

**namco®**



## OPERATION MANUAL

**⚠ CAUTION**

In order to safely use this machine, be sure to carefully read this operation manual and the manual of the cabinet in which this machine to be installed before installation and operation.

This operation manual should be kept together with the machine.

DISTRIBUTED BY:

**NAMCO LIMITED**  
2-8-5 TAMAGAWA, OHTA-KU, TOKYO, 146, JAPAN

## 1. Cautions

- (1) Be sure to turn off the cabinet whenever installing or removing the PC board. Otherwise you may be hurt by an electric shock.
- (2) Be sure to use an edge connector which is applied to the JAMMA standard. Any modifications such as cutting the edges of PC boards will cause a failure and also will be out of our guarantee for repair.
- (3) Never test the PC boards for conductivity with a multimeter or similar device. The PCB contains sensitive chips which could be destroyed even by the internal voltage of such a device.
- (4) Foreign matters or dust on the PC boards will cause a failure. Turn off the power and clean the PC boards with a brush or similar thing.
- (5) When transporting the PC boards, wrap them with sponges or air caps and pack them in a card board box so that they can avoid a direct impact from outside during shipment.
- (6) For maintenance, contact your distributor.

## 2. Specifications

- (1) Control panel: One-side 2-P specifications
  - 4-direction lever: 2 (1P, 2P, 1 each)
  - Button switch: 2 (1P, 2P, 1 each)
  - Start switch: 2 (1P, 2P, 1 each)
- (2) PC board size: 230 x 210 mm
- (3) Direction of monitor: Vertical

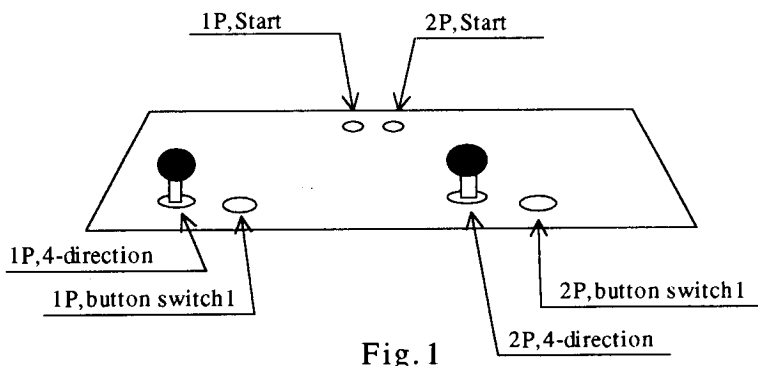


Fig. 1

## 3. Connection

- (1) Connection of control panel  
See above to connect JAMMA harness and extended harness(accessory) to control panel through the cabinet (see P5 : PC board connector table)  
Connecting expanded harness to the right speaker allows you to enjoy a stereophonic effect.
- (2) Connection of PC board  
Set the PC board in the cabinet and connect JAMMA edge connector and 48P extended edge connector (DDK 225D-10024C2-2312) to the PC board.

## 4. Explanation of PC Boards

- (1) Option switches  
No.1 to "ON" for Test Mode.  
No.2 to "ON" for Screen Freeze.  
Normally, all of the option switches are "OFF".
- (2) Speaker volumes  
To decrease the sound volume of the speaker, turn the speaker volume counter-clockwise.

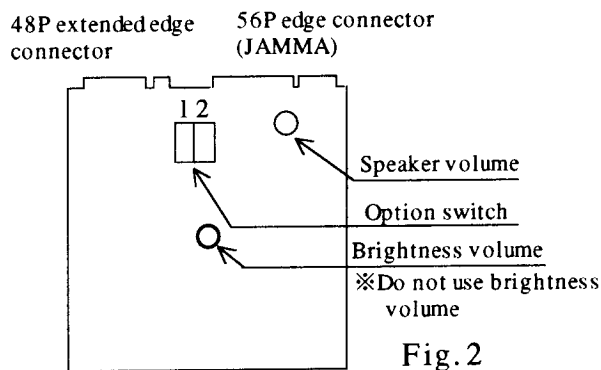
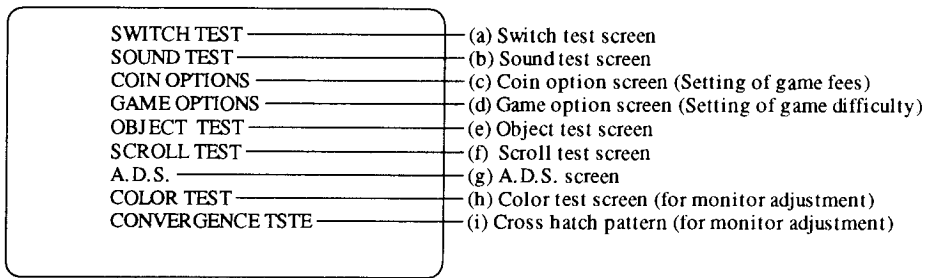


