# (Rapper Balling) operation Manual





Be sure to read this operation manual before use.

Bromley incorporated in conjunction with universal space.

# The Company

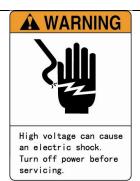
Universal Space (UNIS) is a leading manufacturer of amusement machine. Our business first started as a small company in 1993. The last decade of hard work, innovation, and technology excellence have allowed our company to evolve from a small-scale factory to a corporate organization, branching out into four distinct departments: Manufacturing, Design, Sales, and Operation. We specialize in manufacturing redemption games, kiddy rides, prize machines, indoor/outdoor rides, and selective arcade games.

Thank you for your purchase. We hope you enjoy the product.

# **Safety Instructions:**

To ensure the safe usage of the product, be sure to read the following before using the product. The following instructions are intended for the users, operators and the personnel in charge of the operation of the product. After carefully reading and sufficiently understanding the warning display and cautions, handle the product appropriately. Be sure to keep this operation manual nearby the product or elsewhere convenient for referring to it when necessary.

Depending on the potentially hazardous degrees, the terms of NOTICE, WARNING GAUTION, etc. are used. Be sure to understand the content of the displays before reading the text.



#### **High Voltage Warning:**

High voltage can cause an electric shock. Turn off power before servicing.



#### **No Touching Warning:**

This part may cause an electric shock or the surface is overheating. Do not touch this part.



### **High Voltage Warning:**

This part may caused by scalding if somebody inadvertent to do something.

# $\Delta$

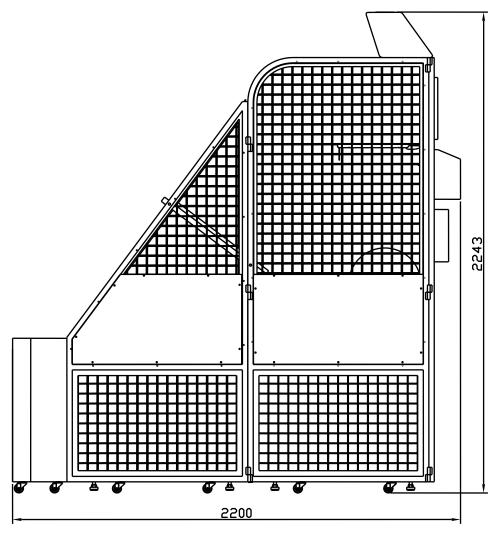
### WARNING

Non-technical personnel who do not have technical knowledge and Expertise should refrain from performing such work that this manual requires the location's maintenance man or a serviceman to carry out, or work which is no explained in this manual failing to carry out, or work which is not explained in this manual. Failing to comply with this instruction can causes a severe accident such as electric shock.

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# 1. Specifiactions:



Rated power supply: AC220V  $\pm 10$  50Hz or  $110V \pm 10$  60Hz

(1) Power consumption: Min power consumption: 90W

Max power consumption: 390W

(2) Dimensions: W1030×D2200×H2243 (mm)

(3) Weight: about 260Kg

(4) Environment condition: (indoor) temperature :  $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ 

Humidity:  $\leq 90\%$ 

Atmospheric pressure :  $86P_a \sim 106 P_a$ 

# 2 Package contents

2.1 Make sure that all the parts shown below are included in the product package::

NO	Part No.	Name	Qty	Illustartion
1	R102-001-000	Main cabinet	1	
2	R102-002-000	Control panel	1	
3	R102-003-000	Header	1	Let's
4	R102-004-000	Ball Gate Assy.	1	
5	R102-005-000	Playfield	1	
6	R102-006-000	Beam & back 1	1	
7	R102-007-000	Beam & back 2	1	
8	R102-101-000	Control panel fix board	2	
9		Spare parts 1	1	See below table for detail

# 2.2 Spare parts 1:

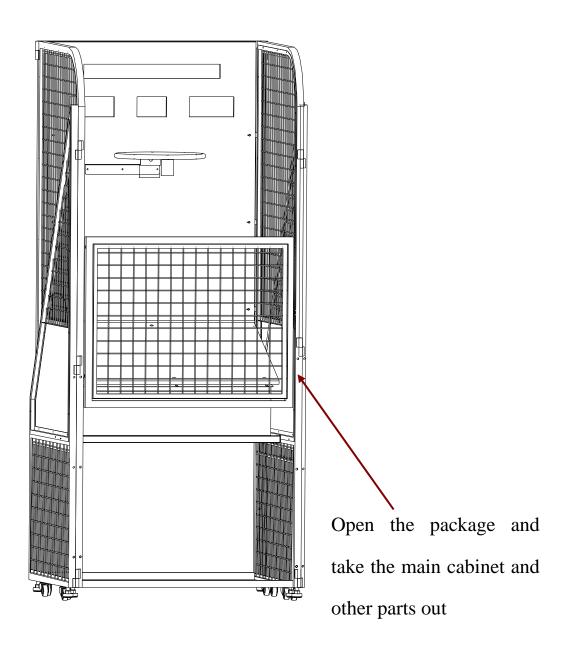
No	Part No.	Name	Spec.	Qty	Illustration	Note
1	R102-810-000	Power cord	15A/220V 3.5m	1		
2	R102-429-000	Fuse	5A/250(10A/125V) φ 5-20	2		
3	R102-730-000	Manual	English	1		
4	R102-423-000	Key	171	4		
5	R102-422-000	Key	2222	2	Garage Control of the	
6	R102-442-000	Bearing	6002Z	2		
7	R102-303-000	Circlip	GB/T894.2-1986/d <sub>o</sub> =16	2		
8	R102-443-000	Air pin		2		
9	R102-444-000	Basketball	#5	8	Spirit 1	
10	R102-445-000	Pump		1		
11		Hexagonal socket flat round head screw	M8×25 BLK	12		
12		Hexagonal socket flat round head screw	M6×80 BLK	4		
13		Hexagonal socket flat round head screw	M6×40 BLK	8		
14		Cross hexagon head kit bolt	M8×20 BLK	8		
15		Cross hexagon head kit bolt	M6×16 BLK	4		
16		Hex lock net	M8 BLK	12		
17		Hex lock net	M6 BLK	4		
18		Flat washer	M8 BLK	12		
19		Flat washer	M6 BLK	4		
20	R102-415-000	Bulb	12V 3W	1		
21	R102-409-000	Reflect paper	50×55	1		
22		Spare screws		1		

# 3. Assemble instruction:

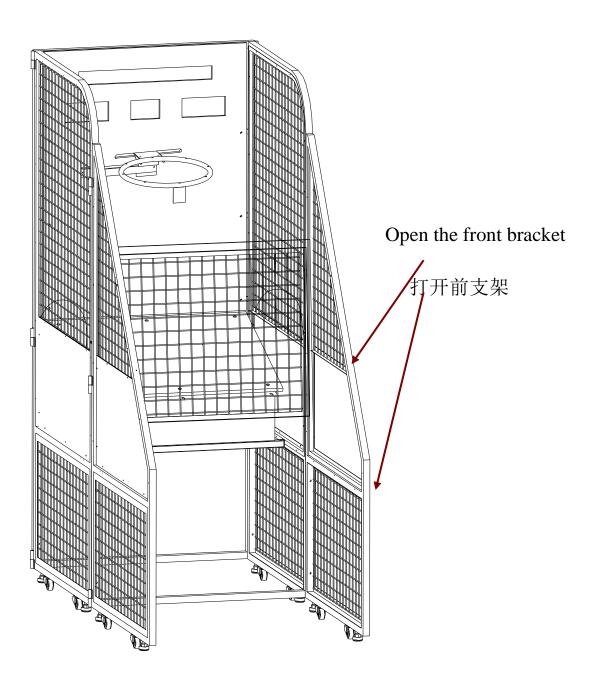
# 3.1 Assemble screws part list:

