

# *Bug Cruncher*

## MANUAL



### **Warning**

- \* Please read the manual before installation and use.
- \* Please put the manual together with the machine.



**ACE AMUSEMENT**

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## Machine Introduction and Features

Bug Cruncher is a newly developed indoor medium- and high-end redemption game machine of our company. The unique theme model is atheistic, and the reasonable ergonomics design enables the player to play the game better and have more fun. Moreover, the game machine is a high revenue product in amusement center.

## I Specifications and Technical Parameters






- 1) Operating voltage: AC220V - 240V 50/60 Hz (or AC 110V±5%, 60Hz.  
For the specific voltage, see the nameplate on the machine.
- 2) Maximum power: 350W
- 3) Overall dimensions: W110 × D278 × H 202 (cm)
- 4) Weight: About 410 kg
- 5) Ambient condition: Temperature (indoors): 0°C ~35°C;
- 6) Humidity: ≤90%;
- 7) Atmospheric pressure: 86Pa ~ 106Pa.

**Warning:** After turning off the machine, please wait 3 minute if you want to turn it on.

## II Accessory List

For the normal use of the machine, please check whether the following items are included carefully after you open the package.

1. The accessory list is below:

S/N	Name	No./Specification	Quantity	Unit	Picture	Remarks
1	Power cord	10A/250V-3M	1	Piece		
2	Fuse	Φ5×20mm T5A 250VAC	1	Piece		
3	Manual	English version	1	Copy		
4	Key	AA33	2	Piece		
5	Key	AA32	2	Piece		

**Please open the package and check whether all accessories are included. If not, please contact the distributor of the machine for check.**

## III How to Handle and Position the Machine

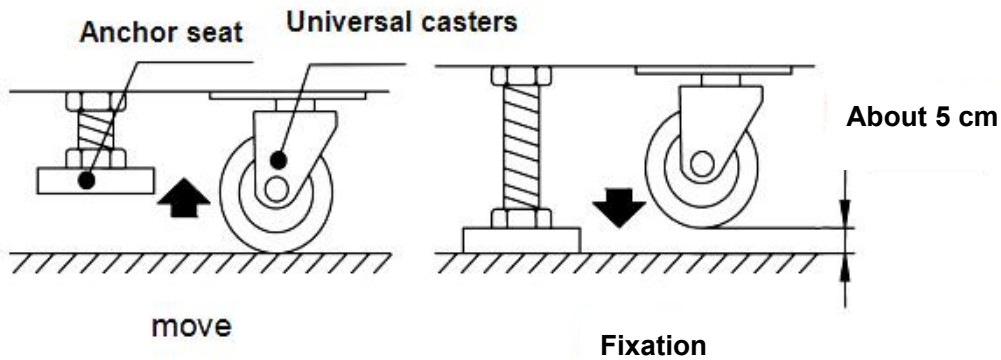
### (I) Handling Method

The machine is equipped with caster under the base plate. When moving the machine for a short distance, you should raise foot to make the casters touch the ground and push the machine.



## (II) Fixing Method

Please place it on flat ground where it won't slide easily, loosen the locked nuts of the foot, tighten the anchor bolts with a wrench, and keep the caster approximately 5mm away from the ground.



## (III) Product Placement

Do not place the product in the following places:

- Do not place the machine in a humid place with high humidity;
- Do not place the machine near a hot object;
- Do not place the machine next to flammable items;
- Do not place the machine on a smooth or uneven ground surface;
- Do not place the machine near high-frequency vibration objects;
- Do not place the machine in the dusty areas.



### **Caution**

Please unplug the power plug before moving to prevent accidents and faults.