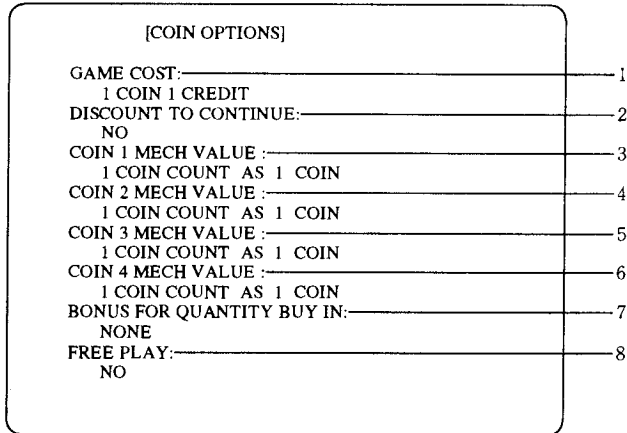
Fig. 2

## 5. Test Mode

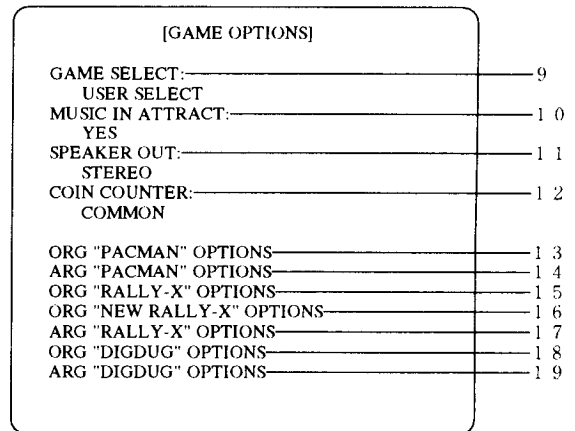
- (1) The PC Board enters the test mode by setting the test switch on the PC Board to "ON" on the game screen. And the test menu screen is displayed on the monitor. Use the test switch (For connection, see P5: PC Board Connector Table) on the cabinet or the option switch on the PC Board. (see P1: 4.(1) Option switches)  
When an item is selected by operating the 1P control lever up and down and the 1P button switch1 is pushed, the selected testscreen is displayed.
- (2) Game fees can be changed on the coin option screen, and the game difficulty can be changed on the game option screen. Select an item by operating the 1P control lever up and down, and change its contents using the 1P button switch1 (see the option setting table). After that, push the 1P Start to return to the test menu screen.



(Test Menu Screen)



(Coin Option Screen)



(Game Option Screen)

(Option Setting Table)

(< Standard Setting)

Item	Contents	
1. Game fees	one count required for one game (one credit)	1 < [1 - 9]
2. DISCOUNT	50% discount when continuing a play	NO < YES
3. COIN 1 MECH VALUE	Count per coin	1 < [1 - 9]
4. COIN 2 MECH VALUE	Count per coin	1 < [1 - 9]
5. 6.	Not used	
7. BONUS COIN	One additional coin per the specified number of coins	NONE < 2 Coins Give 1 Coin ~9 Coins Give 3 Coins
8. FREE PLAY	NO < YES	
9. GAME SELECT	USER SELECT < [USER SELECT, PACMAN ONLY, RALLY-X ONLY, DIGDUG ONLY]	
10. MUSIC IN ATTRACT	YES < NO	
11. SPEAKER OUT	STEREO < MONO	
12. COIN COUNTER	COMMON ( 1Coin counter for 2slots) < EACH ONE ( 1Coin counter for each 1slot)	
13. ORG "PACMAN" OPTIONS	Push 1P button switch1 to enter ORG "PACMAN" OPTIONS screen	a
14. ARG "PACMAN" OPTIONS	Push 1P button switch1 to enter ARG "PACMAN" OPTIONS screen	b
15. ORG "RALLY-X" OPTIONS	Push 1P button switch1 to enter ORG "RALLY-X" OPTIONS screen	c
16. ORG "NEW RALLY-X" OPTIONS	Push 1P button switch1 to enter ORG "NEW RALLY-X" OPTIONS screen	c
17. ARG "RALLY-X" OPTIONS	Push 1P button switch1 to enter ARG "RALLY-X" OPTIONS screen	d
18. ORG "DIGDUG" OPTIONS	Push 1P button switch1 to enter ORG "DIGDUG" OPTIONS screen	e
19. ARG "DIGDUG" OPTIONS	Push 1P button switch1 to enter ARG "DIGDUG" OPTIONS screen	f