No.	Name	Spec.	Qty	Illustration	Note
1	Hexagonal socket flat round head screw	M8×25 BLK	12		
2	Hexagonal socket flat round head screw	M6×80 BLK	4		
3	Hexagonal socket flat round head screw	M6×40 BLK	8		
4	Cross hexagon head kit bolt	M8×20 BLK	8		
5	Cross hexagon head kit bolt	M6×16 BLK	4	4	
6	Hex lock nut	M8 BLK	12		
7	Hex lock nut	M6 BLK	4		
8	Flat washer	M8 BLK	12		
9	Flat washer	M6 BLK	4		

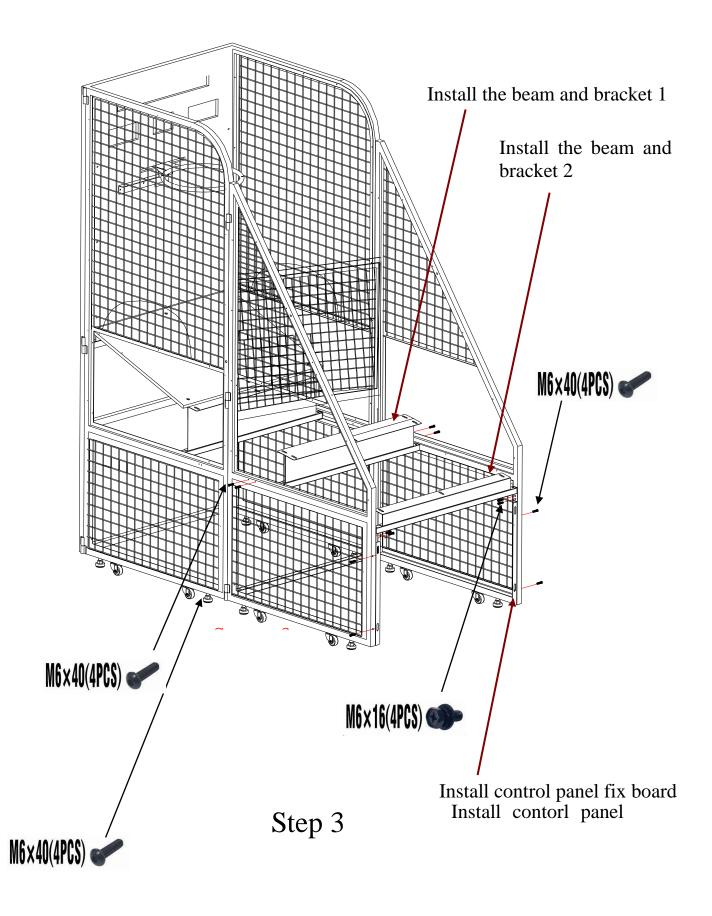
# 3.2 Assemble steps:

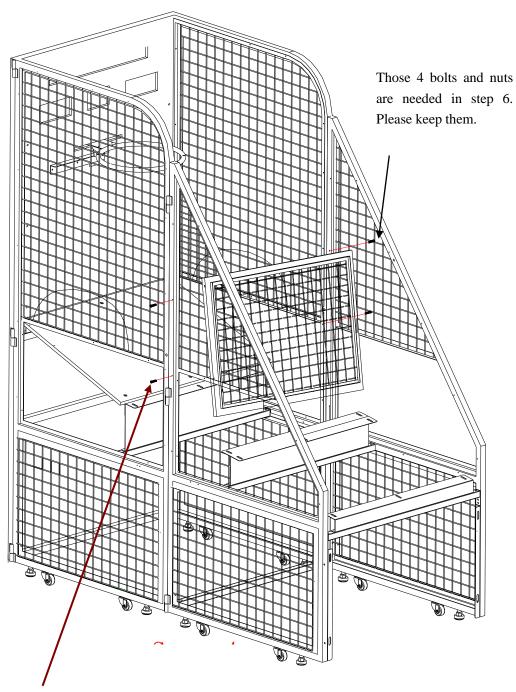


Step 1



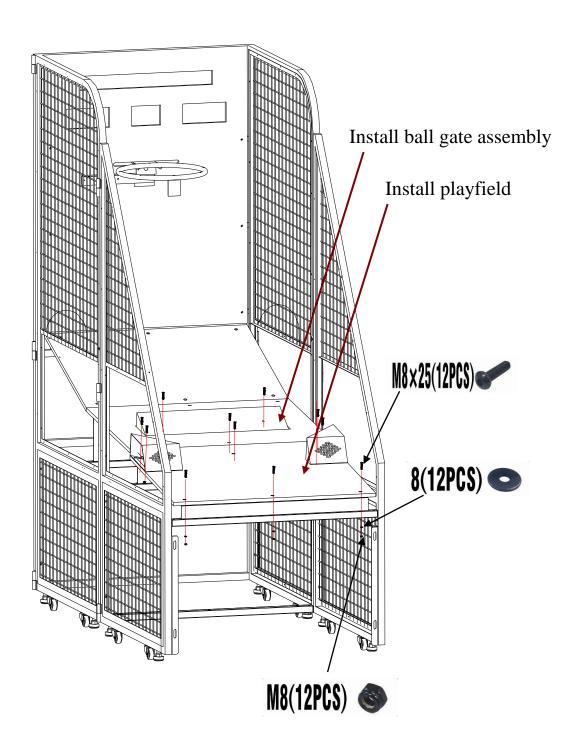
Step 2



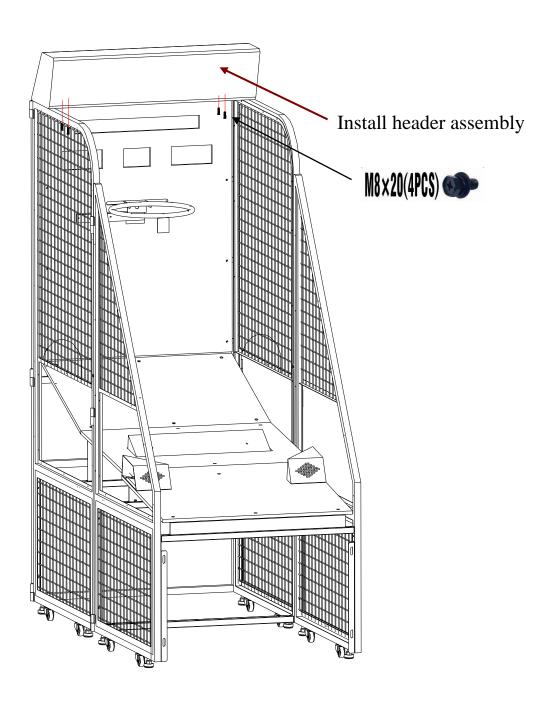


Remove bolts and take the front panel assembly.

