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**--MARK--**

# SEGA

*MICHAEL JACKSON'S*  
**MOONWALKER™**

## **Owner's Manual**

**3 PLAYER UPRIGHT**

**SEGA ENTERPRISES, INC.**

999-0038

**MICHAEL JACKSON'S**

# **MOONWALKER™**

**BY:**  
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## **SPECIFICATIONS**

<b>INSTALLATION SPACE</b>	<b>: 28.5 INCHES X 33 INCHES</b>
<b>HEIGHT</b>	<b>: 97 INCHES</b>
<b>POWER</b>	<b>: 250 WATTS</b>
<b>DISPLAY TYPE</b>	<b>: 25 INCH COLOR MONITOR</b>
<b>WEIGHT</b>	<b>: 215 POUNDS</b>

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

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NOTE: DESCRIPTIONS HEREIN CONTAINED MAY BE SUBJECT TO IMPROVEMENT OR CHANGES WITHOUT NOTICE.

## **INTRODUCTION OF THE OWNER'S MANUAL**

SEGA ENTERPRISES, LTD., supported by its high electronic technology of LSIs, microprocessors, etc. and a wealth of experience, has for more than 30 years been supplying various innovative and popular game machines to the world market. This OWNER'S manual is intended to provide detailed comments together with all the necessary information covering the operation in general of electronic assemblies, electromechanical servicing control, spare parts, etc. The manual is intended for those who have knowledge of electricity and technical expertise especially in ICs, CRTs, microprocessors, etc. Carefully read so as to acquire sufficient knowledge before working on the machine. Should there be a malfunction, non-technical personnel should under no circumstances touch the interior system.

## **HANDLING PRECAUTIONS**

When installing or inspecting, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.

- o Be sure to turn the power off before working on the machine.
- o To insert or pull out the plug quickly is dangerous.
- o It is necessary to make sure that the power cord or the grounding wire is not exposed on the road, etc. in a manner so as to be dangerous. Make sure that grounding connections are made safely at the position where specified.
- o Do not use any fuse that does not meet the specified rating.
- o Make complete connections for the IC board and other connectors. Insufficient insertion is very dangerous.

Also, for the IC board circuit inspections, only the logic probe is allowed. The use of a tester is not permitted, so be careful in this regard. After confirming that there are no irregularities, turn the power ON.

## PREVENTION OF COUNTERFEITING AND CONVERSION

### LABELLING

To prevent counterfeits and conversions, the following labels are put on all the SEGA products. When handling such goods, be sure to confirm the labels. They are used to prevent illegal acts such as the unauthorized copying of the products and the printed circuit boards thereof or carrying on business by manufacturing similar merchandise or by converting, selling or using such products or printed circuit boards.

The following seal is put on the machines manufactured by SEGA



### ORIGINAL SEAL

### COPYRIGHT NOTICE

This SEGA product has the copyright notice as follows:

© SEGA 1990

This signifies that this work was disclosed in 1990 and is the property of SEGA ENTERPRISES, LTD.

## **PRECAUTIONS CONCERNING THE PLACE OF INSTALLATION**

This is an indoor game machine. Absolutely do not install it outside. Even indoors, avoid installing in places mentioned below so as to ensure proper usage:

- o Places subject to rain or water leakage, or condensation due to humidity.
- o In the proximity of an indoor swimming pool and/or shower.
- o Places subject to direct sunlight.
- o Places subject to heat sources from heating units, etc., or hot air.
- o Vicinity of highly flammable/volatile chemicals or hazardous matter.
- o Sloped surfaces.
- o Vicinity of anti-disaster facilities such as fire exits and fire extinguishers.
- o Places subject to any type of violent impact.
- o Dusty places.
- o Residential Environment - (See F.C.C. statement below)

## **F.C.C. REQUIREMENTS**

The Federal Communications Commission requires that all Class A equipment be verified and labeled as follows:

**This equipment complies with the requirements in part 15 of FCC Rules for a Class A computing device. Operation of this equipment in a residential area may cause unacceptable interference to radio and TV reception requiring the operator to take what ever steps are necessary to correct the interference.**

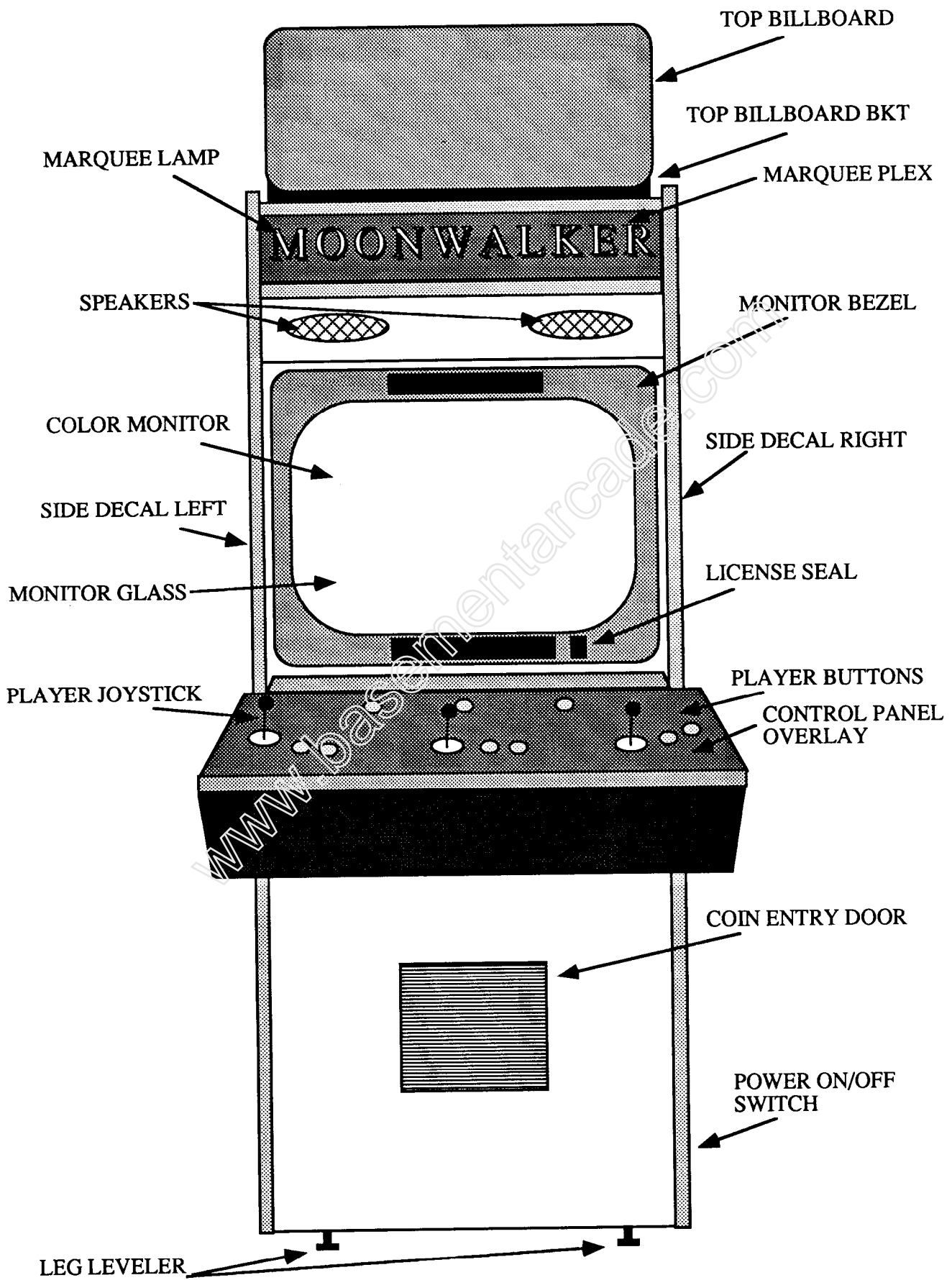
*This label must be permanently attached in a conspicuous location and the text must be legible. If this label is removed or tampered with, such action is punishable under Section 503 of the Communications Act of 1934 (ACT), as amended.*

