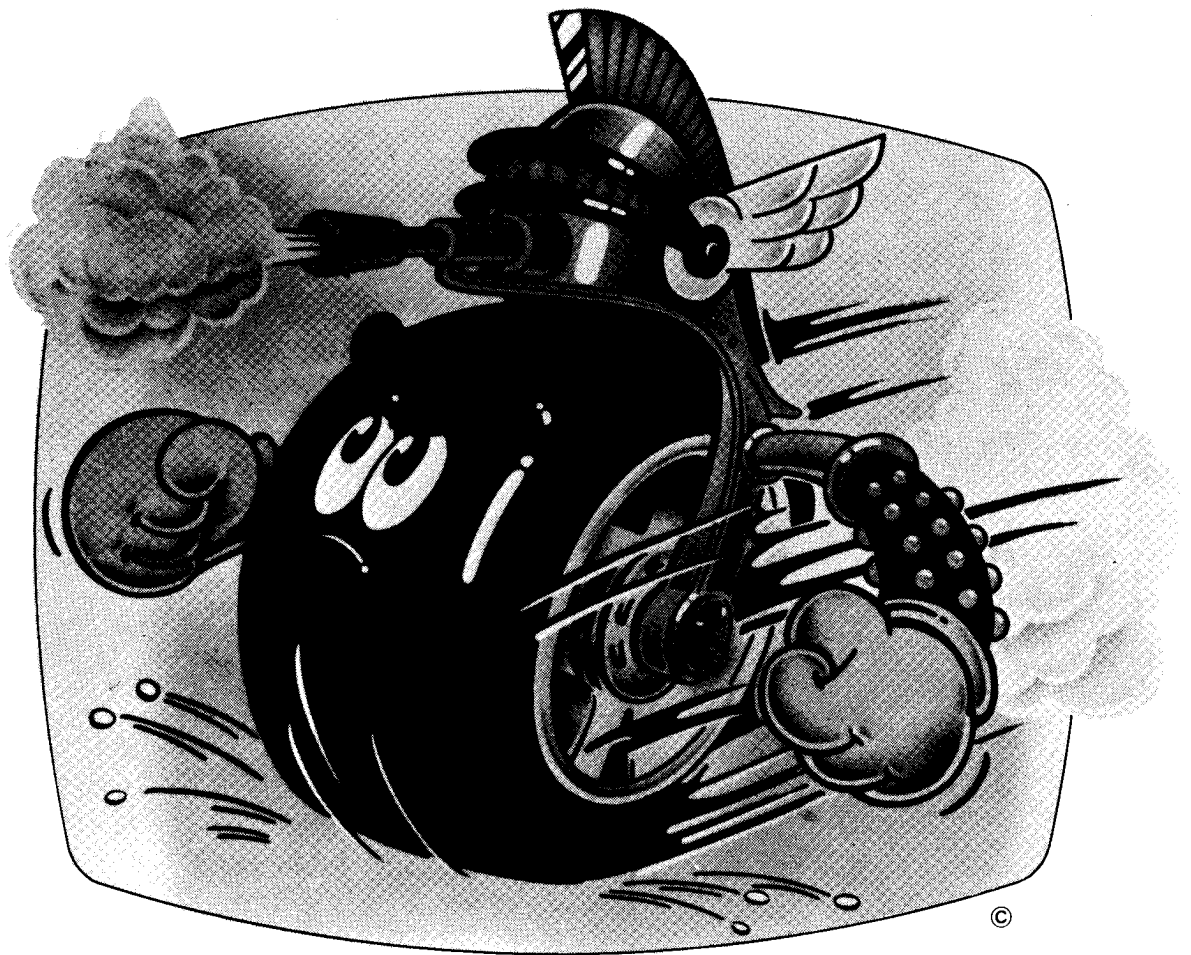


CONVERSION KIT
INSTRUCTION MANUAL

**RADICAL
RADIAL**™



Nichibutsu
Nichibutsu U.S.A. Corp.

1 LICENSE SEAL

The license seal can be displayed on the game machine as FIGURE 1. The license seal must be visible. Use caution so that the seal may not be peeled away thus losing the identity of the P.C. Board. Nichibutsu issues only one license seal for each board sold and no duplicates will ever be made. Put the seal on the back of the little window provide on our marquee or on the back of any clear glass or plastic overlay that you might be using.