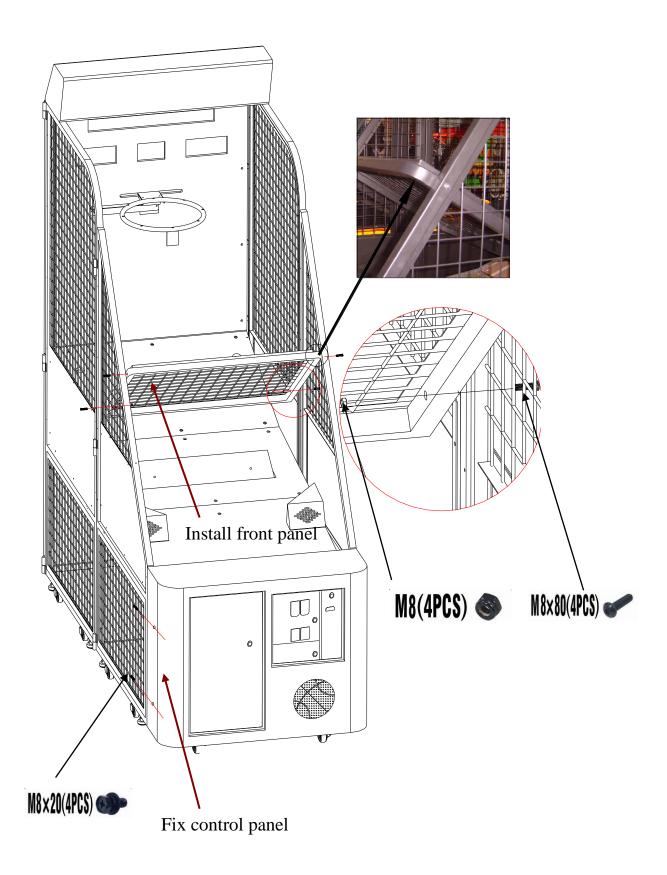
Step 4



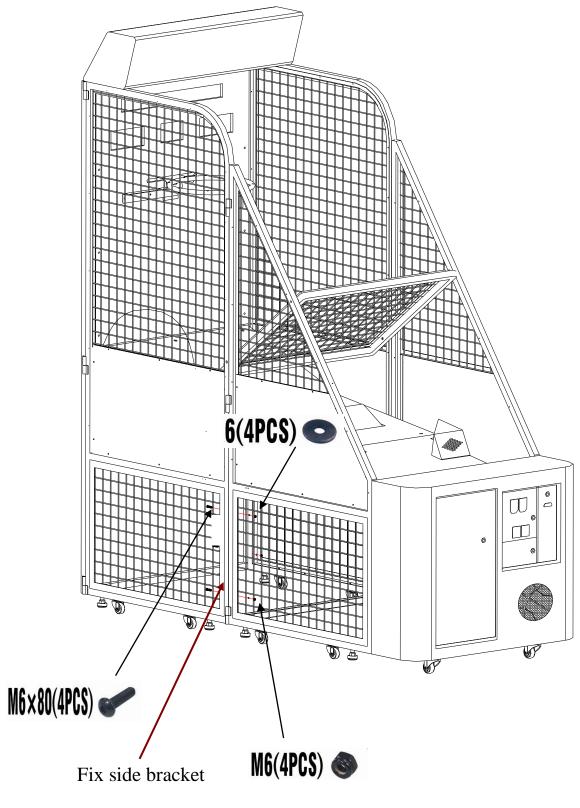
Step 5



Step 6



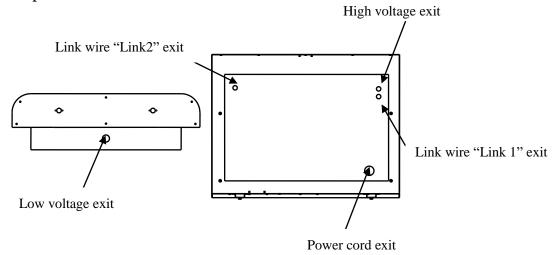
Step 7



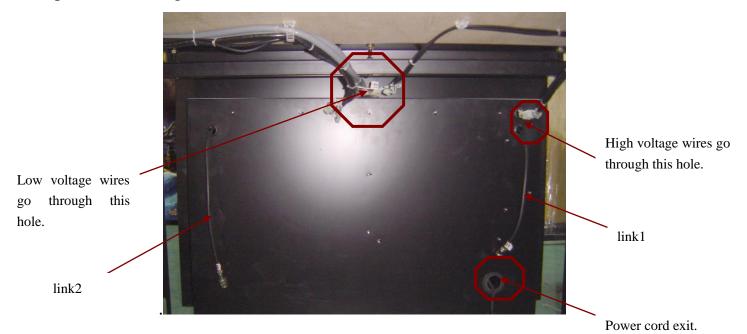
Step 8

# 3.3 Layout on control panel:

# Control panel:



Step 1: Connecting



Step 2: Connecting



Connect the wires to the PBC as per the numbers marked on the PBC.

# 3.4 Link game:

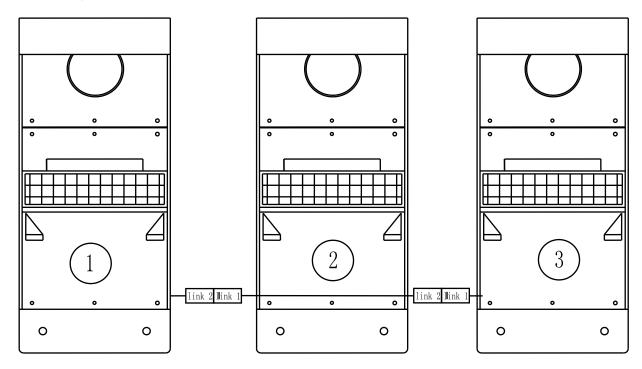
♦ There are two buttons on the control panel:



Link game button: Press this button to compete with others.

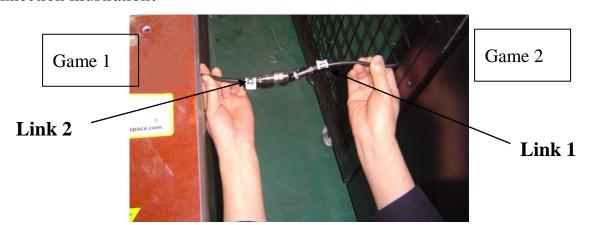
Single player: Press this button to have single player game.

# ♦ Link game schematic:



**How to link games:** Connect Link 2 (in Game ①) to Link 1(in Game ②). Then connect Link 2(in Game ②) to Link 1(in Game ③). The rest of the connections are the same. [For more detail, please refer to page 28]

#### Connection illustration:





# Notice:

- ♦ 1.when linking the game, there should be one game set as game #1. Any of the games can be set as game #1. The rest of the games can be #2 to #30 but you cannot repeat.
- ♦ 2. 30 games can compete with each other in griups.
- ♦ 3. The first time to start the game, it will show "1IP01 V1.02". The first "1" means the goup form. "IP01" means the NO1 machine.
- ♦ 4. NO1 machine will send it's setting (excluding SW4) to the linking games after a few seconds when game starts. It will reset when turned off.
- ♦ 5. The DIP SWITCH setting in other games should be the same as the game NO1 setting except the Game NO.
- ♦ 6. To set the JP value, you need to set on the game NO1.

#### 3.5 Wiring layout:

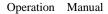
In order to clear the layout in the machine, below is the instruction for you reference:



Right side layout



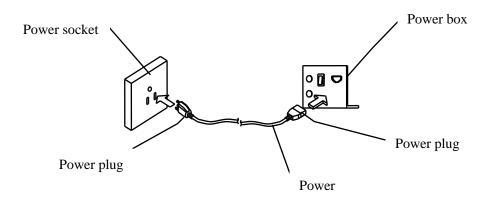






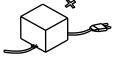
The extra **Light Belt** is wrapped with **Nylon** tape.

# 3.6 Connecting the power cord:

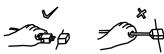




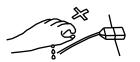
> Do not put heavy items on power cord.



> Do not touch the power plug with a wet hand.



> Do not draw or twist the cordl

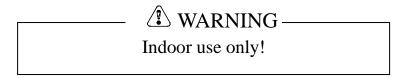


- ➤ Do not place the cord near a heat source.
- > Do not place the cord where the player can easily touch or kick it.



> Run this machine with the correct power configuration.

#### 4. Installation:

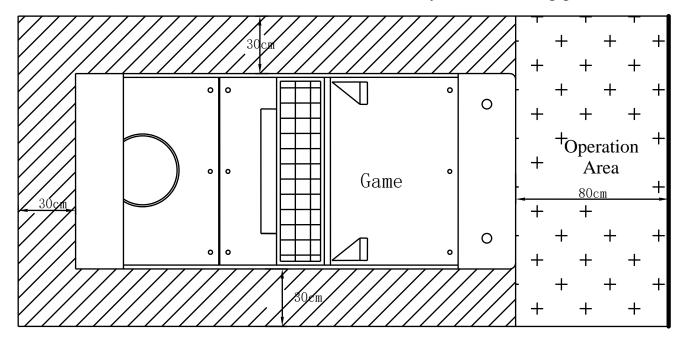


#### 4.1 Play Zone:

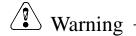
this machine requires space for playing the game and for maintenance as shown below.

