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

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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. The3 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**
- **Remove power before servicing**
- **Operate on a level surface**
- **Avoid operation in 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.**

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)
The Bounce Pad	3	Each machine with three small pieces
Coin Selector	1	TW-930 (Every 18 machines with one)
Main Board	1	JL-MainBoard-V2012.PCB （Every 18 machines with a piece）
Power Supply	1	EPT-S150D12+5R （Every 18 machines with one）
	1	EST-H200S24 （Every 18 machines with one）
Stepper Motor Driver	1	Leadshine DM556（Every 18 machines with one）
Score Sheet	1（Set）	5、10、20、30、40、50、60、70
Optional Win Hole A	6	12mm

4. How to Play

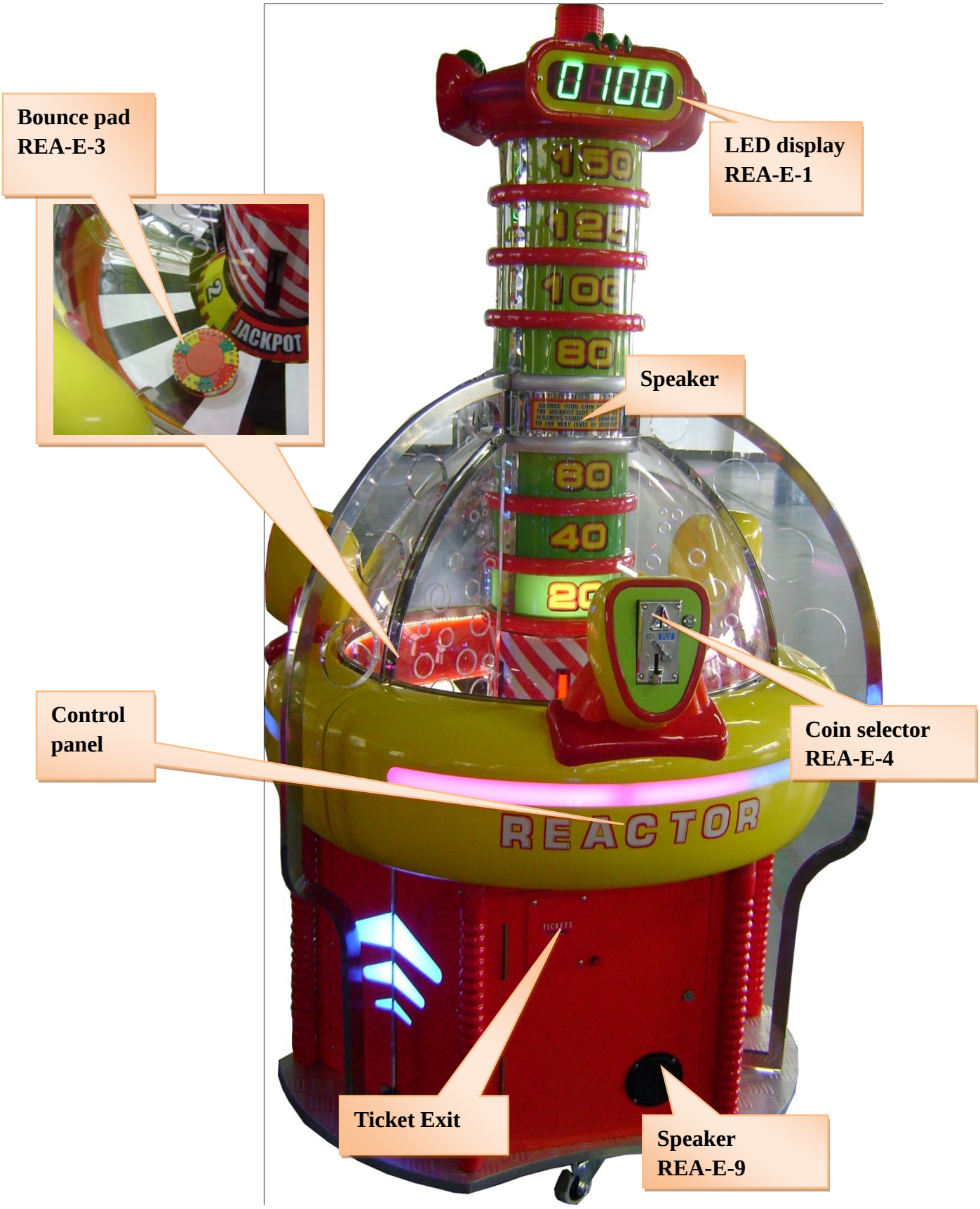
- **Players insert coin(s) into the coin selector at the target column which passes through the coin mechanism, players need to correctly grasp the time of the release of the coin, time the release of the coin. The coin is deflected off the bounce pad and passes through the target slot. When a coin enters a win solt an award of that target amount is dispensed to the player and the win value is increased to the next higher level.**
- **On the 8th level the player will win the Mega Jackpot.**
- **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 column to start over.**