## **OPENING THE CONTROL PANEL FOR SERVICE OR TO GAIN ACCESS TO THE PC BOARD AREA.**

To open the control panel and gain access to the PC Board for maintenance or replacement follow these procedures:

**NOTE: Use caution in lowering the control panel, so it does not fall. When ready to lower the control panel close the service door and remove the key so this does not damage the control panel overlay or the key.**

- o Open the Coin Door, and disengage the 2 Super Clamps holding the control panel. This can be done by putting your arm through the coin door opening and reach up to the upper right hand corner of the control panel and un-latch the super clamp. Repeat this process for the clamp in the upper left hand corner.
- o To remove the control panel, remove the four bolts on the hinge that hold the panel in place, and disconnect the control panel harness.
- o To gain access to the PC Board remove the cover of the RFI cage by pulling upward on the Ny-latch fasteners.

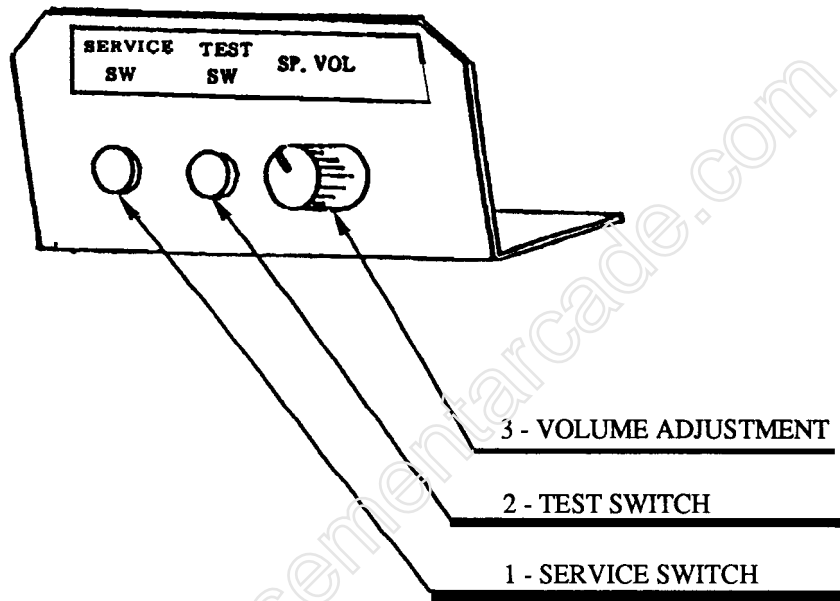


## MOONWALKER PARTS LIST

PART NUMBER	DESCRIPTION	QTY
880302500	MONITOR, 25" STD RES	1
880903100	LAMP, FLUORESCENT 15W	1
880801200	FIXTURE, FLUORESCENT 15W	1
999-0038	MANUAL	1
421-5801-127	LICENSE SEAL, MOONWALKER	1
421-6709	STICKER, SERVICE INSTRUCTIONS	1
999-0044	MARQUEE PLEX	1
999-0041	TOP BILLBOARD	1
999-0053	MONITOR CARD, 25"	1
999-0052	CONTROL PANEL OVERLAY	1
999-0045	DECAL, SIDE LEFT	1
999-0046	DECAL, SIDE RIGHT	1
999-0042	DECAL, MICHAEL JACKSON	2
889902300	RHEOSTAT, 100 OHM 10W	1
860800400	BUTTON, RED	2
860800500	BUTTON, BLUE	2
860800700	BUTTON, WHITE	5
889900400	SWITCH, PB MOMENTARY	2
880301000	TRANSFORMER	1
600-5891-09	WIRE HARN, 56P, 3P	1
889900100	KNOB, 1/8"	1
833-7528-01	GAME PCB, SYSTEM 18 MOONWALKER	1
839-0207	FILTER BOARD, GF	1
800804000	SHIELD LID, (HL-4102)	1
800802900	SHIELD CASE, (HL-4104)	1
860800600	JOYSTICK, 8 WAY	3
880800700	ENCLOSURE, COIN HOUSING TRIPLE ENTRY	1
860300700	BRACKET, MARQUEE, PLASTIC TOP	1
860300800	BRACKET, MARQUEE, PLASTIC BOTTOM	1
999-0048	BRACKET, TOP BILLBOARD	1
851500700	MONITOR BEZEL	1
911500200	MONITOR GLASS	1
880802000	SPEAKER	2
880300700	POWER SUPPLY	1
890300100	LEVELER, LEG	4
890300500	CONTROL PANEL LATCH	2