Be sure to leave enough space when installing the machine.

♦ Notice: This machine can be located side by side for linking games.



#### C.Locations to avoid installing:

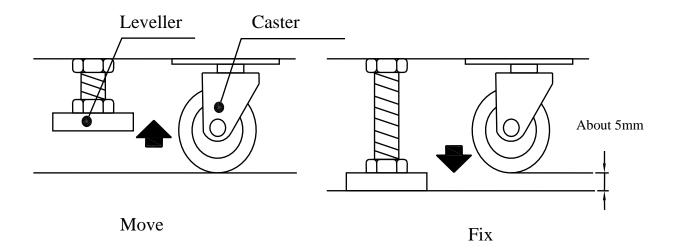


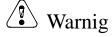
This machine is designed for indoor use only. Necer install this machine outdoors or any of the flowing:

- Places where dew may develop due to temperature differences;
- Locations close to hazardous article;
- Locations close to a heating instrument;
- Close to instrnments that can easily catch fire;
- Unstable or vibrating places;

### 4.2 Game leveling:

Install this machine on a flat surface. Adjust levelers to lift casters off the ground and level game. Make sure that the machine is level with the floor. If the machine is not level, it may not play well.





Unplug the game before moving.

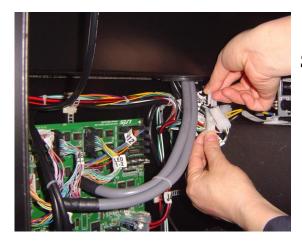
# 5. Package:

For moving the game a short distance, just adjust the leveler and then move the game. For moving the game a long distance, it should be packed. Before operating the game, it should be assembled.

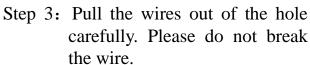
♦ Remove the control panel:

Step 1: Unlpug the connectors from the PBC.





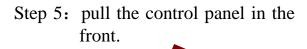
Step 2: Unplug the high voltage and low voltage connectors pictured.







Step 4: Remove screws on the two side of the control panel.





Step 6: The package should be the same as the factory original packing.

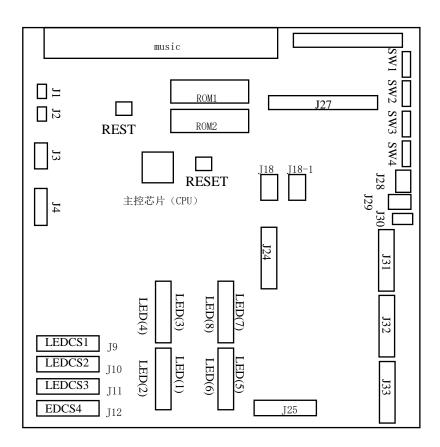
# 6. Game Description:

- ✓ Insert coin(s). Press "single player" button or "link game" button to strat the game.
- ✓ Start shooting. The big display will show some relative information. The default setting is: points for stage 1. 60 points for stage 2. 100 points for stage 3. If the player cannot get that score, the game is over.
- ✓ Tickets will be paid according to the score.

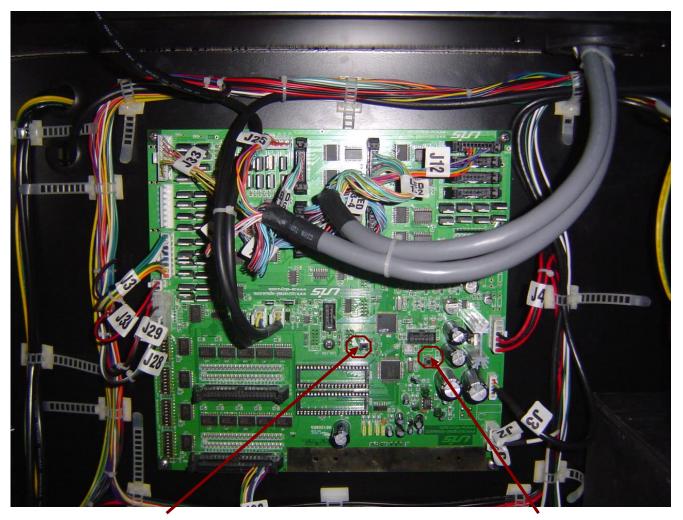
(Notice: It is suggested that 6 balls for each game to play.)

# 7. Switches control signal

- 7.1 Refer to the attached I/O chart and the schematic.
- 7.2 To adjust DIP SWITCH, please refer the I/O chart. The initial setting is in capitalization.
- 7.3 Main board:



# 7.4 Main board connecting:



**RESET button** 

**TEST** button

Test : Press" test" to this mode, go into 0, press "test" after 1 second to go to 1. The oter is the same.

Test 0: **Jack number** Led\_J33 2-1 flash and display "-0" to Test 0. the rest will display LED numbers, Led J-33, Led –J-32 is c. Dox martrix display each number.

Test 1: LED Led\_J33 2-1 flash and display "-2", Led\_J33 3-6

Test 2: **DIP SW** LED\_J33 2-1 flash and display,'-2', LED\_J33 3-6 display each DIP state.

Test3: **Input** LED\_J33 2-1 flash and display, '-3', LED\_J33 4-3 display 1 st GND input signal ,LED\_J33 6-5 display 2<sup>nd</sup>, an so on. LED\_J32 8-7display 7<sup>th</sup>. Each input has coin sound .

Test 4: Output LED\_J33 2-1 flash and display,'-4', I1-I8 and I9-I16control Out1-Out48

Test 5: **Output** LED\_J33 2-1 flash and display,'-5', I1-I48control Out1-Out48.

Test 6: Output LED\_J33 2-1 flash and display,'-6', Out1-Out48, 8numbers as one group for output..

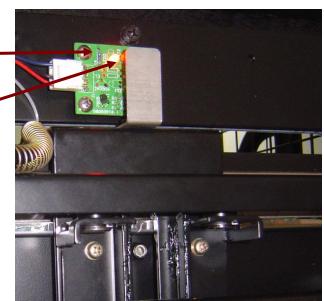
Test 7: **Music** LED\_J33 2-1 flash and display, '-7', LED\_J33 5-3 display present music number, I1for play, I2 for +1, I3for set to 0, I4plus 10.

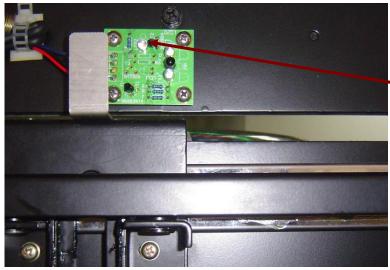
# 7.5 Signal detections:

Sensor detection board

# Sensor light:

To detect if the rim is in the center or not. If the sensor detects the rim, it will light up.





The rim is out of the position of the sensor. It can't detect the signal so the light is off.

# 7.6 Relay board and the ticket drive board location:

The relay board is located at the right corner of the service door.

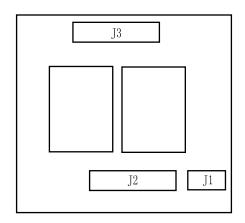


Open the ticket door to find the ticket drive board.

