

# SERVICE MANUAL

- FUNNY CUBE -

## WINNERS' RINGER

Ver 1.0



ISSUE DATE: Mar. 5, 2012



- ▶ Please read the manual carefully and keep it in mind before using this machine.
- ▶ Put this manual within touch of your reference in anytime.

# PRECAUTIONS FOR USE

The following safety precautions are given throughout this manual. They must be strictly followed to protect those who install, use or maintain this product as well as to protect players, visitors and property.

For safety reasons.

- The following suggestions should be adhered to:



**WARNING**

Disregarding could result in serious injury.



**CAUTION**

Disregarding could result in injury or product damage.

- The following graphic suggestions describe the types of precautions to be followed.



Indicates a care should be taken.



Forbidden.



Indicates a matter which must be performed.

- **Precautions to be followed:**

**Certain procedures require a qualified in-shop maintenance person or industry specialist. For such instructions, a qualified person must take care of the jobs.**

- Otherwise an electric shock, machine trouble, or a serious accident may result.
- Replacing the machine parts, inspecting and maintaining the machines, and troubleshooting must be assigned only to a qualified in-shop maintenance person or industry specialist. This booklet gives instructions that hazardous jobs in particular must be handled by an industry specialist. Qualified in-shop maintenance person and industry specialist are defined as follows.

#### **Qualified in-shop maintenance person**

- A service staff shall have experience in operations of game machines. The staff shall be responsible for assembly, installation, inspection and maintenance of the machine.

#### **Industry specialist**

- An industry specialist must be engaged in designing, manufacturing, inspecting and servicing amusement machines. He or she must have an education in electrical, electronic and mechanical engineering, and routinely maintain and repair amusement machines.

# PRECAUTIONS FOR USE

## WARNING

**Be sure to consult an industry specialist when setting up, moving or transporting this product.**

- This product should not be set up, moved or transported by any one other than an industry specialist.
- When installing this product, set the 4 leg levelers evenly on the floor and make sure that the product is installed stably in a horizontal position. Unstable installation may result in injury or accident.
- When installing this product, do not apply undue force on movable parts. Otherwise, injury and accident may result, or the product may be damaged.

**The machine for indoor usage only does not install outside.**



**Do not set the game machine up near emergency exits.**



**Protect the game machine from:**

- Rain or moisture.
- Direct sunlight.
- Direct heat from air-conditioning and heating equipment, etc..
- Hazardous flammable substances.
- Otherwise an accident or malfunction may result.



**Do not place containers holding chemicals or water on or near the game machine.**



**Do not place objects near the ventilating holes.**



**Do not bend the power cord by force or place heavy objects on it.**



**Never plug or unplug the power cord with wet hands.**



**Never unplug the game machine by pulling the power cord.**



## CAUTION

**Be sure to use indoor wiring within the specified voltage requirements. For extension cord, use the specified rating or more.**

**Be sure to use the attached power cord.**

**Never plug more than one cord at a time into the electrical receptacle.**



**Do not lay the power cord where people walk through.**



**Be sure to ground this product.**



**Do not exert excessive force when moving the machine.**




**For proper ventilation, keep the game machine 100mm(4") away from the walls.**

**Do not alter the system related dipswitch settings.**

# PRECAUTIONS FOR USE

## WARNING

If there is any abnormality such as smoke, bad smell or abnormal noise being emitted from the machine, immediately turn OFF the main power switch and unplug the power cord from the receptacle to stop operating it. 

- Using the machine in abnormal conditions could result in fire or accidents.


In case of abnormality

1. Turn OFF the main power switch.
2. Unplug the power cord from the receptacle.
3. Contact your nearest dealer.

**Do not leave the power cord plugged in improperly or covered with dust.** 

- Doing so could result the power cord periodically.


## CAUTION

**Do not use this product anywhere other than industrial areas.** 

- Using in a residential area or an area next to a residential area could affect signal reception of radios, television sets, telephones, etc..
- Do not give shock the surface of glass products.

- Please do not play this game if
  - When you do drinking;
  - When your physical condition is not normal;
  - When you are in pregnancy;
  - When you have on a pulse controller;
  - When you have recently experienced a cramp or fainting away while watching TV.
- Avoid excessive force/shock while playing/moving the game.
- While do games, pay attention to surrounding.

**Do not plug or unplug the power cord with wet hands.** 

**In handling the power cord, follow the instructions below.** 

- |   |  |
|---|--|
| • Do not damage the power cord.           | • Do not modify the power cord.            |
| • Do not bend the power cord excessively. | • Do not twist the power cord.             |
| • Do not heat the power cord.             | • Do not pull the power cord.              |
| • Do not bind the power cord.             | • Do not stand on the power cord.          |
| • Do not sandwich the power cord.         | • Do not drive a nail into the power cord. |

**If the power cord or power plug becomes damaged, stop using the machine immediately and ask your nearest dealer to replace the parts.**

# PRECAUTIONS FOR USE

## ⚠ WARNING

Be sure to turn OFF the main power switch and unplug the power cord from the receptacle before inspecting or cleaning the machine.



When replacing parts, be sure to use parts of the correct specifications. Never use parts other than the specified ones.



Opening inside the machine shall be done by machine specialist only as high electric current is being sent inside. For game machine with monitor, a care should be taken while opening its back door. If not, a damage to the inside parts or the monitor may occur.



If the sub power switch of the service panel is turned OFF without turning OFF the main power switch of the power supply unit, some parts in the units remain live. When opening the back door, be sure to turn OFF the main power switch and unplug the power cord from the receptacle.



Strictly refrain from disassembly and repair of parts which are not indicated in this manual, as well as settings and remodeling.



To clean the game machine, wipe it with a soft cloth dampened in a neutral detergent.

- Using thinner or other organic solvent or alcohol may decompose the material.
- Electrical shock or equipment failure could be caused by water entering the inside of the machine.

## ⚠ CAUTION

Components in the game are sensitive to vibrations and impact. Care should be used when moving and transporting the game machine.



Be sure not to let the machine tip over.

Before moving the machine, be sure to turn OFF the main power switch, unplug the power cord from the receptacle and remove the power cord from the machine.



Before moving take the machine, off the levelers and move it on the casters.

Avoid excessive force while moving the machine.

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## PRECAUTIONS IN HANDLING

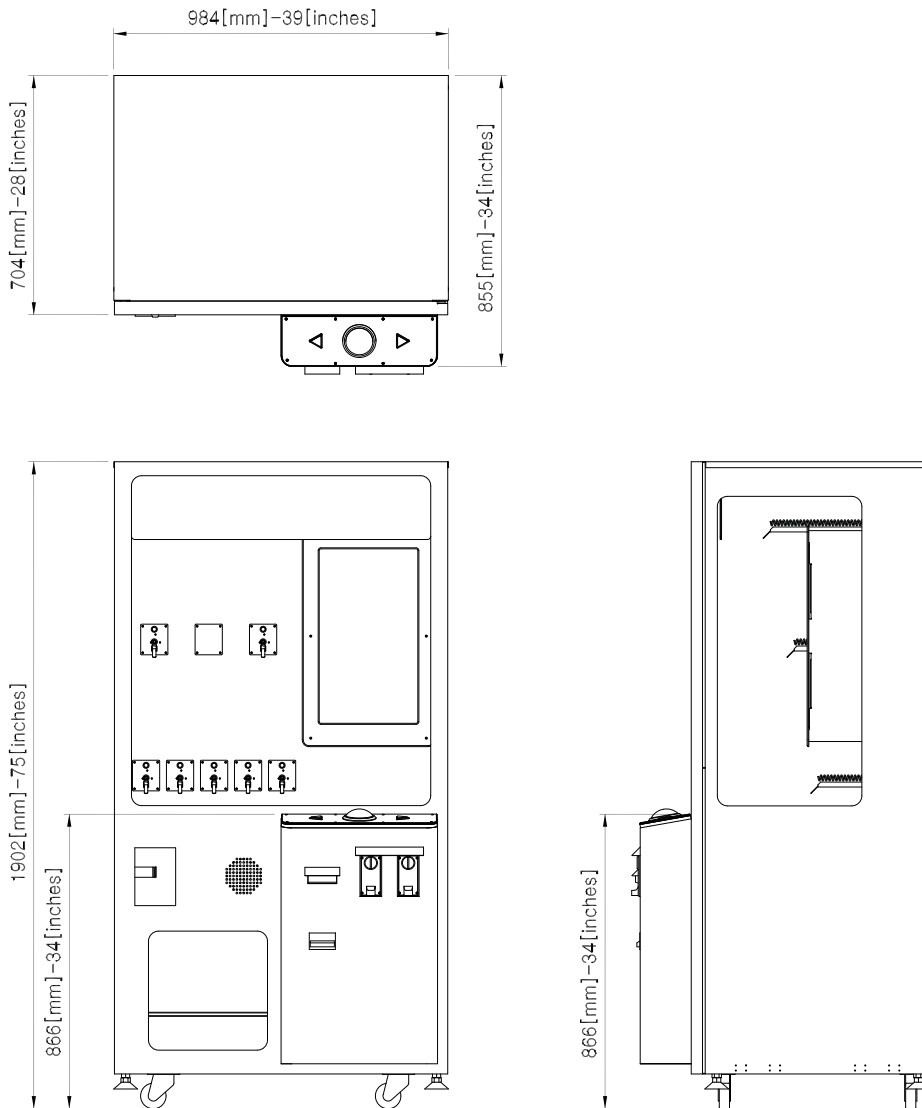
- When setting up, inspecting, maintaining, moving or transporting this product, follow the procedures and instructions set forth in this manual and perform such work safely.
- Do not set up, handle, inspect, maintain, move or transport this product under conditions equivalent to the condition of "WARNING" or "CAUTION" specified in this manual.
- If a new owner is to have this product as a result of transfer, etc., be sure to give this manual to the new owner.

