

TABLE OF CONTENTS

Time: 2010-1-20

1. BRIEF INSTRUCTION	1
2. CAUTION	1
2-1. NOTICE FOR INSTALLATION	1
2-2. NOTICE FOR OPERATION	1
3. ACCESSORIES	2
4. HOW TO PLAY	2
5. TECHNICAL PARAMETERS	2
6. APPEARANCE	2
7. ALL PARTS DISTRIBUTION	3
8. ALL PARTS STRUCTURE	4
8-1. COUNTER BOARD	4
8-2. TICKET DISPENSER	5
8-3. COIN SELECTOR.....	6
8-4. CONTROLLABLE SILICON BOARD.....	7
8-5. POWER CONVERT PLATE	8
8-6. MAIN BOARD.....	8
9. OPERATION	9
9-1. SWITCH POWER ON	10
9-2. PLAY STATE	10
9-3. ATTRACTION STATE	10
9-4. TEST STATE.....	10
9-5. ERROR STATE.....	10
10. APPENDIX.....	11
10-1.DIP CONNECT ON MAIN BOARD	11
10-2.FUNCTION OF DIP SWITCH ON MAIN BOARD.....	15
10-3. ERROR CODE TABLE.....	17

1. Brief instruction

Boxing Power II RM070 is a kind of new indoor amusement machine of our company. This machine has been improved both in appearance and play mode. The sculpt of the machine is succinct and particular. Its color is pleasing to both the eye and the mind. And it has easy and interesting play mode. There is no doubt that this new amusement machine will give you a new surprise!

2. Caution

2-1. Notice for installation

- This machine is only for indoor use, is not suitable for outdoor use.
- When the machine has been installed well, place the bottom of the machine on the floor to make sure it is steady.
- Do not take it apart, make it up or move it arbitrarily.
- Switch off the power and pull out the plug before moving it.
- Place it on even floor, not the smoothie, unsteady or seriously vibrating place.
- Do not place it near any high temperature or easily sparkling equipment.
- Do not place any sundries on the machine or let any heavy press the power wire.
- Do not expose the circuit part in the machine to the air.

2-2. Notice for operation

- Check whether the power plug and power wire are good, whether the voltage is suitable for the machine before switching the power on.
- Voltage of power supply should be accord to the voltage on the back cover of it.
- Switch off the power before you maintain or inspect the machine.
- Only qualified personnel are allowed to inspect the electric control device of it.
- Use suitable accessories to displace parts of apparatus.
- Hold the plug instead of the wire to unplug the power wire.
- Do not to plug or unplug the plug with wet hand, do not pull or twist the power wire.

3. Accessories

Check whether the following accessories are ready before using it:

Name	Qty	Remark
Manual	1	Copy
Keys	2	1888
Door lock	2 sets	8830(1), 8840(1)
Power supply wire	1	Piece
Reflecting sensor	1	Low level
Fluting sensor	1	Low level

4. How to play

- Insert a coin to the coin selector or insert cash to the cash acceptor to begin the game.
- Pull down the ball and punch it, be sure to punch it within stated time.
- The display will displays dispenses corresponding scores according to strength.
- Tickets payout according to the score.
- If the score exceed the current BONUS score, the player can get the BONUS.
- Game over.

Notice: Please begin the second game while the notice voice sound.

5. Technical parameters

Mode: RM070

Environmental requirement: temperature from -10°C to $+40^{\circ}\text{C}$, low radiation, low humidity.

Dimension: 1400 mm×1400 mm × 2080 mm

Weight: 160KG

Power supply: see the back cover of the machine.

Maximum power: 180W

Players: one person

6. Appearance

HIGE Score LED: displays highest score players got and so on.

Credit LED: displays the coin Qty, BONUS and so on.

Score LED: displays the score you got and so on.

LED flute: has LED in it for decoration.

Dollar bill acceptor cover: Player can not only insert coins to play the game, but also use dollar.

When he wants to use dollar bill to play the game, he just has to clear the cover and install the dollar bill acceptor.

Instruction for playing: it is a piece of paper notifying player how to play the game. It has been put up above the display board.

Coin entrance/coin exit button: The left rectangle hole of the device is coin entrance. the right red square is coin exit. When the coin gets blocked, press the button, the coin drops into the coin exit.

Coin exit: When player inserts unsuitable coin or the coin gets blocked and he press the coin exit button, the coin will drops into the coin exit. Player can get the coin back from the exit.

Coin selector: Refer to the latter “Coin selector” part.