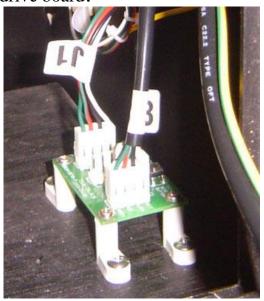
# Relay board:



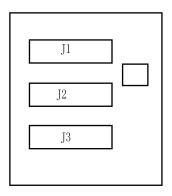
# Relay board shetch map:



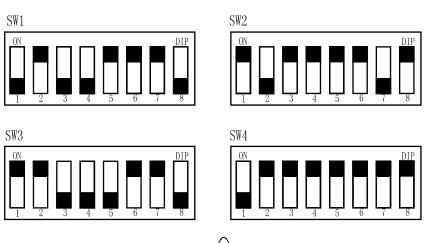
Ticket drive board:



Ticket drive board shetch map:



# 7.7 DIP Setting (Default setting)



Notice

The above are subject change without notice.

# 8. Parameter Setting:

### (1) Coin per game:

SW1-1 and SW1-2 are the switches to adjust how many coins to start the game. There are 4 options.

Itom	Contant	DIP	SW1	Note
Item	Content	1	2	Note
	0	on	On	Free play
Coin per	1	OFF	ON	1 coin for one game
game	2	on	off	2 coin for one game
	3	off	off	3 coin for one game

# (2) Score per ticket:

SW1-3 and SW1-5 are the switches to adjust the payout. There are 8 options.

Itam	Item Content		DIP SW1	-	Note
Item	Content	3	4	5	Note
	10	on	on	on	Every 10 points for 1 ticket
	20	off	on	on	Every 20 points for 1 ticket
	30	ON	OFF	ON	Every 30 points for 1 ticket
Score per	40	off	off	on	Every 40 points for 1 ticket
ticket	50	on	on	off	Every 50 points for 1 ticket
	60	off	on	off	Every 60 points for 1 ticket
	80	on	off	off	Every 80 points for 1 ticket
	No ticket	off	off	off	No tickets payout

# (3) Mercy ticket

SW1-6~SW1-7are switches to adjust the minimum ticket payout. There are 4 options.

Item	Content	DIP	SW1	Note
		6	7	Note
	0	on	on	Not ticket payout
High score	1	OFF	ON	At least dispenes 1 tickets
menory	2	on	off	At least dispenes 2 tickets
	3	off	off	At least dispenes 3 tickets

# (4) High score menory

SW1-8 is switch to keep the high score or not. There are 2 options.

Item	Content	DIP SW1	Note
Item	Content	8	Note
High score	Able	on	
menory	Unable	OFF	

#### (5) Round per game

SW2- 1~ SW2-2 are the switches to adjust how many rounds for one play. There are 4 options.

Itom	Contant	DIP	SW2	Note
Item	Content	1	2	Note
	1	on	on	1 round for 1 game
Round per	2	off	on	2 round for 1 game
game	3	on	off	3 round for 1 game
	4	OFF	OFF	4 round for 1 game

#### (6) Game time

SW2-3~ SW2-4 are the switches to adjust the play time for each round. There are 4 options.

Itam	Contont	DIP SW2		Note
Hem	Item Content		4	Note
	A	ON	ON	Select project A
Game time	В	off	on	Select project B
Game ume	C	on	off	Select project C
	D	off	off	Select project D

# (7) High score initial value

SW2-5~ SW2-6 are the switches to adjust the initial value of the high score setting. There are 4 options

Item	Content	DIP SW2		Note
		5	6	Note
	150	on	on	High score setting is 150
High score initial value	200	OFF	ON	High score setting is 200
	250	on	off	High score setting is 250
	300	off	off	High score setting is 300

# (8) DBV (Round per bill)

SW2-7~ SW2-8 are the switches to adjust the bill for each round. There are 4 options.

Item	Content	DIP SW2		Note
		7	8	Note
DDV	1	on	on	1 bill for 1 round
DBV (Round per bill)	2	OFF	ON	1 bill for 2 round
	3	on	off	1 bill for 3 round
UIII)	4	off	off	1 bill for 4 round

### (9) Score for pass

SW3-1~ SW3-2 are the switches to adjust the score for passing each stage. There are 4 options.

Itom	Contant	DIP	SW3	Note		
Item	Content	1	2	Note		
	A	ON	ON	Select project A		
Score for	В	off	on	Select project B		
pass	С	on	off	Select project C		
	D	off	off	Select project D		

#### (10) JP score

SW3-3~ SW3-4 are the switches to adjust the JP score. There are 4 options.(Only enabled when using the JP marquee)

Itom	Content	DIP	SW3	Note		
Item		3	4	Note		
	200	on	on	Reach 200 score for JP ticket		
ID saora	250	off	on	Reach 250 score for JP ticket		
JP score	300	on	off	Reach 300 score for JP ticket		
	350	OFF	OFF	Reach 350 score for JP ticket		

#### (11) 3 Point time

SW3-5 is the switch to adjust the time during 3 point shooting, There are 2 options.

Itam	Contant	DIP SW1	Note			
Item	Content	5				
3 Point	A	on	Select project A			
time	В	OFF	Select project B			

#### (12) Win JP ticket

SW3-6~SW3-7 are the switches to adjust tickets on JP. There are 4 options. (It is enabled when using JP marquee.)

Itam	Contant	DIP	SW3	Note		
Item	Content	6	7	Note		
	10	ON	ON	Get 10 extra tickets whem JP is won		
	20	off	on	Get 20 extra tickets whem JP is won		
JP ticket	30	on	off	Get 30 extra tickets whem JP is won		
	50	off	off	Get 50 extra tickets whem JP is won		

#### (13) Win IP ticket

SW3-8 is the switch to adjust if getting the JP ticket or not when you reach the JP score. There are 2 options.(It is ecabled when using JP marquee)

Item	Content	DIP SW1	Note
пеш	Content	8	Note
Win JP	Yes	on	Have JP ticket
ticket	No	OFF	No JP ticket JP

# (14) Game time, score for pass, 3 point time table.

Version	NO	Game time				3 Point time				Score for pass			
version	NO	Stg 1	Stg 2	Stg 3	Stg 4	Stg 1	Stg 2	Stg 3	Stg 4	Stg 1	Stg 2	Stg 3	Stg 4
	A	30	25	20	20	25	20	20	20	30	60	100	150
CEC	В	30	30	25	20	25	25	20	20	40	80	150	200
CEC	С	40	35	30	25					50	100	160	250
	D	45	40	35	30					60	130	200	300

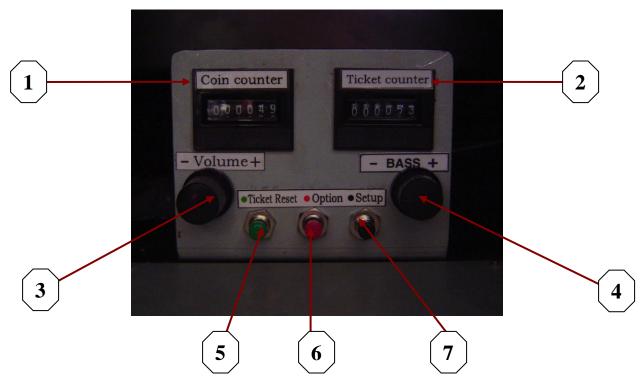
# (15) Game NO., Group and Demo

SW4-1~ SW4-8 are the switch to show the game No., the group way and demo switch.

