

PRELIMINARY  
OWNER/OPERATOR'S  
SECTION

PAC-LAND U.R.

BALLY  
Midway MFG. CO

PRELIMINARY INSTRUCTIONS

FOR

P A C - L A N D

**INSTALLATION**

1. Unlock and open the coin box door.
2. Remove four (4) "CABINET LEVELING LEGS" from inside the coin box.
3. Tip the cabinet to the side and remove the shipping cleats from its bottom.
  - Locate the threaded holes - one in each corner - and install the "CABINET LEVELING LEGS" in them.
  - Level the cabinet.
  - When finished, the cabinet should be stable in the upright position.
4. Plug the game into a standard AC wall outlet **ONLY**.

**-----WARNING-----**

Game **MUST** be properly grounded.

5. The power ON/OFF switch is located:

**UPRIGHT MODEL:** On top of the cabinet toward the back.

**LINE VOLTAGE SAFETY INTERLOCK SWITCHES**

Line voltage SAFETY INTERLOCK SWITCHES have been provided for your protection. The locations of these SAFETY INTERLOCK SWITCHES are:

**UPRIGHT MODEL:** Inside the rear of the cabinet where the access door, when closed, will be able to depress the switch plunger.

When the cabinet access door(s) are secured in place, the SAFETY INTERLOCK SWITCH plunger(s) are in a fully depressed condition. The game circuit can function normally.

When any cabinet access door(s) are opened, the SAFETY INTERLOCK SWITCH plunger(s) are in partially extended condition. This isolates the game circuit from the line voltage.

To restore power to the game circuit with the access door(s) open, gently pull the SAFETY INTERLOCK SWITCH plunger(s) out to the fully extended condition. **THIS IS TO BE USED FOR SERVICING THE GAME ONLY!**

## TO SERVICE THE CONTROL PANEL(S)

### 1. UPRIGHT MODEL:

The control panel is held in place by Hassick clamps.

They are spring loaded to provide constant positive pressure on their latch plates.

They can be reached through the coin door **AFTER turning power to the game**

To release the clamps, lift up and toward the center of the control panel.

Once they are released, unhook them from their latch plates.

- To open the control panel for servicing:

Raise it up and tilt it toward you until you can see the cabling behind it

- The control panel is now loose and may be serviced but remains tethered to game by a plastic strap.

- To completely remove the control panel, disconnect it from its cabling and miscellaneous hardware, and remove the wing nut securing it to the plastic

The control panel is now free and can be removed.

- To reinstall the control panel(s), reverse this procedure.

## REMOVAL OF THE MAIN-DISPLAY-GLASS AND/OR THE T.V. BEZEL ASSEMBLY

### 1. UPRIGHT MODEL:

**NOTE:** In order to do this, the control panel **MUST** be removed first. See the "UPRIGHT MODEL" procedure.

- Turn the power to the game off and remove the control panel. This frees the main-display-glass so it can be removed.

- By putting your finger in the hole in the middle of the main-display-glass support, you can lift it up and out.

- Loosen the screws which secure the T.V. bezel-diffuser-clamps in place.

Move the clamps to the side and the bezel diffuser may be removed.

Remove the bezel securing screws and the bezel with its bezel-diffuser-clamp. Their screws may be removed.

- To reinstall the T.V. bezel assembly and the main-display-glass, reverse the procedure.

## VOLUME CONTROL POT / OPTION SWITCH LOCATIONS

The volume control pot(s) and option switches are located as shown in the attached Board reference drawing. For adjustment, it/they may be reached through the games access door.

To make the sounds louder, turn the volume pot clockwise as you face it.

To make the sounds less loud, turn the volume pot counterclockwise as you face it.

## GAME OPERATION

Your new game is a one or a two player model with a color T.V. monitor. The game has five possible modes of operation: ATTRACT, READY-TO-PLAY, PLAY, HIGH SCORE/INITIAL, and SELF-TEST.

### SELF-TEST MODE

The Self-Test mode is a special mode for checking the game switches and computer functions. It is the easiest and best way to check for proper operation of the entire game.

