



**Family Fun Companies, INC.
Parts, Service and Distribution
708-598-3720**

Table of Contents

1. Brief Description.....	2
2. Caution	2
2-1.Notice for Installation	2
2-2. Notice for Operation	2
3. Accessories.....	3
4. How to Play	4
5. Technical Parameter.....	4
6. Appearance.....	5
7. All Parts Description and Location.....	6
8. Mechanical Parts Illustration.....	9
9. Game Features and Adjustments	15
9-1. Meter Board.....	15
9-2. Power Supply Input Panel.....	16
9-3.Coin Selector.....	16
9-4. Ticket Dispenser	17
10. PIN Connection on Main board	18
11. Function Setting Instruction Ver:007	21
12. Lamp Control Board Connection Table.....	24

1. Brief Description

"Reactor" (TW.JQ03.36) is a ticket machine for 1 to 3 players. The play area has 3 symmetrical play stations surrounding a rotating center column target. Each play station can be equally access the rotating targets which are slots in various positions seen vertically on the column. These slots represent ticket score values. There are 3 Jackpot target slots which award the Jackpot ticket scores values. There are 3 Jackpot award shown as well as advancing the 3 Jackpot award value to a higher level. The 3 Jackpot levels advance each time a player at any station wins towards playing for the "Mega-Jackpot" award which is shown on a block display in each play station.

We are confident "Reactor" will be a fun, reliable, and long term income generating machine for your location!

2. Caution

2-1. Notice for Installation

- This machine is *only* intended for indoor use.
- After installation, we recommend always lowering the four stabilizing levelers down.
- Do not take apart, assemble or remove the machine at random while under power.
- Before moving or making any internal adjustments, switch the power off, and disconnect the power cord.
- Locate the machine on a flat floor. Do not place it on any uneven, unsteady or easily obstructed place.
- Avoid placing the machine in locations having very high temperatures.

2-2. Notice for Operation

- Inspect whether the power plug and power cord are in good condition before switching the power on. Make sure that the voltage is suitable for the machine.
- The power supply voltage must be consistent with the specifications on the back

of the machine.

- **Switch the power off before any maintenance or repair.**
- **Only qualified persons can examine and repair the electric control units.**
- **Only use authentic, authorized components to replace the old ones.**
- **When you pull out the power cord, hold the plug. Do not hold the line.**
- **Do not plug or unplug the plug with wet hands. Do not pull or twist the line cord heavily.**

3. Accessories

Check that the following accessories are supplied.

Name	Qty	Remark
Manual	1	
Power cord	1	
Key	6	3172(2pcs) 3157(2pcs) 1866(2pcs)
Coin Switch	1	CNR-05L-03-Z 5A/250VAC
The Bounce Pad	3	Each machine with three small pieces
Test Launch Board	1	JL-Reactor -JF1.PCB (Every 6 machines with a piece)
Test Receive Board	1	JL-Reactor -JF2.PCB (Every 6 machines with a piece)
Coin Selector	1	TW-130W (Every 18 machines with one)
Main Board	1	JL-MainBoard-V2012.PCB Every 18 machines with a piece
Power Supply Cage	1	EPT-S150D12+5R Every 18 machines with one
	1	EST-H200S24 Every 18 machines with one
Stepper Motor Driver	1	Leadshine DM432C Every 18 machines with one

4. How to Play

- ◆ Players insert coin(s) into the coin selector at the target column which passes through the coin mechanism, players need to correctly grasp the time of the release of the coin, the coin is deflected off the bounce pad and passes through the target slot, On the target column (there are “JACKPOT” station and two cent value station). An award of that target amount is dispensed to the player. if it is the “JACKPOT” station ,the “JACKPOT ”will rise to the next level of award .
- ◆ Players win the "Mega-Jackpot" (or “Surprise Value”); they can obtain corresponding “Mega-Jackpot” (“Surprise Value”) scores.
- ◆ Coins which do not pass through the column are directed through the base of the column and into the coin box below.
- ◆ All 3 play stations can win at any time .Following the win of the “Mega-Jackpot”, the Jackpot award level then returns to the bottom of the target column to start over.

5. Technical Parameter

Model Number.....: TW.JQ03.36

Environment Requirement: Temperature from-10+40, low radiation, low humidity and no serious vibration.

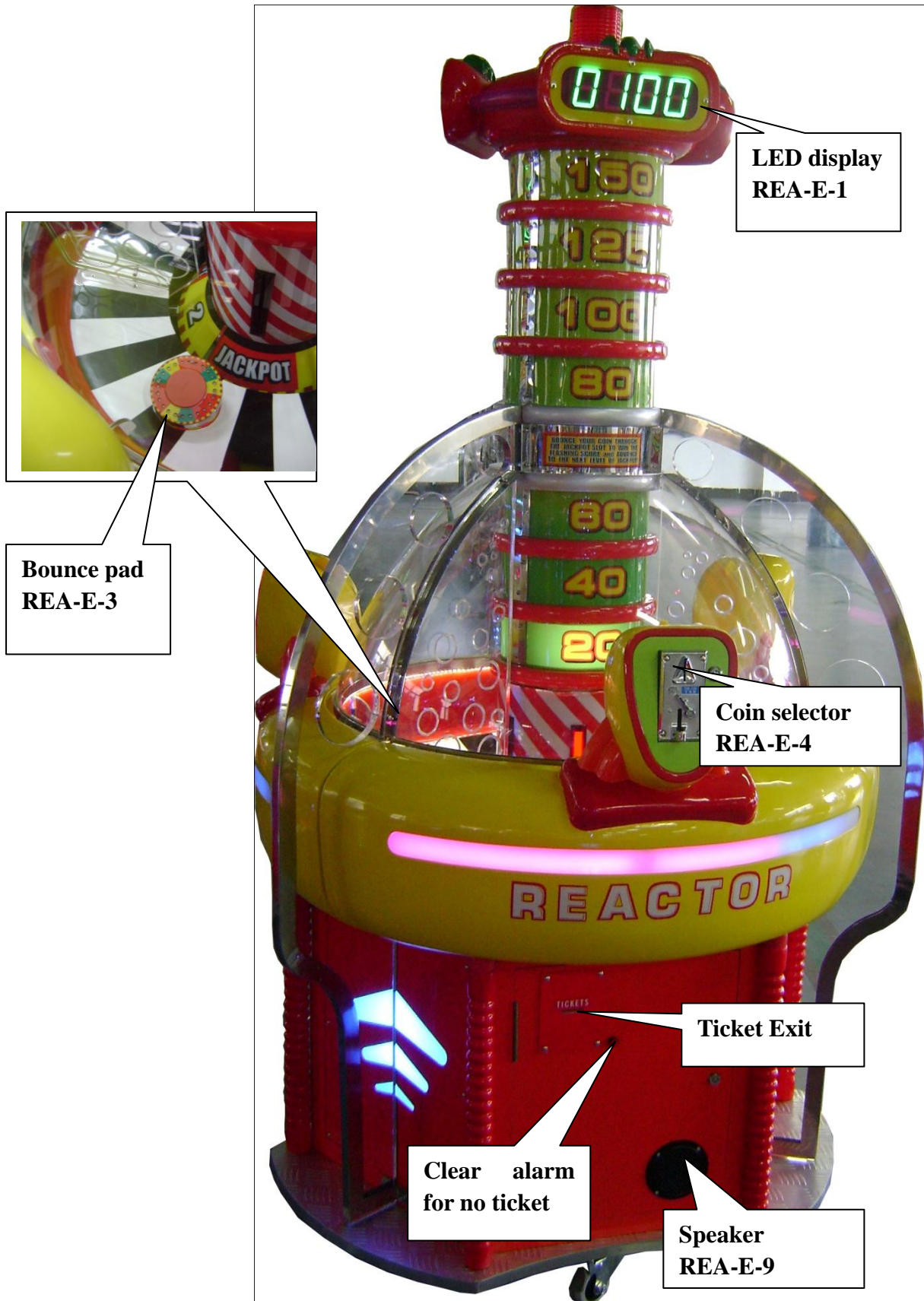
Dimension.....: W 1200 × D 1110 × H 2180 (mm) (Single machine)