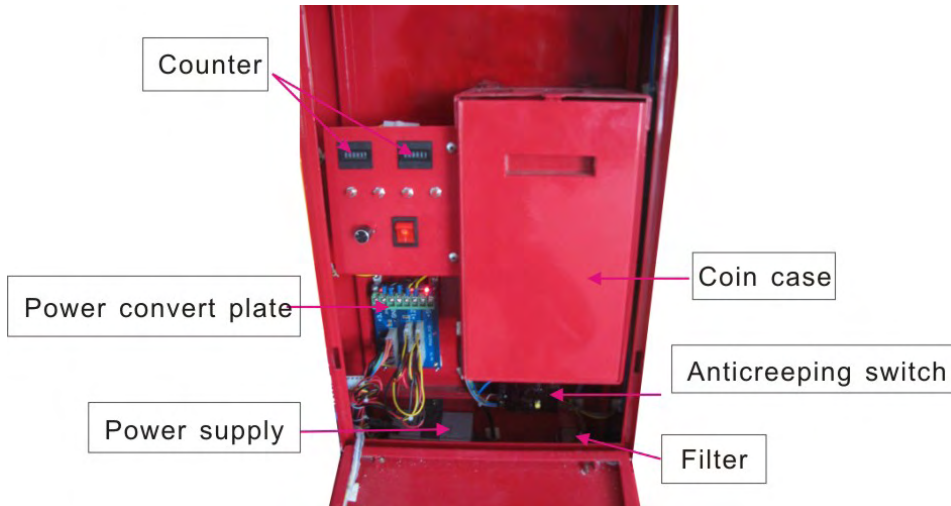
7. All parts distribution

Power supply: supplies the whole machine with power supply. It has +5V/+12V DC output.

Main board: main program operation system, it controls all parts working.

Controllable silicon board: drives motor.

Power convert plate: supplies +5V/+12V power supply connect.



8. All parts structure

8-1. Counter board

Service: press it once equals to inserting one coin, but the coin Qty do not note it.

Coin Qty: records the total actually coin Qty since the machine has been used.

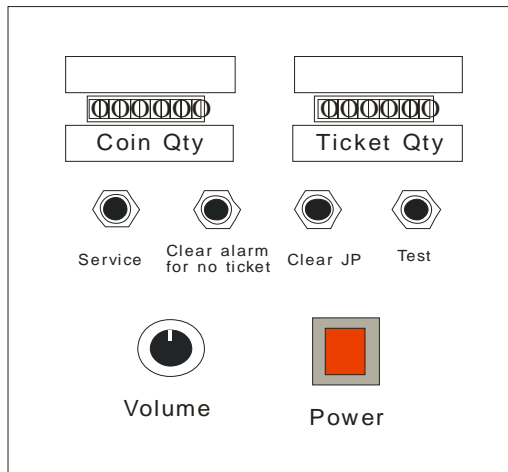
Ticket Qty: records the total ticket out Qty since the machine has been used.

Clear alarm for no ticket: when the tickets have been used up, install tickets and press it, the machine pays out the unpaid tickets.

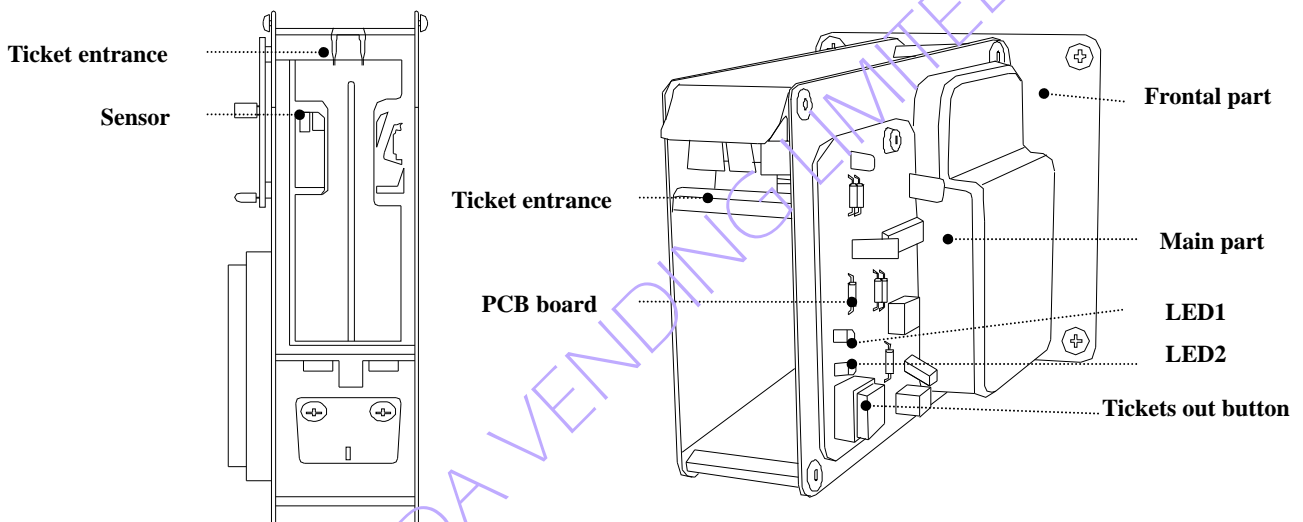
Clear JP: press it over three seconds, all the data in the memory chip will be cleared.

Test button: press it to get the machine into test state.

Volume knob: it controls volume.



8-2. Ticket dispenser



LED1 (GREEN): attraction state indicator

LED2 (YELLOW): ticket indicator.

Sensor: used to detect tickets.