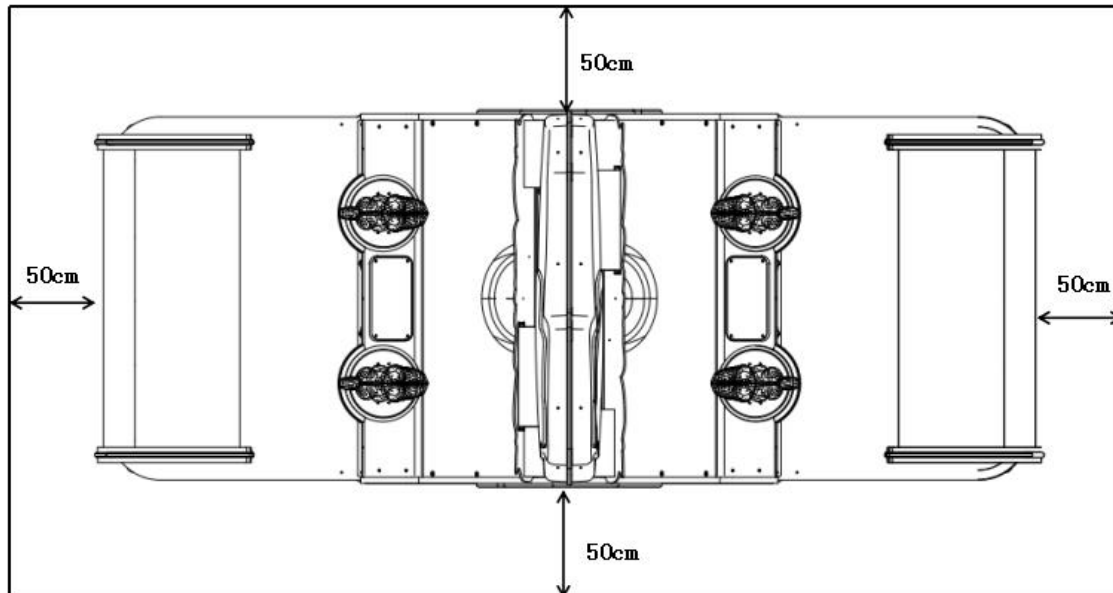
Please take care not to damage the power cord during moving to prevent accidents and faults.

Please raise the foot to the maximum height before moving to prevent accidents and faults.

## (IV) Installation Location Dimension

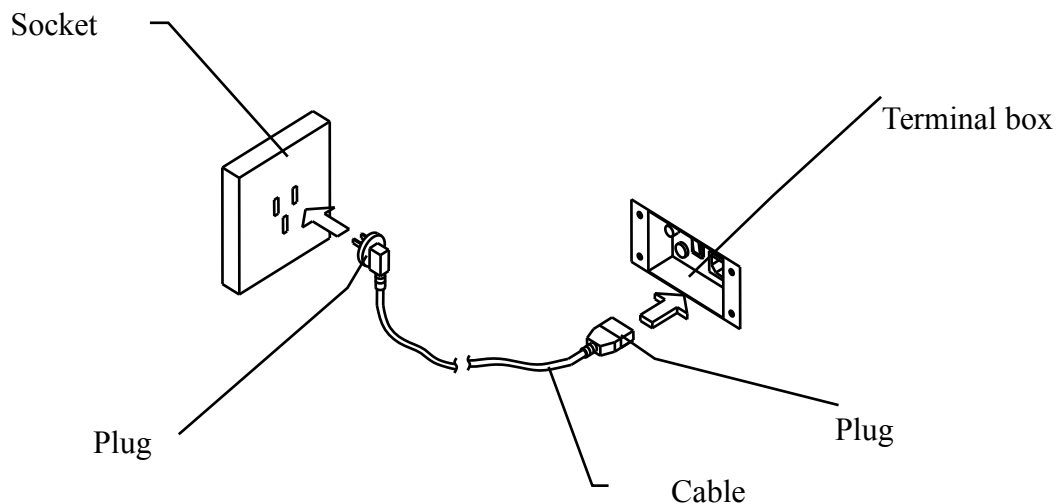
The machine should be placed according to the following dimensions for customers' safety and enough space to run the machine.

Game area:



## IV Wiring and Precautions

- Connect one end of the cable to the terminal box of the machine, and connect the other end to the socket.
- Connect the power supply according to the voltage (110V or 220V) on the label, or the machine might be damaged.
- Please confirm whether there is grounding in the socket to avoid unnecessary damage.
- If the grounding cannot be done through the socket, please try other methods.





