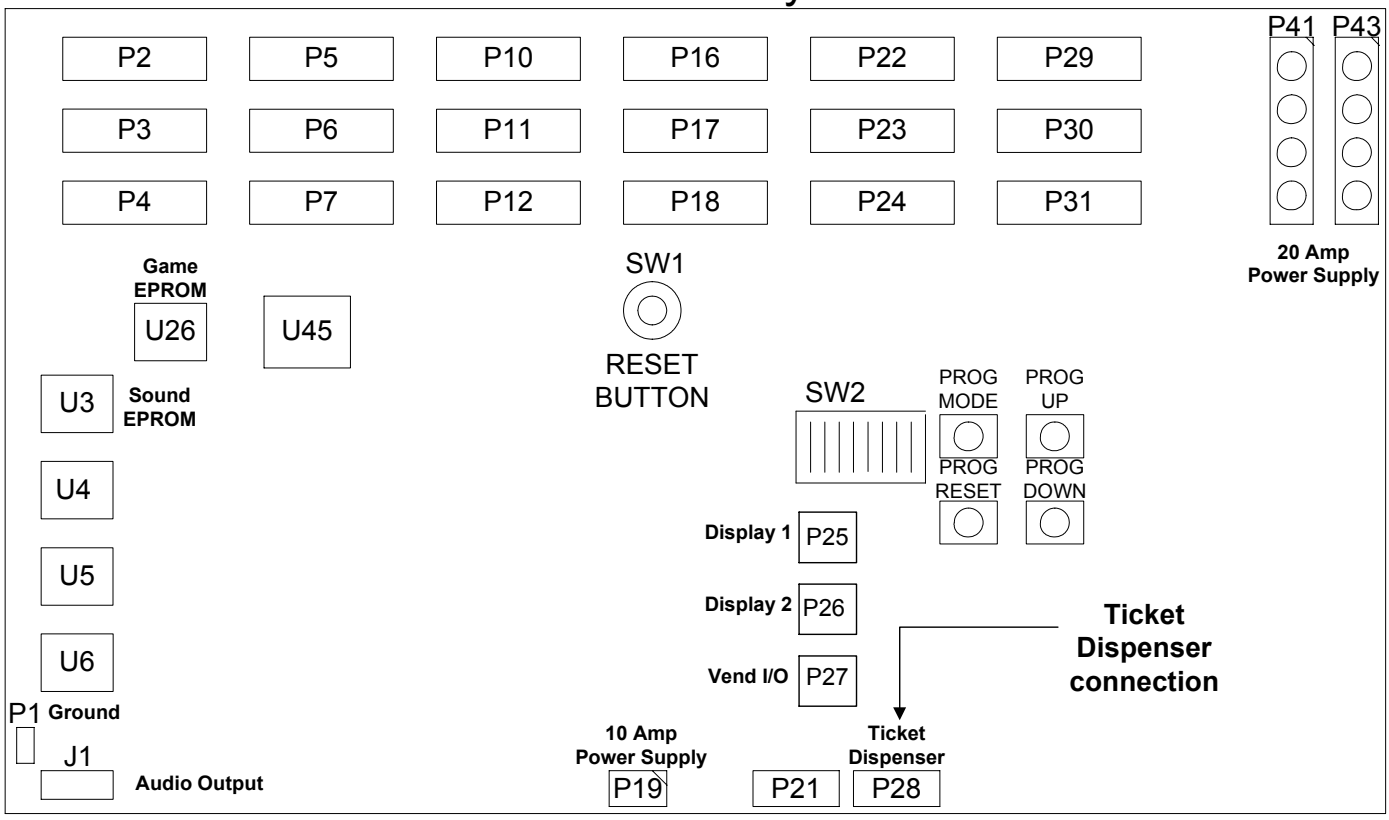
Appendix F

TECHNICAL ASSISTANCE

Resetting Game to Factory Defaults

Turn off the power from the power strip, after approximately 5 seconds, turn the power back on while holding down the *Prog Mode button*, hold it down for approximately ½ of