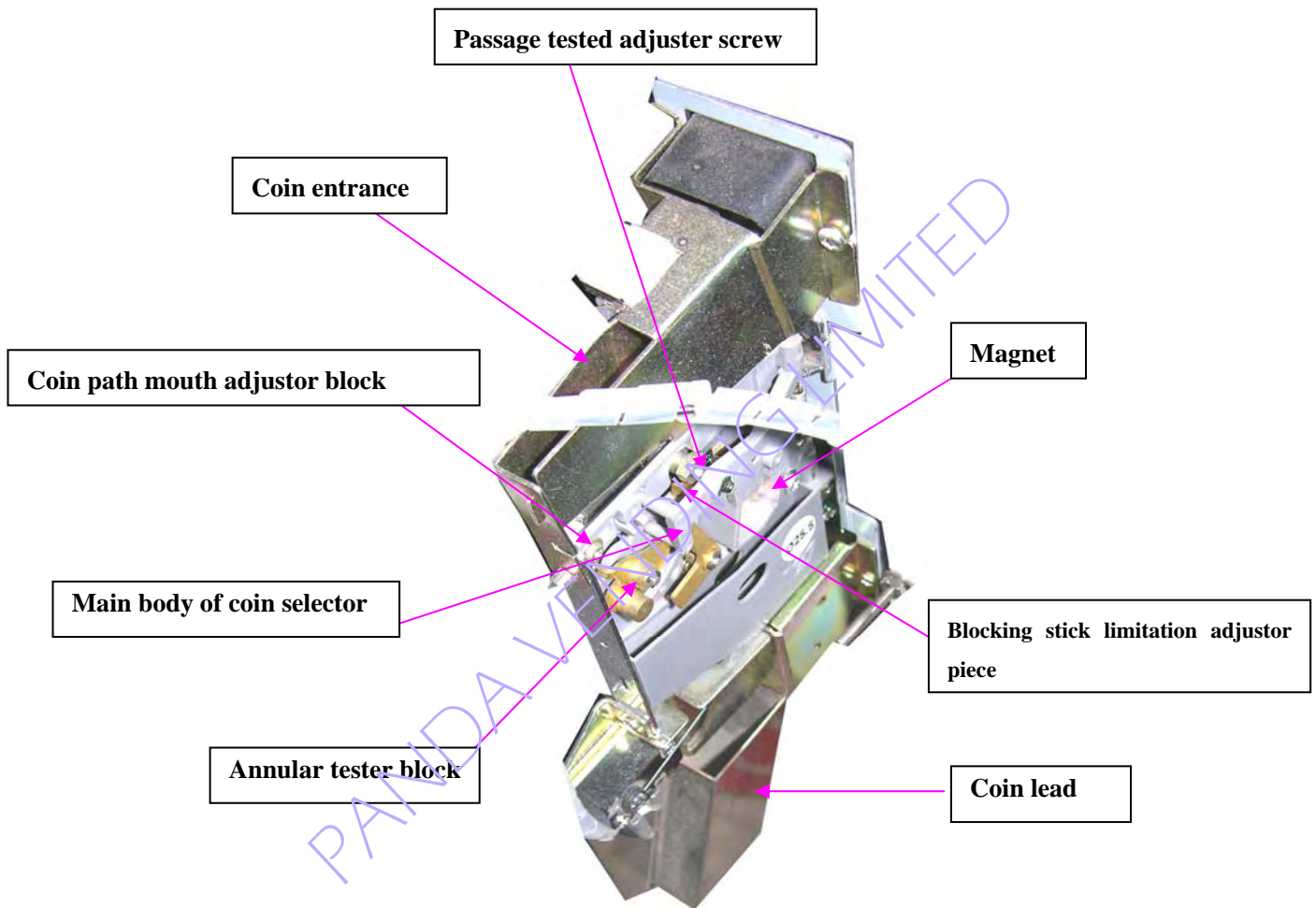
Tickets installation:

- A. Insert tickets into the pivot and push them under the pressing wheel.
- B. Keep pressing micro switch until one piece of ticket comes out.
- C. Caution:
 - ① tickets cannot be pushed into pivot overlapping each other.
 - ② SW1.SW2 has been adjusted well when machine leaves factory, do not dial it arbitrarily.
 - ③ tickets should be placed in their exiting direction.
 - ④ wire of the ticket dispenser should not contact or enlase with tickets.

- ⑤ when tickets get blocked, get down main part of ticket dispenser and clear the jam manually.

8-3. Coin selector

This coin selector is mechanical type machine. It is with high accuracy and steady performance. It is with function of super magnet guard against fake coin, guard against thief and guard against coin cheat due to machine inclination.



Coin exit button: If the inserted coin gets blocked in the coin selector, press the button, it will come out of the exit.

Coin exit button: If the inserted coin is not a suitable one, it will come out of the coin exit automatically.

Acceptable coins: different specifications of coins with a diameter from ϕ 25mm to ϕ 28mm and a thickness from 1.5 mm to 2.6 mm from different countries.

Coin path mouth adjustor block: Adjust the diameter of the coin. If you have to set inserting minor coin, move it right. Generally if you do not insert minor coins, move the block left. It controls

coins with a diameter of 0.1mm.