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# 1. SPECIFICATION AND DIMENSION

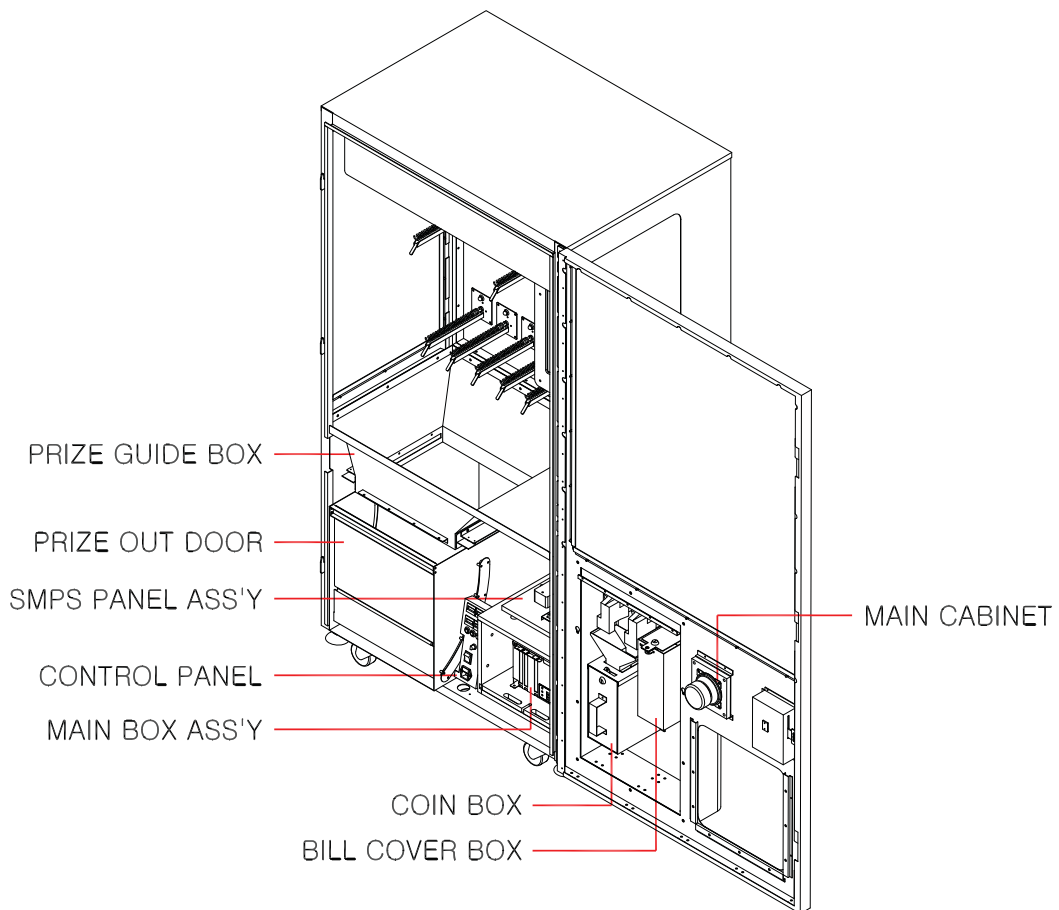
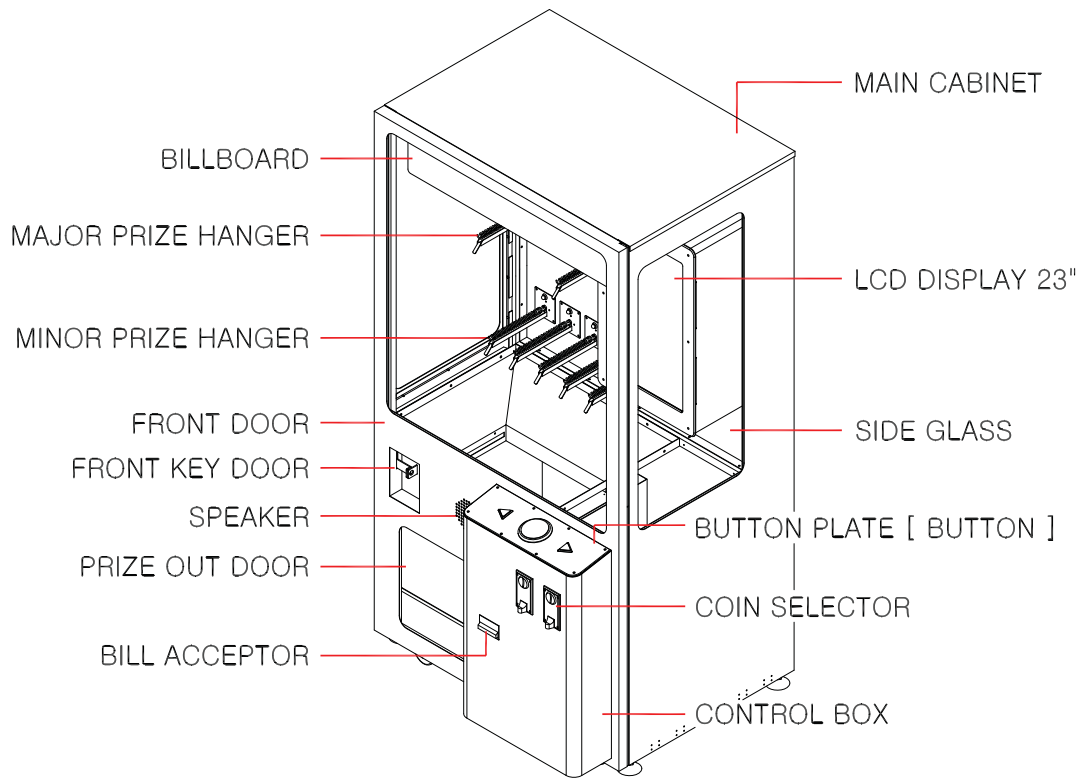
## 1-1. DIMENSION



## 1-2. SPECIFICATION

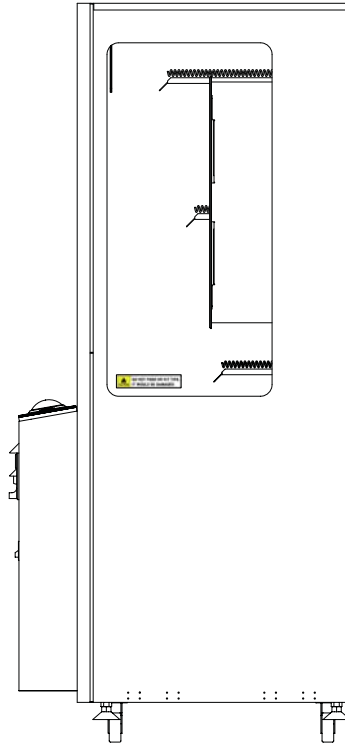
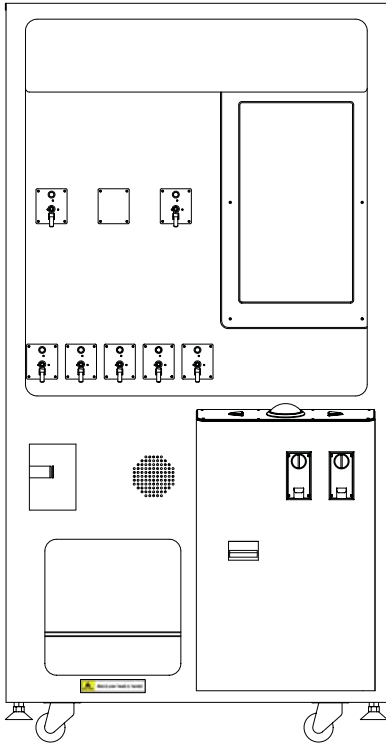
DIMENSION (W x D x H)	984 x 855 x 1902 (mm)	
PACKING DIMENSION (W x D x H)	1140 x 790 x 2150 (mm)	
WEIGHT (kg)	225 kg [WEIGHT INCLUDING PACKAGING : 260 kg]	
VOLTAGE	AC 110V	AC 220V
FREQUENCY RANGE	50 ~ 60 Hz	
CONSUMPTION	400 W	

# 1-3. NAME OF PARTS

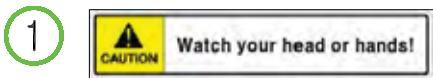




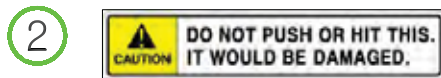
# 1-4. STICKER LOCATION



CONTROL BOX LOCATION INSIDE



① : Beware of the head and hands exit prizes.