5. Technical Parameter

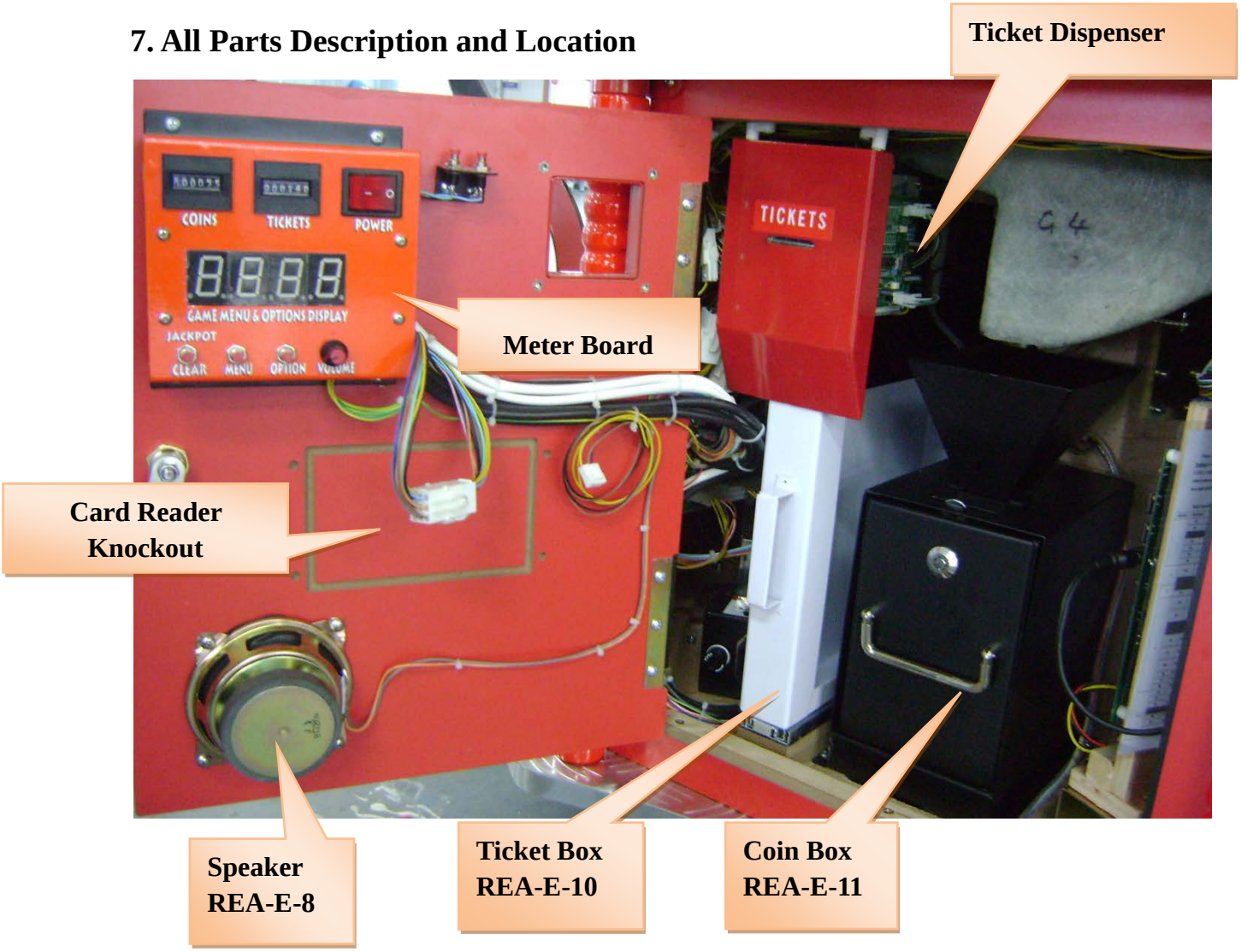
Model Number	**TW.JQ03.36**
Dimension	**W 1200 × D 1110 × H 2180 (mm)**
Weight	**215KG**
Maximum Power	**150W**

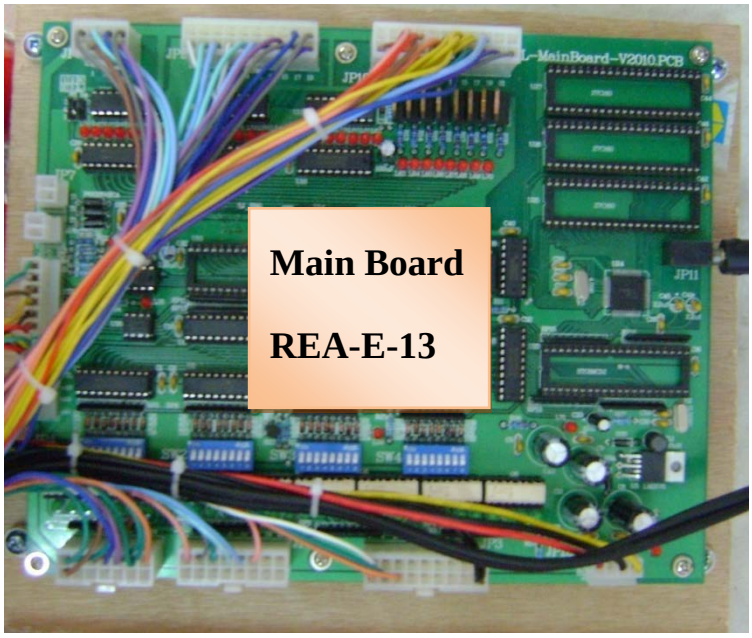
Environment Requirement: Temperature from–10℃～+40℃, low radiation, low humidity and no serious vibration.