**NOTE:** Putting the game into Self-Test will cause it to erase any CREDITS it has on it from its memory.

You may begin a Self-Test at any time after the power to the game is on by pushing down on the spring loaded Self-Test switch. The game enters the Self-Test mode immediately. It will take about 5 seconds to perform the following 7 checks on itself.

1. ROM TEST: ROM OK appears.
2. RAM TEST: RAM OK appears.
3. SUB TEST: SUB OK appears.
4. UPRIGHT/TABLE: UPRIGHT appears.
5. COIN 1: 1 COIN 1 CREDIT appears.
5. COIN 2: 1 COIN 1 CREDIT appears.
6. MYPAC:  
(players) 3 appears.
7. RANK: A appears.
8. SOUND 00 appears. Pushing the left or right direction control buttons should cause the numbers to change **AND** a sound to be heard. Pushing the jump buttons, game start buttons, and the coin switches should cause **ONLY** a sound to be heard.
9. EXTEND TYPE: A appears.
10. ATS: ON appears.
11. RND: OFF appears.

### CROSS HATCH PATTERN

Pressing the service button while in the Self-Test mode causes a cross hatch pattern to appear on the monitor. Pressing it again, causes the cross hatch to disappear.

P A C   L A N D

OPTION SWITCH SETTINGS - DIP SWITCH "A"

////////////////////////////////////SELF-TEST MODE////////////////////////////////////

*            NORMAL OPERATION SELF-TEST ENGAGED	<table border="1"> <tr> <td><u>SW#1</u></td> <td><u>SW#2</u></td> <td><u>SW#3</u></td> <td><u>SW#4</u></td> <td><u>SW#5</u></td> <td><u>SW#6</u></td> <td><u>SW#7</u></td> <td><u>SW#8</u></td> </tr> <tr> <td>OFF</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ON</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	<u>SW#1</u>	<u>SW#2</u>	<u>SW#3</u>	<u>SW#4</u>	<u>SW#5</u>	<u>SW#6</u>	<u>SW#7</u>	<u>SW#8</u>	OFF								ON							
<u>SW#1</u>	<u>SW#2</u>	<u>SW#3</u>	<u>SW#4</u>	<u>SW#5</u>	<u>SW#6</u>	<u>SW#7</u>	<u>SW#8</u>																		
OFF																									
ON																									

////////////////////////////////////NUMBER OF PLAYER'S PER GAME////////////////////////////////////

*            1 PLAYER'S 2 PLAYER 4 PLAYER'S 5 PLAYER'S	<table border="1"> <tr> <td>OFF</td> <td>OFF</td> </tr> <tr> <td>OFF</td> <td>ON</td> </tr> <tr> <td>ON</td> <td>OFF</td> </tr> <tr> <td>ON</td> <td>ON</td> </tr> </table>	OFF	OFF	OFF	ON	ON	OFF	ON	ON
OFF	OFF								
OFF	ON								
ON	OFF								
ON	ON								

////////////////////////////////////COIN SWITCH NUMBER 1////////////////////////////////////

*            1 COIN            1 CREDIT 1 COIN            2 CREDITS 2 COINS           1 CREDIT 3 COINS           1 CREDIT	<table border="1"> <tr> <td>OFF</td> <td>OFF</td> </tr> <tr> <td>OFF</td> <td>ON</td> </tr> <tr> <td>ON</td> <td>OFF</td> </tr> <tr> <td>ON</td> <td>ON</td> </tr> </table>	OFF	OFF	OFF	ON	ON	OFF	ON	ON
OFF	OFF								
OFF	ON								
ON	OFF								
ON	ON								

////////////////////////////////////ATTRACT MODE SOUND////////////////////////////////////

*            SOUND IN ATTRACT MODE NO SOUND IN ATTRACT MODE	<table border="1"> <tr> <td>OFF</td> </tr> <tr> <td>ON</td> </tr> </table>	OFF	ON
OFF			
ON			