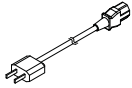







② : Do not beat me up by sliding glass. May be damaged.



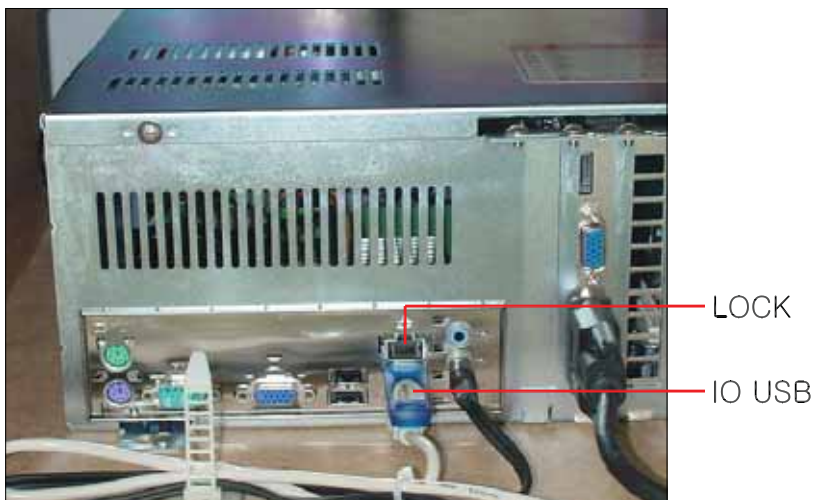
MODEL NAME	FUNNY CUBE
PRODUCT S/N	-
MAIN BOX S/N	-
LCD S/N	-
CERTIFICATE	-
MADE IN KOREA	
Koyang-si, Kyouggi-do, Korea Phone:82-31-909-2100	

# COMPONENTS

NO.	PART NAME	SPEC.		QTY
1	AC POWER CORD	110V or 220V		1
2	KEY	6001		2
3	WRENCH	3mm		1
4	WRENCH	2mm		1
5	BOLT	M6x16L		10
6	MANUAL	-		1

## [ WARNING ]

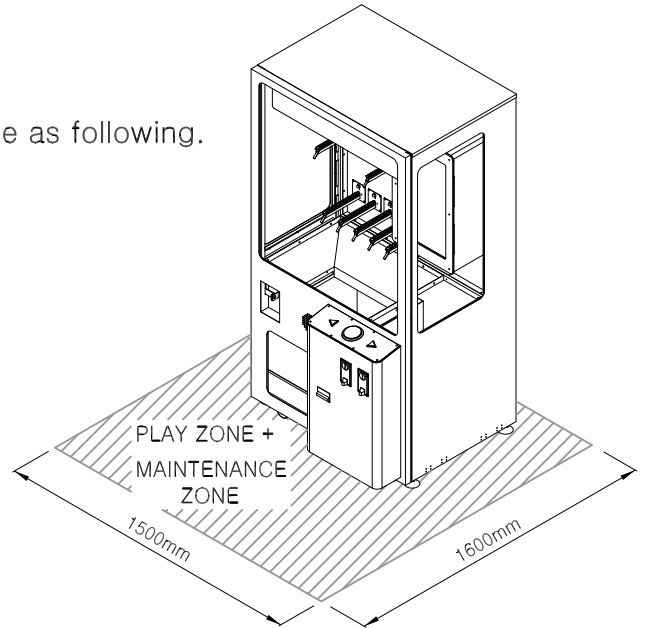
Please make sure LOCK and IO USB should be put in right place as following picture. It may lead malfunction of machine in case it's located in wrong place.



## 2. INSTALLATION

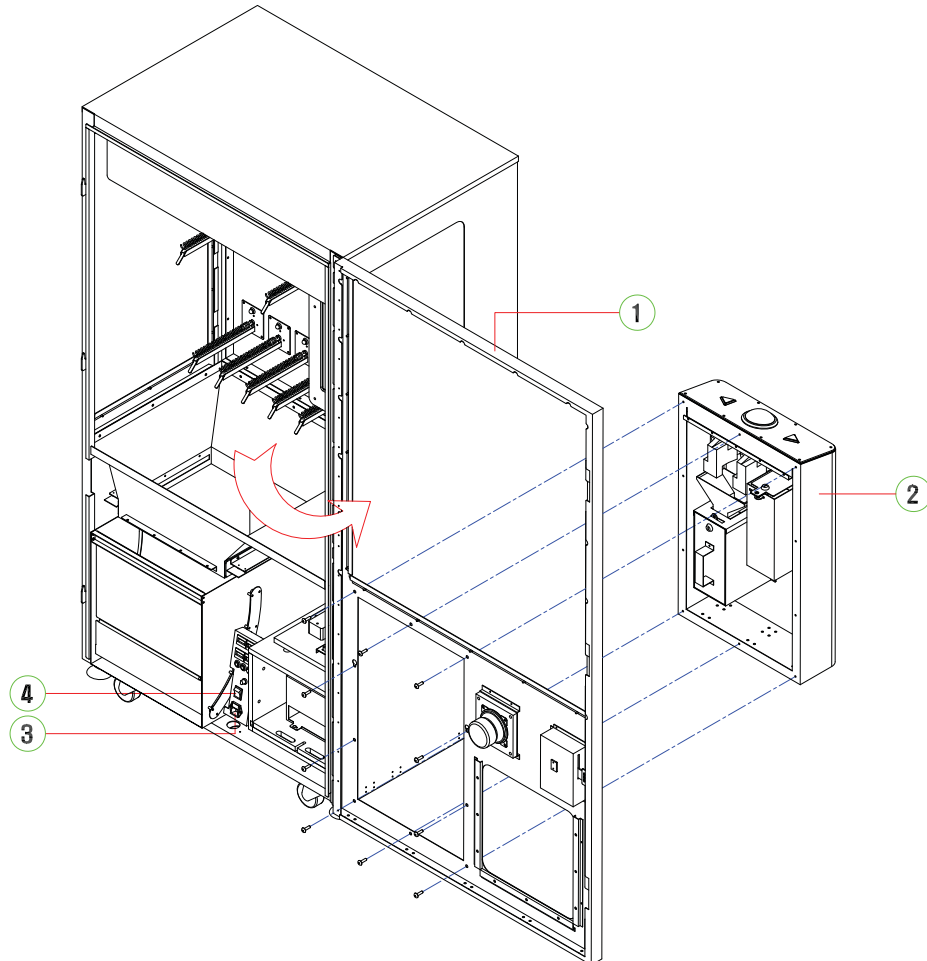
### 1-1. INSTALLATION SPACE

- Please make sure to reserve installation space as following.  
Game play AREA : more than 1500mm  
Maintenance AREA : more than 1600mm



### 1-1. HOW TO INSTALL

- A broad description of the installation is shown in the following figure.



1



1) Please open front door.

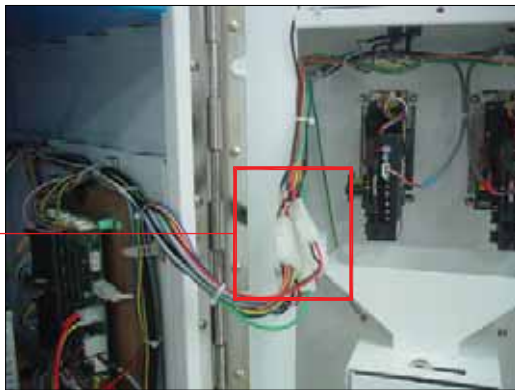
①

②

2) Assemble bolts in the mid-point of  
① CONTROL BOX ② [ M6 bolt : 10ea ]  
– Refer to Pic.10

3) Please hang the case on the bolts,  
and then tighten up bolts from inside.

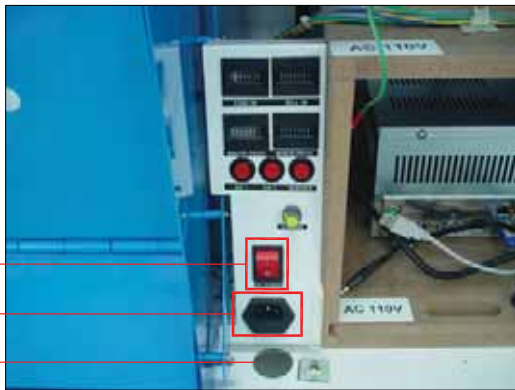
2



③

4) After assembling, ③ connect cables from  
CABINET and CONTROL PANEL .

3



④

⑥

⑤

5) After connect ⑤ AC POWER CODE in ⑥  
AC SOCKET, Turn on ④ POWER S/W IN  
CONTROL PANEL.