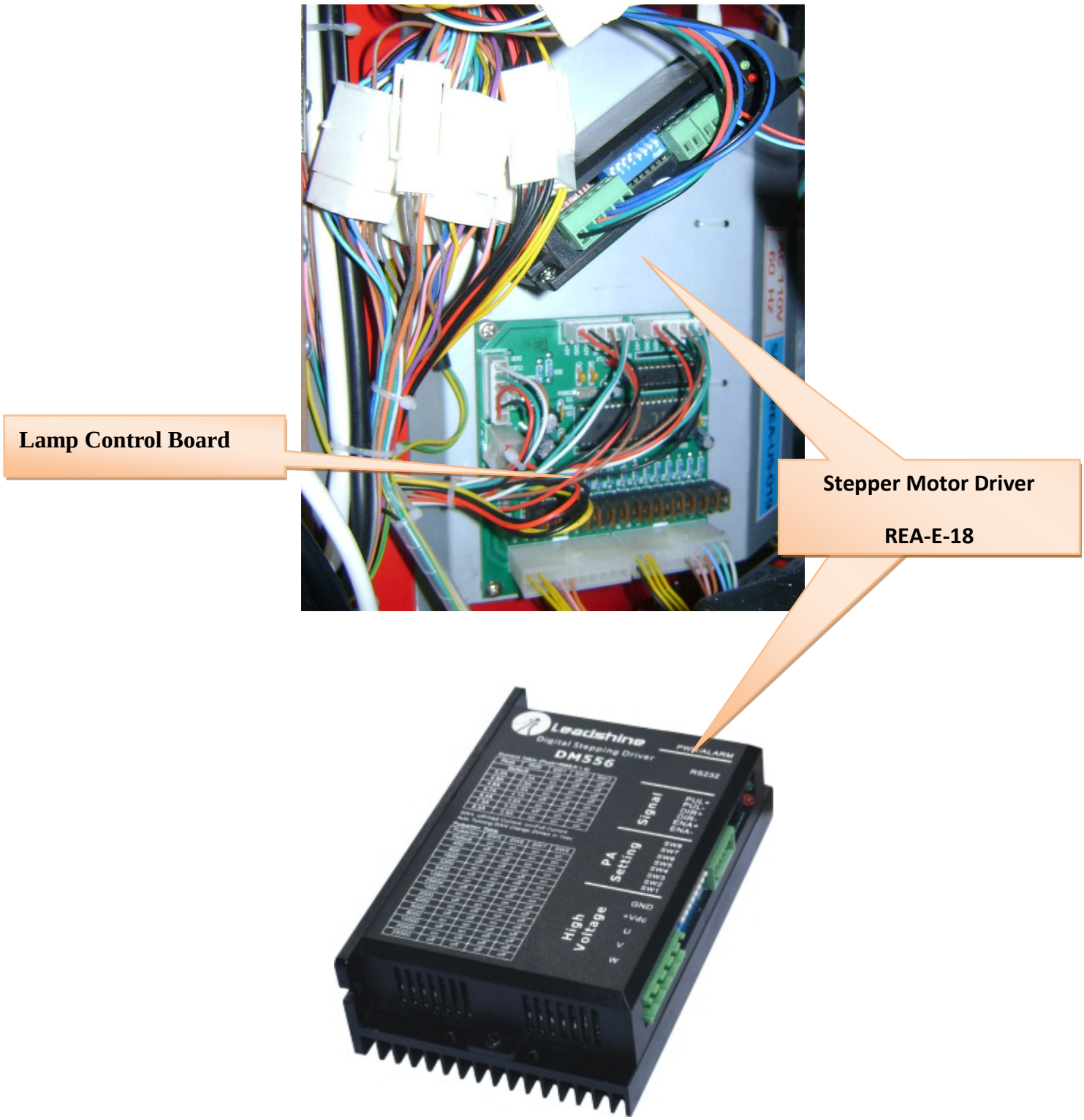
. Appearance


Bounce pad
REA-E-3
LED display
REA-E-1
Speaker
Control
panel
Coin selector
REA-E-4
Ticket Exit
Speaker
REA-E-9
JACKPOT
REACTOR