Example	Game fees		①	②	③④	⑦	Credit display	(Note) Set ③, ④ corresponded to Coin Mech 1&2 in use.
	1 game	Continue						
	100 yen	100 yen						
100 yen	50 yen	2 COINS 1 CREDIT	YES	1 COUNT 2 COINS	NONE	CREDIT 0/2		

a .Original Pacman Option Screen

[ORG "PACMAN" OPTIONS]

DIFFICULTY LEVEL: \_\_\_\_\_ 2 0  
NORMAL

FINAL ROUND: \_\_\_\_\_ 2 1  
21 ROUND

PACMAN: \_\_\_\_\_ 2 2  
3 PACMAN

EXTEND: \_\_\_\_\_ 2 3  
1ST 10000 PTS

b .Arranged Pacman Option Screen

[ARG "PACMAN" OPTIONS]

DIFFICULTY LEVEL: \_\_\_\_\_ 2 4  
NORMAL

PACMAN: \_\_\_\_\_ 2 5  
3 PACMAN

EXTEND: \_\_\_\_\_ 2 6  
1ST 40000PTS

(Option Setting Table)

(< Standard Setting)

Item	Contents	
2 0 . DIFFICULTY LEVEL	NORMAL < [NORMAL, HARD]	
2 1 . FINAL ROUND	Set final round to end a game compulsorily	21 < [21,31,41,51,ENDLESS]
2 2 . PACMAN	3 PACMAN < [1,2,3,4,5]	
2 3 . EXTEND	10000PTS < [NOBONUS, 10000PTS, 15000PTS, 20000PTS]	
2 4 . DIFFICULTY LEVEL	NORMAL < [EASY, NORMAL, HARD]	
2 5 . PACMAN	3 PACMAN < [2,3,4,5,6]	
2 6 . EXTEND	1ST 40000PTS < [NO BONUS, 1ST 40000PTS, 1ST 40000PTS 2ND 100000PTS]	

c .Original Rally-X Option Screen  
(New Rally-X Option Screen)

[ORG "RALLY-X" OPTIONS]

FINAL ROUND: \_\_\_\_\_ 2 7  
ROUND 15

MYCAR: \_\_\_\_\_ 2 8  
3 CAR

EXTEND: \_\_\_\_\_ 2 9  
1ST 20000 PTS

d .Arranged Rally-X Option Screen

[ARG "RALLY-X" OPTIONS]

DIFFICULTY LEVEL: \_\_\_\_\_ 3 0  
NORMAL

MYCAR: \_\_\_\_\_ 3 1  
3 CAR

(Option Setting Table)

(< Standard Setting)

Item	Contents	
2 7 . FINAL ROUND	Set final round to end a game compulsorily	ROUND 15 < [15,31,47,63,ENDLESS]
2 8 . MYCAR	3 CAR < [2,3,4,5,6]	
2 9 . EXTEND	1ST 20000PTS < [RALLY-X:s selectable from 5 patterns] [NEW RALLY-X:s selectable from 7 patterns]	
3 0 . DIFFICULTY LEVEL	NORMAL < [EASY, NORMAL, HARD]	
3 1 . MYCAR	3 CAR < [2,3,4,5]	

e .Original Digdug Option Screen

[ORG "DIGDUG" OPTIONS]	
DIFFICULTY LEVEL: _____ NORMAL	3 2
FINAL ROUND: _____ 24 ROUND	3 3
CONTINUE: _____ DISABLE	3 4
DIGDUG: _____ 3 DIGDUG (17/32)	3 5
EXTEND: 1ST 10000 PTS	

f .Arrange Digdug Option Screen

[ARG "DIGDUG" OPTIONS]	
DIFFICULTY LEVEL: _____ NORMAL	3 6
DIGDUG: _____ 3 DIGDUG	3 7
EXTEND: _____ 1ST 50000PTS	3 8

(Option Setting Table)