Itam	Content	DIP SW							Note	
Item	Content	41	42	43	44	45	46	47	48	Note
Main	NO 1	OFF	ON	ON	ON	ON				
	NO 2	on	off	on	on	on				
	NO 3	off	off	on	on	on				
	NO 4	on	on	off	on	on				
	NO 5	off	on	off	on	on				
	NO 6	on	off	off	on	on				
	NO 7	off	off	off	on	on				
	NO 8	on	on	on	off	on				
	NO 9	off	on	on	off	on				
Game	NO 10	on	off	on	off	on				
No.	NO 11	off	off	on	off	on				
	NO 12	on	on	off	off	on				
	NO 13	off	on	off	off	on				
	NO 14	on	off	off	off	on				
	NO 15	off	off	off	off	on				
	NO 16	on	on	on	on	off				
	NO 17	off	on	on	on	off				
	NO 18	on	off	on	on	off				
	NO 19	off	off	on	on	off				
	NO 20	on	on	off	on	off				
	NO 21	off	on	off	on	off				
	NO 22	on	off	off	on	off				
	NO 23	off	off	off	on	off				
Come	NO 24	on	on	on	off	off				
Game	NO 25	off	on	on	off	off				

									Opei	ration Manual
No.	NO 26	on	off	on	off	off				
	NO 27	off	off	on	off	off				
	NO 28	on	on	off	off	off				
	NO 29	off	on	off	off	off				
	NO 30	on	off	off	off	off				
	JP Maqee	OFF	OFF	OFF	OFF	OFF				
_	1						ON	ON		1 game as 1 group
Group	5						off	on		5 game as 1 group
per game	10						on	off		10 game as 1 group
guiire	1						off	off		1 game as 1 group
Demo	Yes								on	
Dellio	No								OFF	

# ♦ Meter panel:



- ♦ 1. Coin counter: Display the amount of the coins put in.
- ♦ 2. Ticket counter: Display the amount of the tickets dispensed.
- ♦ 3. Volume:
- ♦ 5. Ticket reset: Reset the tickets when refill the tickets.
- ♦ 6. Option: No function for the moment.
- ♦ 5. Setup: No function for the moment.

# 9. Game installation and service

#### 9.1 Installation

- 1 Firstly check the assembling instructions and assemble the game.
- 2 Secondly, adjust the leveler of the game on even ground.
- 3 After installation, plug in. check the game operation. If there is a problem, stop the game and please check the trouble shooting section of this manual.

#### 9.2 Game maintenance

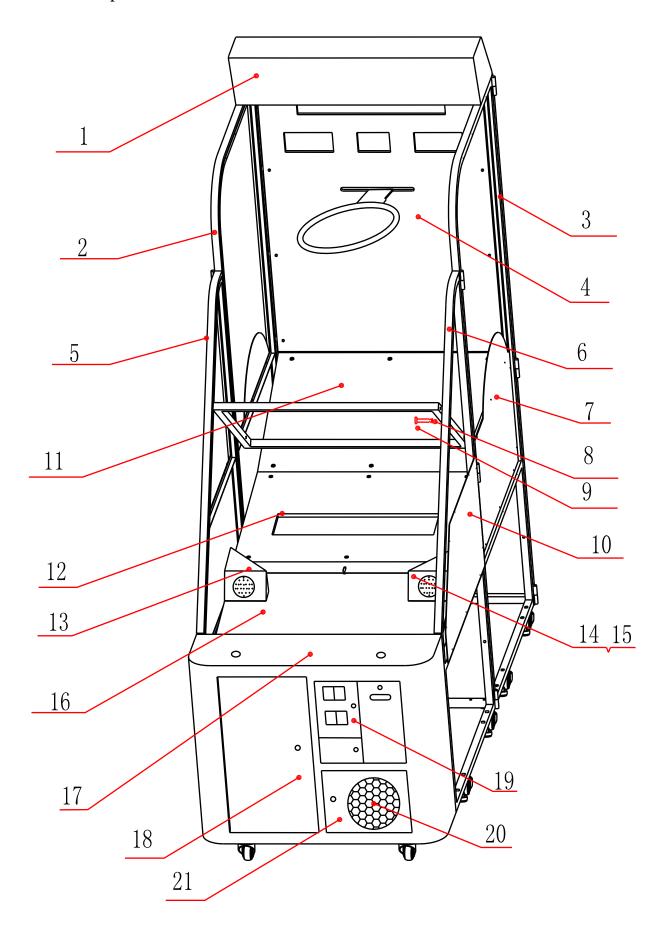
- 1 Try to run the game first before operation every day.
- **②** Check every component after running the game for a month.
- **3** Check the machine regularly.

# 10. Game maintenance:

No.	Problem	Cause	Possible solution
1	No ticket dispensed	<ol> <li>No tickets in the game;</li> <li>Tickets are jammed;</li> <li>Poor connection on the ticket dispenser.</li> </ol>	<ol> <li>Refill and press reset button;</li> <li>Take the jammed tickets out and then press the reset button;</li> <li>Replace with a better connector.</li> </ol>
2	Does not score when ball goes in	<ol> <li>Reflective paper is worn or old;</li> <li>Poor connection;</li> <li>Ball sensor is damaged.</li> </ol>	<ol> <li>Replace the reflective paper;</li> <li>Make sure the connection is good;</li> <li>Replace with new sensor.</li> </ol>
3	Rim in wrong position	<ol> <li>Sensons disconnection</li> <li>Rim detected sensor is damaged;</li> </ol>	<ol> <li>connect the sensor;</li> <li>replace the sensor board.</li> </ol>
4	Rim doesn't move	<ol> <li>Relay is not working;</li> <li>Motor is not working;</li> <li>Faulty connectors</li> </ol>	<ol> <li>Check the power voltage to see if it is the same as motor voltage;</li> <li>Insure wire is connected properly;</li> <li>Replace with new sensor.</li> </ol>
5	Ball gate faulty	<ol> <li>sensor connector is loose;</li> <li>sensor is no t working.</li> </ol>	<ol> <li>Connect the wire properly;</li> <li>Replace the new sensor.</li> </ol>
6	Ball gate not open or not closed	<ol> <li>Drive board sensor is not working;</li> <li>Motor os not working;</li> <li>Poor connection.</li> </ol>	<ol> <li>check the ball sensor input signal;</li> <li>make sure power voltage is the same as motor voltage;</li> <li>make sure every connetor is connected.</li> </ol>