Weight.....: 215KG

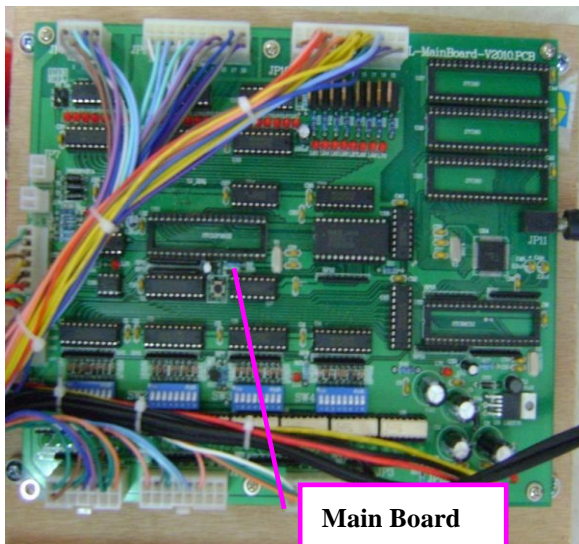
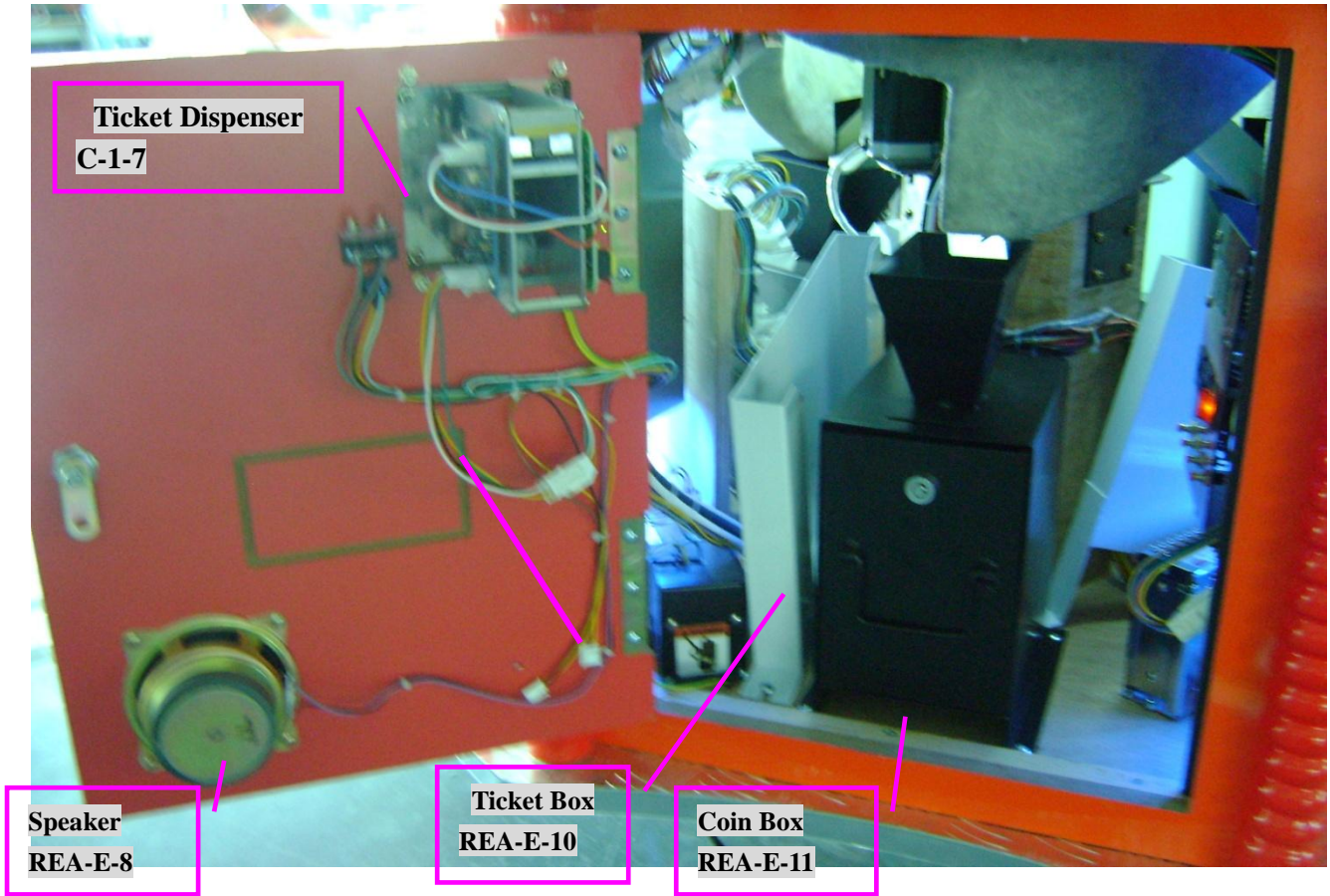
Power Supply.....: The power supply voltage must be consistent with the specifications on the back of the machine.