## V Description of the Game

### (I) Introduction to the Game Image



1. Player's times/time: display the times or time available for the player;
2. Score of the player: display the score of the player;
3. Free time UI: have the chance of getting falling gems after killing insects, and have free game play time after the player gets five gems;
4. Ordinary insects: obtain certain score rewards after killing ordinary insects;
5. Flying insects: obtain certain score rewards after killing flying insects, and meanwhile have the chance of getting gem rewards. Players will have lottery rewards if they kill flying insects with lottery balls;
6. Super spider: The spider's web will appear after the super spider is skilled, and the spider's web will kill all insects it covers;
7. BONUS insects: get a lots of lottery rewards after killing BONUS insects;
8. Gem: Have the chance of getting gems after flying insects are killed, and enjoy free game time after the player gets five gems;
9. Flying insects with lotteries: some flying insects will bring lottery balls of large, medium and small values, and players will be rewarded with scores and certain lotteries after these flying insects are killed.

### (II) Game Image

Three scenes of the game

Scene 1



Scene 3

Scene 2





### III. How to Play the Game

#### 1. Insects with lotteries



Some insects have lottery balls. After killing these insects, players will be rewarded with scores and moreover certain lotteries;



#### 1. Free time:



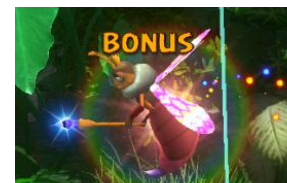
After players kill insects, they will have the chance of getting gems, and they can enjoy free game play if they collect five gems;



#### 2. BONUS insects:



Players will be rewarded with a great number of lotteries after they kill BONUS insects;





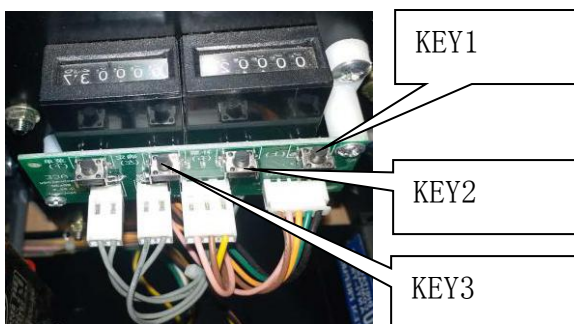
### 3. Super spider



After players kill spiders, they will get super spider's net to kill insects in a large scope, and get a big score and lottery rewards;



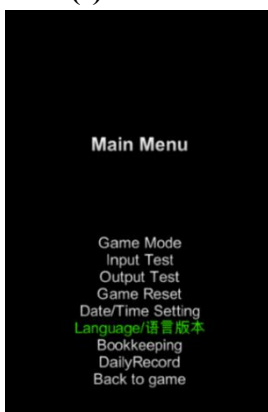
## VI Game Background Settings



Options	KEY1	Test (Choose)
	KEY2	Confirm (Replenish lotteries)
	KEY3	Confirm (Modify)

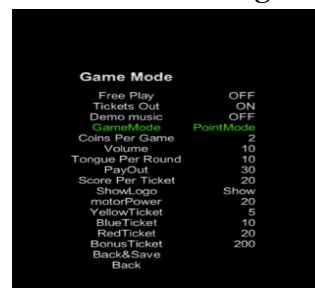
## (D)Game Backstage Introduction

### (I) Main Menu



- Game mode:** enter into game mode setup menu to set up the game,
- Input test:** enter into input test menu
- Output test:** enter into output test menu
- Game reset:** enter into game reset menu
- Date/time setup:** enter into date/time setup menu
- Bookkeeping:** enter into bookkeeping menu
- Daily record:** enter into daily sheet menu
- Return to game:** exit from backstage and return to the game interface

### Basic Settings



**Free play:** On/Off (Off)

**Ticket out:** On/Off (ON)

**Standby music:** On/Off (Off)

**Game mode:** score mode/time mode (Score mode)

**Score mode:** After putting the coin, the player get the game times, and the game times will be deducted if the player launches the tongue;