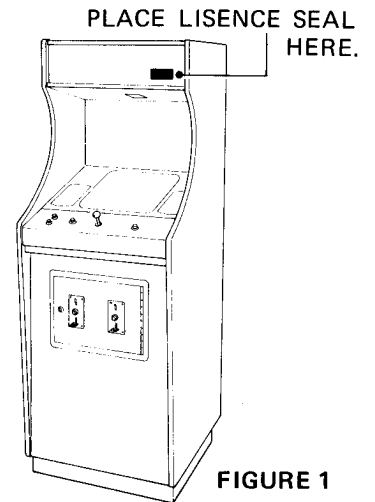


FIGURE 1

2 POWER REQUIREMENTS

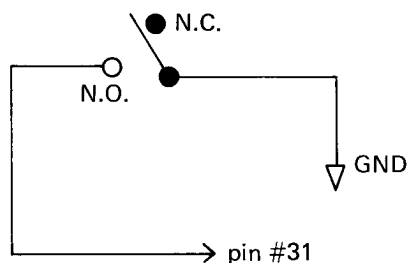
The P.C. Board requires a power supply of
+ 5 V 3 A ($\pm 5\%$) for game logics,
+12 V 1 A ($\pm 10\%$) for audio IC only.

3 CONTROL PANEL SECTION

A 8-way joystick and a shoot button are required.
RADICAL RADIAL will not work properly with a 4-way joystick.

4 COIN SELECTOR WIRING

A coin selector switch may be connected to either pin 13 (coin 1) or pin 14 (coin 2).



5 CONNECTOR PLUG

- 1) Cut the connector-plug as needed, so that it can plug into your game machine connector.
- 2) Insert the connector-plug into your own game connector.
Use a pencil and mark "R", "L", "+5", etc. according to signal at the pin on the connector.
- 3) Connect the connector-plug and 36-pin edge connector of RADICAL RADIA with wires.
(FIGURE 2).
Pin Marked "L" will be connected to pin # 11 of RADICAL RADIAL connector.
Pin Marked "R" will be connected to pin # 12 of RADICAL RADIAL connector etc.
(See wiring diagram)

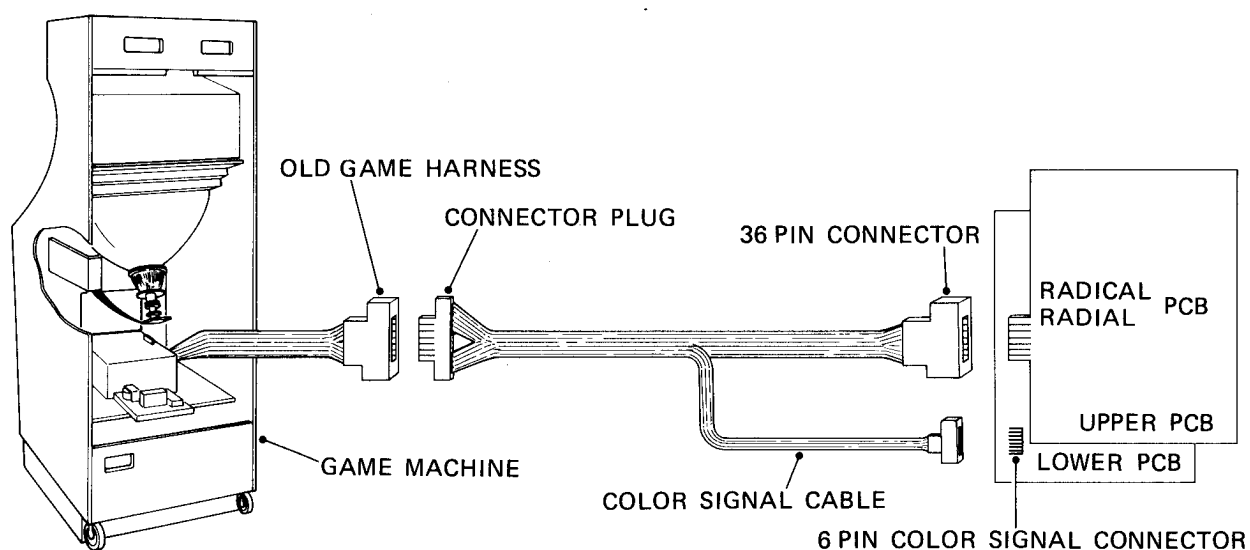


FIGURE 2

WARNING:

Wiring of the harness that supplies the power (+5V, +12V) to the P.C. Board must be connected as specified or damage may occur.