7. All Parts Description and Location

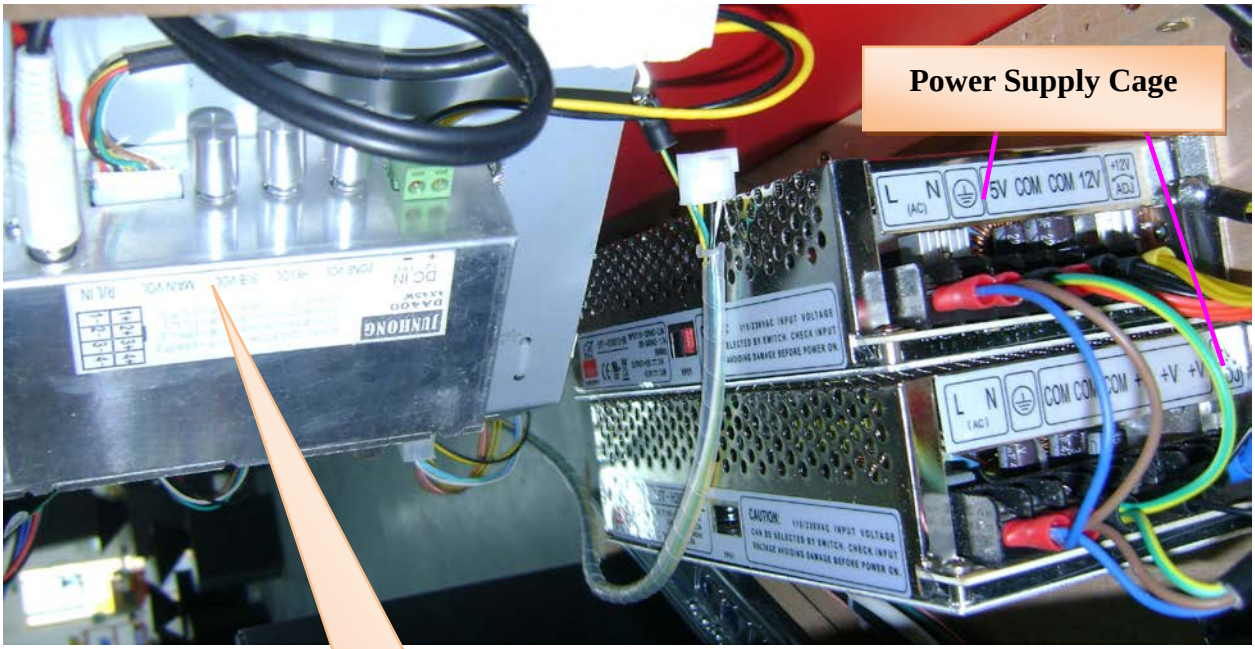




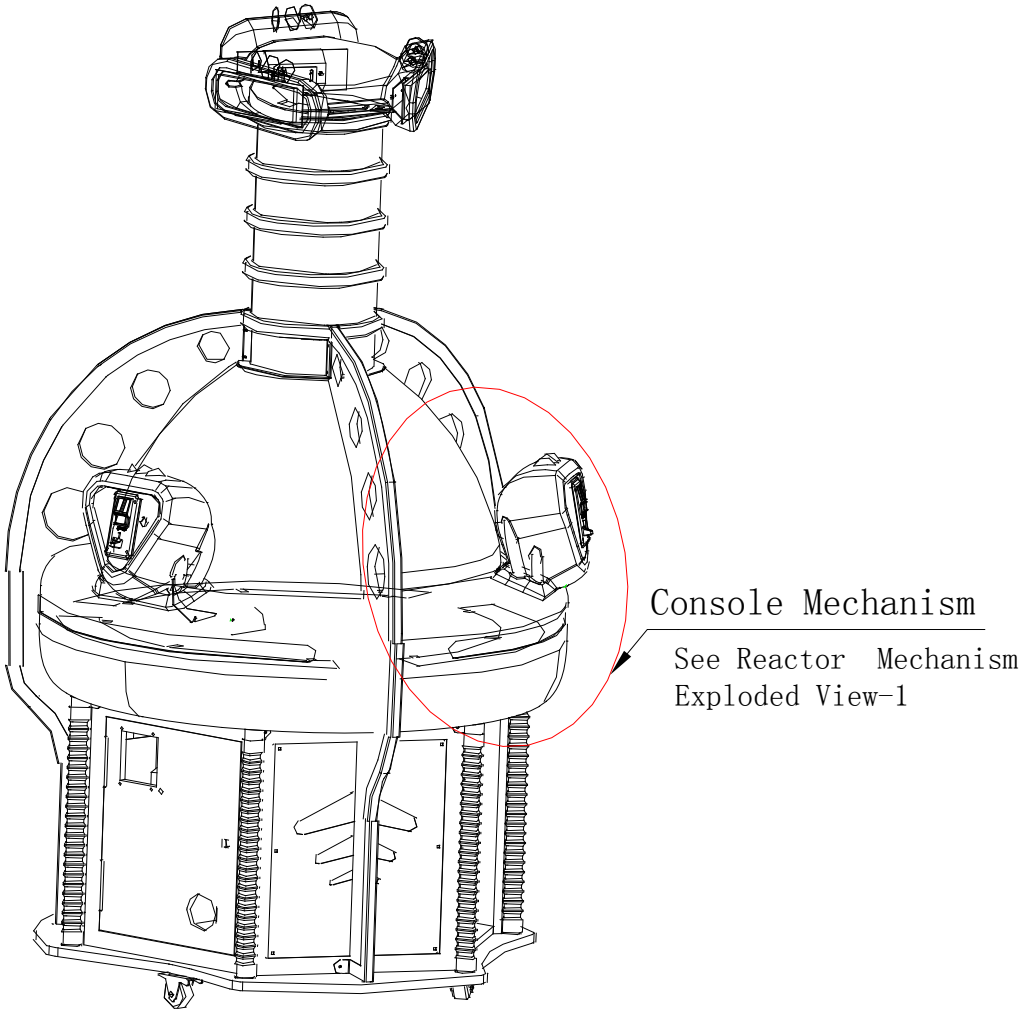


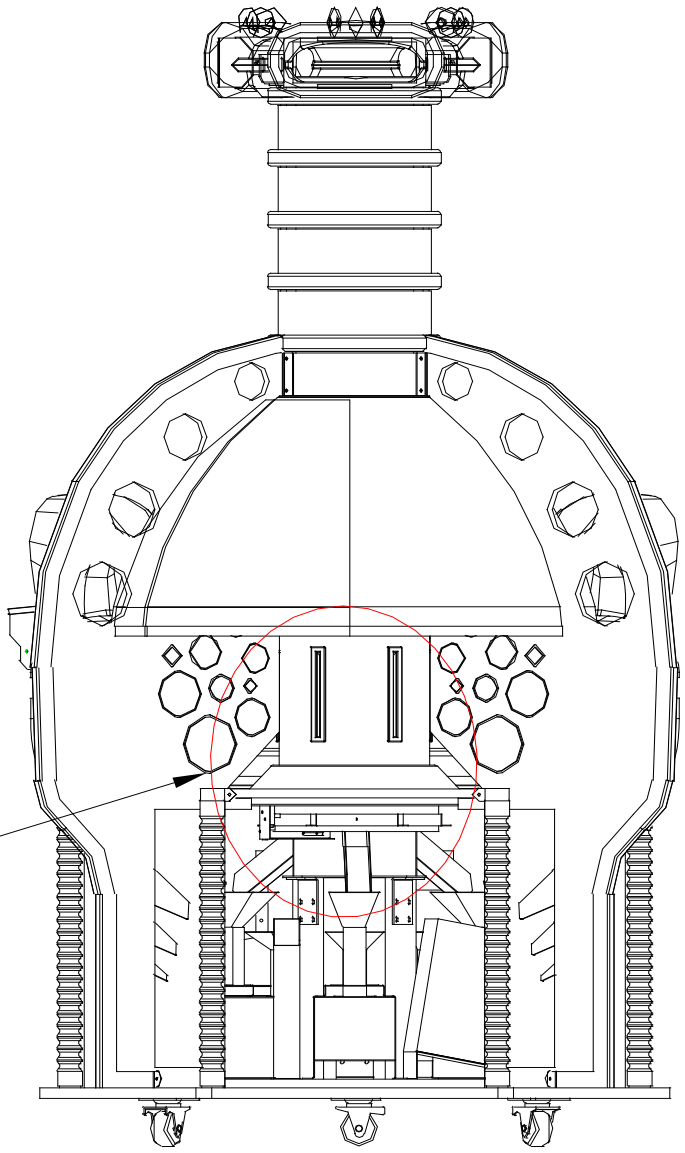
DM556 Stepper Motor Driver Setting Default Value

SW	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
Default	on	off	on	off	on	on	on	on