**Time mode:** After putting the coin, the player gets the play time, and the player can launch the tongue randomly;

**Coins per game:** 1-10 (2)

**Game volume:** 1-10 (10)

## Game mode



**Free play:** On/Off (Off)

Ticket out: On/Off (ON)

Standby music: On/Off (Off)

**Game mode:** score mode/time mode (Time mode)

**Score mode:** After putting the coin, the player get the game times, and the game times will be deducted if the player launches the tongue;

**Time mode:** After putting the coin, the player gets the play time, and the player can launch the tongue randomly;

**Coins per game:** 1-10 (2)

**Game volume:** 1-10 (10)

**Time per round:** 10-500 (60s)

**Score per ticket:** 10-2000 (300)

How many scores to get one ticket:

E.g. if every ticket needs 300 scores, then 300 scores can be exchanged for one lottery;

**Show Logo:** Show/hide (Show)

**Motor power:** 0-50 (20)

Adjust the cruncher handle vibration strengths after the insects are caught, and the larger the value is, the vibration will be more violent;

**Yellow lottery reward:** 1-50 (1)

**Blue lottery reward:** 1-50 (2)

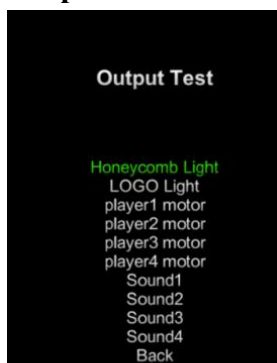
**Red lottery reward:** 1-50 (3)

**BONUS lottery reward:** 10-1000 (50)

**Save and return:** Save data and return to the above menu

Return

## Output test



**Time per round:** 1-10 (10)

**Ticket rate:** 5-50 (30)

**Average ticket number per coin:**

E.g. if the ticket rate is 30, then one coin can get 30 lotteries on average;

**Score per ticket:** 10-2000 (20)

How many scores to get one ticket:

E.g. if every ticket needs 20 scores, then 20 scores can be exchanged for one lottery;

**Show Logo:** Show/hide (Show)

**Motor power:** 0-50 (20)

Adjust the cruncher handle vibration strengths after the insects are caught, and the larger the value is, the vibration will be more violent;

**Yellow lottery reward:** 1-50 (5 tickets)

**Blue lottery reward:** 1-50 (10 tickets)

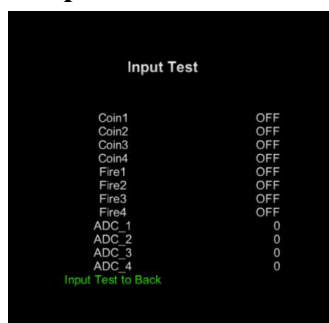
**Red lottery reward:** 1-50 (20 tickets)

**BONUS lottery reward:** 10-1000 (200 tickets)

**Save and return:** Save data and return to the above menu

Return

## Input test



**Coin 1:** Test if Coin 1 machine can run normally or not

**Coin 2:** Test if Coin 2 machine can run normally or not

**Coin 3:** Test if Coin 3 machine can run normally or not

**Coin 4:** Test if Coin 4 machine can run normally or not

**Firing button 1P:** Test if No. 1 firing button can run normally or not

**Firing button 2P:** Test if No. 2 firing button can run normally or not

**Firing button 3P:** Test if No. 3 firing button can run normally or not

**Firing button 4P:** Test if No. 4 firing button can run normally or not

**ADC\_1:** Test if the hunting range of No. 1 potentiometer is normal or not (Normal range 0-255)

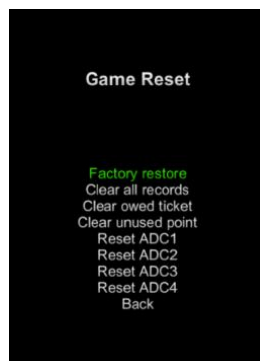
**ADC\_2:** Test if the hunting range of No. 2 potentiometer is normal or not (Normal range 0-255)