## SERVICE SWITCHES

Open the COIN CHUTE DOOR, and the following SERVICE SWITCH layout will appear:



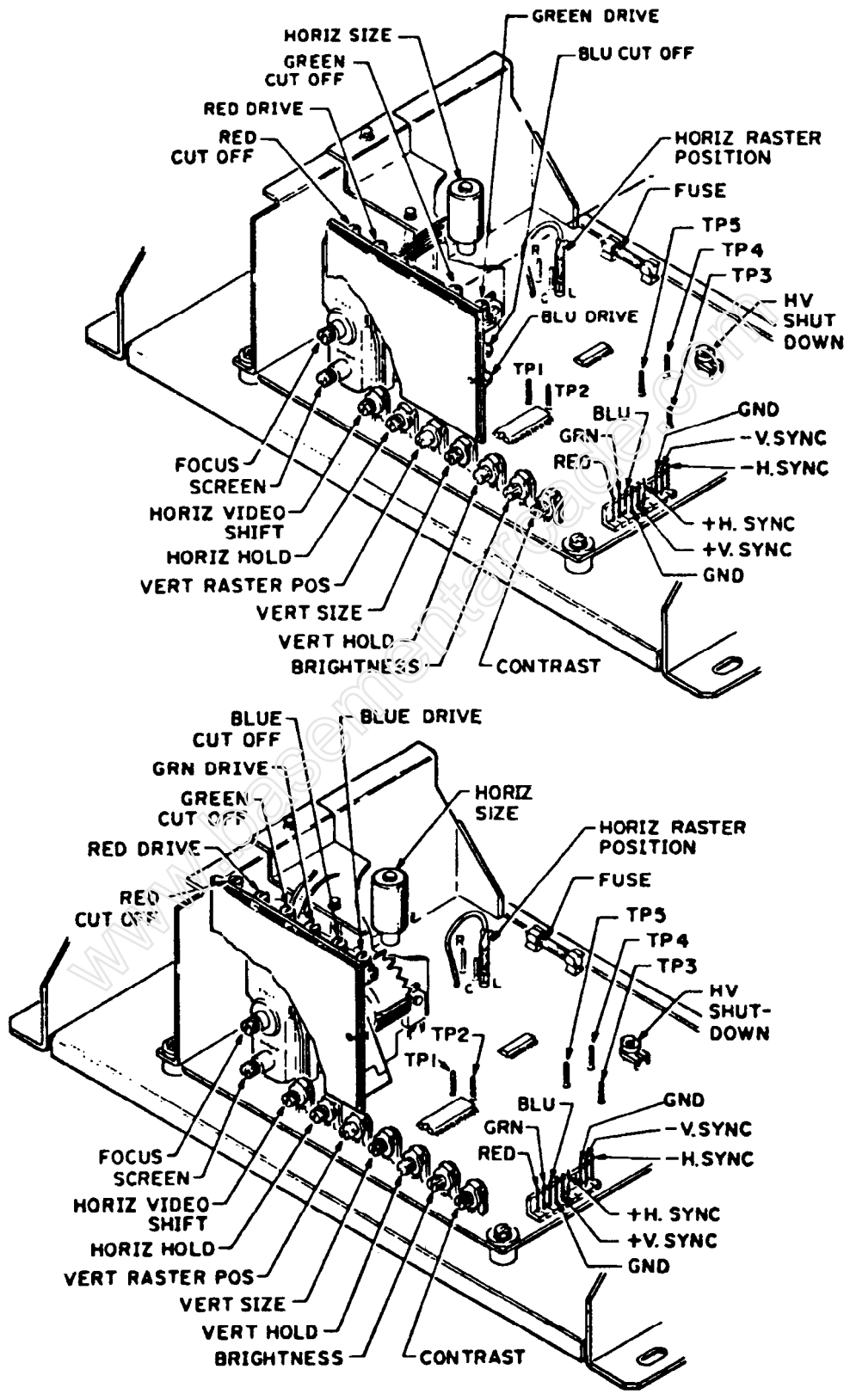
- |                       |  |
|-----------------------|--|
| (1) SERVICE SWITCH    | Used for the purpose of servicing and increasing the credits without registering on the meter (this allows you to check the game). |
| (2) TEST SWITCH       | For the operation of this switch, see SELF-TEST.   |
| (3) VOLUME ADJUSTMENT | Used for adjusting the volume of the speaker.  |