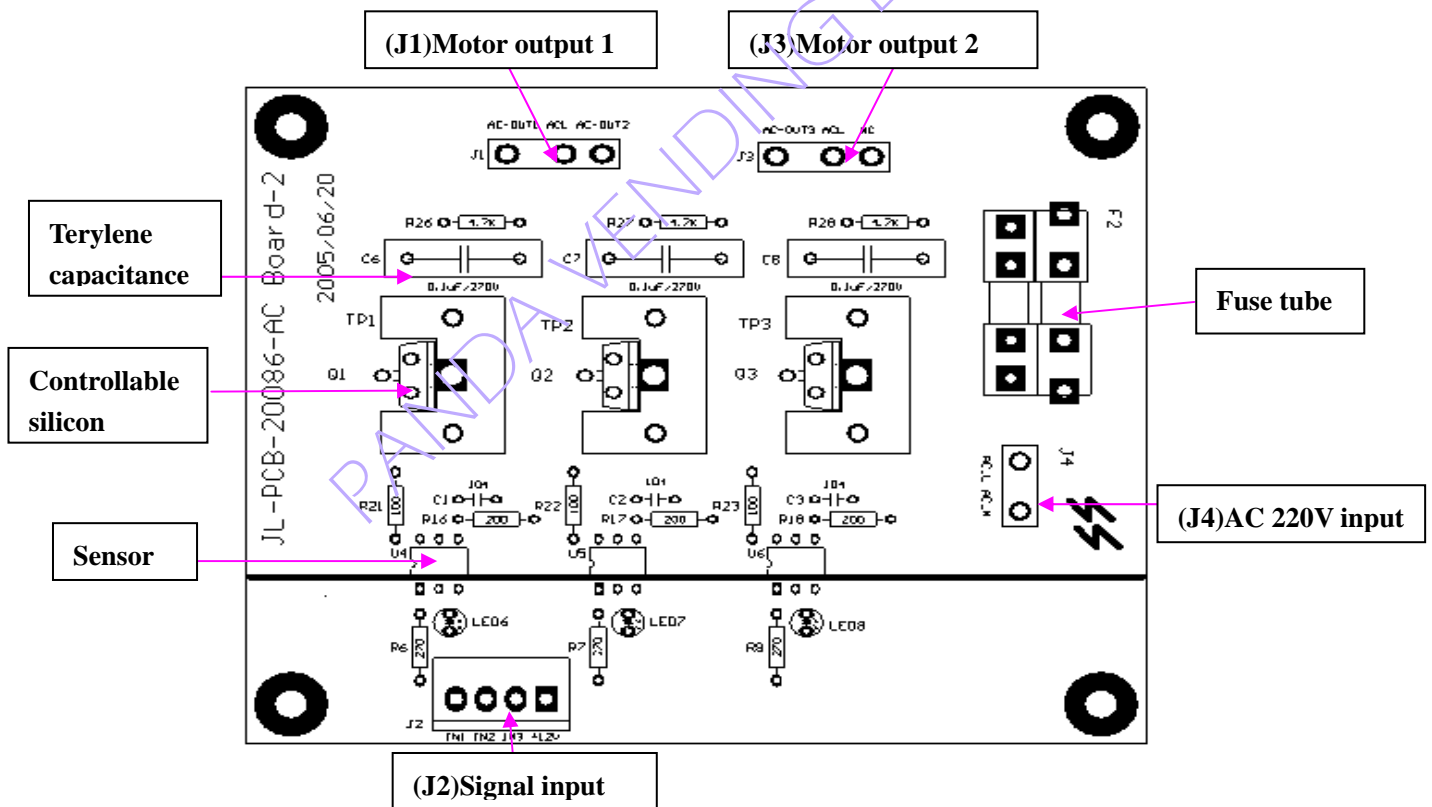
Passage tested adjuster screw: turn it clockwise, and then it becomes looser. Turn it anticlockwise and then it becomes tighter. Thickness can be controlled into 0.05mm.

Blocking stick limitation piece: adjusts the upper limit of the diameter of the coin.

Annular test block: controls floor level of diameter of acceptable coin, used together with blocking stick limitation adjuster piece, adjusts the diameter of the coin to varies within a limitation of 0.1mm. Coins of different specifications are suitable for different types of annular tester block. As for test block of the same specification, the larger, and the tighter, the smaller, the looser.

Magnet: Select the iron-contained quantity of coins. Those containing a large iron quantity easily get absorbed, while those containing a small iron quantity don't get through hard at all. if iron-all-over coins are used, get off the magnet.

8-4. Controllable silicon board



J1: controlled by IN1 and IN2 of J2 to supply AC voltage output. It controls AC load.

J2: controls AC output of J1 and J3. When the pin IN1 of it is in low currency, AC-OUT1 of J1 has AC volatge output, while when it is in high currency, AC-OUT1 of J1 has no AC voltage output. When the pin IN2 of it is in low currency, AC-OUT2 of J1has AC volatge output, while when it