**ADC\_3:** Test if the hunting range of No. 3 potentiometer is normal or not (Normal range 0-255)

**ADC\_4:** Test if the hunting range of No. 4 potentiometer is normal or not (Normal range 0-255)

## Game Reset

- Honeycomb light:** test if the honeycomb light can work normally or not
- Logo light:** test if the logo light can work normally or not
- All table lamps:** Test all table lamps can work normally or not
- Player 1 motor:** Test if the cruncher in No.1 position can vibrate normally or not
- Player 2 motor:** Test if the cruncher in No.2 position can vibrate normally or not
- Player 3 motor:** Test if the cruncher in No.3 position can vibrate normally or not
- Player 4 motor:** Test if the cruncher in No.4 position can vibrate normally or not
- Sound 1:** Test if the sound 1 loudspeaker can work normally or not
- Sound 2:** Test if the sound 2 loudspeaker can work normally or not
- Sound 3:** Test if the sound 3 loudspeaker can work normally or not
- Sound 4:** Test if the sound 4 loudspeaker can work normally or not
- Return:** Return to the menu above;



## Time/date setup

Set up the current date and time



## Bookkeeping

Bookkeeping			
Player	Coins	Tickets	Payout
1	6	282	47.00
2	12	26	2.17
3	0	0	0.00
4	0	0	0.00
Sum	18	308	17.11

Player: Player position

Coins: The quantity of coins accumulated by every player in every position

Tickets: The quantity of tickets accumulated by every player in every position

Ticketing rate: Average coins per coin of the player in every position

Return: Return to the menu above

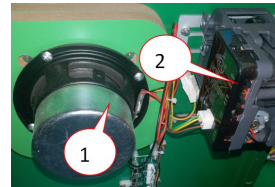
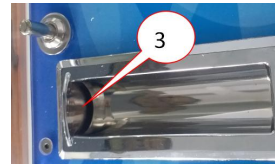
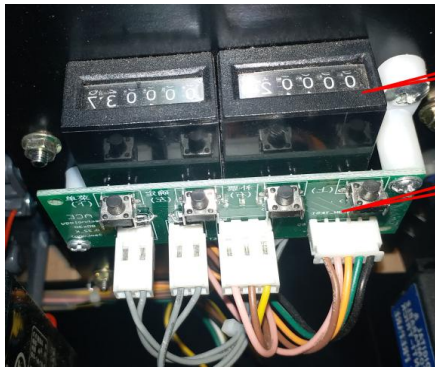
## Daily record

Daily record: inquire the daily operation of every machine, including date, week day, running time, coins, tickets, payout and presents

DailyRecord					
Date	Weekday	RunTime	Coins	Tickets	Payout
2018-10-11	THU	00:01	4	23	5.75

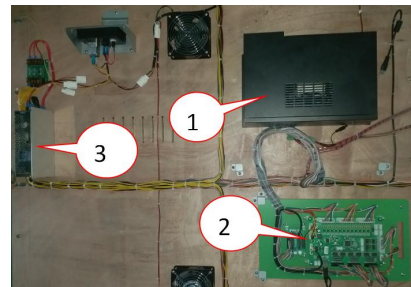
## VII Electrical Parameters of the Machine

### (I) Electrical parameters specifications



S/N	Name	Specification	Quantity
1	Speaker	Whole tone, 4 inch, 4Ω, 25W	2
2	Lottery machine	TL TL-001 generation 3rd	2
3	Coin collector	TL TW-131	2
4	Counter	C-012 12VDC 18CPS (including diode)	2
5	KEY1	Test (choose)	1
	KEY2	Confirm (Replenish lotteries)	1
	KEY3	Confirm (modify)	1

S/N	Name	Specification	Quantity
1	Industrial computer (mid tower)	(MT-A5235) A55/5300/ memory 2G*2 hard disk 16G	1
	Memory	DDR3 4G	1
	GPU	R7350	1
2	IO main board	MB-MINI..PCB V1.2	1
	Casing line	Water Battle Little Monster in Chinese version	1
	USB data cable	Type A/B 1m	1
3	Power box 12V	SPD-400W	1



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## Bug Cruncher IO Table V1.0