4



6) Close the door.

### 3. HOW TO DISPLAY PRIZES

1



- Open the door.

2



- After you select a gift giveaways that hook, straps, tie Enclose the prizes.  
[At this point the length of the strap goes into the three fingers The length of the recommended level.]

\* Presents the horizontal size of the height of 2cm x 2cm x 2cm vertical or more.  
[ If the size of prizes given away sensors can not detect. ]



- Place prizes on prize hangers with certain distance between prizes.

#### \* CAUTION

- This product giveaways prizes of less than ten thousand 5pound hook into them is a mistake.

## **4. GAME CHARACTERISTICS**

---

### **4-1. SIMPLE TO UNDERSTAND AND EASY TO PLAY**

- Player needs to drop rings one after the other from swinging arm by pressing SRART/DROP button.

### **4-2. PAYOUT STABILITY IS ATTAINED BY USING OUR SYSTEM**

- Video game-specific probability of stable control, and operation of the game We've got grave.

### **4-3. HIGH QUALITY GRAPHIC AND CHARISMATIC DESIGN**

- Advanced technology system is used in designing this game.  
We use Physx 3D physical engine from NVIDIA and apply full screed with HD resolution.

### **4-4. BIG & HIGH VALUE PRIZES CAN BE USED IN THE GAME**

- Prize hanger is detachable which allows prize sizes up to 320mm box.

## 5. HOW TO PLAY

- 1) When you insert coins and bills that the game is played.
- 2) Press the START/DROP button to drop rings from the swinging arm.
- 3) Players can choose to accept a minor prize at the successful dropping of 7th ring around the poll or continue pitting skills to win a major prize at the successful drop of the 10th ring.



## 6. SETUP SETTINGS

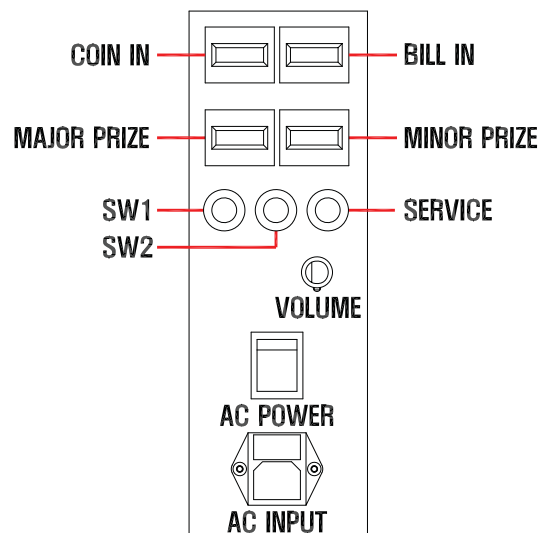
### 6-1. SETUP MENU

#### (1) HOW TO ENTER SETUP MENU

- 1) There is "Control panel" inside cabinet. User may set any setting using following functions.



PICTURE A



[ CONTROL PANEL ]

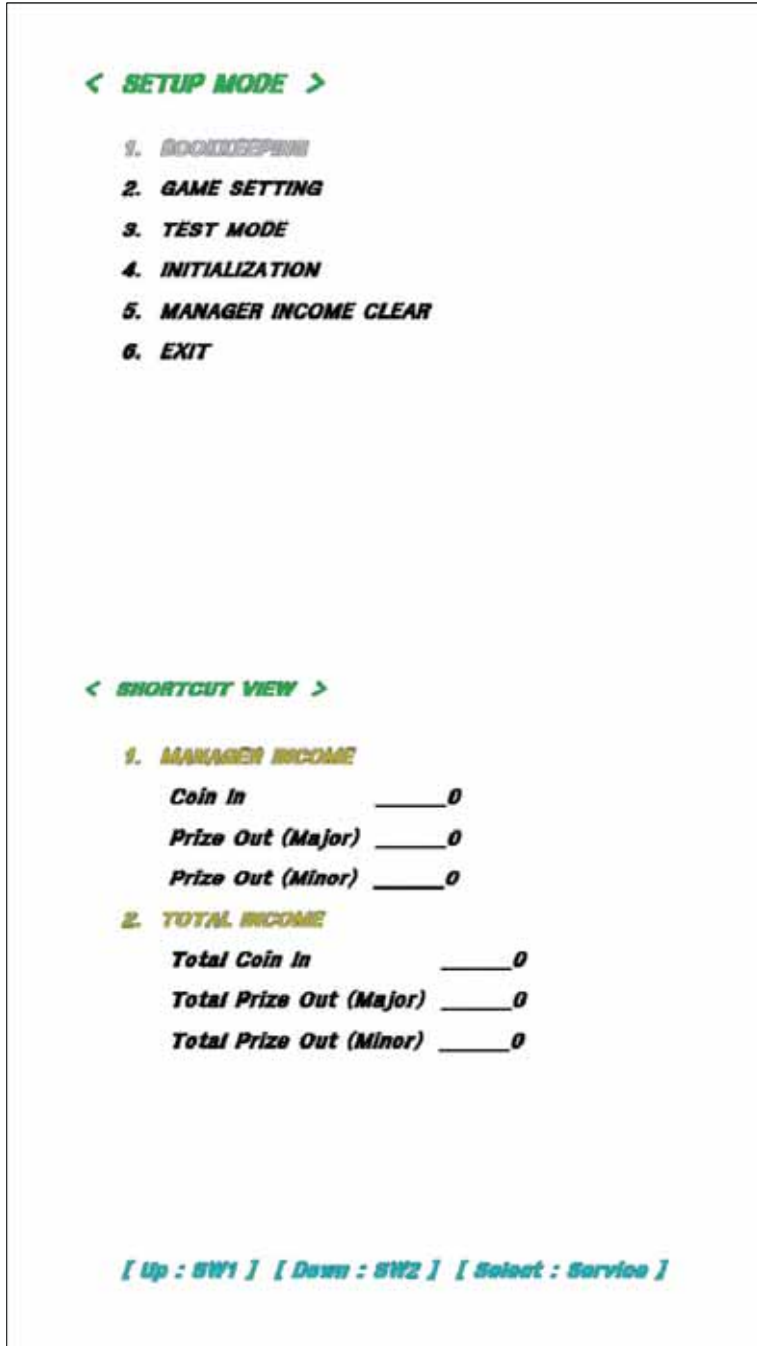
#### [ BUTTON DESCRIPTION ]

- 1) **SW1** : "Setup mode" button and "Up" button.
- 2) **SW2** : "Down" button.
- 3) **SERVICE** : "Select" button.

## 7. SETUP MENU

Select your own settings on installation of the game.

Press SW1 Button to enter setup mode.



### < SETUP MODE >

Shows income status, make change to game settings, initialization and machine test.

### < SHORTCUT VIEW >

It displays In-Out status briefly.

#### 1. MANAGER INCOME -

In addition to the administrator of a comprehensive information BOOKKEEPING After initialization, you can see the cumulative Income Information Can.

- Prize Out (Major) Major prizes went the Wed
- Prize Out(Minor) Minor prizes went the Wed

2. **TOTAL INCOME** - Total up to date income status.



## 7-1. BOOKKEEPING

It shows accumulated income status and comprehensive income information.

### 1. BOOKKEEPING

#### 1-1) MANAGER INCOME

**Coins In**                    \_\_\_\_\_0  
**Service In**                    \_\_\_\_\_0  
**Prize Out (Major)** \_\_\_\_\_0  
**Prize Out (Minor)** \_\_\_\_\_0

1-1) It displays information after initialized by manager.

#### 1-2) TOTAL INCOME

**Total Coins In**                    \_\_\_\_\_0  
**Total Service In**                    \_\_\_\_\_0  
**Total Prize Out (Major)** \_\_\_\_\_0  
**Total Prize Out (Minor)** \_\_\_\_\_0

1-2) It shows the number of coin/s and service play/s from the set up time of the machine.

#### 1-3) GAMES PLAYED

**Games Played**                    \_\_\_\_\_0  
**Total Games Played** \_\_\_\_\_0

1-3) It displays the number of play/s after 3 the game was initialized.

#### 1-4) GAME HISTORY

**Last Game Played (1st~ 10th)**

**1st\_2nd\_3rd\_4th\_5th\_6th\_7th\_8th\_9th\_10th**  
 0\_0\_0\_0\_0\_0\_0\_0\_0\_0\_0\_0

**Total Result (1 Level ~ 10 Level)**

**1v\_2v\_3v\_4v\_5v\_6v\_7v\_8v\_9v\_10v**  
 0\_0\_0\_0\_0\_0\_0\_0\_0\_0\_0\_0

1-4) Up to 10 previous play results are kept in the bookkeeping.

- 1<sup>st</sup> is the newest one. The number indicates the stage player achieved.

(EX) When it is marked "7", it means player won minor prize or failed at 8<sup>th</sup> stage. When it is marked "10", it means player won Major prize.

*[ Exit : Service Button ]*

Total Result : It shows the number of total plays. Manager may check players' average playing skill.