Maximum Power.....: 150W No. of Players: 1 to 3 players

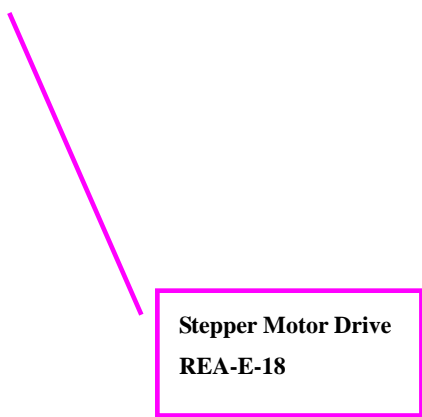
6. Appearance



7. All Parts Description and Location



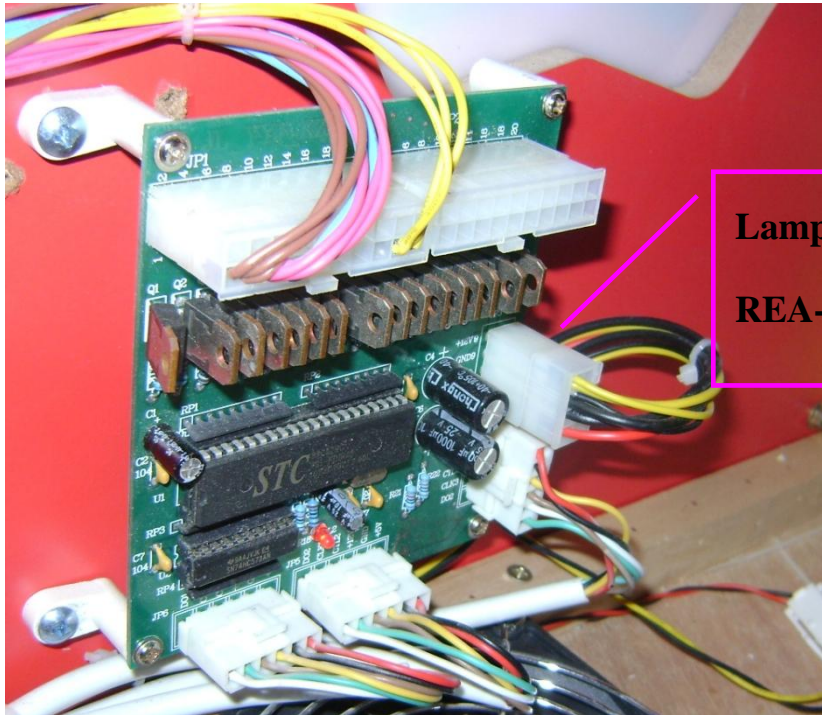
Main Board
REA-E-13



Stepper Motor Drive
REA-E-18



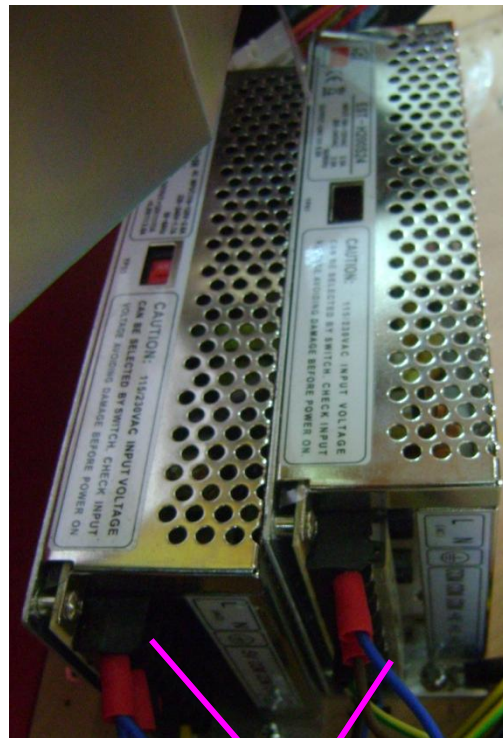
Reactor



**Lamp Control Board
REA-E-14**

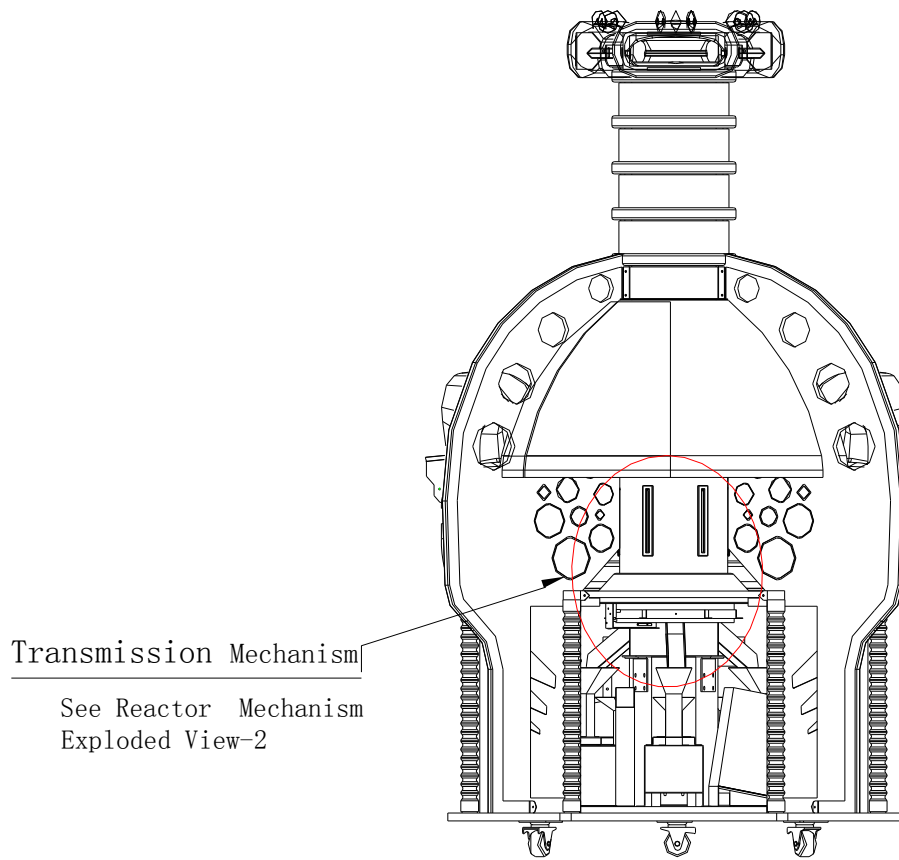


**Power Amplifier
(Note: DC12V)
REA-E-15**

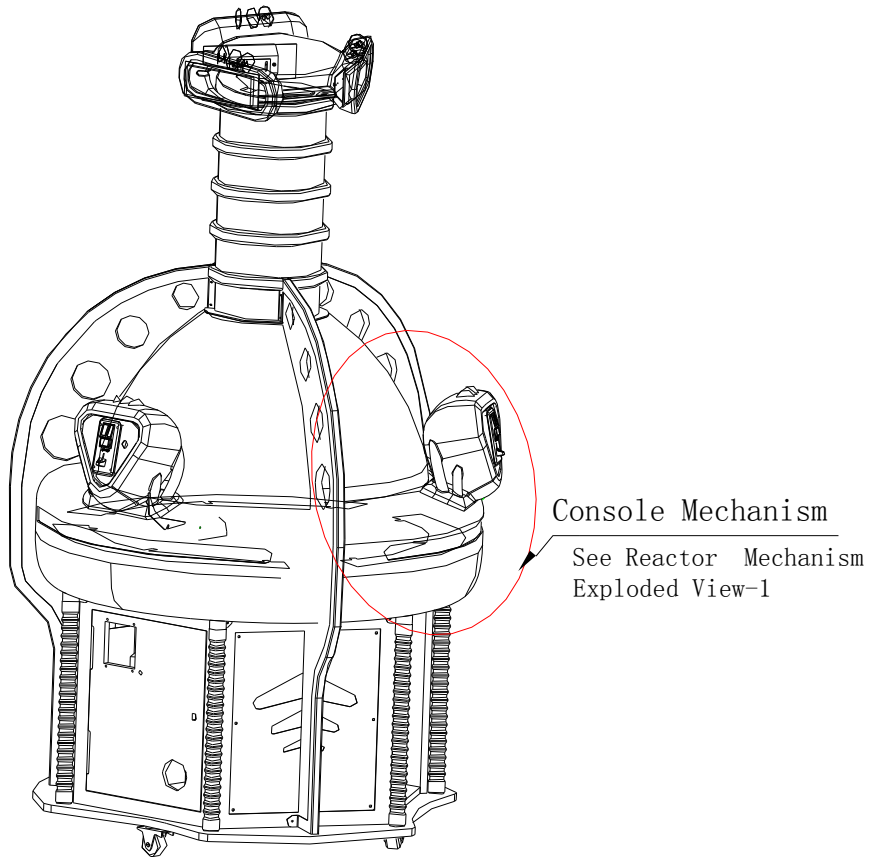


**Power Supply
REA-E-16 (12V + 5V)
REA-E-17 (24V)**

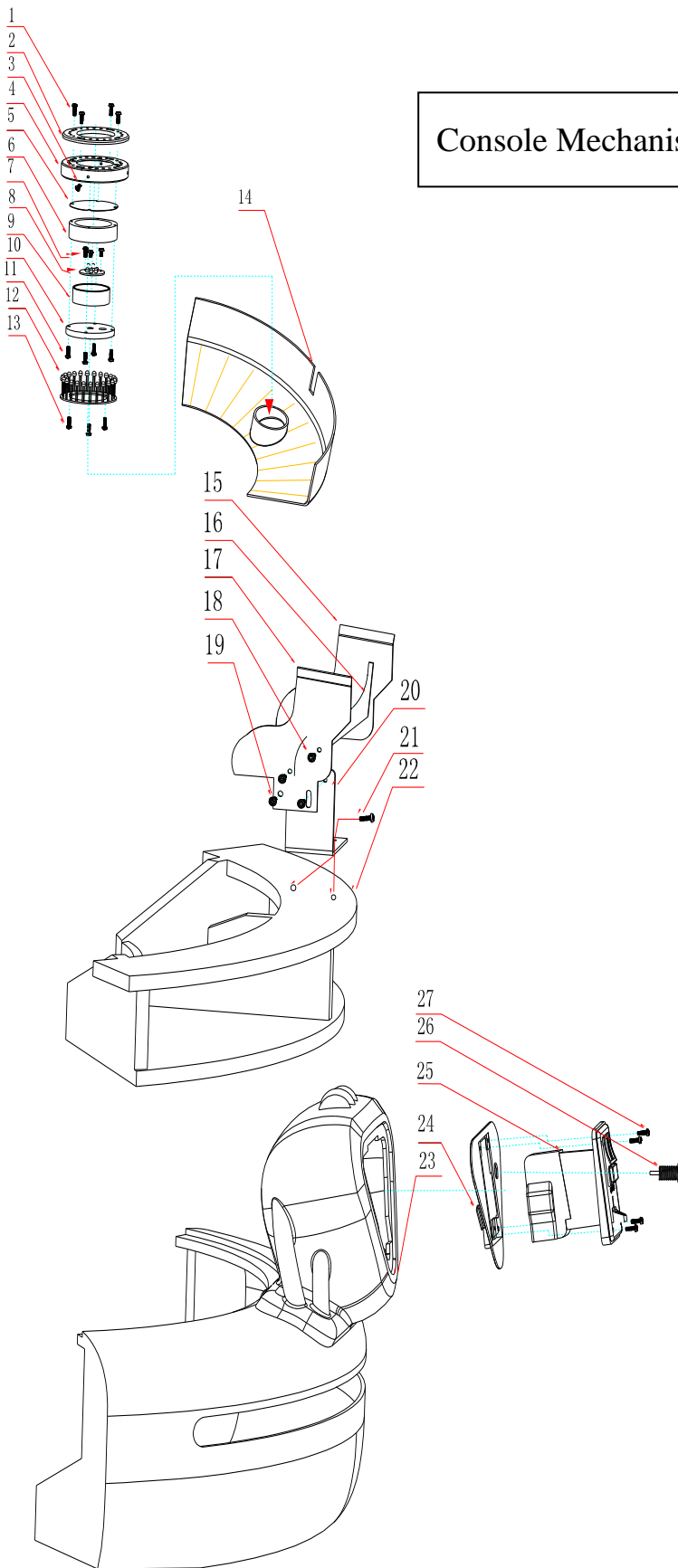
8. Mechanical Parts Illustration



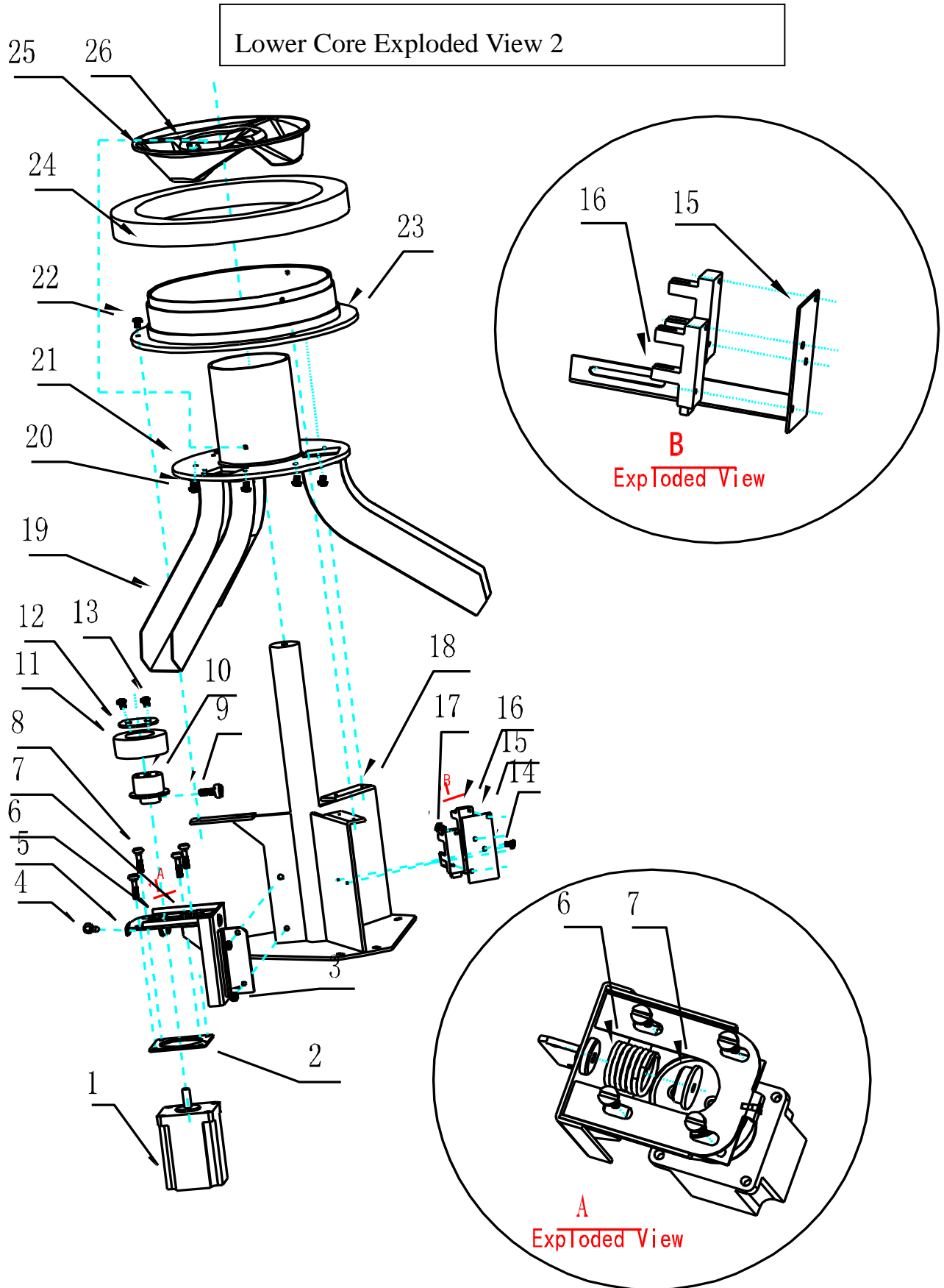
Reactor



Console Mechanism Exploded View 1



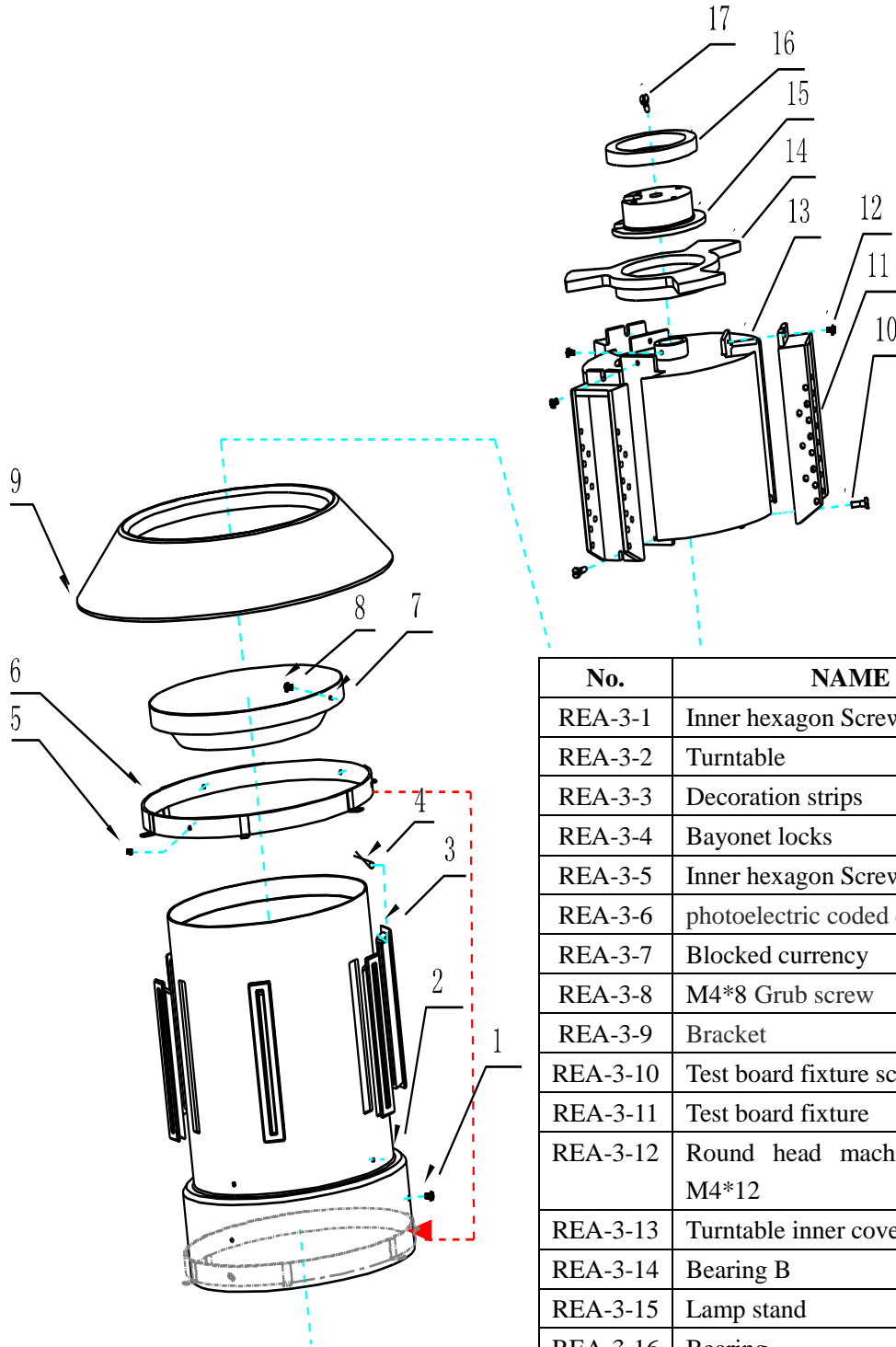
No.	NAME	QTY
REA-1-1	M3*10 Hexagon head screws	4
REA-1-2	the reactor console	1
REA-1-3	M4*6 Hexagon socket headless screws	3
REA-1-4	The reactor console cover	1
REA-1-5	Rubber	1
REA-1-6	the reactor console stand	1