### Input section

IHPUT	Content	INPUT	Content	IUPUT	Content
IN1	1P coin	IN17	4Pcoin	IN33	7Pcoin
IN2	1P Shoot button	IN18	4P Shoot button	IN34	7P Shoot button
IN3	1PChoose button	IN19	4PChoose button	IN35	7PChoose button
IN4	1PJoystick optical sensor	IN20	4PJoystick optical sensor	IN36	7PJoystick optical sensor
IN5	1P ticket refund feedback	IN21	4P ticket refund feedback	IN37	7P ticket refund feedback
IN6	2P coin	IN22	5Pcoin	IN38	8Pcoin
IN7	2P Shoot button	INI23	5P Shoot button	IN39	8P Shoot button
IN8	2PChoose button	IN24	5PChoose button	IN40	8PChoose button
IN9	2PJoystick optical sensor	IN25	5PJoystick optical sensor	IN41	8PJoystick optical sensor
IN10	2P ticket refund feedback	IN26	5P ticket refund feedback	IN42	8P ticket refund feedback
IN11	3P coin	IN27	6Pcoin	IN43	
IN12	3P Shoot button	IN28	6P Shoot button	IN44	
IN13	3PChoose button	IN29	6PChoose button	IN45	
IN14	3PJoystick optical sensor	IN30	6PJoystick optical sensor	IN46	
IN15	3P ticket refund feedback	IN31	6P ticket refund feedback	IN47	1P ticket refund feedback
IN16		INI32		IN48	Confirmation button

### ADC section

Item	Name	Content
J4	+3. 3V	
	AD1	
	AD2	
	GND	
J5	+3. 3V	
	AD3	
	AD4	
	GND	
J6	+3. 3V	
	AD5	
	AD6	
	GND	
J7	+3. 3V	
	AD7	
	AD8	
	GND	

Note: IN 1-48 is the standard input

### Output section

Output	Content	Output	Content	Output	Content	Output	Content	Output	Content
OUTPUT1	1P resistance	OUTPUT9	1P vibration	OUTPUT17	1Pconsole light	OUTPUT25	1P ticket machine drive	OUTPUT33	
OUTPUT2	2P resistance	OUTPUT10	2P vibration	OUTPUT18	2Pconsole light	OUTPUT26	2P ticket machine drive	OUTPUT34	
OUTPUT3	3P resistance	OUTPUT11	3P vibration	OUTPUT19	3Pconsole light	OUTPUT27	3P ticket machine drive	OUTPUT35	Coin code table
OUTPUT4	4P resistance	OUTPUT12	4P vibration	OUTPUT20	4Pconsole light	OUTPUT28	4P ticket machine drive	OUTPUT36	Ticket code table
OUTPUT5	5P resistance	OUTPUT13	5P vibration	OUTPUT21	5Pconsole light	OUTPUT29	5P ticket machine drive	OUTPUT37	
OUTPUT6	6P resistance	OUTPUT14	6P vibration	OUTPUT22	6Pconsole light	OUTPUT30	6P ticket machine drive	OUTPUT38	
OUTPUT7	7P resistance	OUTPUT15	7P vibration	OUTPUT23	7Pconsole light	OUTPUT31	7P ticket machine drive	OUTPUT39	
OUTPUT8	8P resistance	OUTPUT16	8P vibration	OUTPUT24	8Pconsole light	OUTPUT32	8P ticket machine drive	OUTPUT40	



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**Note: OUT1-24 is the output current of MOS tube up to 2.5A; 25-40 is the output of ULH2803, and the current of each port is up to 50MA.**

### Communication section

Item	Content	
USB		
COM1(J12)	TX	
	RX	
	GND	
COM2(J13)	TX	
	RX	
	GND	

### PWM Output

Item	Content	Content
J14	GND	
	S8	Lamp panel LI
	S7	Lamp panel CI
	S6	Lamp panel D1
	S5	
	S4	
	S3	
	S2	
	S1	
	12V	