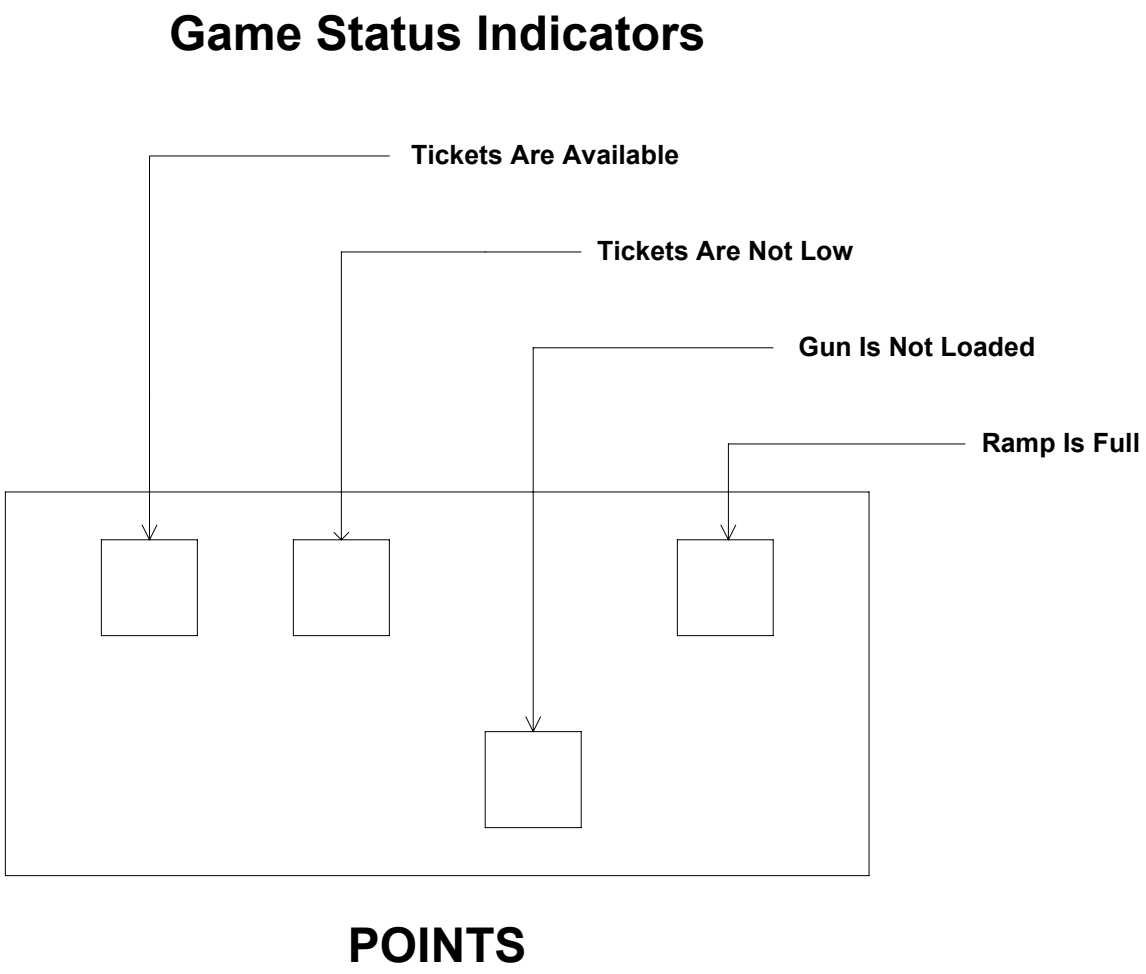
VTMUX Board
Connection Layout



a second.