REA-1-7	Countersunk head screws M3*10	3
REA-1-8	Lamp board (white)	1
REA-1-9	The reactor board	1
REA-1-10	Adjustable plate	4
REA-1-11	M4*16Cross recessed countersunk head screws	4
REA-1-12	Lamp board (colorful)	1
REA-1-13	Countersunk head screws M3*10	3
REA-1-14	FRP	1
REA-1-15	Coin slot Components a	1
REA-1-16	Coin slot Components c	1
REA-1-17	Coin slot Components b	1
REA-1-18	M4*16 Cross recessed pan head screw with plastic nuts	2
REA-1-19	M5*12 Cross screws with meson	2
REA-1-20	The main frame of Coin Selector	1
REA-1-21	ST4*12 Truss Head Screws	2
REA-1-22	The main frame of Console	1
REA-1-23	FRP	1
REA-1-24	Coin Selector cover board	1
REA-1-25	Coin Selector	1
REA-1-26	Lock	1
REA-1-27	Round head machine screw M4*20	1



Reactor

No.	NAME	QTY
REA-2-1	Motor	1
REA-2-2	Motor plate	1
REA-2-3	Round head screws with The bounce pad M4*12	2
REA-2-4	Hexagon socket head cap screw M4*12	1
REA-2-5	Motor stand	1