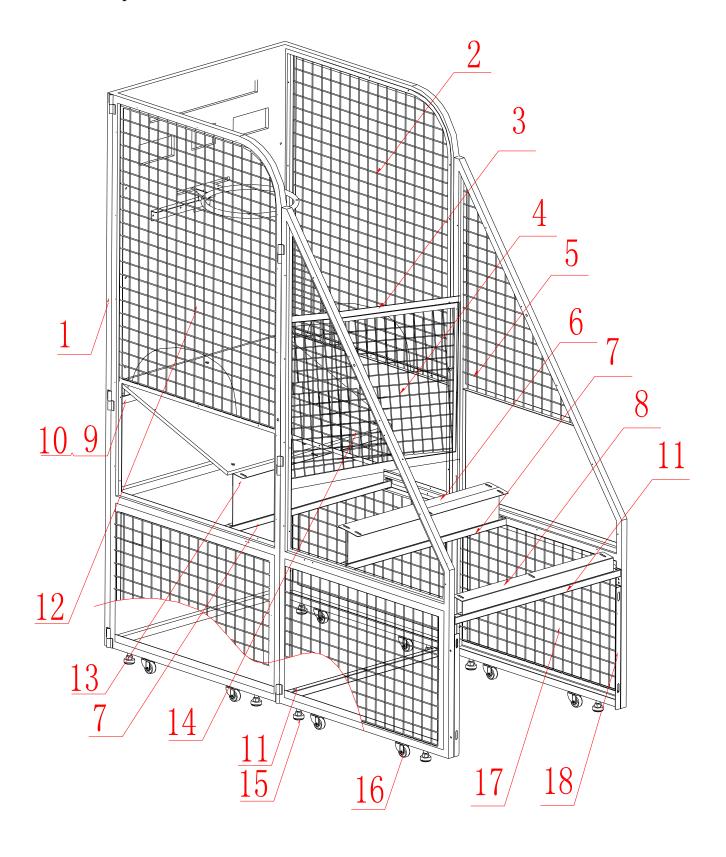
# 11. Overall structure

# 11.1 Main part 1:



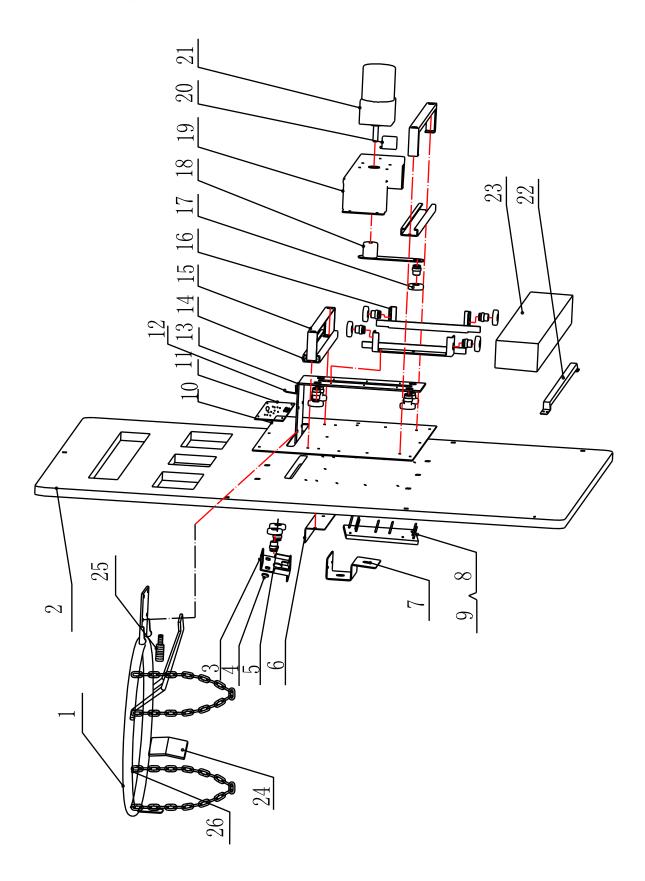
No.	Part No.	Name	Qty	Spec.	Note
1	R102-003-000	Header Assy.	1		
2	R102-102-000	Rear frame_L	1	Square tube	
3	R102-103-000	Rear frame_R	1	Square tube	
4	R102-008-000	Motion Assy.	1		
5	R102-104-000	Rear side panel	3	Square tube	
6	R102-105-000	Shield ring	1	Square tube	
7	R102-106-000	Rear side panel	2	Q235	
8	R102-301-000	Shield ring	1	Q235	
9	R102-302-000	Frame fix cover	1	Q235	
10	R102-107-000	Front side panel	2	Q235	
11	R102-501-000	Playfield 3	1	Plywood	
12	R102-004-000	Ball gate assy.	1		
13	R102-009-000	Speaker_L rack	1	Q235	
14	R102-010-000	Speaker_L rack	1	Q235	
15	R102-401-000	Speaker	2	FEILO 8 Ω/10W	
16	R102-502-000	Playfield 1	1	Plywood	
17	R102-002-000	Control panel assy.	1		
18	R102-108-000	Front door	1	Q235	
19	R102-402-000	Triple door	1	Standard (with coin mech frame )	
20	R102-109-000	Big speaker net	1		
21	R102-110-000	Front low right door	1	Q235	

### 11.2 Main part 2



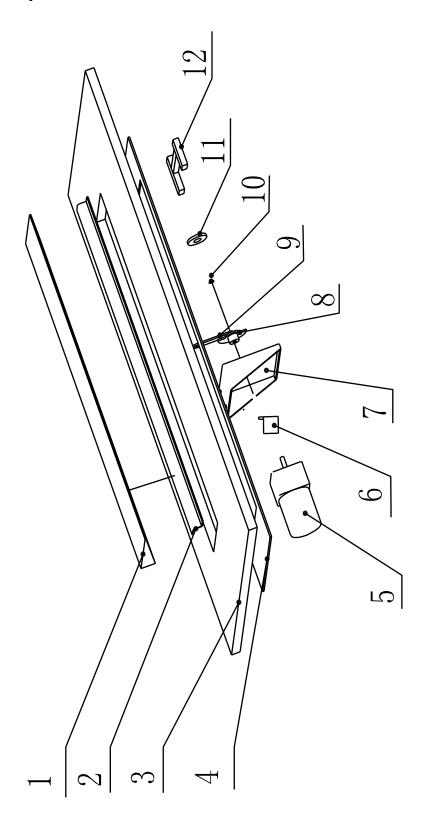
No.	Part No.	Name	Q'ty	Spec.	Note
1	R102-111-000	Rear frame rack	1	Square tube	
2	R102-112-000	Rear side_R net	1	Q235	
3	R102-113-000	Front frame	1	Q235	
4	R102-114-000	Front net	1	Q235	
5	R102-115-000	Front side_R rack	1	Square tube	
6	R102-116-000	Beam rack 2	1	Q235	
7	R102-117-000	Beam 2	2	Square tube	
8	R102-118-000	Beam rack 1	1	Q235	
9	R102-119-000	Beam rack 4	1	Q235	
10	R102-120-000	Damping board	2		
11	R102-121-000	Beam 1	2	Square tube	
12	R102-122-000	Rear side_L net	1	Q235	
13	R102-123-000	Beam rack 3	1	Q235	
14	R102-124-000	Front side_L rack	1	Q235	
15	R102-403-000	Leveller	8		
16	R102-404-000	Castor	8	2"	
17	R102-125-000	Botton net	4	Q235	

### 11.3 Motion Assy.



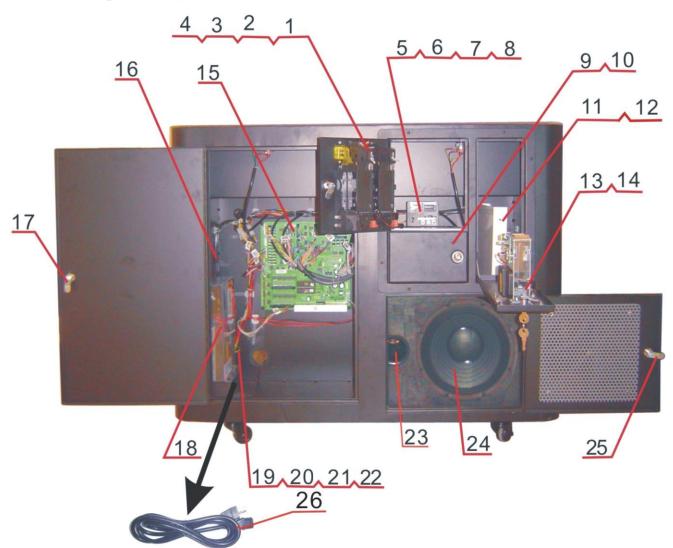
No.	Part No.	Name	Q'ty	Spec.	note
1	R102-405-000	Rim	1	Ф 20	
2	R102-503-000	Back board	1	15mm	
3	R102-126-000	Bearing rack	1	3 mm	
4	R102-303-000	Shield ring	1	d <sub>0</sub> =16	
5	R102-304-000	Bearing axis	13		
6	R102-127-000	Bearing track	1	1.5 mm	
7	R102-128-000	Sensor rack	1	1.5 mm	
8	R102-129-000	Reinforce_L	1		
9	R102-130-000	Reinforce_R	1		
10	R102-131-000	Attached board	1	1.5 mm	
11	R102-132-000	Sensor board	1		
12	R102-133-000	Sensor block			
13	R102-134-000	Main frame	1	3 mm	
14	R102-135-000	Guide I	2	2 mm	
15	R102-136-000	Guide Π	2	2mm	
16	R102-137-000	Bracket	2	3 mm	
17	R102-406-000	Bearing	11	6002	
18	R102-138-000	Connected rod	1	2 mm	
19	R102-139-000	Motor rack	1	2mm	
20	R102-407-000	Start up capacitor	1		
21	R102-408-000	Motor	1	YN70-15Z/70JB100G8	
22	R102-140-000	Light tube bracket	1	Q235	
23	R102-141-000	Light tube cover	1	Q235	
24	R102-409-000	Reflect paper	1	50×55	
25	R102-410-000	Ball detected	2	E3F-R2N1	
26	R102-142-000	Chain jacket	1	BLK PE	