# MOONWALKER

## PIN ASSIGNMENTS

PIN ASSIGNMENTS (JAMMA)			JST CONNECTOR 12 PIN		
<u>COMPONENT SIDE</u>			<u>SOLDER SIDE</u>		
GND	1	A	GND	1	(NOT USED)
GND	2	B	GND	2	3P (RP) SHOT
+5V	3	C	+5V	3	3P (RP) DANCE
+5V	4	D	+5V	4	(NOT USED)
(NOT USED)	5	E	(NOT USED)	5	3P (RP) SERVICE
+12V	6	F	+12V	6	(NOT USED)
(NOT USED)	7	H	(NOT USED)	7	3P (RP) DOWN
COIN METER 1	8	J	COIN METER 2	8	3P (RP) UP
(NOT USED)	9	K	(NOT USED)	9	3P (RP) RIGHT
SPEAKER (+)	10	L	SPEAKER (-)	10	3P (RP) LEFT
(NOT USED)	11	M	(NOT USED)	11	(NOT USED)
RED	12	N	GREEN	12	GND
BLUE	13	P	SYNC		
GND(SYNC)	14	R	SERVICE		
TEST	15	S	(NOT USED)		
COIN 3 (RP)	16	T	COIN 2 (CP)		
1P (LP) START	17	U	2P (CP) START		
1P (LP) UP	18	V	2P (CP) UP		
1P (LP) DOWN	19	W	2P (CP) DOWN		
1P (LP) LEFT	20	X	2P (CP) LEFT		
1P (LP) RIGHT	21	Y	2P (CP) RIGHT		
1P (LP) SHOT	22	Z	2P (CP) SHOT		
1P (LP) DANCE	23	a	2P (CP) DANCE		
(NOT USED)	24	b	(NOT USED)		
1P (LP) SERVICE	25	c	2P (CP) SERVICE		
3P (RP) START	26	d	COIN 1 (LP)		
GND	27	e	GND		
GND	28	f	GND		

LP -> LEFT PLAYER  
 CP -> CENTER PLAYER  
 RP -> RIGHT PLAYER



# MONITOR ADJUSTMENTS

## **In Case of Difficulty**

### **No Raster/No Video**

- Check A.C. line cord
- Check line fuse
- Check monitor brightness
- Check power switch and/or interlock switch
- Check all solder connections on line filter and transformer
- Check for proper orientation of the 56 pin PCB connector

### **Raster/No Video**

- Check all PCB to monitor connections
- Check power supply voltage on PCB

### **No Video/Game sounds can be heard**

- Check monitor brightness
- Check all PCB to monitor connections

### **Incorrect Colors**

- Monitor needs degaussing
- Check for proper wiring between PCB and monitor
- Check monitor adjustment and adjust if necessary