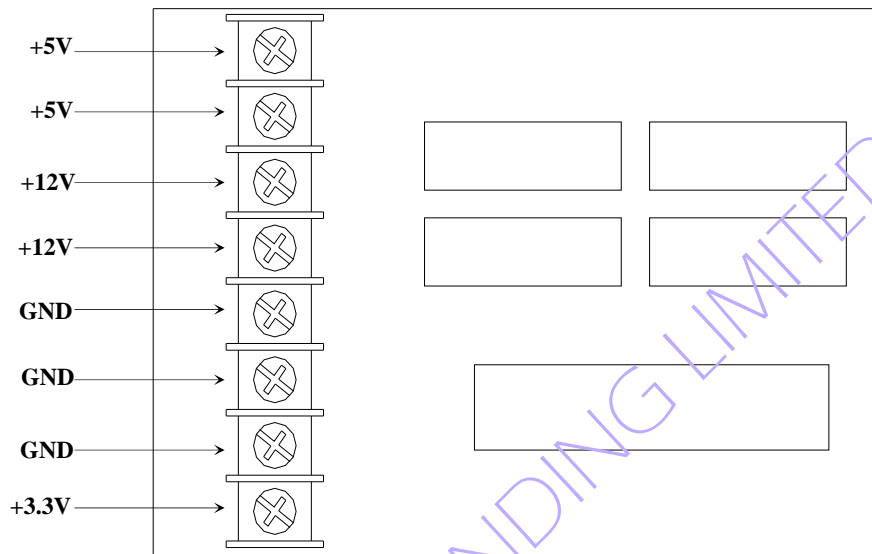
is in high currency, AC-OUT2 of J1 has no AC voltage output. When the pin IN3 of it is in low currency, AC-OUT3 of J3 has AC voltage output, while when it is in high currency, AC-OUT2 of J3 has no AC voltage output. The +12V input of J1 is power supply input part.

J3: controlled by IN2 and IN3 of J2 to supply AC voltage output. It controls AC load.

J4: AC voltage input.

Fuse tube: $\phi 5\text{mm} \times 20\text{mm}$. The maximum current is 5A.

8-5. Power convert plate



8-6. Main board

J1: main power supply input connector.

J4: LED serial output connector.

J5: ticket out connector.

J6: base function connector.

J11: volume control, adjusts volume.

J12: speaker connector.

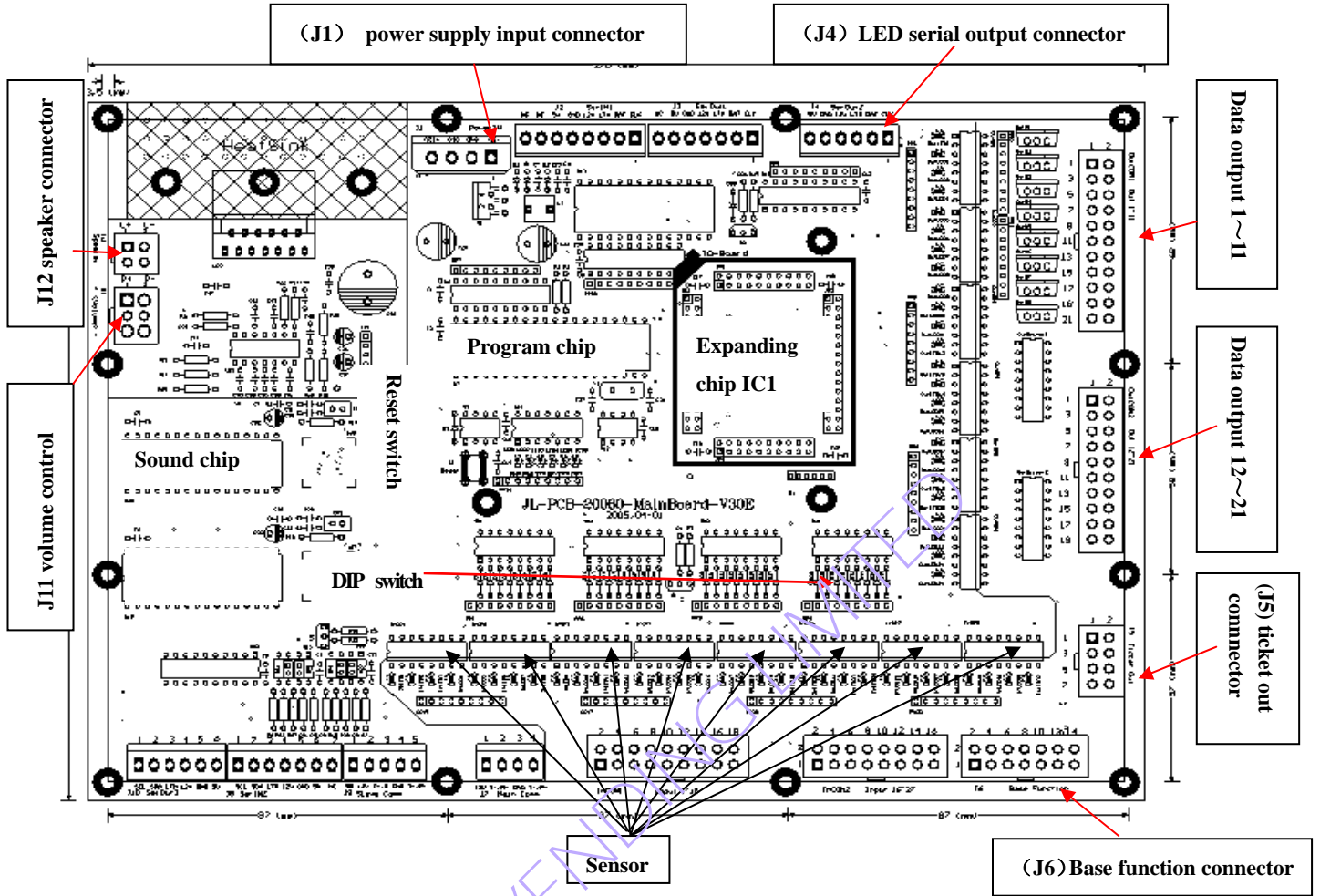
Memory chip: records the total coin Qty, ticket Qty and so on.