## 7-2. GAME SETTING

Press "Service Button" to access game setting as shown below :

**2. GAME SETTING**

**2- 1) GAME COST** \_\_\_\_\_ **18**

**2- 2) DIFFICULTY (Major Prize)** \_\_\_\_\_ **11**

**2- 3) DIFFICULTY (Minor Prize)** \_\_\_\_\_ **2**

**2- 4) DIFFICULTY (Game Speed)** \_\_\_\_\_ **3**

**2- 5) DEMO SOUND** \_\_\_\_\_ **2**

**2- 6) RANDOM TYPE** \_\_\_\_\_ **2**

**2- 7) DROP TIME** \_\_\_\_\_ **1**

**2- 8) BILL TO COIN NUMBER** \_\_\_\_\_ **4**

**2- 9) PRIZE HANGER SETTING**

**2-10) DEFAULT SETTING**

**2-11) DON'T SAVE & EXIT**

**2-12) SAVE & EXIT**


**[ Up : SW1 ] [ Down : SW2 ] [ Select : Service ]**

2-1) **GAME COST** - Cost per credit/play

2-2) **DIFFICULTY (Major Prize)** - You may set difficulty payout level for a Major prize.

2-3) **DIFFICULTY (Minor Prize)** - You may set difficulty payout level for a Minor prize.

2-4) **DIFFICULTY (Game Speed)** - You may set game speed.

2-5) **DEMO SOUND** - It is possible to turn ON or OFF the DEMO SOUND or have DEMO SOUND come out once per two to five demo plays by setting number of cycle.

2-6) **RANDOM TYPE** - This is related with DIFFICULTY LEVEL 2-2 and 2-3.  
 - Type A, player win randomly within the set number of plays.  
 - Type B, player may win around the set number of plays.

2-7) **DROP TIME** - Possible to set time limit to drop a ring.

2-8) **BILL TO COIN NUMBER** - Set accordingly to the currency in your country. Set the number of coins per a bill to be used.  
 For example : in USA, a one dollar bill has the same value with four a quarter coins, BILL TO COIN NUMBER is 4.

2-9) **PRIZE HANGER SETTING** - Select major prize hangers to be used. In USA version, we use four hangers as a default setting.  
 (1, 3, 4, 6 major hangers)

2-10) **DEFAULT SETTING** - You can go back to factory default setting by selecting menu.

2-11) Don't Save and Exit.

2-12) Save and Exit.

## 2-1) GAME COST

(2 - 1) Game Cost	
1	= 1 Coin 1 Play
2	= 1 Coin 1 Play ~ 2 Coin(s) 3 Play(s) [Bill]
3	= 1 Coin 1 Play ~ 3 Coin(s) 4 Play(s) [Bill]
4	= 1 Coin 1 Play ~ 4 Coin(s) 5 Play(s) [Bill]
5	= 1 Coin 1 Play ~ 5 Coin(s) 6 Play(s) [Bill]
6	= 2 Coin(s) 1 Play
7	= 2 Coin(s) 1 Play ~ 3 Coin(s) 2 Play(s) [Bill]
8	= 2 Coin(s) 1 Play ~ 4 Coin(s) 3 Play(s) [Bill]
9	= 2 Coin(s) 1 Play ~ 5 Coin(s) 3 Play(s) [Bill]
10	= 2 Coin(s) 1 Play ~ 6 Coin(s) 4 Play(s) [Bill]
11	= 3 Coin(s) 1 Play
12	= 3 Coin(s) 1 Play ~ 4 Coin(s) 2 Play(s) [Bill]
13	= 3 Coin(s) 1 Play ~ 5 Coin(s) 2 Play(s) [Bill]
14	= 3 Coin(s) 1 Play ~ 6 Coin(s) 3 Play(s) [Bill]
15	= 3 Coin(s) 1 Play ~ 7 Coin(s) 3 Play(s) [Bill]
16	= 3 Coin(s) 1 Play ~ 8 Coin(s) 3 Play(s) [Bill]
17	= 3 Coin(s) 1 Play ~ 9 Coin(s) 4 Play(s) [Bill]
18	= 4 Coin(s) 1 Play
19	= 5 Coin(s) 1 Play
20	= 6 Coin(s) 1 Play
21	= 8 Coin(s) 1 Play
22	= 9 Coin(s) 1 Play
23	= 10 Coin(s) 1 Play
24	= 12 Coin(s) 1 Play
25	= FREE GAME

– Please see the detailed game cost settings on page 15.  
 Setting 1, 6, 11 and 18~24 are STANDARD.  
 Setting 2~5, 7~10, 12~17 can be used for events or to encourage players to insert dollar bills to play more by giving additional bonus play.  
 In USA, quarter coins and one dollar bills, we set BILL TO COIN NUMBERS 4 so in the cost setting table settings 4, 8 and 12 can be used.

For example, if we use setting 8 the table says:

$$8 = \frac{2 \text{ coins } 1 \text{ play}}{\text{FOR COINS}} \sim \frac{4 \text{ coins } 3 \text{ play}}{\text{FOR BILLS}} \text{ [BILL]}$$

There are two setting explanations before and after ' ~ ' the explanation before ' ~ ' is for coins and the second explanation after ' ~ ' is for bills.

If **player** inserts 2 coins then the game gives 1 play chance.

If player inserts 1 a dollar bill then the game gives 3 play chances

## 2-2) DEFFICULTY (Major Prize)

(2 - 2) Difficulty (Major Prize)	
1	= Easiest (1 Win in 20 Games)
2	= Very Easy (1 Win in 30 Games)
3	= Easy (1 Win in 40 Games)
4	= Easy to Medium (1 Win in 50 Games)
5	= Medium (1 Win in 100 Games)
6	= Medium to Hard (1 Win in 200 Games)
7	= Hard (1 Win in 300 Games)
8	= Very Hard (1 Win in 400 Games)
9	= Very, Very Hard (1 Win in 600 Games)
10	= Hardest 1 (1 Win in 800 Games)
11	= Hardest 2 (1 Win in 1000 Games)
12	= Hardest 3 (1 Win in 1500 Games)
13	= Hardest 4 (1 Win in 2000 Games)

– You may set major difficulty.

(EX) 1 Win in 1000 Games :

Player may win major prize around every 1000 plays.

## 2-3) DEFFICULTY (Minor Prize)

(2 - 3) Difficulty (Minor Prize)	
1	= 1 Minor Prize in Every Game
2	= 1 Minor Prize in 2 Games
3	= 1 Minor Prize in 3 Games

– You may set minor difficulty.

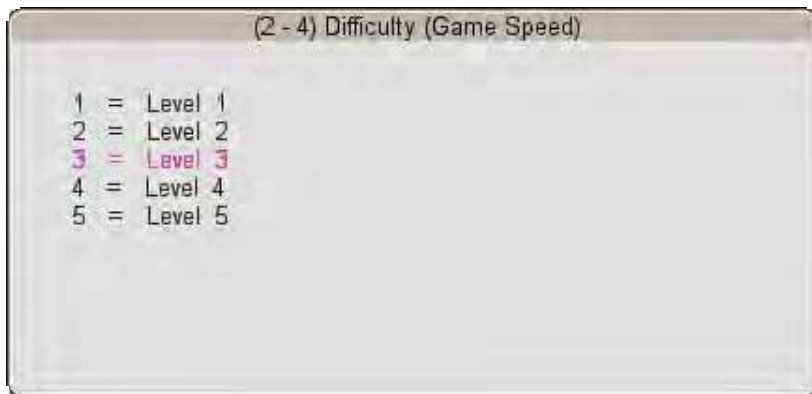
(EX) 1 Minor Prize in 2 GAMES :

Player may win minor prize in about 2 plays.