REA-2-6	Spring fixed column	2
REA-2-7	Spring	1
REA-2-8	Motor connection screws	4
*REA-2-9-NS	Hexagon socket head cap screw M4*8 (part of 2-9A)	1
*REA-2-10-NS	Rotating shaft (part of 2-9A)	1
*REA-2-11-NS	Friction wheel (part of 2-9A)	1
*REA-2-12-NS	Friction wheel locking pieces (part of 2-9A)	1
*REA-2-13-NS	M4*12 Countersunk head screws (part of 2-9A)	2
REA-2-9A	Drive wheel assembly (9,10,11,12,13)	
REA-2-14	Snap head machine screw and nuts with plastic M4*12	2
REA-2-15	Block Level	1
REA-2-16	Sensor	2
REA-2-17	Round head screws and nuts with plastic M3*16	4
REA-2-18	The main frame of turntable	1
REA-2-19	Winning Coin slot	3
REA-2-20	Round head screws with The bounce pad M4*12	6
REA-2-21	Turntable inner cover	1
REA-2-22	Countersunk head screws M4*12	3
REA-2-23	Bearing seat A	1
REA-2-24	Bearing	1
REA-2-25	Funnel	1
REA-2-26	Round head machine screw M4*10	1
REA-x-x-NS	Item is part of a complete assembly and not sold separately.	