Power Supply Cage
Audio Power Amplifier

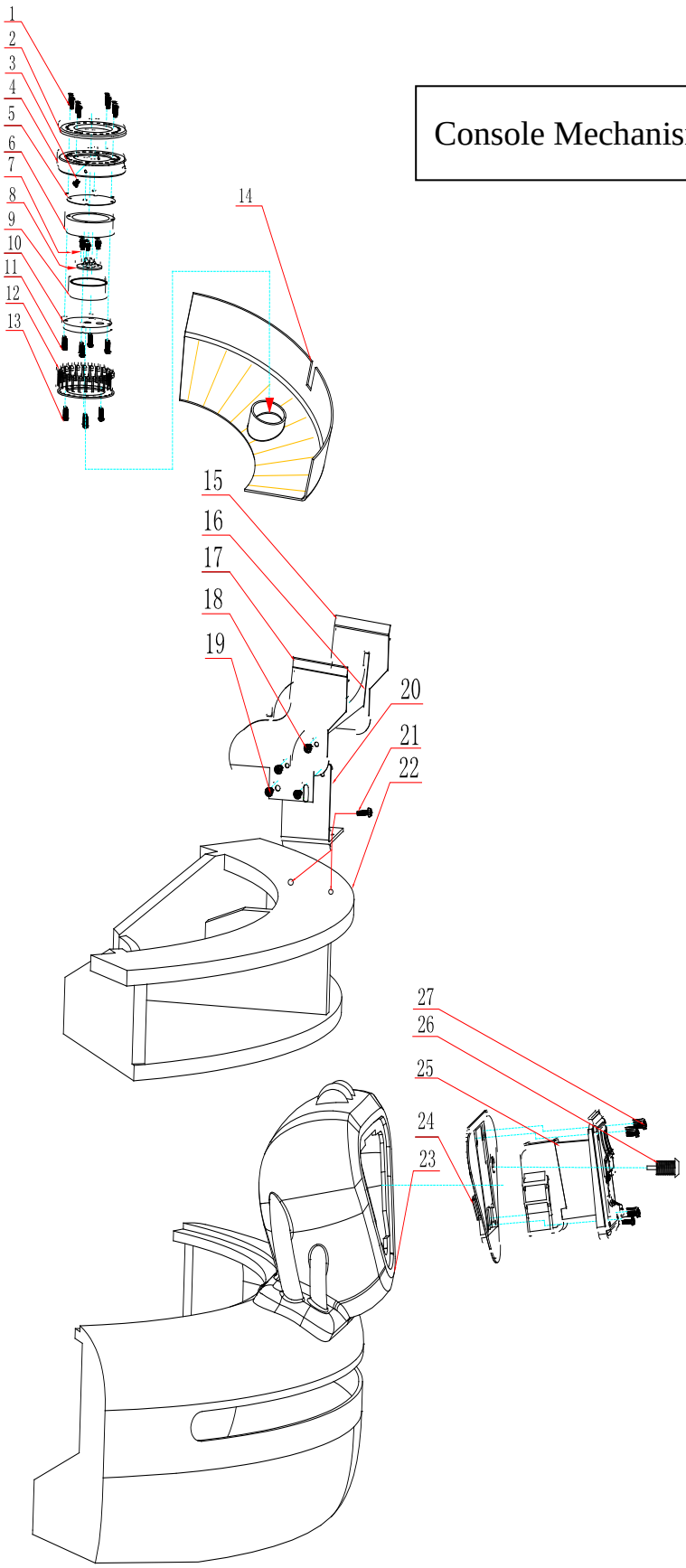
8. Mechanical Parts Illustration





Transmission Mechanism

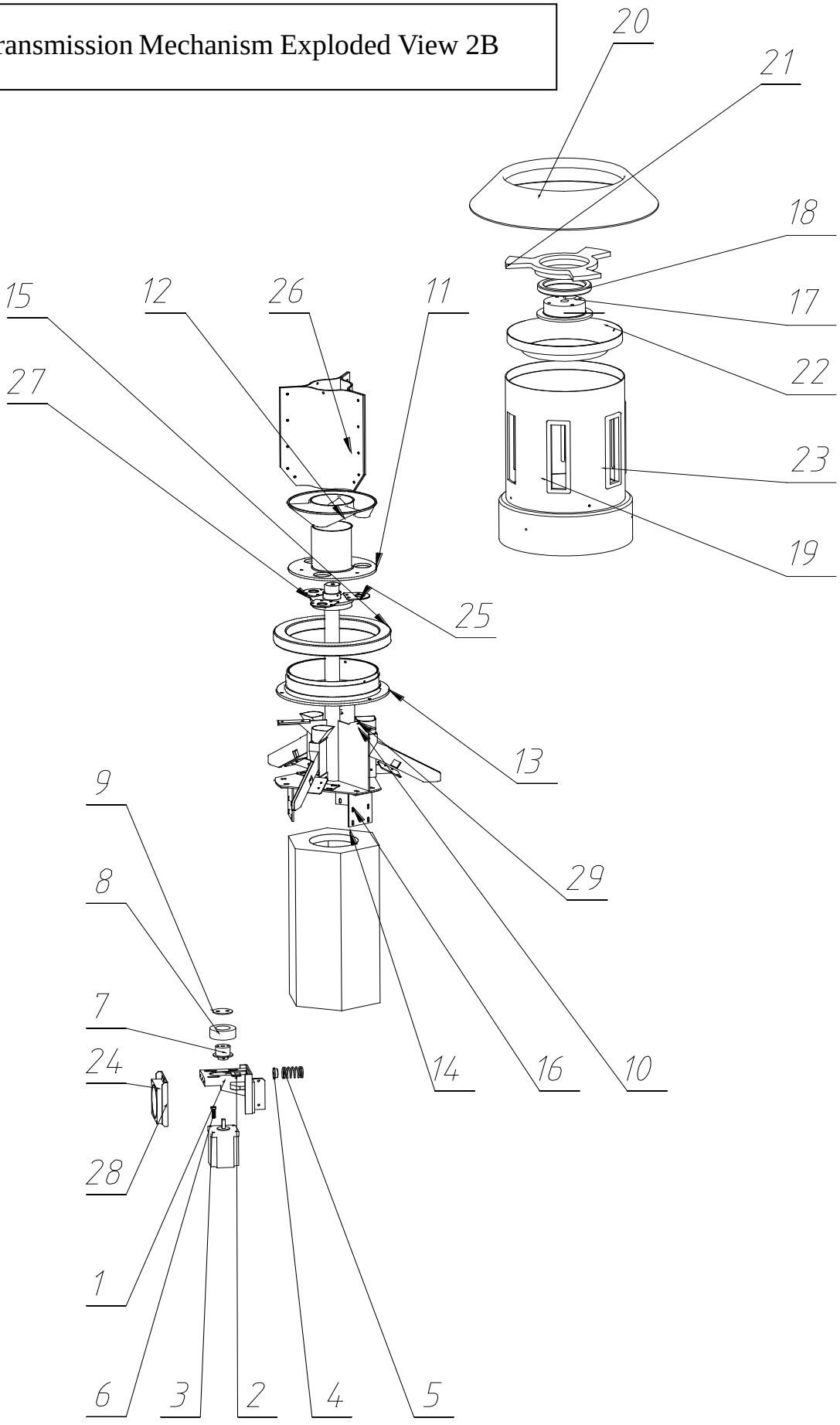
See Reactor Mechanism Exploded View-2



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

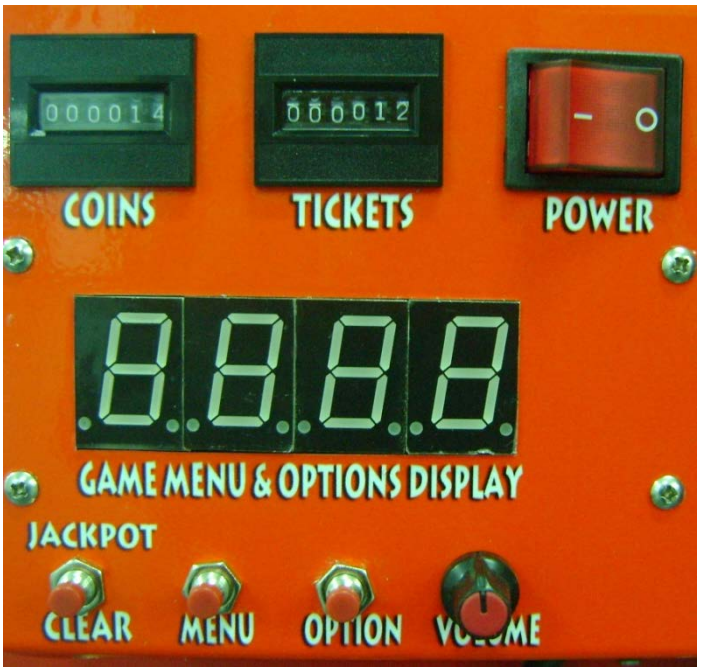
Transmission Mechanism Exploded View 2B



NO.	Description	Qty
REA-2B-1	Motor Stand	1
REA-2B-2	Motor Plate	1
REA-2B-3	Stepper motor	1
REA-2B-4	Spring fixed column	1
REA-2B-5	Spring	1
REA-2B-6	Motor connection screw	1
REA-2B-7	Rotating shaft	1
REA-2B-8	Friction wheel	1
REA-2B-9	Friction wheel locking pieces	1
REA-2B-10	The main frame of turntable	1
REA-2B-11	Turntable inner cover B	1
REA-2B-12	Funnel	1
REA-2B-13	Bearing block A	1
REA-2B-14	Support table	1
REA-2B-15	Bearing 61838	1
REA-2B-16	Strengthening A	3
REA-2B-17	Light box supporting base	1
REA-2B-18	Bearing 61817	1
REA-2B-19	Win Hole rotating sleeve	1
REA-2B-20	Score bracket stand	1
REA-2B-21	Bearing housing B	1
REA-2B-22	Check ring	1
REA-2B-23	Optional Win Hole C	1
REA-2B-24	Little Fan	1
REA-2B-25	Lamp stator	1
REA-2B-26	Within retainer stand	6
REA-2B-27	Within Decorative stand	1
REA-2B-28	Fan base	1
REA-2B-29	Win Hole Coin Slot group	3