## [ 2-1] More information about GAME COST ]

	ITEM	[Bill] SETTING DESCRIPTION	REMARKS
1	1 = 1 Coin 1Play		STANDARD SETTING
2	2 = 1 Coin 1Play ~ <b>2 Coin(s) 3Play(s) [BILL]</b>	Set with 1Bill = 2Coins : It gives 3 Credits in case a 1bill is inserted.	Settings 2~5, 7~10, 12~17 can be used ONLY for BILL users. For events or to encourage players who inserts dollar bills to play more by giving additional bonus play.
3	3 = 1 Coin 1Play ~ <b>3 Coin(s) 4Play(s) [BILL]</b>	Set with 1Bill = 3 Coins : It gives 4 Credits in case a 1bill is inserted.	
4	4 = 1 Coin 1Play ~ <b>4 Coin(s) 5Play(s) [BILL]</b>	Set with 1Bill = 4 Coins : It gives 5 Credits in case a 1bill is inserted.	
5	5 = 1 Coin 1Play ~ <b>5 Coin(s) 6Play(s) [BILL]</b>	Set with 1Bill = 5 Coins : It gives 6 Credits in case a 1bill is inserted.	
6	6 = 2 Coin 1Play		
7	7 = 2 Coin 1Play ~ <b>3 Coin(s) 2Play(s) [BILL]</b>	Set with 1Bill = 3 Coins : It gives 2 Credits in case a 1bill is inserted.	Settings 2~5, 7~10, 12~17 can be used ONLY for BILL users. For events or to encourage players who inserts dollar bills to play more by giving additional bonus play.
8	8 = 2 Coin 1Play ~ <b>4 Coin(s) 3Play(s) [BILL]</b>	Set with 1Bill = 4 Coins : It gives 3 Credits in case a 1bill is inserted.	
9	9 = 2 Coin 1Play ~ <b>5 Coin(s) 3Play(s) [BILL]</b>	Set with 1Bill = 5 Coins : It gives 3 Credits in case a 1bill is inserted.	
10	10 = 2 Coin 1Play ~ <b>6 Coin(s) 4Play(s) [BILL]</b>	Set with 1Bill = 6 Coins : It gives 4 Credits in case a 1bill is inserted.	
11	11 = 3 Coin 1Play		
12	12 = 3 Coin 1Play ~ <b>4 Coin(s) 2Play(s) [BILL]</b>	Set with 1Bill = 4 Coins : It gives 2 Credits in case a 1bill is inserted.	Settings 2~5, 7~10, 12~17 can be used ONLY for BILL users. For events or to encourage players who inserts dollar bills to play more by giving additional bonus play.
13	13 = 3 Coin 1Play ~ <b>5 Coin(s) 2Play(s) [BILL]</b>	Set with 1Bill = 5 Coins : It gives 2 Credits in case a 1bill is inserted.	
14	14 = 3 Coin 1Play ~ <b>6 Coin(s) 3Play(s) [BILL]</b>	Set with 1Bill = 6 Coins : It gives 3 Credits in case a 1bill is inserted.	
15	15 = 3 Coin 1Play ~ <b>7 Coin(s) 3Play(s) [BILL]</b>	Set with 1Bill = 7 Coins : It gives 3 Credits in case a 1bill is inserted.	
16	16 = 3 Coin 1Play ~ <b>8 Coin(s) 3Play(s) [BILL]</b>	Set with 1Bill = 8 Coins : It gives 3 Credits in case a 1bill is inserted.	
17	17 = 3 Coin 1Play ~ <b>9 Coin(s) 4Play(s) [BILL]</b>	Set with 1Bill = 9 Coins : It gives 4 Credits in case a 1bill is inserted.	
18	18 = 4 Coin 1Play		STANDARD SETTING
19	19 = 5 Coin 1Play		STANDARD SETTING
20	20 = 6 Coin 1Play		STANDARD SETTING
21	21 = 7 Coin 1Play		STANDARD SETTING
22	22 = 8 Coin 1Play		STANDARD SETTING
23	23 = 9 Coin 1Play		STANDARD SETTING
24	24 = 10 Coin 1Play		STANDARD SETTING
25	25 = FREE GAME		Free play

## 2-4) DEFFICULTY (Game Speed)



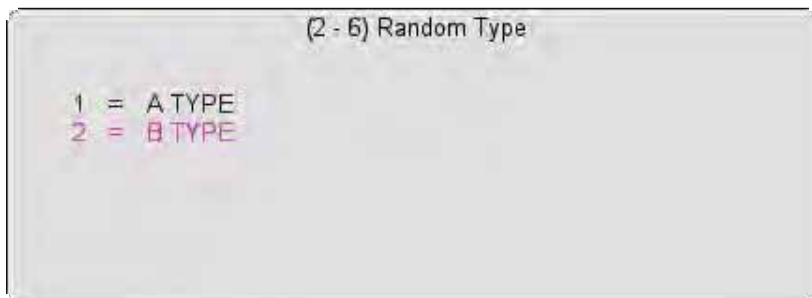
- The level gets higher, the game speed gets faster, and rings get smaller and smaller in size.

## 2-5) DEMO SOUND



- You may turn on/off demo sound and choose demo sound cycle time.

## 2-6) RANDOM TYPE

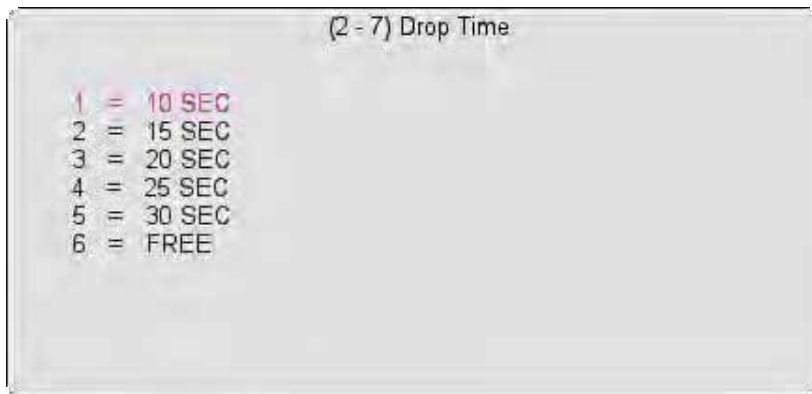


- (EX) If difficulty is set to 1 (the easiest)

In type A : Player will win a prize any time within 20 plays.

In type B : Player will win a prize around 20 plays. (B type setting is recommended)

## 2-7) DROP TIME

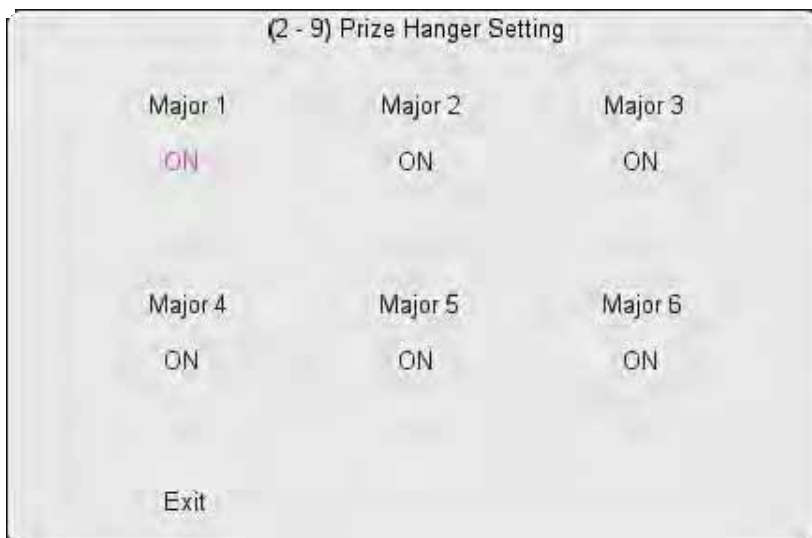


– Ring drop time is adjustable.

## 2-8) BILL TO COIN NUMBER

: According to the currency in your country, it is needed to set the number of coins per a bill to be used. In USA, one dollar bill has the same value with four a quarter coins, BILL TO COIN NUMBER is set to "4"

## 2-9) PRIZE HANGER SETTING



– Select major prize hangers to be used. For example, on this picture showing USA default setting, we use four hangers as default setting (1, 3, 4, 6 major hangers). It is possible to remove hangers # 4, 5, 6 and use three major prize hangers #1, 2, 3 for big size prizes.

## 2-10) DEFAULT SETTING

: Back to factory settings.

## 2-11) DON'T SAVE EXIT

## 2-12) SAVE & EXIT

## 7-3. TEST MODE

It tests various components of machine.

### **3. TEST MODE**

**3-1) MACHINE TEST**

**3-2) SOUND TEST**

**3-3) DISPLAY TEST**

**3-4) EXIT**

3-1) In machine test mode, you may check the performance of lamps, prize hangers, buttons, counters, sensors, coin-mechs and bill acceptor.

3-2) It plays BGM, sound of winning celebrations.

3-3) It checks monitor status.

*[ Up : SW1 ] [ Down : SW2 ] [ Select : Service ]*

### 3-1) MACHINE TEST

#### 3-1) MACHINE TEST

```

PRIZE LAMP & HANGER_1
PRIZE LAMP & HANGER_2
PRIZE LAMP & HANGER_3
PRIZE LAMP & HANGER_4
PRIZE LAMP & HANGER_5
PRIZE LAMP & HANGER_6
PRIZE LAMP & HANGER_7
PRIZE LAMP & HANGER_8
PRIZE LAMP & HANGER_9
PRIZE LAMP & HANGER_10
PRIZE LAMP & HANGER_11
COUNTER_1
COUNTER_2
COUNTER_3
COUNTER_4
SENSOR_STATE _____ OFF
BUTTON LAMP & STATE_1 _____ OFF
BUTTON LAMP & STATE_2 _____ OFF
BUTTON LAMP & STATE_3 _____ OFF
BILL _____ 0
COIN _____ 0
PRIZE HANGER ENDLESS LOOP (SENSING) _____ 0
EXIT
    
```

- Use SW1 to enter SETUP MODE.  
Use SW2 to move selection forward, select **TEST MODE** and press **SERVICE** button.  
Select **3-1) MACHINE TEST** and press **SERVICE** button.