### **Wavy Picture**

- Check monitor ground is properly connected to monitor
- Be certain sync inputs are properly connected to monitor
- Check horizontal hold adjustment

### **Vertical Roll/Horizontal Tear**

- Check horizontal and/or vertical hold adjustments
- Check for proper wiring of sync from PCB to monitor

### **No Sound**

- Check volume control potentiometer adjustment
- Check for + 12 volts on edge connector of PCB
- Check wiring from PCB to speaker
- Check speaker for low resistance between the " + " and " - " tabs

### **Bad Sound**

- Check wiring to speaker for bad solder connections
- Check sound with another speaker

### **No Switch Input**

- Check ground connection to switches
- Check wiring between PCB and switch/es for proper connection
- Check switch/es with an ohm meter to verify proper operation

### **Switch Operates Incorrect Function**

- Check wiring between PCB and switches for proper orientation
- Check wiring for shorts between switch inputs

### **No Coin Meter**

- Check wiring to coin meter
- Check that + 5 volts is on + side of meter
- Verify a + 5 volt meter is used

### **When coin switch is made and meter pulses, the screen blanks out and/or game resets**

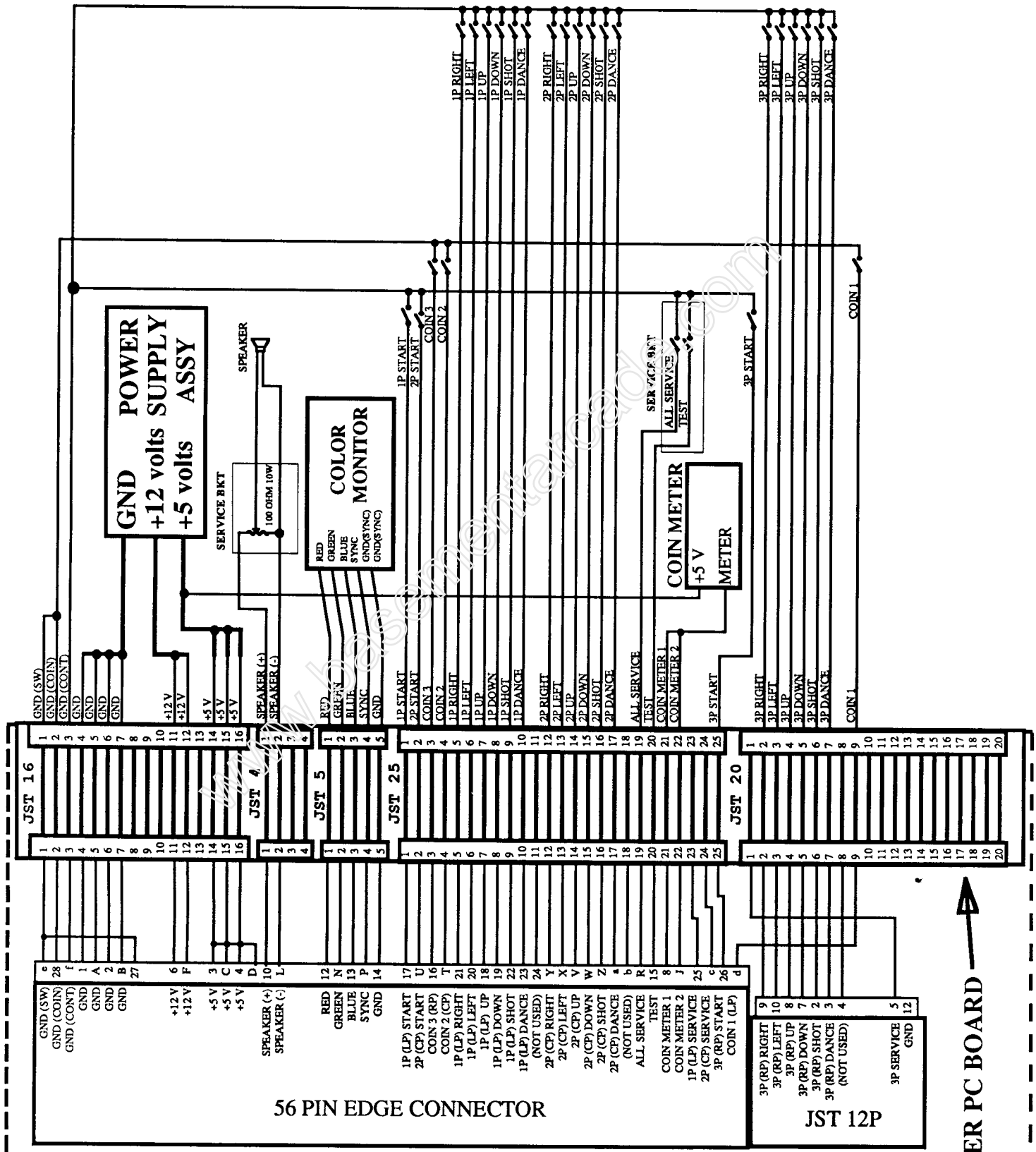
- Verify that a meter with a diode is used
- If no diode is built in meter a 1N4004 can be used across the meter. Cathode to "+" side of meter and anode to "-" side of meter.

