

MANUAL

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1. P.C.BOARD SPECIFICATIONS

POWER SUPPLY:

VOLTAGE 5V ± 5%

12V ± 10%

AMPERE 5V MAX. 5A

12V MAX. 1A

MONITOR INTERFACE:

V.SYNC PULSE

VIDEO SIGNALS · · · TTL POSITIVE

SYNC SIGNALS ... TTL NEGATIVE (COMPOSITE SYNC)

HORIZONTAL FREQUENCY \cdots 15.723KHz H.PERIOD \cdots 63.6 μ s H.BLANK \cdots 15.6 μ s \cdots 6.0 μ s VERTICAL FREQUENCY \cdots 60.0Hz V.PERIOD \cdots 16.663ms \cdots 1.40ms

TOLERABLE:	WHILE OPERATING	IN STORAGE
TEMPERATURE	0 TO 50 °C	-5 TO 60 ℃
RELATIVE HUMIDITY	20 TO 70%	NO MORE THAN 80%
VIBRATION	NO MORE THAN 0.5G	NO MORE THAN 1.0G
DROPPING DISTANCE	NO MORE THAN 0 cm	(When packed) NO MORE THAN 50 cm

· · · 318 д s

2. DIP SWITCHES

DIP SW1

						SW 1			
		1	2	3	4	5	6	7	8
Given holes	2	OFF							
(Stroke play)	1	ON							
Given holes (Match play, Skins game)	2		OFF						
Skins game)	1		ON						
	NORMAL			OFF					
Difficulty	HARD			ON					
Control panel	2 Joysticks					OFF			
(See below)	4 Joysticks					ON			
Any button	NO						OFF		
starts game	YES						ON		
Sound In	NO							OFF	
attracting mode	YES							ON	
Diagnostic test	NO								OFF
	YES								ON

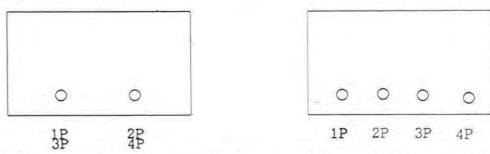
4	CABINET(DIP	2-21 8	CONTROL	PANEL	(DIP	1-5)

☆ One side(Upright type): 2 joysticks
DIP 2-2.OFF, 1-5.OFF

DIP 2-2.OFF, 1-5.ON

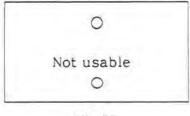
DIP 2-2.OFF

DIP 2-2.O



☆ Both sides(Table type): 2 joysticks
DIP 2-2.0N, 1-5.0FF

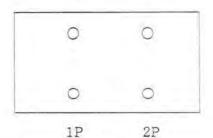
N, 1-5.OFF 2P.4P



1P · 3P

☆ Both sides(Table type):4 joysticks DIP 2-2.0N, 1-5.0N

4P



3P -

* The game is not programmed to be played with 1 joystick only on the control panel.

DIP SW2

								SW 2			
				1	2	3	4	5	6	7 -	8
FL	FLIP		NO	OFF							
PI	CTURE	3	YES	ON							
CA	BINET		UPRIGHT		OFF						
TY	PE		TABLE	7	ON						
CC	OIN		SHARED			OFF					
CF	HUTES		SEPARATE			ON				,	
COIN MODE	MODE	1	1 COIN 1 PLAY 2 COINS 1 PLAY 3 COINS 1 PLAY 4 COINS 1 PLAY 5 COINS 1 PLAY 6 COINS 1 PLAY 1 COIN 2 PLAYS 1 COIN 3 PLAYS 1 COIN 4 PLAYS 1 COIN 5 PLAYS 1 COIN 6 PLAYS 2 COINS 3 PLAYS 2 COINS 3 PLAYS 4 COINS 3 PLAYS 4 COINS 3 PLAYS 1 COIN CONTINUE FREE PLAY				OFF OFF OFF OFF OFF OFF OFF OFF OFF OFF	OFF ON OFF ON OFF ON OFF ON OFF ON OFF ON	OFF OFF ON OFF ON OFF ON OFF ON OFF ON OFF ON	OFF OFF ON ON ON OFF OFF OFF ON ON	OFFI OFFI OFFI OFFI ON ON ON ON
	MODE	* A	1 COIN 1 PLAY 2 COINS 1 PLAY 3 COINS 1 PLAY 5 COINS 1 PLAY				ON ON ON	OFF ON OFF	OFF ON ON		
	2	** B	I COIN 2 PLAYS 1 COINS 3 PLAYS 1 COINS 5 PLAYS 1 COINS 6 PLAYS				ON ON ON	O.V	OIV	OFF ON OFF	OFF OFF ON

* COIN CHUTE A

** COIN CHUTE B

- Please turn off the power switch before changing the DIP SW setting, or the change may not take effect.
- Continue Coin is the mode which starts the game with 2 coins, but continues
 it with 1 coin alone. When this mode is set, no other coin modes can be set.