Before inserting a RADICAL RADIAL P.C.B. into the connector, check the voltage of these pins carefully.

Pin # 1, 2, 33, 34, 35, 36 = GND (0V)
Pin # 5, 6, 29, 30, 31, 32 = +5V
Pin # 28 = +12V

6 TV MONITOR

A color signal cable is provided to connect R.G.B. and SYNC signals from 6-pin connector located at right corner of the lower P.C. Board to the harness or to the TV Monitor directly.

Pin No.	Signal
1.	RED
2.	BLUE
3.	GREEN
4.	SYNC
5.	GND
6.	N.C.

TV monitor has to be equipped with TTL input level.

TV monitor must be placed vertical.

RADICAL RADIAL P.C. Board is designed to be used with "1-SYNC" signal monitor.

However, if your TV monitor has a "2-SYNC" signal connect as dotted line in FIGURE 3.

Pin #4 = V SYNC

Pin #6 = H SYNC

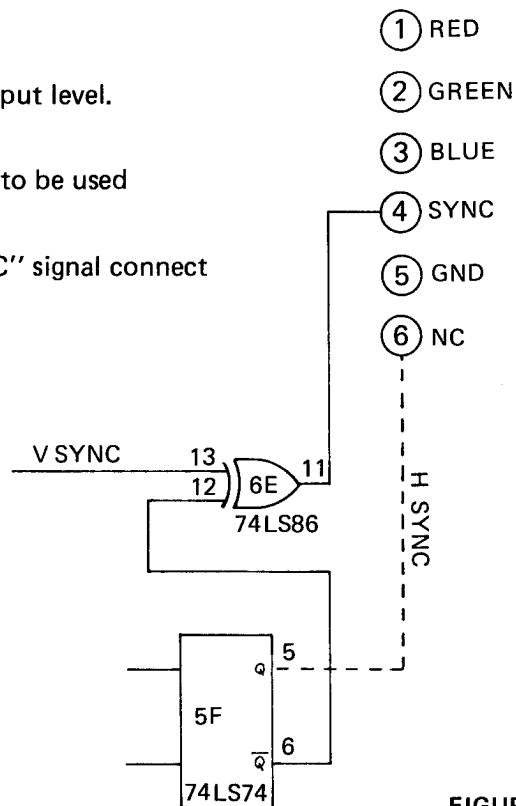


FIGURE 3

7 THE KITS INCLUDE

A. Instruction	1 pc
B. License Seal	1 pc
C. Marquee	1 pc
D. "How to play" card	2 pcs
E. Z-Bracket	4 pcs
F. Color Signal Cable	1 pc
G. 36-pin Connector	1 pc
H. Connector Plug	1 pc
I. Printed Circuit Board	1 pc

8 THE SCREEN DISPLAY UPSIDE-DOWN OR BACKWARDS

Four wires are attached to the monitor deflection yoke.

Two for the horizontal control, and other two for the vertical control. When the picture is upside down, disconnect the two horizontal wires and swap the connection.

When the picture is backwards, disconnect the two vertical wires and swap the connection.

See figure 5a and 5b.