Upper Core Exploded View 3



No.	NAME	QTY
REA-3-1	Inner hexagon Screws M4*10	3
REA-3-2	Turntable	1
REA-3-3	Decoration strips	6
REA-3-4	Bayonet locks	6
REA-3-5	Inner hexagon Screws M4*8	3
REA-3-6	photoelectric coded disk	1
REA-3-7	Blocked currency	1
REA-3-8	M4*8 Grub screw	1
REA-3-9	Bracket	1
REA-3-10	Test board fixture screws	3
REA-3-11	Test board fixture	1
REA-3-12	Round head machine screws M4*12	3
REA-3-13	Turntable inner cover	1
REA-3-14	Bearing B	1
REA-3-15	Lamp stand	1
REA-3-16	Bearing	1
REA-3-17	M8*12Inner hexagon Screw	1

9. Game Features and Adjustments

9-1. Meter Board



Function Setting Display: This is a LED display which shows the game function settings.

Total Coins: Counts the total number of coins since the machine has been used.

Total Tickets: Counts the total number of tickets dispensed since the machine has been used.

Power: This is a switch that controls the power supply to the whole game.

Clear Alarm for No Ticket: Install tickets and press this button to replenish the owed tickets when the tickets run out.

JP Clear: Press this button to clear the coin memory and all data stored.

Menu: Press this button to enter or exit from the menu.

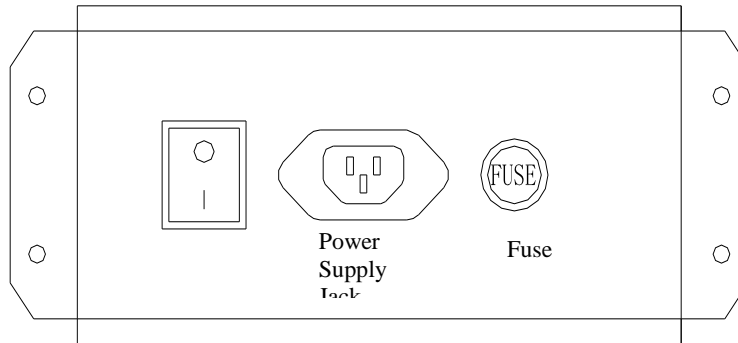
Option: Press this button to enter the various Option settings.

9-2. Power Supply Input Panel

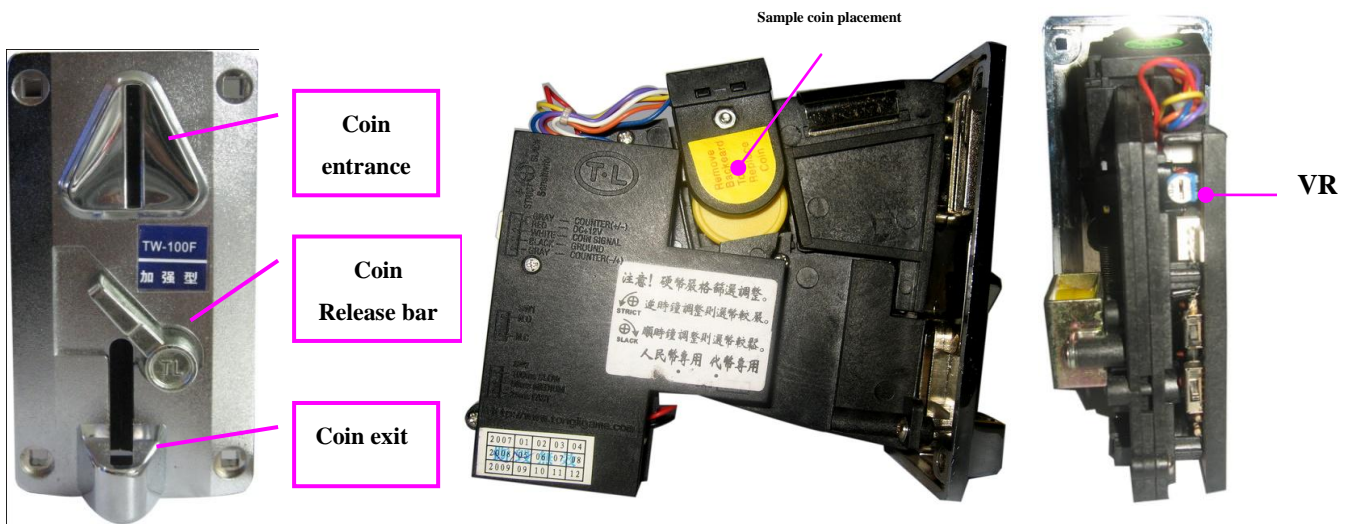
Power Supply Jack: Input AC power according to the specified power of the machine.

(At top and bottom of the machine have two Power Supply Jack!)

Fuse: There is an AC fuse in the fuse tube. Its specification is $\phi 6\text{mm} \times 30\text{mm}$.



9-3. Coin Selector



Coin selector is the CPU Comparison Type Coin selector, coin smooth, more accurate identification.

Coin release bar Press this button to make the coin out if the there is any coin jam.

Coin exit If it is a non-standardized coin, the coin will be paid back to this exit.

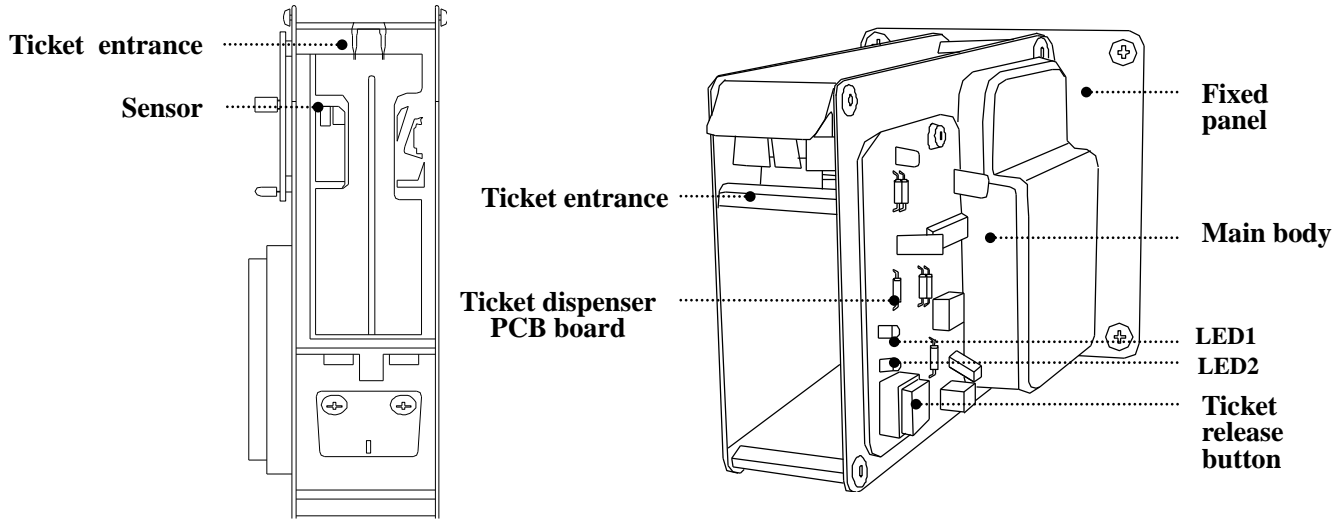
VR If the standardized coin is paid back, please adjust VR.

Rated voltage $\text{DC}+12\text{V} \pm 20\%$ **Working current** 30mA **CONUTER** connect to the coin counter GND to ground **COIN Signal** of coin insertion output.