INCON1: # 1 ~ # 15 INPUT.

OUTCON1: # 1 ~ # 11 OUTCON.

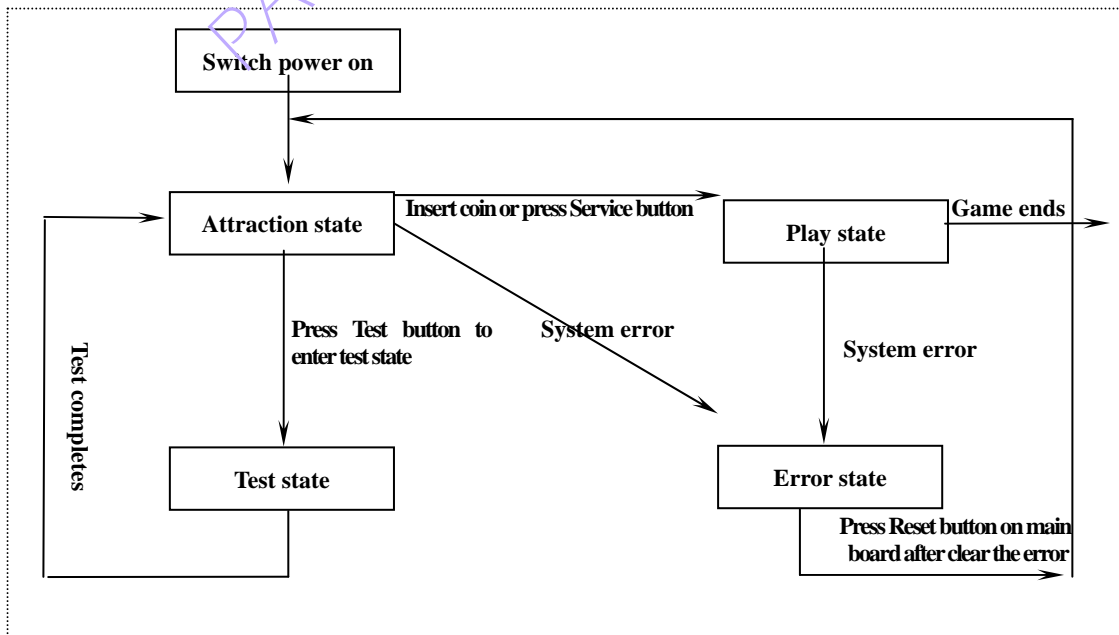
OUTCON2: #12 ~ # 21 OUTCON.

(Note: other connectors haven't been used in this machine.)



9. Operation

The machine is in coin play mode, it can be in one of the four states: attraction state, test state, game state or error state. The flow chart is as follows:



9-1. Switch power on

Check the plug and cord. Be sure that it has been set to the correct voltage for the machine, and then switch the power on.

9-2. Play state

The HIGH Score displays the highest score the players got. The Credit displays the coin Qty and the ticket Qty when player get BONUS. And the Score displays the score you got.

9-3. Attraction state

The HIGH Score displays the highest score the players got changelessly. the Credit displays



and changes ceaselessly. And it is going with music. Press TEST button in the front cabinet over 0.5 second, the machine enters Test state. Then press the Service button or insert coin, the machine enters Play state.

9-4. Test state

Detect whether LED is full, whether LED, the setup for ball returning and other input/output port can work normally, whether music is normal. When machine is in Attraction state, press test button, music stops, machine enters test state. LED displays version No. →LED sequence → LED all turn off →LED all turn on → tests input →tests output →tests ticket dispenser→ tests music → test completes.

9-5. Error state

When machine works, if system gets error, machine enters error state. Alarm rings and machine displays error code: EX, X stands for error No 1, 2, 3, 4, 5, 6. you can find out error reason according to the No. after you clear the error, reset the machine. See more information from “Error Code Table”.

10. Appendix

10-1.DIP connect on main board

Version: 3.04 Time: 2007-11-02

Plug code	Pin code	Pin color	Function	I/O code	Function of I/O
J1 (Power Input Connector)	PIN 1	4*0.75-Red)	+5V Input	----	Power Input
	PIN 2	4*0.75-Black	GND	----	
	PIN 3	4*0.75-Black	GND	----	
	PIN 4	4*0.75-Yellow	+12V Input	----	
J4 (#2 Serial Output Connector)	PIN 1	6*0.3—Green	CLK	----	Digital LED Board Output Connector turn: 1. Score display board (4 bits). 2. Coins Qty display board (2 bits). 3. Highest score display board (4 bits).
	PIN 2	6*0.3—White	DAT	----	
	PIN 3	6*0.3—Brown	LTH	----	
	PIN 4	6*0.3—Yellow	+12V Output	----	
	PIN 5	6*0.3—Black	GND	----	
	PIN 6	6*0.3—Red	+5V Output	----	
J5 (Ticket Out Connector)	PIN 1	4*0.3—White	#1 Ticket Out Drive	OUT #21	Ticket Out Connector
	PIN 2	4*0.3—White	#2 Ticket Out Drive	----	
	PIN 3	4*0.3—Yellow	+12V Output	----	
	PIN 4	4*0.3—Yellow	+12V Output	----	
	PIN 5	4*0.3—Black	GND	----	
	PIN 6	4*0.3—Black	GND	----	
	PIN 7	4*0.3—Green	#1 Ticket Feedback	IN #29	
	PIN 8	4*0.3—Green	#2 Ticket Feedback	----	
J6 (Base Function connector)	PIN 1	10*0.3—Yellow	+12V Out	----	Base Function connector
	PIN 2	Null	+5V Out	----	
	PIN 3	10*0.3—Black	GND	----	
	PIN 4	Null	GND	----	
	PIN 5	10*0.3—Blue	Service	IN #25	
	PIN 6	Null	No Connect	----	
	PIN 7	Null	No Connect	----	
	PIN 8	Null	No Connect	----	
	PIN 9	10*0.3—Purple	Test	IN #27	