////////////////////////////////////COIN SWITCH NUMBER 2////////////////////////////////////

*            1 COIN            1 CREDIT 1 COIN            2 CREDITS 2 COINS           1 CREDIT 3 COINS           1 CREDIT	<table border="1"> <tr> <td>OFF</td> <td>OFF</td> </tr> <tr> <td>OFF</td> <td>ON</td> </tr> <tr> <td>ON</td> <td>OFF</td> </tr> <tr> <td>ON</td> <td>ON</td> </tr> </table>	OFF	OFF	OFF	ON	ON	OFF	ON	ON
OFF	OFF								
OFF	ON								
ON	OFF								
ON	ON								

*    INDICATES FACTORY RECOMMENDED SETTINGS	PART NO. M051-00B64-A007
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PAC - LAND

OPTIMIZER SWITCH SETTINGS - DIP SWITCH "B"

////////////////////////////////////// EXTENDED POINTS //

VARIOUS OPTIONS			SW#1	SW#2	SW#3	SW#4	SW#5	SW#6	SW#7	SW#8
A			OFF	OFF	OFF					
B			OFF	OFF	ON					
C			OFF	ON	OFF					
D			OFF	ON	ON					
E			ON	OFF	OFF					
F			ON	OFF	ON					
G			ON	ON	OFF					
H			ON	ON	ON					