1	GROUND
2	3P. RIGHT
3	3P. LEFT
4	3P. DOWN
5	3P. UP
6	3P. START/COIN
7	
8	3P. SW B (MODE SELECTION)
9	3P. SW A (SHOT)

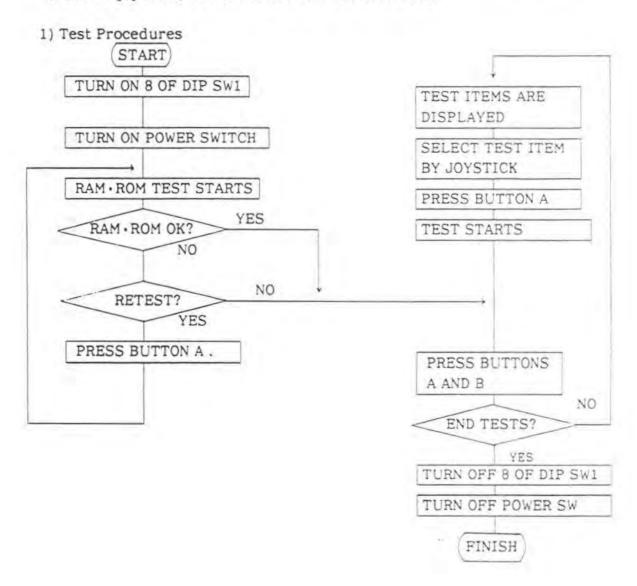
1	GROUND
2	4P. RIGHT
3	4P. LEFT
4	4P. DOWN
5	4P. UP
6	4P. START/COIN
7	
8	4P. SW B (MODE SELECTION)
9	4P. SW A (SHOT)

- * Use No.6 pin of connector CN4 and CN5 as START SW when Dip Switch 2-3 is turned OFF, and use it as COIN SW when Dip Switch 2-3 is turned ON.
- * Use horisontally positioned CRT monitor, and 2-WAY joysticks, each with two push buttons.

4. DIAGNOSTIC TEST

As soon as No.8 of DIP Switch 1 is turned "ON" and the power switch is turned on, RAM · ROM test starts. When the test result appears on the screen, program is ready for the test mode selection.

To finish the test mode, turn off No. 8 of DIP Switch 1 and power switch. * Use 1P joystick, buttons A and B in the test mode.



2) RAM and ROM Test

Although the picture does not appear on the screen and only various patterns appear on it for a while after turning on the power switch, RAMs for the picture are being tested during this time. RAM and ROM Test is carried out everytime power switch is turned on.

- * When RAMs and ROMs are good, "OK", "RAM OK" and "ROM OK" will appear.
- * If RAM(s) is(are) not good, "RAM NG" and the problem will appear on the screen.
- * If ROM(s) is(are) not good, "ROM NG" will appear on the screen.
 When RAMs and ROMs properly work after this RAM ROM Tests, press
 buttons A and B for 1p to go to the next test. In case any RAM(s) or ROM(s)
 is (are) found faulty after the test, the test will be repeated.

3) Test Item Selection and Start

The following test items are shown so that you may select an item you want to test by moving joystick up and down. Press button A to start the test of the item indicated in green. Press buttons A and B to stop the test of the item.

1. IN PORT ... Test of dip swiches, buttons, etc.

2. SOUND · · · Test of sound

3. CHARACTER · · · Test of character display

4. SCREEN ... Test of color and distortion on monitor screen

5. OPTION · · · · Test of ticket dispenser

6. EXIT · · · Stops the test mode

(1) IN PORT Test

This test shows the status which DIP Switches, Buttons and Joysticks are turned "ON".

```
0 1 2 3 4 5 6 7 8 9 A B C D E F
IN PORT1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
IN PORT2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
IN PORT3 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

```
1 2 3 4 5 6 7 8

DIP SW1 0 0 0 0 0 0 0 1

DIP SW2 0 0 0 0 0 0 0 0

DIP SW3 0 0 0 0 0 0 0 (O-OFF, 1-ON)
```

(2) SOUND Test

The screen shows the number of each sound and the test is done about whether the corresponding sound is given.

To carry out next sound test, move 1P joystick down.

SOUND OO

(3) CHARACTER Test

The player character is displayed on the screen.

Normal	Horizontally
position	reversed
Vertically	Horizontally
reversed	and vertical
	ly reversed

Make sure that the same character is shown in four different positions, each vertically and horizontally reversed, as shown on the left.

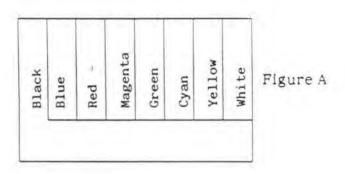
(4) SCREEN Test

By pressing the 1P joystick, the test can be advanced like 1-2-3-4-5-6-7-8-9-10-1, test of colors, balance and distortion on the monitor screen.

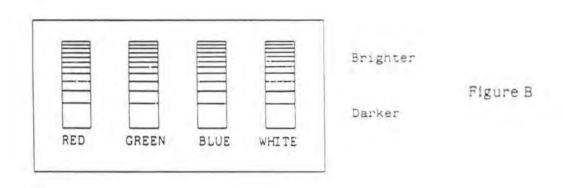
1. The whole screen shows only BLUE color.

2.	n	RED
3.	"	MAGENTA
4.	**	GREEN
5.	"	- CYAN
6.	"	YELLOW
7.	11	WHITE

- 8. Figure A is displayed on the screen.
- 9. Figure B is displayed on the screen.
- 10. Figure C is displayed on the screen.



Color bars (in 16 grades)



Crosshatch Pattern (drawn with 1-dot white lines)