Boxing Power II RM070

	PIN 10	10*0.3—Orange	Clean JP	IN #28	
	PIN 11	10*0.3—White	#1 Coin Signal	IN #30	
	PIN 12	10*0.3—Green	Clean Alarm For No Ticket	IN #31	
	PIN 13	10*0.3—Gray	Ticket Qty	-----	
	PIN 14	10*0.3—Brown	Coin Qty	OUT #23	
J10 (Base Function connector)	PIN 1	0.3—Purple			
	PIN 2	0.3—Blue			
	PIN 3	0.3—Gray			
	PIN 4	4*0.3—Yellow	+12V Output		
	PIN 5	4*0.3—Black	GND		
	PIN 6	4*0.5-Red	+5V Input		
J11 (Volume Ctrl)	PIN 1	4*0.15—Green	Right Signal Input	-----	Volume Ctrl
	PIN 2	4*0.15—White	Left Signal Input	-----	
	PIN 3	4*0.15—Red	Right Signal Output	-----	
	PIN 4	4*0.15—Yellow	Left Signal Output	-----	
	PIN 5	Screening wire	GND	-----	
	PIN 6	Screening wire	GND	-----	
J12 (Speaker)	PIN 1	2*0.75-White	Left Speaker +	-----	Speaker
	PIN 2	2*0.75-Black	Left Speaker -	-----	
	PIN 3	2*0.75-Red	Right Speaker +	-----	
	PIN 4	2*0.75-Black	Right Speaker -	-----	
InCON1 (#1~#15 Input)	PIN 1	0.3—Brown	Input	IN #0	Scoring sensor1(up)
	PIN 2	0.3—Pink	Input	IN #1	Scoring sensor2(down)
	PIN 3	0.3—Orange	Input	IN #2	Ball fastness switch (back)
	PIN 4	0.3—Sky Blue	Input	IN #3	Ball fastness switch (front)
	PIN 5	0.3—Green	Input	IN #4	Ball fastness switch (mid)
	PIN 6	0.3—Blue	Input	IN #5	
	PIN 7	0.3—Purple	Input	IN #6	
	PIN 8	0.3—Gray	Input	IN #7	
	PIN 9	0.3—White	Input	IN #8	
	PIN 10	0.3—Sky Blue	Input	IN #9	

Boxing Power II RM070

	PIN 11	0.3—Brown	Input	IN #10	
	PIN 12	0.3—Pink	Input	IN #11	
	PIN 13	0.3—Orange	Input	IN #12	
	PIN 14	0.3—Sky Blue	Input	IN #13	
	PIN 15	0.3—Green	Input	IN #14	
	PIN 16	0.3—Black	GND	----	
	PIN 17	0.3—Red	+5V Output	----	
	PIN 18	0.3—Yellow	+12V Output	----	
InCON2 (#16~#27 Input)	PIN 1	0.3—Brown	Input	IN #15	
	PIN 2	0.3—Pink	Input	IN #16	
	PIN 3	0.3—Orange	Input	IN #17	
	PIN 4	0.3—Sky Blue	Input	IN #18	
	PIN 5	0.3—Green	Input	IN #19	
	PIN 6	0.3—Blue	Input	IN #20	
	PIN 7	0.3—Purple	Input	IN #21	
	PIN 8	0.3—Gray	Input	IN #22	
	PIN 9	0.3—White	Input	IN #23	
	PIN 10	0.3—Sky Blue	Input	IN #24	
	PIN 11	0.3—Brown	Input	IN #25	
	PIN 12	0.3—Pink	Input	IN #26	
	PIN 13	NC			
	PIN 14	0.3—Black	GND	----	
	PIN 15	0.3—Red	+5V Output	----	
	PIN 16	0.3—Yellow	+12V Output	----	
OutCON1 (#1~#11 Output)	PIN 1	0.3—Brown	Output	OUT #0	LED 1
	PIN 2	0.75—Yellow	+12V Output	----	
	PIN 3	0.3—Pink	Output	OUT #1	LED 2
	PIN 4	0.75—Yellow	+12V Output	----	
	PIN 5	0.3—Orange	Output	OUT #2	
	PIN 6			----	
	PIN 7	0.3—Sky Blue	Output	OUT #3	
	PIN 8			----	