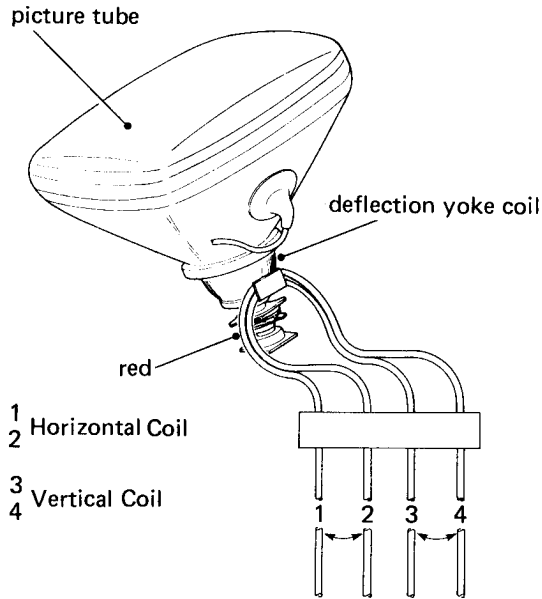


FIGURE 5a

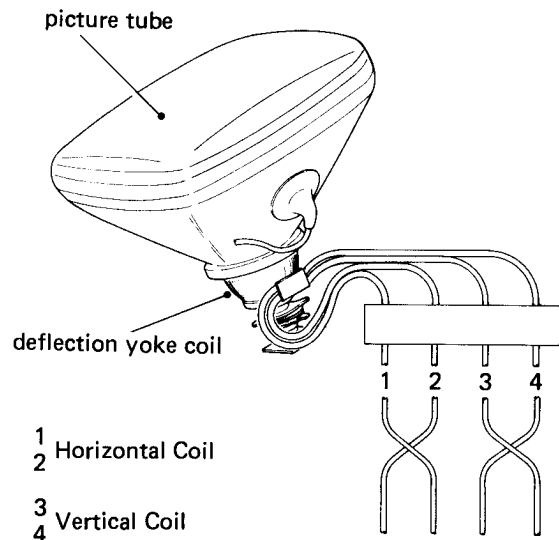
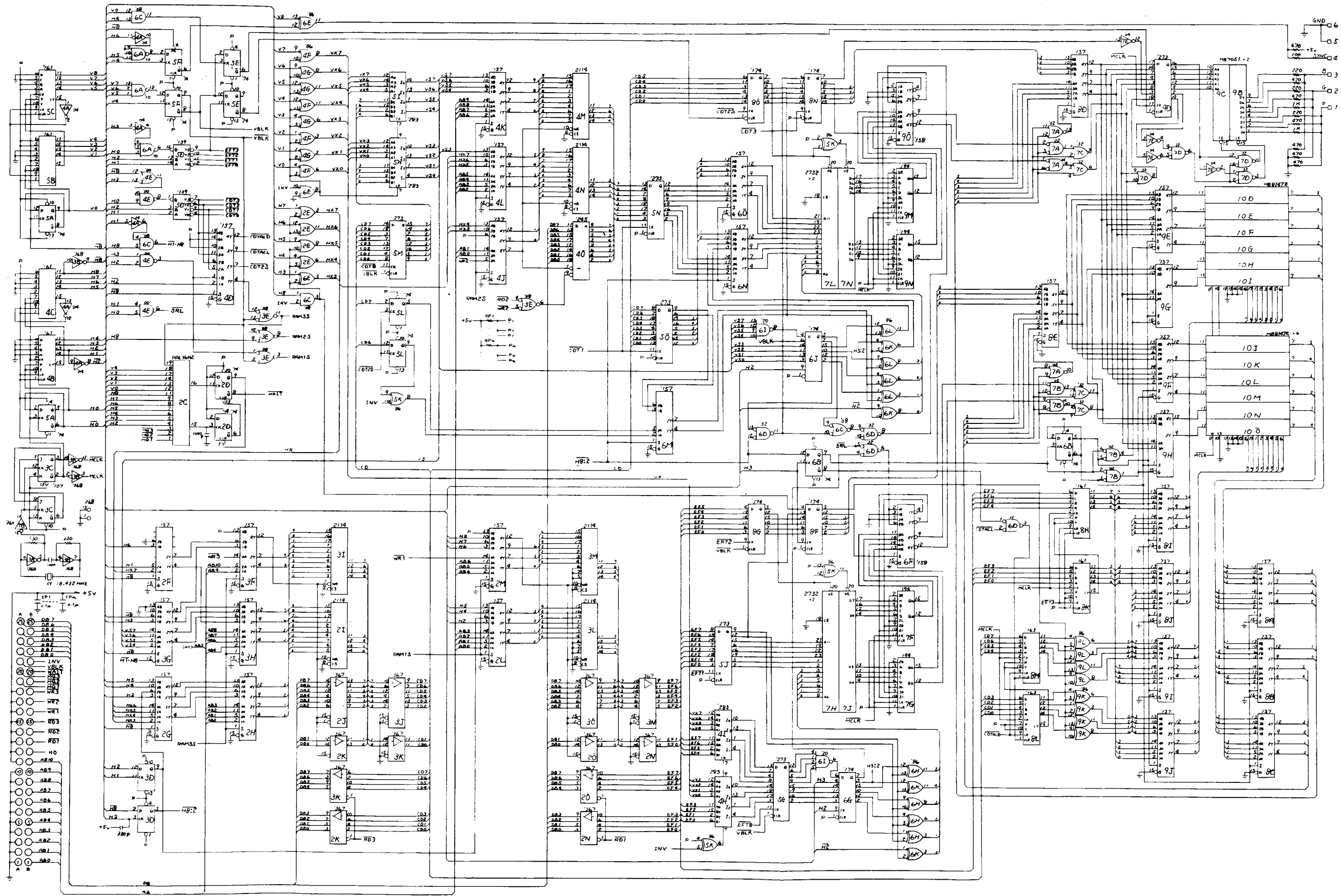