////////////////////////////////////// DIFFICULTY LEVEL //

RANK	A	AVERAGE			OFF	OFF
RANK	B	EASY			OFF	ON
RANK	C	HARD			ON	OFF
RANK	D	VERY HARD			ON	ON

////////////////////////////////////// GAME CONTINUITY //

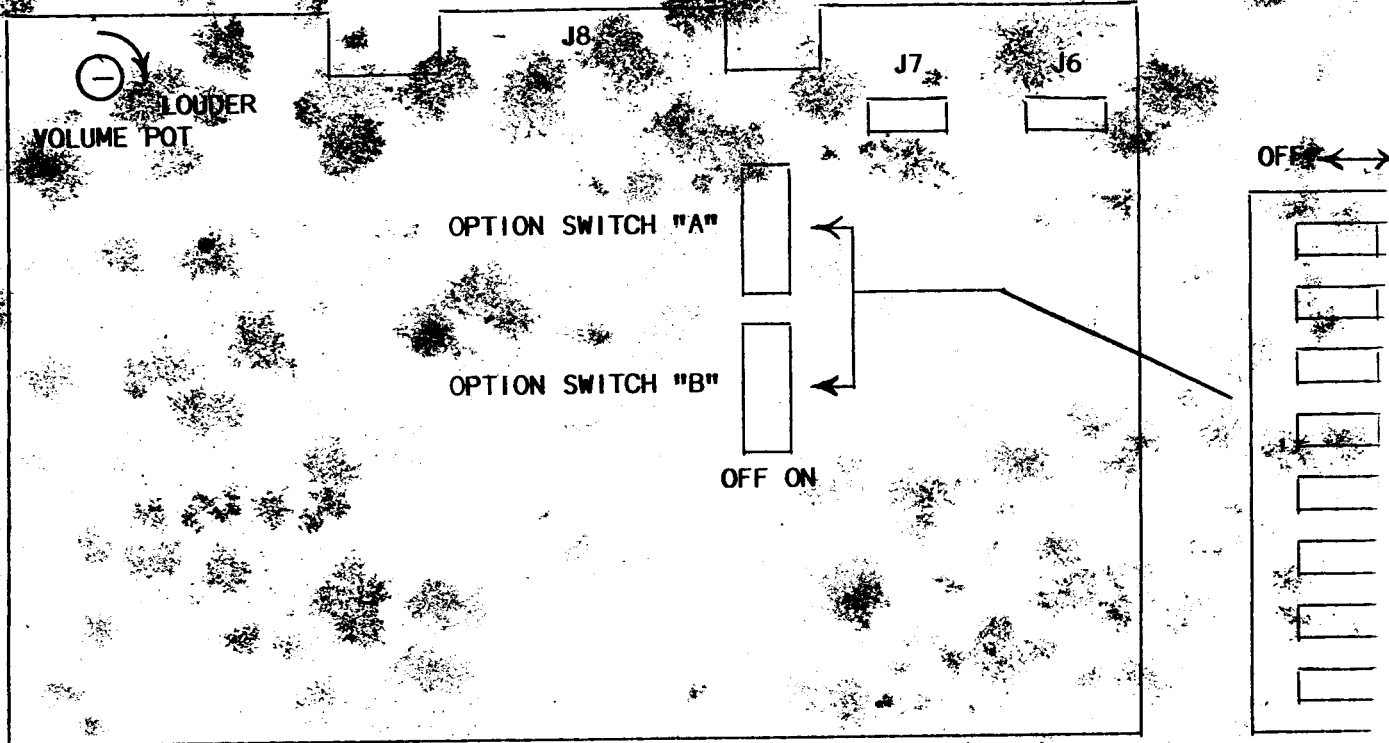
	NORMAL				OFF
	RUNNING				ON

////////////////////////////////////// FREEZE VIDEO //

	NORMAL				OFF
	FREEZE				ON

////////////////////////////////////// TRIP SELECT //

	YES				OFF
	NO				ON



//////////////////////////////////// EXTENDED POINTS TABLE //////////////////////////////////////

OPTION SWITCH SETTING	1ST EXTENSION AT:	2ND EXTENSION AT:	3RD EXTENSION AT:	4TH EXTENSION AT:	5TH EXTENSION AT:	6TH EXTENSION AT:
A	30,000	80,000	150,000	300,000	500,000	1,000,000
B	30,000	100,000	200,000	400,000	600,000	1,000,000
C	40,000	100,000	180,000	300,000	500,000	1,000,000
D	30,000	80,000	EVERY 100,000			
E	50,000	150,000	EVERY 200,000			
F	30,000	80,000	150,000			
G	40,000	100,000	200,000			
H	40,000					

## Pac Land Logic Board Connections

-----  
J8.44P Edge Connector (The pole key is located between E and F)  
225J-22221-488DDK (Pitch 3.96mm)

A	GND	1	GND
B	Speaker +	2	Speaker -
C	Lockout Solenoid	3	Coin Counter
D	1 P Start Lamp	4	2 P Start Lamp
E	+ 12v	5	+12v
F	+5v	6	+5v
H	GND	7	GND
J	Service Switch	8	Test Switch
K	Coin 1 Switch	9	Coin 2 Switch
L	1 P Start Switch	10	2 P Start Switch
M	Player 1 Jump Switch	11	Player 2 Jump Switch
N	Player 1 Left	12	Player 2 left
P		13	
R	Player 1 Right	14	Player 2 Right
S		15	
T		16	
U		17	
V		18	
W		19	
X		20	
Y	Coin Counter 2	21	Table GND
Z	GND	22	GND

### Notes:

1. The lockout solenoid and the coin counter's power supply is +12v.
2. The start lamp's power supply is +5v.
3. Each microswitch is connected onto the N.O. terminal. Each GND is connected onto the COM terminal.
4. TABLE GND - for the table, the GND is connected. Others, the GND is not connected.

### J6.6P Plug Housing (Socket Connector)

1	Video Red		
2	Video Green	Housing	1-480704-0
3	Video Blue	Contact	350689-1 AMP
4	Video Sync		
5	Video GND		
6			

### J7.3P Plug Housing (Socket Connector)

1	+12v 1A	Housing	1-480704-0
2	GND	Contact	350689-1 AMP
3	+5v 4A		





Free Man Points Table

	1st	2nd	3rd	4th	5th	6th
A	30,000	80,000	130,000	300,000	500,000	1,000,000
B	30,000	100,000	200,000	400,000	600,000	1,000,000
C	40,000	100,000	180,000	300,000	500,000	1,000,000
D	30,000	80,000	Every 100K			
E	50,000	150,000	Every 200K			
F	30,000	80,000	150,000			
G	40,000	100,000	200,000			
H	40,000					