( < Standard Setting)

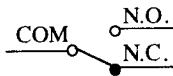
Item	Contents	
3 2 . DIFFICULTY LEVEL	NORMAL < [EASY,NORMAL,HARD,VERYHARD]	
3 3 . FINAL ROUND	Set final round to end a game compulsorily	24 < [24,36,48,60,ENDLESS]
3 4 . CONTINUE	DISABLE < [DISABLE,ABLE OLD,ABLE NEW]	
3 5 . DIGDUG & EXTEND	3 DIGDUG 1ST 10000PTS < (initial 3,add 1 at 10000 points) [selectable from 32 patterns]	
3 6 . DIFFICULTY LEVEL	NORMAL < [EASY,NORMAL,HARD]	
3 7 . DIGDUG	3 DIGDUG< [2,3,4,5]	
3 8 . EXTEND	1ST 50000PTS < [NO BONUS,1ST 50000PTS,1ST 50000PTS 2ND 150000PTS]	

## 6. PC Board Connector Table

### JAMMA edge connector (56P 3.96 mm pitch)

Solder side	Terminal No.		Parts side
GND	A	1	GND
GND	B	2	GND
+5V	C	3	+5V
+5V	D	4	+5V
	E	5	
+12V	F	6	+12V
Insertion error preventing	H	7	Insertion error preventing
Coin counter 2	J	8	Coin counter 1
	K	9	Coin lockout 1
Speaker (-)	L	10	Speaker (+)
Audio (GND)	M	11	Audio (+)
Video GREEN	N	12	Video RED
Video SYNC	P	13	Video BLUE
Service switch	R	14	Video GND
	S	15	Test switch
Coin switch 2	T	16	Coin switch 1
2P start switch	U	17	1P start switch
2P lever UP	V	18	1P lever UP
2P lever DOWN	W	19	1P lever DOWN
2P lever LEFT	X	20	1P lever LEFT
2P lever RIGHT	Y	21	1P lever RIGHT
2P button Switch 1	Z	22	1P button Switch 1
	a	23	
	b	24	
	c	25	
	d	26	
GND	e	27	GND
GND	f	28	GND

- Do not connect anything to the blank connectors.
- Both lockout solenoid and coin counter operate on +12V.
- Connect the switches to N.O. terminals such as a microswitch, and the GND to the COM terminal.



- The supply voltage is available within  $\pm 5\%$ . For use in the best condition, get the supply voltage as close to the specified voltage as possible.

(Recommended power capacity)

+5V $\pm 5\%$	2.5A or more
+12V $\pm 5\%$	2.0A or more

### Extended edge connector (48P 2.54 mm pitch)

Solder side	Terminal No.		Parts side
Speaker R (-) [YEL]	A1	B1	Speaker R (+) [ORG]
	A2	B2	
	A3	B3	
	A4	B4	
Insertion error preventing key	A5	B5	Insertion error preventing key
	A6	B6	
	A7	B7	
	A8	B8	
	A9	B9	
	A10	B10	
	A11	B11	
	A12	B12	
	A13	B13	
	A14	B14	
	A15	B15	
	A16	B16	
	A17	B17	
	A18	B18	
	A19	B19	
	A20	B20	
	A21	B21	
	A22	B22	
	A23	B23	
	A24	B24	

[Connection to stereo cabinet]

(1) STEREO / MONO setting

Select SPEAKER OUT in the game option screen at the test menu screen.

<Caution> Monophonic cabinets do output only the left-hand sound even if the stereophonic setting is selected.

(2) Connection to speakers

- Connect the (L) speaker to the speaker output of 56P edge connector (JAMMA) on the PC board

- Connect the (R) speaker to Speaker R (+), (-) of 48P extended edge connector.

\* Use a DDK 225D-10024C2-2312 as a 48P extended edge connector.