Acceptable coin size $\phi 18\text{mm}$ $\phi 30\text{mm}$ in diameter 1.2mm 3.0mm in thickness.

Coin inserting time adjustment FAST 25mS FAST MIDDLE 50mS MEDIUM SLOW 100mS SLOW three section of pulse. It has been faulted to MEDIUM.
Output current level adjustment NO or NC it has been faulted to NO.

9-4. Ticket Dispenser



Ticket entrance: To load tickets.

Fixed plate: To fix the ticket dispenser.

Tickets exit button: Press this button and the machine dispenses tickets automatically.

MOTER: Connect motor of ticket dispenser.

LED: Ticket indicator light

Sensor: To test tickets.

Tickets installation:

A. Put tickets into the ticket pivot, under the pressing wheel.

B. Press the micro switch, until one paper of ticket comes out.

C. Caution

- Tickets cannot overlap each other in the tickets pivot;
- Tickets should be placed according to the exit direction;
- Do not let the wires and tickets be in contact;
- When tickets blocked in the ticket dispenser, please get off it and clear the jam manually.

10. PIN Connection on Main Board

V2010

Port Code	Port No.	Program Items	I/O No.	Specification Of Wiring	Wiring Color	Function
JP1	1	IN1.0	IN#0	0.3mm		1#Coin In
	2	IN1.1	IN#1	0.3mm		1#Coin signal
	3	+12v		0.3mm		
	4	IN1.2	IN#2	0.3mm		1# Ticket Dispenser Feedback
	5	+12v		0.3mm		Meter Power Supply
	6	IN1.3	IN#3	0.3mm		1# Test Signal for No Ticket
	7	+5v				
	8	IN1.4	IN#4	0.3mm		Menu (Enter / Save)
	9	+5v				
	10	IN1.5	IN#5	0.3mm		Test Switch (Adjustment)
	11	GND		0.3mm	Black	Grounding for Coin Selector and Ticket Dispenser
	12	IN1.6	IN#6	0.3mm		Clear Alarm for No Ticket Switch
	13	GND		0.3mm	Black	Button Grounding
	14	IN1.7	IN#7	0.3mm		JP Clear Switch
JP2	1	+12v				
	2	IN2.0	IN#8	0.3mm		2# Coin In
	3	+12v				
	4	IN2.1	IN#9	0.3mm		2# Coin signal
	5	+5v				
	6	IN2.2	IN#10	0.3mm		2# Ticket Dispenser Feedback
	7	+5v				
	8	IN2.3	IN#11	0.3mm		Initialize signal
	9	+5v				
	10	IN2.4	IN#12	0.3mm		Keep-step signal
	11	GND				
	12	IN2.5	IN#13			2# Test signal for No Ticket
	13	GND				Button Switch Grounding
	14	IN2.6	IN#14			
	15	GND				
	16	IN2.7	IN#15			
JP3	1	IN3.0	IN#16	0.3mm		3# Coin In
	2	IN3.1	IN#17	0.3mm		3# Coin signal
	3	IN3.2	IN#18	0.3mm		3# Ticket Dispenser Feedback
	4	IN3.3	IN#19	0.3mm		3# Test signal for No Ticket
	5	IN3.4	IN#20	0.3mm		
	6	IN3.5	IN#21			
	7	IN3.6	IN#22			
	8	IN3.7	IN#23			
	9	IN4.0	IN#24			1#Coin selector signal

Reactor

	10	IN4.1	IN#25			2# Coin selector signal
	11	IN4.2	IN#26			3# Coin selector signal
	12	IN4.3	IN#27			1# Coin selector Feedback signal
	13	IN4.4	IN#28			2# Coin selector Feedback signal
	14	IN4.5	IN#29			3# Coin selector Feedback signal
	15	+5v				
	16	IN4.6	IN#30			
	17	GND				
	18	IN4.7	IN#31			
JP4	1	CLK	P1.0	0.5mm		Digital LED Board Output: Connection Turns: 1.4-Digit LED (Adjusting Display); 2.4-Digit LED 1# Awards number 3.4-Digit LED 2# Awards number 4.4-Digit LED 3# Awards number
	2	DO	P1.1	0.5mm		
	3	CTL	P1.2	0.5mm		
	4	+12v	O	0.3mm		
	5	GND	O	0.3mm		
	6	+5v	O	0.3mm		
JP5	1	CLK	P1.3	0.5mm		
	2	DO	P1.4	0.5mm		
	3	CTL	P1.5	0.5mm		
	4	+12v	O	0.3mm		
	5	GND	O	0.3mm		
	6	+5v	O	0.3mm		
JP8	1	OUT1.0	OUT#0	0.3mm		1#Ticket drive
	2	OUT1.1	OUT#1	0.3mm		Ticket Meter
	3	OUT1.2	OUT#2	0.3mm		Coin Meter
	4	OUT1.3	OUT#3	0.3mm		1# Coin-In Lamp
	5	OUT1.4	OUT#4	0.3mm		1# Alarm Lamp for No Ticket
	6	OUT1.5	OUT#5	0.3mm		1# Red light of coin reactor board
	7	OUT1.6	OUT#6	0.3mm		1#Green light of coin reactor board
	8	OUT1.7	OUT#7	0.3mm		1#Blue light of coin reactor board
JP9	1	OUT2.0	OUT#8	0.3mm		2# Ticket drive
	2	GND				
	3	OUT2.1	OUT#9	0.3mm		2# Coin-In Lamp
	4	GND				
	5	OUT2.2	OUT#10	0.3mm		2# Alarm Lamp for No Ticket
	6	+5v				
	7	OUT2.3	OUT#11	0.3mm		3# Ticket drive
	8	+5v				
	9	OUT2.4	OUT#12	0.3mm		3# Coin-In Lamp
	10	+12v				
	11	OUT2.5	OUT#13	0.3mm		3# Alarm Lamp for No Ticket
	12	+12v				

Reactor

	13	OUT2.6	OUT#14	0.3mm		2# Red light of coin reactor board
	14	+12v				
	15	OUT2.7	OUT#15	0.3mm		2# Green light of coin reactor board
	16	+12v				
	17	OUT3.0	OUT#16	0.3mm		2# Blue light of coin reactor board
	18	OUT3.1	OUT#17	0.3mm		3# Red light of coin reactor board
	19	OUT3.2	OUT#18	0.3mm		3# Green light of coin reactor board
	20	OUT3.3	OUT#19	0.3mm		3# Blue light of coin reactor board
JP10	1	OUT3.5	OUT#20			1# Coin drive
	2	OUT3.4	OUT#21			2# Coin drive
	3	OUT3.6	OUT#22			3# Coin drive
	4	+5v				
	5	OUT3.7	OUT#23			
	6	+5v				
	7	OUT4.0	OUT#24	0.3mm		Ring lamp 1
	8	+5v				
	9	OUT4.1	OUT#25	0.3mm		Ring lamp 2
	10	+5v				
	11	OUT4.2	OUT#26	0.3mm		Ring lamp 3
	12	+12v				
	13	OUT4.3	OUT#27	0.3mm		Intermediate lamp
	14	+12v				
	15	OUT4.4	OUT#28	0.3mm		Ring lamp 4
	16	+12v				
	17	OUT4.5	OUT#29	0.3mm		Ring lamp 5
	18	Clk1		0.3mm		Motor clock
	19	OUT4.6	OUT#30	0.3mm		Ring lamp 6
	20	Clk2				
	21	OUT4.7	OUT#31			Ring lamp 7
	22	Clk3				
JP12	1	+5v	I			Power Supply Input Port
	2	GND	I			
	3	GND	I			
	4	+12v	I			

11. Function Setting Instruction Ver:007

Press the MENU button to enter Function Settings during non-game play. The Function Settings: LED 1000 100 showed MENU(Press the Menu button to change the value). Low 2 (10, a bit) LEDs display the OPTION button (Press the OPTION button to change the value).when entering the MENU 14, press the test button to test. When the MENU display 00 save and exit the settings.