### Background button

Item	Content	Content
J20	K1	test
	K2	service
	K3	make up ticket
	K4	confirm

### KUN\_LED lamp panel

OUTPUT	CONTENT	OUTPUT	CONTENT	OUTPUT	CONTENT	OUTPUT	CONTENT
OUT1	1P choice button light	OUT9	1P shoot button light	OUT17		OUT25	
OUT2	2P choice button light	OUT10	2P shoot button light	OUT18		OUT26	
OUT3	3P choice button light	OUT11	3P shoot button light	OUT19		OUT27	
OUT4	4P choice button light	OUT12	4P shoot button light	OUT20		OUT28	
OUT5	5P choice button light	OUT13	5P shoot button light	OUT21		OUT29	
OUT6	6P choice button light	OUT14	6P shoot button light	OUT22		OUT30	
OUT7	7P choice button light	OUT15	7P shoot button light	OUT23		OUT31	
OUT8	8P choice button light	OUT16	8P shoot button light	OUT24		OUT32	

### 1 Installation and Commissioning

- Please check the components according to the list to assemble components before installation;
- After installation, plug the cable and turn on the machine to check whether each part runs normally. If no, immediately turn off the machine for troubleshooting.

### 2. Appearance Inspection

To ensure the safe use of the machine, please check the following before startup:

- Whether the warning sign is intact, visible and stuck correctly.
- Whether parameters of power supply are consistent with the requirements of the machine.
- Whether screws of each component and components of the steering wheel are loose.
- Whether the connectors and terminals are loose.
- Whether the machine is placed stably; whether the adjustment of the casters and the top foot are proper.
- Whether the machine is placed in the proper area.

### 3. Running Inspection

- Whether the speaker works normally.
- Whether the daylight lamp and the button light are on.
- Whether the image is clear and normal.

### 4 Maintenance

- Before operation, test run must be done before the machine is used;
- When there is dirt on the machine, wipe it with a soft cotton cloth with detergent;
- After the new machine has been used for one month, check whether each part runs normally;
- Often check the machine;
- The machine must be cleaned and maintained once a month.

## VIII. Fault Analysis and Troubleshooting

### Common faults

Fault phenomena	Main cause	Corrective action
After the machine is powered on,(the power supply fan works), but the display is not on.	The monitor is not energized.	Please reconnect the power cable or replace it with new.
	The signal wire of the display is not connected or damaged.	Please reconnect the signal wire or replace it with new.
After the machine is powered on, nothing happens and the screen is not lit.	The power supply is inconsistent with the machine's parameters.	Please check whether the power supply is consistent with the machine's parameters.
	Fuse is burnt out.	Please replace the fuse.
	The power supply is not connected.	Please confirm 110V~220V power supply is connected and the power switch is on
	The signal wire of the display is not connected or damaged.	The signal wire of the display is not connected or damaged.
The machine is not powered on.	Check whether the input of the 110V~220V power supply is right. The short circuit is not allowed.	Please check whether the voltage of the circuit board inside the machine is abnormal.
The control panel is not powered on	Check whether the output of 12V of the power supply box is normal.	Please adjust the cable to the correct position.
The display has no raster.	The cable of the display might fall off or be loosen due to vibration.	Please check the power supply circuit or replace the power line.
	The display is not on..	Turn on the machine again manually.
The power is off on the midway.	The circuit protector generates an action and the power switch is turned off (Note: The circuit protector cuts off the current when the abnormal current flows).	Please turn on the power switch again. When the circuit protector repetitively acts, it indicates that the machine is abnormal. Please contact the dealership.
After the product is powered on, the display is a white screen without any image or sound.	The host machine does not work.	Manually start the power start button of the host machine.
		The host power is bad or replaced.
		The motherboard memory bank is bad or replaced.
		The motherboard is bad. Please contact professional and manufacturer.