9. Component

9-1. Meter Board



Coins: Total number of coins

Tickets: Total number of tickets

Game Menu& Options Display: Enter to the menu display and adjustment display.

Jackpot 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.

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

9-2. Power Supply Input Panel

Power Supply Jack: Two power supply jack, each at the top and bottom of the machine.

Fuse: There is an AC fuse in the fuse tube. Its specification is φ 6mm × 30mm.

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.

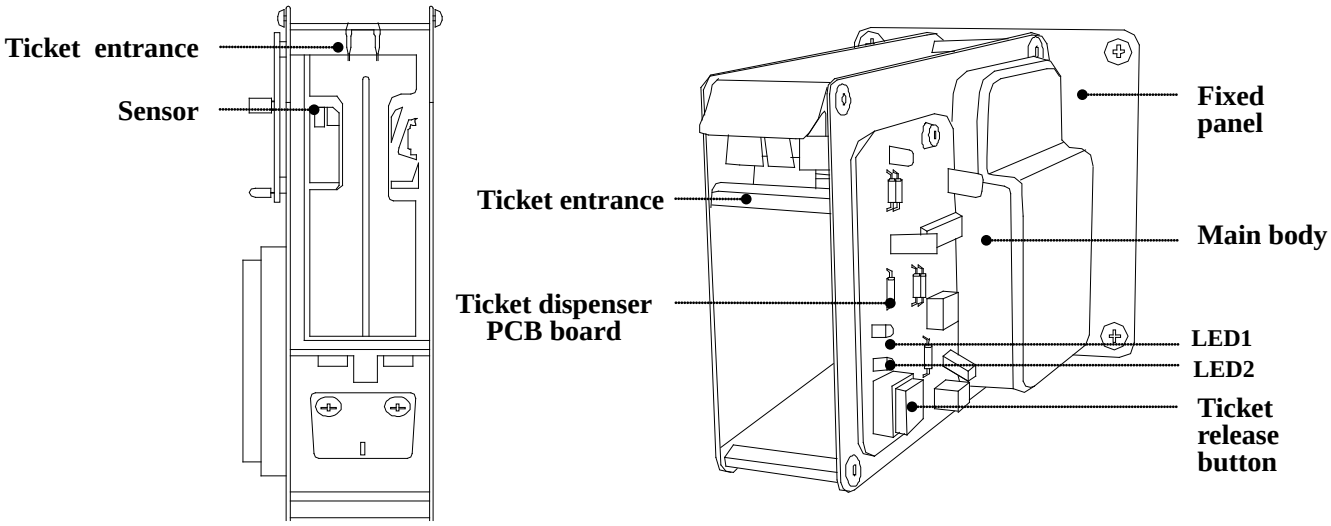
Rated voltage：DC+12V±10%，Working current：60mA±5%，CONUTER：connect to the coin counter，GND：to ground，COIN：Signal of coin insertion output.

Acceptable coin size：φ20mm～φ30mm in diameter，1.7mm～2.4mm in thickness.

Coin inserting time adjustment：FAST（20mS FAST）、MIDDLE（40mS MEDIUM）、SLOW（60mS 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.

Mounting plate: To fix the ticket dispenser.

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

METER: 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：

① Tickets cannot overlap each other in the tickets pivot;

② Tickets should be placed according to the exit direction;

③ Do not let the wires and tickets be in contact;

④ When tickets blocked in the ticket dispenser, please get off it and clear the jam manually.

10. Error Analysis

PROBLEM	POSSIBLE CAUSE	SOLUTION
No power at startup	1. The power is not on. 2.Power supply box failure 3. Crystal oscillator stops. 4. The chip for main program is damaged.	1. Check power supply AC voltage. 2. Check +5 and +12 DC output. Replace power supply cage if there is no output. 3. Replace the 11.0592M crystal oscillator on the main PC board, the grounding voltage for two pins should be in the range from 2.1 to 3.1. 4. Replace the chip for main program.
LED is not full brightness (dim).	1. This section has been burnt out. 2. No IC6B595 output.	1. Replace LED 2. Replace IC6B595
No sound	1. Speaker damage 2. Amplifier IC is burnt out. 3.6295 IC is burnt out. 4. No +12V power reaches amplifier IC.	1. Disconnect the power and check D.C. resistance for speaker. Replace speaker. 2. Replace the fore signal terminal if the power supply is OK, or amplifier IC is damaged. Speaker is OK if it buzzes. 3. If item 1, 2, 4 work well, it is may be 6295 IC failure or the speech chip failure. 4. Make sure that the +12V power supply is provided.

11. Appendix

11-1. PIN Connection on Main Board

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
	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				
	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			

11-2. Function Setting Instruction（Ver:010）

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 15, press the test button to test. When the MENU display 00， save and exit the settings.