# MOONWALKER

## DIP SWITCH ASSIGNMENT

COIN / CREDIT OPTION SWITCH SETTING				DIP SW #1					
OPTION	1	2	3	4	5	6	7	8	
1 COIN 1 CREDIT	OFF	OFF	OFF	OFF					
1 COIN 2 CREDITS	ON	OFF	OFF	OFF					
1 COIN 3 CREDITS	OFF	ON	OFF	OFF					
1 COIN 4 CREDITS	ON	ON	OFF	OFF					
1 COIN 5 CREDITS	OFF	OFF	ON	OFF					
1 COIN 6 CREDITS	ON	OFF	ON	OFF					
2 COINS 1 CREDIT	OFF	ON	ON	OFF					
3 COINS 1 CREDIT	ON	ON	ON	OFF					
4 COINS 1 CREDIT	OFF	OFF	OFF	ON					
2 COINS 3 CREDITS	ON	OFF	OFF	ON					
2 COINS 1 CREDIT	OFF	ON	OFF	ON					
4 COINS 2 CREDITS									
5 COINS 3 CREDITS									
6 COINS 4 CREDITS									
2 COINS 1 CREDIT	ON	ON	OFF	ON					
4 COINS 3 CREDITS									
1 COIN 1 CREDIT	OFF	OFF	ON	ON					
2 COINS 2 CREDITS									
3 COINS 3 CREDITS									
4 COINS 4 CREDITS									
5 COINS 6 CREDITS									
1 COIN 1 CREDIT	ON	OFF	ON	ON					
2 COINS 2 CREDITS									
3 COINS 3 CREDITS									
4 COINS 5 CREDITS									
1 COIN 1 CREDIT	OFF	ON	ON	ON					
2 COINS 3 CREDITS									
FREE PLAY	ON	ON	ON	ON					
				COIN SW		NOT USED			

GAME OPTION SWITCH SETTINGS				DIP SW #2				
OPTION	1	2	3	4	5	6	7	8
1 CREDIT TO START	OFF							
2 CREDITS TO START	ON							
ADVERTISE OFF		OFF						
SOUND ON		ON						
NUMBER OF PLAYERS 2			OFF					
PLAYERS 3			ON					
PLAYER INITIAL LOW				OFF				
VITALITY HIGH				ON				
PLAY MODE 3-P					OFF			
MODE 2-P					ON			
COIN CHUTE MODE INDIVIDUAL						OFF		
MODE COMMON						ON		
GAME DIFFICULTY NORMAL							OFF	OFF
EASY							ON	OFF
HARD							OFF	ON
HARDEST							ON	ON



# MOONWALKER PCB - SYSTEM 18

RFI FILTER PC BOARD