Boxing Power II RM070

	PIN 9	0.3—Green	Output	OUT #4	
	PIN 10			----	
	PIN 11	0.3—Blue	Output	OUT #5	
	PIN 12			----	
	PIN 13	0.3—Purple	Output	OUT #6	
	PIN 14			----	
	PIN 15	0.3—Gray	Output	OUT #7	
	PIN 16	0.3—Yellow		----	
	PIN 17	0.3—White	Output	OUT #8	
	PIN 18	0.5—Yellow		----	
	PIN 19	0.3—Sky Blue	Output	OUT #9	
	PIN 20			----	
	PIN 21	0.3—Brown	Output	OUT #10	
	PIN 22			----	
OutCON2 (#12~#21 Output)	PIN 1	0.3—Brown	Output	OUT #11	
	PIN 2	0.5—Yellow		----	
	PIN 3	0.3—Pink	Output	OUT #12	
	PIN 4			----	
	PIN 5	0.3—Orange	Output	OUT #13	Ball out solenoid
	PIN 6			----	
	PIN 7	0.3—Sky Blue	Output	OUT #14	Return ball solenoid
	PIN 8			----	
	PIN 9	0.3—Green	Output	OUT #15	
	PIN 10			----	
	PIN 11	0.3—Blue	Output	OUT #16	
	PIN 12			----	
	PIN 13	0.3—Purple	Output	OUT #17	
	PIN 14			----	
	PIN 15	0.3—Gray	Output	OUT #18	coin indicator
	PIN 16			----	
	PIN 17	0.3—White	Output	OUT #19	
	PIN 18			----	

Boxing Power II RM070

	PIN 19	0.3—Sky Blue	Output	OUT #20
	PIN 20			----
Instruction for manufacture of main board	Crystal vibrator 11.0592MHz is used in main board.			
	The programme of CPLD is ExIO_2_01_int_pq.jed.			

10-2.Function of DIP switch on main board

Time:07-11-02

Function DIP	Bit								Function	
	1	2	3	4	5	6	7	8		
SW1	ON									Enable the ticket dispenser
	OFF									Disable the ticket dispenser
		ON	ON							Base tickets 3
		OFF	ON							Base tickets 2
		ON	OFF							Base tickets 1
		OFF	OFF							Base tickets 0
					ON	ON				4 coins/game
					OFF	ON				3 coins/game
					ON	OFF				2 coins/game
					OFF	OFF				1 coins/game
								ON		Save parameter when power off
								OFF		Clear parameter when power off
									ON	Music on when machine is in attraction state
									OFF	Music off when machine is in attraction state
SW2	ON	ON								Play 4 times per game
	OFF	ON								Play 3 times per game
	ON	OFF								Play 2 times per game
	OFF	OFF								Once a game
			ON	ON	ON					1 ticket / 800 score
			OFF	ON	ON					1 ticket / 500 score
			ON	OFF	ON					1 ticket / 300 score
			OFF	OFF	ON					1 ticket / 200 score
			ON	ON	OFF					1 ticket / 100 score
			OFF	ON	OFF					1 ticket / 50 score
			ON	OFF	OFF					1 ticket / 20 score
			OFF	OFF	OFF					1 ticket / 10 score
						ON	ON	ON		BONUS =200
						OFF	ON	ON		BONUS =100
					ON	OFF	ON		BONUS =70	

Boxing Power II RM070

				OFF	OFF	ON	BONUS =40	
				ON	ON	OFF	BONUS =30	
				OFF	ON	OFF	BONUS =20	
				ON	OFF	OFF	BONUS =10	
				OFF	OFF	OFF	BONUS =5	
SW3	ON						BONUS increases when coins in	
	OFF						BONUS dose not change	
		ON	ON	ON			BONUS maximum tickets=999	
		OFF	ON	ON			BONUS maximum tickets =300	
		ON	OFF	ON			BONUS maximum tickets =200	
		OFF	OFF	ON			BONUS maximum tickets =100	
		ON	ON	OFF			BONUS maximum tickets =80	
		OFF	ON	OFF			BONUS maximum tickets =60	
		ON	OFF	OFF			BONUS maximum tickets =40	
		OFF	OFF	OFF			BONUS maximum tickets =20	
					ON	ON	ON	BONUS initial record is 1000
					OFF	ON	ON	BONUS initial record is 800
					ON	OFF	ON	BONUS initial record is 700
					OFF	OFF	ON	BONUS initial record is 600
					ON	ON	OFF	BONUS initial record is 500
					OFF	ON	OFF	BONUS initial record is 200
				ON	OFF	OFF	BONUS initial record is 100	
				OFF	OFF	OFF	BONUS initial record is 50	

Note: These options with gray background are factory settings of DIP switch. Please adjust the volume control to middle (volume well situated).

10-3. Error code table

Error code table		
Code	Significance	Solution
E1	Coins blocked	Check whether the coin selector block coin, if it dose, press coin exit button to release the blocked coins. If it dose not, check the relating circuit.
E2	No tickets/tickets blocked	1. Install tickets, press Clear Alarm for No Tickets button, machine pays out the unpaid tickets, then the alarm gets cleared. 2. When tickets get blocked, you need to get down the main part of the machine and clear the jam manually.
E3	Chip U12 error	Displace chip U12.
E4	DIP in incorrect state (BONUS maximum tickets lower than base tickets)	Dial relating DIP switch in correct state.
E5	Scoring sensor 1 (up) abnormal	Check the scoring sensor 1.
E6	Scoring sensor 2 (down) abnormal	Check the scoring sensor 2.

Note: it won't be informed in case of any change of the performance of the machine, contents of the manual or the program!