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No response to coin collector.	The coin collector is damaged.	Replace coin collector.
	The signal line of the coin collector is loose.	Check if the signal line of the coin collector is loose.
	IO control board is damaged.	Replace IO control board.
Coins are blocked in the coin collector	The sample coin is not placed well.	Please check whether the sample coin is placed well, or try another sample coin.
	The coin slot is not aligned or deformed.	Please check whether the coin slot is aligned or deformed, and adjust coin slot.
	The coin collector is not assembled properly. The red braking bar above the coin collector is pressed.	Please re-insert it into the coin collector.
The coin collector does not score.	Check whether there is signal feedback.	Please re-connect the coin collector. It will make a sound if there is signal.
	The connected target board is not connected to the pull-up resistor.	Please connect the pull-up resistor.
	Check whether the token in the coin collector is the same with that inserted in the coin collector.	Please replace it with the proper token.
	The gear of the switch (normally on and normally off) is incorrect	Please check whether the gear of the switch (normally on, normally off) is correct.
	The socket outlet of the coin connector is in poor contact.	Please check whether the socket outlet of the coin connector is in poor contact.
The speaker does not make a sound.	Whether the circuit board of the power amplifier is powered on.	Please turn on the switch of the amplifier circuit board to power on
	The volume is too low.	Please turn the volume up.
	Whether the audio connection port falls off or is damaged.	Please re-connect the audio connection port.
	The circuit board of the power amplifier goes wrong.	Please replace the circuit board.
	The speaker goes wrong.	Please replace the speaker.
No lottery fed.	The ticket machine goes wrong or the switch is turned on wrongly.	Please replace the ticket machine or set the switch to the factory settings.

## X Error Prompt



1. **Cause: Disconnection with the IO board**
2. **Solution: Restart the machine, and press the reset button on the IO board (there is only one button on the board)**



1. **Cause: No enough lotteries, or the ticket machine is damaged**
2. **Solution: Replenish lotteries; replace the ticket machine**



1. **Cause: The memory of the host is insufficient**
2. **Solution: Plug out the memory of the host, and then plug it in again.**

### **Warning:**

- **Cut off the power supply for maintenance and repair of the machine.**

To prevent short circuit, relevant personnel should cut off the power supply when touching internal components of the machine. If the operation requires power supply, it should meet the requirements of the manual.

- **Use proper parts for replacement.**

Improper parts may cause short circuit, and damage of the main board and the components.

- **Do not disassemble, assemble and change the equipment randomly.**

It may cause short circuit and machine failure, and even fire disaster.

- **Do not place vases, cups and containers with water, chemicals or heavy objects on the machine.**

The spilt liquid may cause short circuit and damage of parts. Meanwhile, falling objects may injure people and damage the machine.

- **Do not place objects in the exhaust outlet of the machine.**

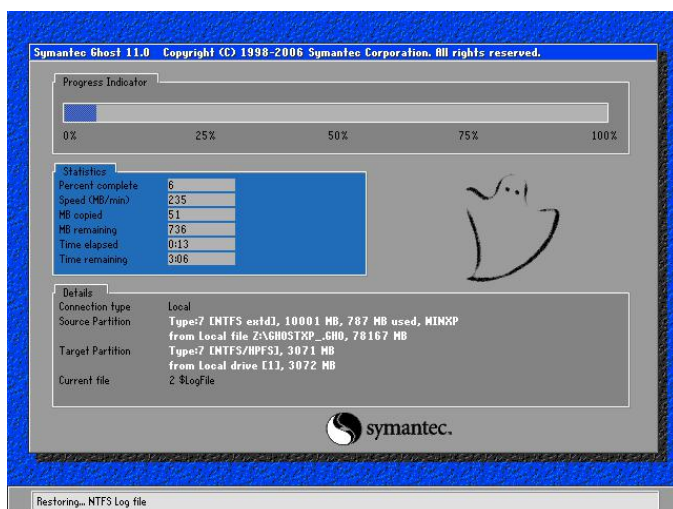
- The blocked exhaust **outlet** may cause temperature rise inside the machine, affect the normal operation of the game, and even damage the parts.

- **Do not repair the machine by yourself.**

It may cause short circuit or malfunction and other failure.



## XI Instructions on Restoring U Disk



When the machine is turned off, plug the U disk into the USB port behind the host, and the U disk will restore after the machine restarts. As shown in the figure, the system is restoring, and it needs about 20 minutes.

Prompt for system completion. The system restoring is completed as shown in the left figure, and you can unplug the U disk.



**The system restoring needs about 20 minutes. Do not cut off the power supply and wait patiently! Please forgive if there is any inconvenience!**



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