State Specification:

MENU	OPTION	ACTOIN	MENU	OPTION	ACTOIN
1	00	Attract OFF	5	00	Mega Jackpot = 25
	01	Attract every 30 seconds		01	Mega Jackpot = 50
	02	Attract every 45 seconds		02	Mega Jackpot = 75
	03	Attract every 60 seconds		03	Mega Jackpot = 100
	04	Attract every 90 seconds		04	Mega Jackpot = 150
	05	Attract every 120 seconds		05	Mega Jackpot = 200
	06	Attract every 180 seconds		06	Mega Jackpot = 250
2	00	Ticket Dispenser-OFF		07	Mega Jackpot = 300
	01	Ticket Dispenser – ON		08	Mega Jackpot = 350
3	00	1 cent/ticket		09	Mega Jackpot = 400
	01	2 cents/ticket		10	Mega Jackpot = 450
4	00	JP Tower #1：6、8、10、12、14、16、18		11	Mega Jackpot = 500
				12	Mega Jackpot = 550
	01	JP Tower 2#：10、20、30、40、50、60、70		13	Mega Jackpot = 600
				14	Mega Jackpot = 650
	02	JP Tower 3#：20、40、60、80、100、125、150		15	Mega Jackpot = 700
				16	Mega Jackpot = 750
	03	JP Tower 4#：30、50、80、100、200、300、400		17	Mega Jackpot = 800
				18	Mega Jackpot = 850
	04	JP Tower 5#：25、75、125、150、175、250、300		19	Mega Jackpot = 900
				20	Mega Jackpot = 950
	05	JP Tower 6#：50、75、100、200、400、600、800		21	Mega Jackpot = 1000
				22	Mega Jackpot = 1100
	06	JP Tower 7#：2、4、6、8、10、12、15		23	Mega Jackpot = 1200
	07	JP Tower 8#：5、20、30、40、50、60、70		24	Mega Jackpot = 1300
	08	JP Tower 9#： 10 , 40 , 60 , 80 , 100 , 125 , 150		25	Mega Jackpot = 1400
6	00	Mega Jackpot Surprise Value OFF		26	Mega Jackpot = 1500
	01	Mega Jackpot Surprise Value ON: 582 tickets		27	Mega Jackpot = 2000
	02	Mega Jackpot Surprise Value ON: 1376 tickets		28	Mega Jackpot = 2500
	03	Mega Jackpot Surprise Value ON: 2981 tickets		29	Mega Jackpot = 3000
	04	Mega Jackpot Surprise Value ON: 3849 tickets		30	Mega Jackpot = 3500
	05	Mega Jackpot Surprise Value ON: 4278 tickets		31	Mega Jackpot = 4000
	06	Mega Jackpot Surprise Value ON: 5487 tickets			
MENU	OPTION	ACTOIN	MENU	OPTION	ACTOIN

7	00	Mega Jackpot Surprise Value Every 15 Minutes	These function are valid when the player win the JACKPOT	10	00	No Mercy Ticket	
	01	Mega Jackpot Surprise Value Every 30 Minutes			01	1 Mercy Ticket	
	02	Mega Jackpot Surprise Value Every 45 Minutes			02	2 Mercy Ticket	
	03	Mega Jackpot Surprise Value Every 60 Minutes			03	3 Mercy Ticket	
	04	Mega Jackpot Surprise Value Every 90 Minutes			04	4 Mercy Ticket	
	05	Mega Jackpot Surprise Value Every 120 Minutes			05	5 Mercy Ticket	
8	00	Mega Jackpot Surprise Value Reset at 15 seconds	JP column lights chase Time	11	00	Drum Speed Slowest	Motor speed
	01	Mega Jackpot Surprise Value Reset at 30 seconds			01	Drum Speed Slow	
	02	Mega Jackpot Surprise Value Reset at 45 seconds			02	Drum Speed Medium	
	03	Mega Jackpot Surprise Value Reset at 60seconds			03	Drum Speed Fast	
9	00	Winning ways（increase）	JP Column lights	12	00	All Wins Paid by ticket dispenser	
	01	Winning ways（30 seconds to reset）			01	Wins over 1000 will call attendant pay	
	02	Winning ways（60 seconds to reset）		14	00	Hopper System 1 coin dispensed per pulse	
13	00	Motor speed according setting to run			01	Hopper System 2 coin dispensed per pulse	
	01	Motor speed random run			02	Hopper System 5 coin dispensed per pulse	
					03	Hopper System 10 coin dispensed per pulse	
15	00	Test：audio frequency （press menu to exit from the testing ）					
	01	Test：all Lights of the games flash （press menu to exit from the testing ）					
	02	Test：all of JP column lights flash by upward （press menu to exit from the testing ）					
	03	Test：coin slot sensor of target column （press menu to exit from the testing ）					
	04	Test：all coin selectors （press menu to exit from the testing ）					
	05	Test：1#Ticket running （press menu to exit from the testing ）					
	06	Test：2#Ticket running （press menu to exit from the testing ）					
	07	Test：3#Ticket running （press menu to exit from the testing ）					
	08	Test：Mega Jackpot display screen flash （press menu to exit from the testing ）					
	09	Test：target column motor running （press menu to exit from the testing ）					
0	00	Display three seconds, then save and exit setting					

Error Code*:* E1: Alarm for Coin-In Timeout

no-t: Alarm for Ticket-Out Timeout

no-c：Alarm for Coin-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.

3．After electrify, digital tubes display the version number.

11-3. 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			
JP4 & JP5	1	Serial display shift clock	φ0.3mm		1#、2# 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		
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.