- **PRIZE LAMP & HANGER 1~11**  
Use SW1 and SW2 buttons, move to the **PRIZE LAMP & HANGER** up or down. When ready to TEST press SERVICE button. The selected **PRIZE LAMP & HANGER** will start turning and the lamp will turn ON (red color). if this is successful then it's working correctly.

- Press the **Service** button once again to stop **PRIZE LAMP & HANGER** rotation and to turn OFF the lamp.  
Move on to the next test by pressing either SW1 or SW2.



- **COUNTER 1~4**  
Use SW1 or SW2 to select COUNTER # you want to test.  
Then press Service Button.



\* PRIZE HANGER POSITION



\* **MECHANICAL COUNTERS CAN NOT BE RESET BACK TO "0"**

- If the counter increases by one the counter is working correctly.  
The counter number increases only once and does not go up continuously even though you press again.

- **SENSOR STATUS**  
Use SW1 or SW2 to select **SENSOR\_STATE \_\_\_\_\_ OFF**  
Block the sensors in the prize chute by using any object or your hand.  
If **SENSOR\_STATE \_\_\_\_\_ OFF** changes to "ON" then sensors are working correctly.



### - **BUTTON LAMP & STATE**

Press each play button to see if it works correctly.

When a button is pressed the STATE changes from OFF to ON.

For Example :

Press Major Button and on the Screen **BUTTON LAMP & STATE\_1** will change from "OFF" to "ON". (see pictures)



### - **BILL & COIN**

Use SW1 or SW2 to select next test mode. Select BILL or COIN

Insert coins or bills to see if the coin selector and bill acceptors are working correctly. You can see the numbers of coins/bills on the screen.

### - **PRIZE HANGER ENDLESS LOOP**

Use SW1 or SW2. Select **PRIZE HANGER ENDLESS LOOP (SENSING)\_\_\_0.**

Press SERVICE button to start an automatic checking sequence of all prize hangers.

It will start from Prize hanger number 1 and it will run for 25 seconds per hanger.

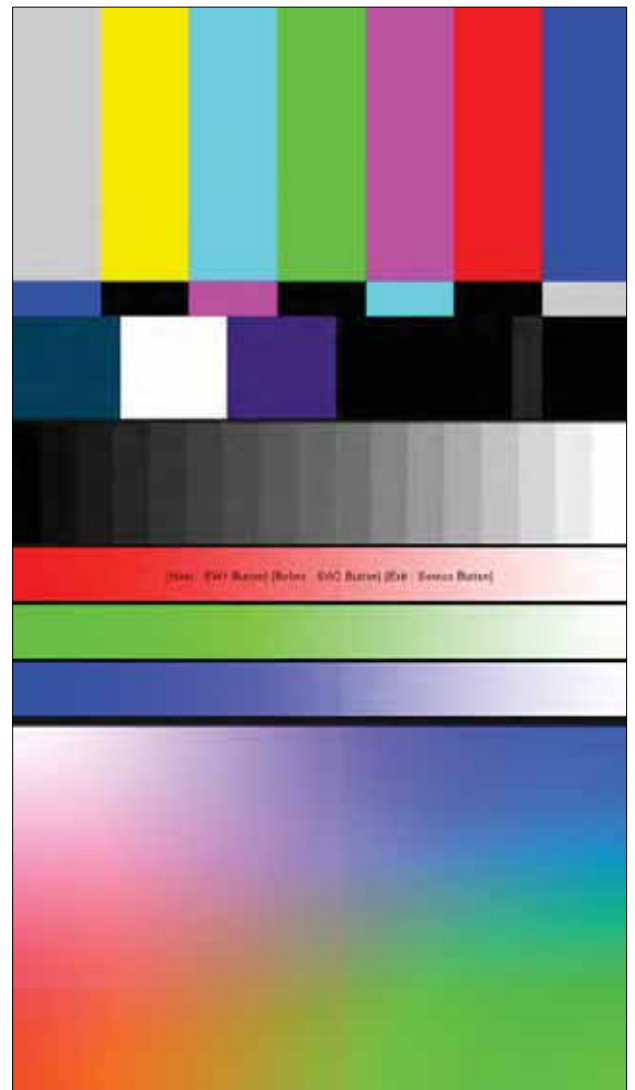
To stop checking sequence, press SERVICE button.

You will see total number of prizes out during the sequence on the screen.

### 3-2) SOUND TEST



### 3-3) DISPLAY TEST



## 7-4. INIT MODE

Current remaining credits can be initialized.  
Because a significant portion of the initialization part will be asked to confirm.  
Questions are chosen based on:

### 4. **INITIALIZATION**

#### 4-1) **CREDIT CLEAR**

#### 4-2) **EXIT**



*[ Up : 8W1 ] [ Down : 8W2 ] [ Select : Service ]*

## 7-5. MANAGER INCOME CLEAR

MANAGER INCOME information is initialized.

Administrators from the time of initializing the initialization until the Coin in, Prize Out to accumulate information.

In addition to comprehensive information by the administrator wants to separate out Income should be used if there is time.

**< SETUP MODE >**

1. BOOKKEEPING
2. GAME SETTING
3. TEST MODE
4. INITIALIZATION
5. **MANAGER INCOME CLEAR**
6. EXIT

Manager Income Clear

[ Yes : SW1 Button ]      [ No : Service Button ]

**< SHORTCUT VIEW >**

1. **MANAGER INCOME**  
Coin In                    \_\_\_\_\_ 0  
Prize Out (Major)      \_\_\_\_\_ 0  
Prize Out (Minor)      \_\_\_\_\_ 0
2. **TOTAL INCOME**  
Total Coin In            \_\_\_\_\_ 0  
Total Prize Out (Major) \_\_\_\_\_ 0  
Total Prize Out (Minor) \_\_\_\_\_ 0

[ Up : SW1 ] [ Down : SW2 ] [ Select : Service ]

## 7-6. ERROR MESSAGE

- 1) **LOCK CHECK FAILED!!!** [ Drop button does not work when this error message appear on the screed ]

: Please make sure USB lock(BLUE) is inserted firmly and re-boot the system.  
: It may occur when it does not match between Game Version and USB lock version : we have several game version depend on language.

- 2) **PRIZE SENSOR BLOCKED or PRIZE SENSOR FAULTY** [ This error message appear with error sound ]



: Please remove any object around sensors.  
: Please check and make sure whether USB connector from Main board & I/O board is inserted stably.  
: Please make sure cables from sensors and connector to I/O board are placed without mistake.

- 3) **I/O COMMUNICATION ERROR** Error :



: Please make sure USB connector from Main Box & I/O board is inserted stably and check LED on I/O board [ One should be lit on and another one blink once a second ]

\* If the above check for the error message disappears.

- 4) **Credit Limit**

- We have a credit limitation for safety.

In case the number of credit comes to 21, "Credit limit" message appear on the screen and whole input signals are blocked [ Drop button, Bill(coin) acceptor ]

: In order to clear this error, please initialize credit at **4-1) CREDIT Clear in Setup mode.**

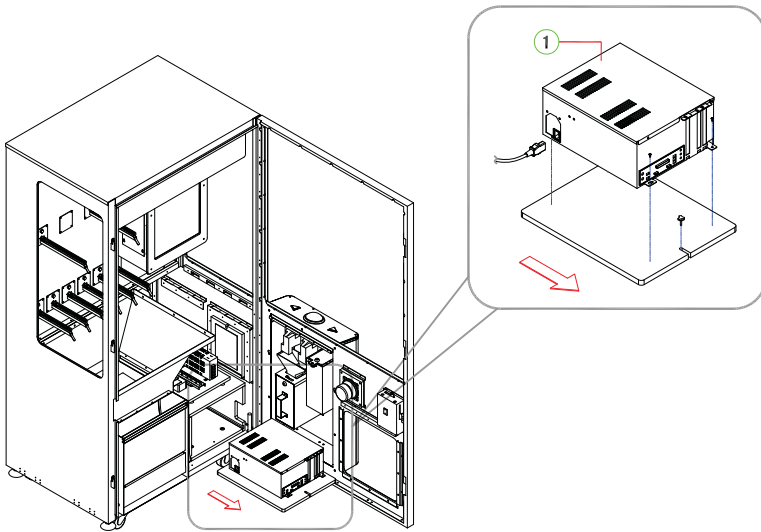


: In case this error message occur continuously.  
Please contact Our C/S tesm as I/O board may get damaged.

## 8. HOW TO CHANGE PARTS

### 8-1. MAIN BOX

1



PICTURE A



PICTURE B

(1) You may find ① MAIN BOX when you open the front door.