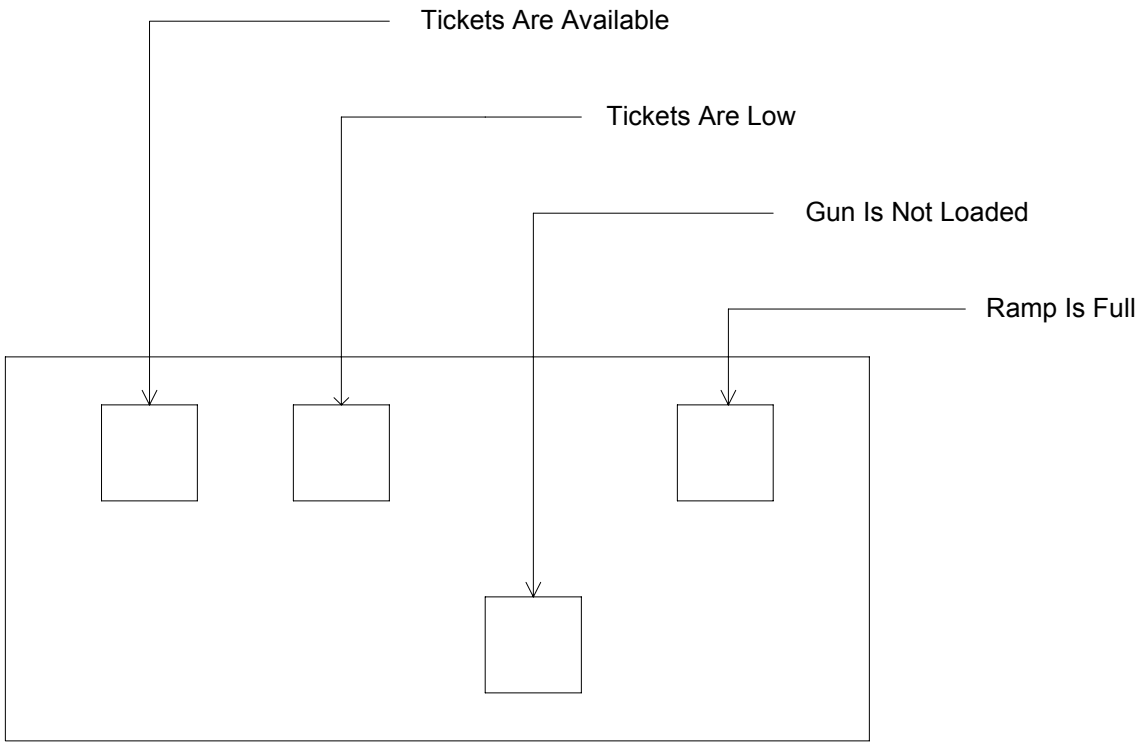
Step 32 Game Status Indicators

Go into Maintenance Mode, and proceed to Step 32



Symptom's and Possible Resolutions

Symptom	Resolution
The Game does not Feed Balls after tokens or coins have been inserted.	Checks to see if the Game1, Game2, or Game3 lights are illuminated? a) If none are and the minimum number of game play credits is displayed. Hold down the PROG MODE Button while turning on the Power (from the Power Strip), to set the game back to the factory defaults. b) If they are ON 1) Check Opto Board #4 position JP2 and verify that the RED LED is OFF with NO Ball in the Gun Trough. If the LED is ON or Flashing replace Opto board #4. 2) Go to STEP
Game is not running properly. 1 display is blank, and the other display has zeros.	1.Check the Power Supply connection to P41 or P43, make sure that there is a connection there. 2. Insure that the Red LED is illuminated on the back of 20 Amp Power Supply. a) If it is not illuminated replace the 20 Amp Power Supply. b) If it is illuminated replace the 10 Amp Power Supply.
Both displays are blank or have erroneous characters constantly being displayed.	1.Check the VTMUX Board and see if the Green LED is blinking on & off. If Not blinking: a) Check the 20 Amp Power Supply insure that the red LED is illuminated or verify that it is outputting 12volts. b) Check the 10 Amp Power Supply insure that the red LED is illuminated or verify that it is outputting 12 Volts.
NO Sound	Turn the POT R50 on the VTMUX board Clockwise until sound comes on.
	Make sure that the speaker cable assembly P1 is properly connected to J1.
Tickets Not Dispensing All the Time.	Enter into Maintenance Mode then go to STEP 33. Press the flashing Execute Button. A single ticket should dispense each time that you press the Execute Button. If it feeds more than a single ticket replace the Ticket Dispenser.
Balls Will Not Load in Gun Trough	1. Go into Maintenance Mode to Step 35 and press the execute button, and verify that the Gate Motor runs. If it does not run replace Gate motor Assembly. 2. If it passes Step 35 Remove connector from Opto board #4 P2 (Gun trough sensor) and plug


Tickets Are Available
Tickets Are Low
Gun Is Not Loaded
Ramp Is Full

Contacting Customer Service

Most distributors provide technical assistance for the products they sell. If your distributor cannot solve your problem, assistance can be obtained through Five Star Redemption. Call (818) 773-6056 extension 232 between the hours of 8:00 AM and 4:00 PM Pacific time, Monday through Friday, and ask for the service department.

Please have the following information available:

1. Type of Game
2. Serial Number
3. Distributor's Name
4. Description of Problem

The service technician may ask you to perform some tests on your machine, so it is preferable to call from the game's location if possible.

Five Star Redemption
ADDRESS AND TELEPHONE NUMBERS

8835 Shirley Avenue
Northridge, CA 91324
(818) 773-6057 Fax (818) 773-6064
Sales extension 1
Technical Support extension 2