## 11.4 Ball gate Assy



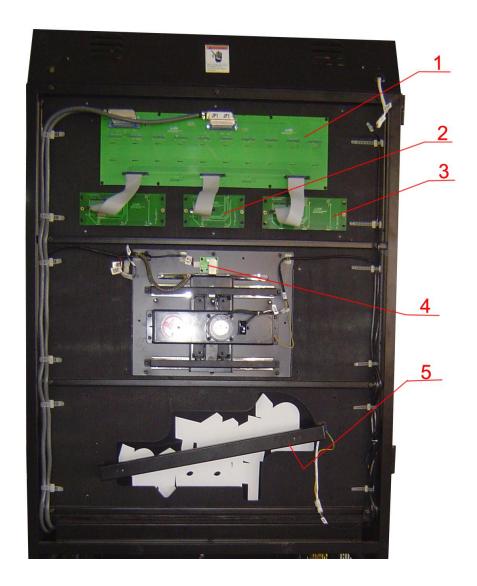
No.	Part No.	Name	Q'ty	Spec.	Note
1	R102-143-000	Ball	1	1.5mm	
2	R102-144-000	Hinge	1		
3	R102-504-000	Bed plate	1	15mm	
4	R102-145-000	Fix board	1	3mm	
5	R102-411-000	Motor	1	YN60-6Z/60JB100G10	
6	R102-412-000	Capacito	1		
7	R102-146-000	Motor bracket	1	3mm	
8	R102-147-000	Encoder wheel	1		
9	R102-148-000	Connection	1	3mm	
10	R102-305-000	Axle sleeve	2		
11	R102-306-000	Shield ring	1	$d_0 = 5$	
12	R102-413-000	Sensor	1	NC(YIIN-5V)	

### 11.5 Control panel Assy.



No.	Part No.	Name	Qty	Spec.	Note
1	R102-414-000	Bulb	4	12V 3W	
2	R102-415-000	Coin mech	2	CEC	
3	R102-416-000	Coin SW	2	ZIPPYCNR-055-03-Z	
4	R102-417-000	Bulb clamp	2	For coin lamp	
5	R102-418-000	Counter	1	12V	
6	R102-419-000	Test button	3	1 RED ,1GRN,1 BLK	
7	R102-420-000	Dual POT	1	1K	
8	R102-421-000	Single POT	1	10K	
9	R102-149-000	Coin box	1		
10	R102-422-000	Coin box lock	1	2222	
11	R102-150-000	Ticket box	1	Q235	
12	R102-801-000	Ticket conversion board	1	TICK-CH.PCB	
13	R102-424-000	Ticket mech	1	TD-963CR	
14	R102-423-000	Ticket lock	1	171	
15	R102-802-000	Main board	1	V8	
16	R102-803-000	Relay board	1	JDQ-LY2J-12V	
17	R102-423-000	Service door lock	1	171	
18	R102-425-000	Power box	1	EPM-S-250D12+24	
19	R102-426-000	Power swithc	1	12A/125V 1/4HP	
20	R102-427-000	Fuse	1	10A/125V φ 5-20	
21	R102-428-000	Fuse socket	1	10A/250V R3-11	
22	R102-429-000	Filter	1	10GENG3E-R	
23	R102-430-000	Sound box hole	1		
24	R102-431-000	10" Speaker	1	80-150W 10"	
25	R102-423-000	Speaker door lock	1	171	
26	R102-804-000	Power cord	1	3. 5M	

## 11.6 Other electroinc component:



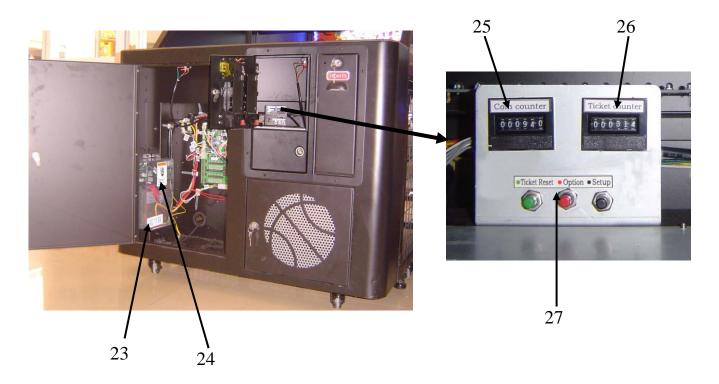


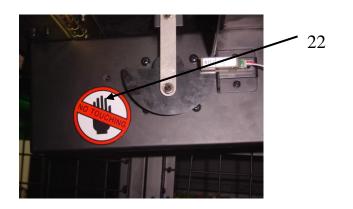
No.	Part No.	Name	Q'ty	Spec.	Note
1	R102-805-000	Dot matrix	1	DZ-1120.PCB	
2	R102-806-000	2 Digit display	1	LED86*65-2U.PCB	
3	R102-807-000	3 Digit display	2	LED86*65-3U.PCB	
4	R102-432-000	Sensor	1	Fanse.PCB	
5	R102-433-000	Fuorescent lamp1	1	T5 14W	
6	R102-434-000	Insulated cable φ50	2	Caliber φ 50	
7	R102-435-000	Insulated cable	5	Caliber	
8	R102-808-000	3 Core connector	1	1 male ,1 female	

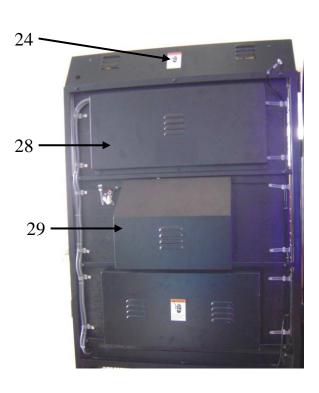
#### 11.7 Game decal:



# Warning and service sticker:







No.	Part No.	Name	Qty	Spec.	Note
1	R102-701-000	Header Decal	1	1000×178 (δ5 PET)	
2	R102-702-000	Back board decal	1	927×1164 (δ5 PET)	
3	R102-703-000	Playfield 3	1	925×560 (δ 0.3 PVC)	
4	R102-704-000	Playfield 2	1	925×575 (δ 0.3 PVC)	
5	R102-705-000	Playfield 1	1	925×698 (δ 0.3 PVC)	
6	R102-706-000	Control panel decal	1	360×630 (δ 0.3 PVC)	
7	R102-707-000	Rear side-L decal	1	809×623 (δ 0.3 PVC)	
8	R102-708-000	Rear side-R decal	1	809×623 (δ 0.3 PVC)	
9	R102-709-000	Front side-L decal	1	805×465 (δ 0.3 PVC)	
10	R102-710-000	Front side-R decal	1	805×465 (δ 0.3 PVC)	
11	R102-711-000	Button decal (single)	1	48×48	
12	R102-712-000	Button decal (link)	1	48×48	
13	R102-436-000	Button	2	60#	
14	R102-437-000	Micro SW	2		
15	R102-713-000	Front door decal	1	1000×200 (δ5 PET)	
16	R102-714-000	Coin decal	2	18×26	
17	R102-715-000	Ticket decal	1	190×730	
18	R102-438-000	Light belt	2	2.7m	
19	R102-601-000	Clear acrylic	1		
20	R102-439-000	Fluorescent lamp	1	MXT5-Y21 21W	
21	R102-151-000	Header	1	Q235	
22	R102-716-000	No touching decal	2	66×66	
23	R102-717-000	110V hight voltage decal	1		
24	R102-718-000	Hight voltage decal	3	60×90	
25	R102-719-000	Coin counter decal	1	30×6	
26	R102-720-000	Ticket counter decal	1	30×6	
27	R102-721-000	Ticket reset decal	1	50×6	
28	R102-152-000	Display cover	1	Q235	
29	R102-153-000	Motor cover	1	Q235	