State Specification:

MENU	VALUE	DESCRIPTION
1	0	Attract OFF
	1	Attract every 30 seconds
	2	Attract every 45seconds
	3	Attract every 60seconds
	4	Attract every 90seconds
	5	Attract every 120seconds
	6	Attract every 180seconds
2	0	Ticket Dispenser-OFF
	1	Ticket Dispenser – ON
3	0	1 point per ticket
	1	2 point per ticket
4	0	JP Tower #1 6 8 10 12 14 16 18
	1	JP Tower 2# 10 20 30 40 50 60 70
	2	JP Tower 3# 20 40 60 80 100 125 150
	3	JP Tower 4# 30 50 80 100 200 300 400
	4	JP Tower 5# 25 75 125 150 175 250 300
	5	JP Tower 6# 50 75 100 200 400 600 800

Reactor

5	0	Mega Jackpot = 25
	1	Mega Jackpot = 50
	2	Mega Jackpot = 75
	3	Mega Jackpot = 100
	4	Mega Jackpot = 150
	5	Mega Jackpot = 200
	6	Mega Jackpot = 250
	7	Mega Jackpot = 300
	8	Mega Jackpot = 350
	9	Mega Jackpot = 400
	10	Mega Jackpot = 450
	11	Mega Jackpot = 500
	12	Mega Jackpot = 550
	13	Mega Jackpot = 600
	14	Mega Jackpot = 650
	15	Mega Jackpot = 700
	16	Mega Jackpot = 750
	17	Mega Jackpot = 800
	18	Mega Jackpot = 850
	19	Mega Jackpot = 900
	20	Mega Jackpot = 950
	21	Mega Jackpot = 1000
	22	Mega Jackpot = 1100
	23	Mega Jackpot = 1200
	24	Mega Jackpot = 1300
	25	Mega Jackpot = 1400
	26	Mega Jackpot = 1500
	27	Mega Jackpot = 2000
	28	Mega Jackpot = 2500
	29	Mega Jackpot = 3000
	30	Mega Jackpot = 3500
	31	Mega Jackpot = 4000
6	0	Mega Jackpot Surprise Value OFF
	1	Mega Jackpot Surprise Value ON: 582 tickets
	2	Mega Jackpot Surprise Value ON: 1376 tickets
	3	Mega Jackpot Surprise Value ON: 2981 tickets
	4	Mega Jackpot Surprise Value ON: 3849 tickets
	5	Mega Jackpot Surprise Value ON: 4278 tickets
	6	Mega Jackpot Surprise Value ON: 5487 tickets

Reactor

7	0	Mega Jackpot Surprise Value Every 15 Minutes
	1	Mega Jackpot Surprise Value Every 30 Minutes
	2	Mega Jackpot Surprise Value Every 45 Minutes
	3	Mega Jackpot Surprise Value Every 60 Minutes
	4	Mega Jackpot Surprise Value Every 90 Minutes
	5	Mega Jackpot Surprise Value Every 120 Minutes
8	0	Mega Jackpot Surprise Value Reset at 15 seconds
	1	Mega Jackpot Surprise Value Reset at 30 seconds
	2	Mega Jackpot Surprise Value Reset at 45 seconds
	3	Mega Jackpot Surprise Value Reset at 60seconds
9	0	Winning ways increase
	1	Winning ways 30 seconds to reset
	2	Winning ways 60 seconds to reset
10	0	No Mercy Ticket
	1	1 Mercy Ticket
	2	2 Mercy Ticket
	3	3 Mercy Ticket
	4	4 Mercy Ticket
	5	5 Mercy Ticket
11	0	Drum Speed Slowest
	1	Drum Speed Slow
	2	Drum Speed Medium
	3	Drum Speed Fast
12	0	All Wins Paid by ticket
	1	Wins over 1000 will call attendant for manual pay
13	0	Motor speed increments by prize level
	1	Motor speed random
14	0	Test audio frequency press menu to exit from the testing
	1	Test all Lights of the games flash press menu to exit from the testing
	2	Test all of JP column lights flash by upward press menu to exit from the testing
	3	Test coin slot sensor of target column press menu to exit from the testing
	4	Test all coin selectors press menu to exit from the testing
	5	Test 1#Ticket running press menu to exit from the testing
	6	Test 2#Ticket running press menu to exit from the testing
	7	Test 3#Ticket running press menu to exit from the testing
	8	Test Mega Jackpot display screen flash press menu to exit from the testing
	9	Test target column motor running press menu to exit from the testing
0	Display three seconds, then save and exit setting	

Error Code: E1: Alarm for Coin-In Timeout

no-t: Alarm for Ticket-Out Timeout

Note: 1. Each side of the alarm display on the each side digital, 7 and 9 settings must be set to open in item 6 to be useful.

2. The token vending system depends on the output pulse of the card swipe system. In other words, how many token out per swiping card in the setting, then the corresponding token will be got from the coin vending system.

12. Lamp Control Board Connection Table

JL_YYJ_KZ.PCB

Port Code	Port No.	Function	Specification Of Wiring	Wiring Color	Remark
JP1 & JP2	1	Side light1	φ0.3mm		JP1 and JP2 are parallel connection All Light + 5V power
	2	Awards alarm lamp	φ0.3mm		
	3	Side light 2	φ0.3mm		
	4		φ0.3mm		
	5	Side light 3	φ0.3mm		
	6	3# Coin-in testing lamp	φ0.3mm		
	7		φ0.3mm		
	8	2# Coin-in testing lamp	φ0.3mm		
	9		φ0.3mm		
	10	1# Coin-in testing lamp	φ0.3mm		
	11		φ0.3mm		
	12	3# Side lamp	φ0.3mm		
	13		φ0.3mm		
	14	2# Side lamp	φ0.3mm		
	15				
	16	1# Side lamp	φ0.3mm		
	17	+12V			
	18	GND			
	19	+12V			
	20	GND			
JP3	1	+5V	φ0.5mm	red	Power input wire
	2	+5V			
	3	GND	φ0.5mm	black	
	4	GND			
	5	GND	φ0.5mm	black	
	6	GND			
	7	+12V	φ0.5mm	yellow	
	8	+12V			
	1	Serial display shift clock	φ0.3mm		1# 2#
	2	Serial display data	φ0.3mm		

Reactor

JP4 & JP5	3	Serial display Control latch	φ0.3mm		Console Side light
	4	+12V	NOP		
	5	GND	φ0.5mm		
	6	+5V	φ0.5mm		
JP6	1	Serial display shift clock	φ0.3mm		3# Console Side light
	2	Serial display data	φ0.3mm		
	3	Serial display Control latch	φ0.3mm		
	4	+12V	NOP		
	5	GND	φ0.5mm		
	6	+5V	φ0.5mm		

Notice: Contents subject to change without notice.