FIGURE 5b

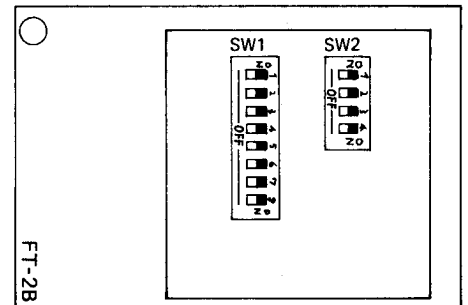


■ SELECTOR 1 (SW.1)

	1	2	3	4	5	6	7	8
TABLE								OFF
UPRIGHT								ON
TIRES 2						OFF	OFF	
TIRES 3						OFF	ON	
TIRES 4						ON	OFF	
TIRES 5						ON	ON	
BONUS Pt.					OFF			
BONUS Pt.					ON			
FREE PLAY	OFF	OFF	OFF	OFF				
1COIN 1PLAY	OFF	OFF	OFF	ON				
2COIN 1PLAY	OFF	OFF	ON	OFF				
3COIN 1PLAY	OFF	OFF	ON	ON				
4COIN 1PLAY	OFF	ON	OFF	OFF				
5COIN 1PLAY	OFF	ON	OFF	ON				
6COIN 1PLAY	OFF	ON	ON	OFF				
7COIN 1PLAY	OFF	ON	ON	ON				
1COIN 2PLAY	ON	OFF	OFF	ON				
2COIN 2PLAY	ON	OFF	ON	OFF				
3COIN 2PLAY	ON	OFF	ON	ON				
4COIN 2PLAY	ON	ON	OFF	OFF				
5COIN 2PLAY	ON	ON	OFF	ON				
6COIN 2PLAY	ON	ON	ON	OFF				
7COIN 2PLAY	ON	ON	ON	ON				

■ SELECTOR 2 (SW.2)

	1	2	3	4
1COIN 1PLAY	OFF	OFF	OFF	OFF
1COIN 2PLAY	OFF	OFF	OFF	ON
1COIN 3PLAY	OFF	OFF	ON	OFF
1COIN 4PLAY	OFF	OFF	ON	ON
1COIN 5PLAY	OFF	ON	OFF	OFF
1COIN 6PLAY	OFF	ON	OFF	ON
1COIN 7PLAY	OFF	ON	ON	OFF
1COIN 8PLAY	OFF	ON	ON	ON
2COIN 1PLAY	ON	OFF	OFF	OFF
2COIN 2PLAY	ON	OFF	OFF	ON
2COIN 3PLAY	ON	OFF	ON	OFF
2COIN 4PLAY	ON	OFF	ON	ON
2COIN 5PLAY	ON	ON	OFF	OFF
2COIN 6PLAY	ON	ON	OFF	ON
2COIN 7PLAY	ON	ON	ON	OFF
2COIN 8PLAY	ON	ON	ON	ON



■ WIRING DIAGRAM

SOLDERING SIDE		PART SIDE		SOLDERING SIDE		PART SIDE	
GND	1	2	GND	2P LEFT	19	20	2P RIGHT
2P SHOOT	3	4	2P JUMP	SERVICE	21	22	1P SHOOT
+ 5V	5	6	+ 5V	1P JUMP	23	24	
1P UP	7	8	1P DOWN		25	26	SPEAKER
	9	10			27	28	+ 12V
1P LEFT	11	12	1P RIGHT	+ 5V	29	30	+ 5V
COIN 1	13	14	COIN 2		31	32	
1P START	15	16	2P START	GND	33	34	GND
2P UP	17	18	2P DOWN		35	36	



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