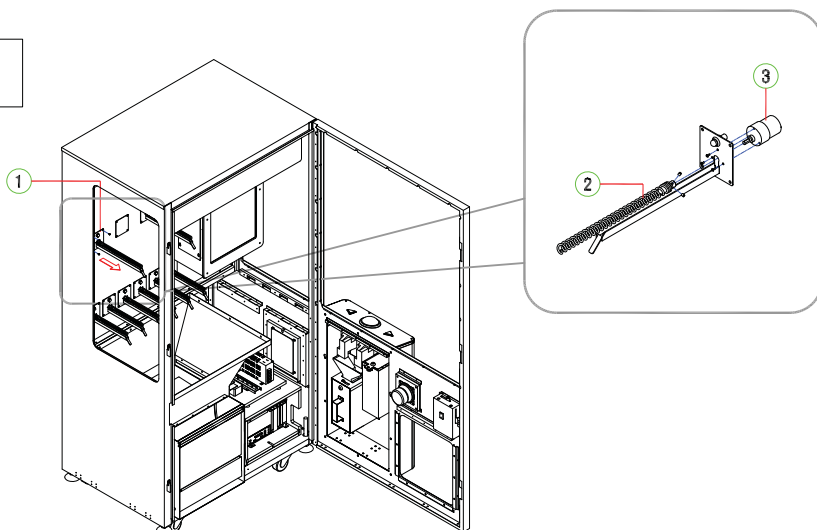
(2) Disassemble MAIN BOX panel after disconnecting connector from MAIN BOX.

[ M4 Bolt, 4ea ]

NO.	PART NAME	SPEC.	CODE NO.
①	MAIN BOX ASS'Y	-	-

### 8-2. MOTOR

1



PICTURE A



PICTURE B

(1) ① After removing PRIZE HANGER, [ M4 Bolts, 4ea ] Remove the connectors attached.

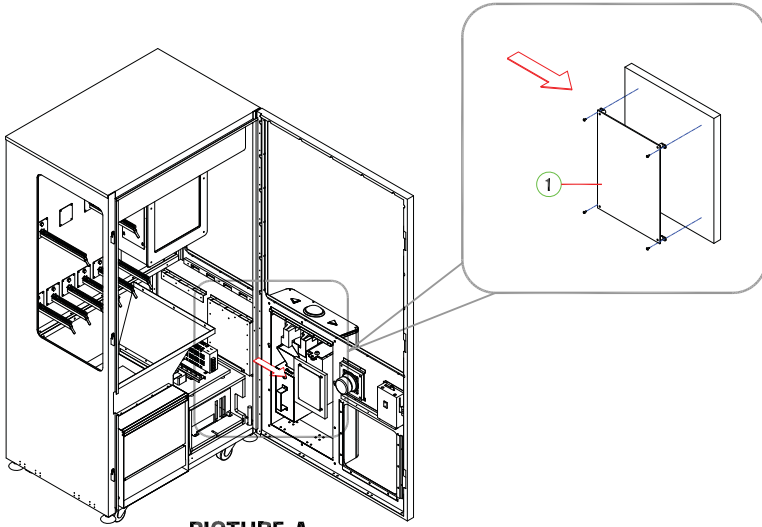
(2) ② After separating PRIZE HANGER SPRING, ③ MOTOR, replace it.

[ M4 Set screw, 2ea ] [ M3 Bolt, 3ea ]

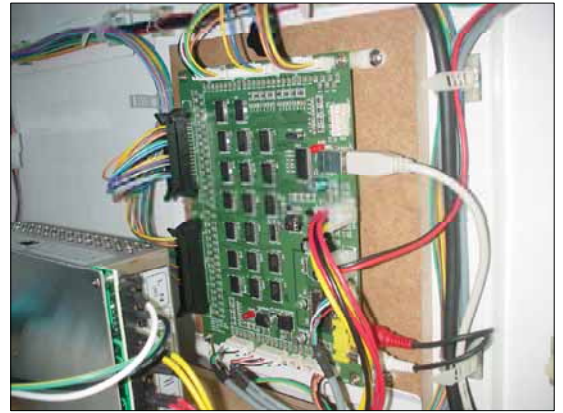
NO.	PART NAME	SPEC.	CODE NO.
③	DC MOTOR	KGC_210_3429C	MHAM0MOT001

### 8-3. IO PCB

1



PICTURE A



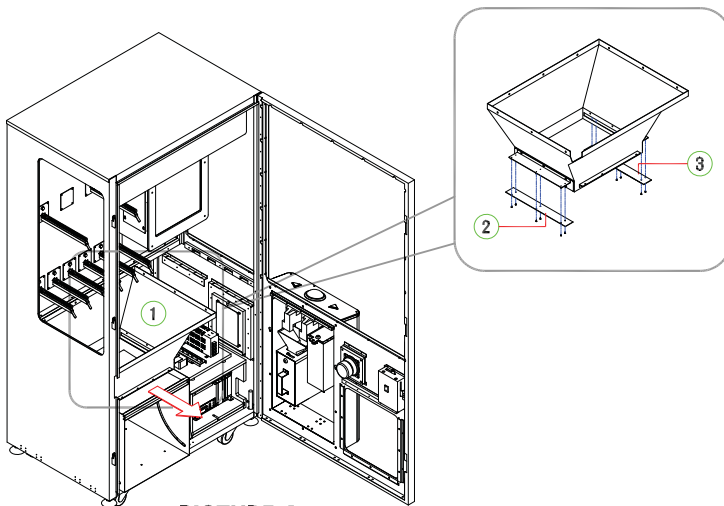
PICTURE B

- (1) You may find ① IO PCB ASS'Y inside of front door ( Please refer to Pic "A" )  
 (2) Please change IO PCB ass'y after disconnecting connector.  
 [ M3 Bolt, 4ea ]

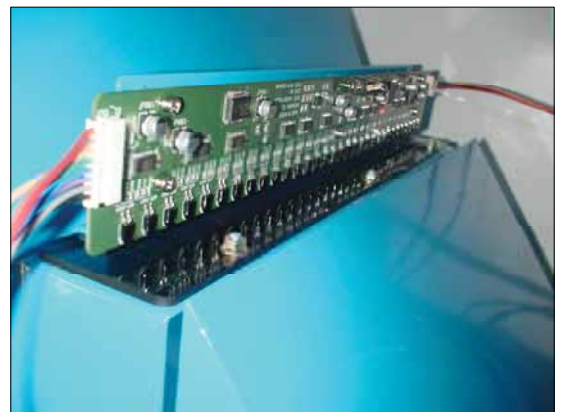
NO.	PART NAME	SPEC.	CODE NO.
①	IO PCB ASS'Y	-	AFCU0PCB003

### 8-4. SENSOR PCB

1



PICTURE A



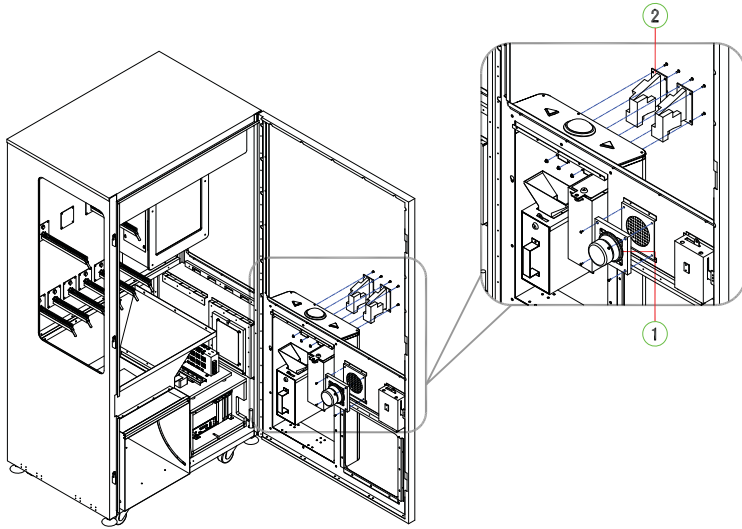
PICTURE B

- (1) Please disassemble Prize guide parts after disconnecting connectors from ① SENSOR PCB.  
 (2) ② ③ Replace SENSOR PCB ASS'Y.  
 [ M3 Bolt, 12ea ]

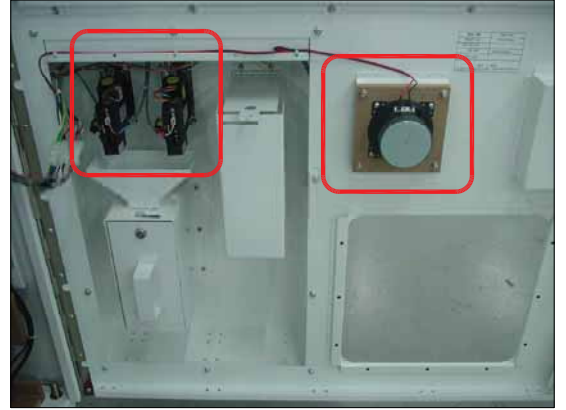
NO.	PART NAME	SPEC.	CODE NO.
②	SENSOR PCB ASS'Y	EMITTING	AFCU0PCB001
③	SENSOR PCB ASS'Y	RECEIVER	AFCU0PCB002

## 8-5. SPEAKER & COIN SELECTOR

1



PICTURE A



PICTURE B

- (1) There is fixing hole for ① SPEAKER and ② COIN SELECTOR inside of control panel case.  
 (2) You may replace them after disconnecting connector.

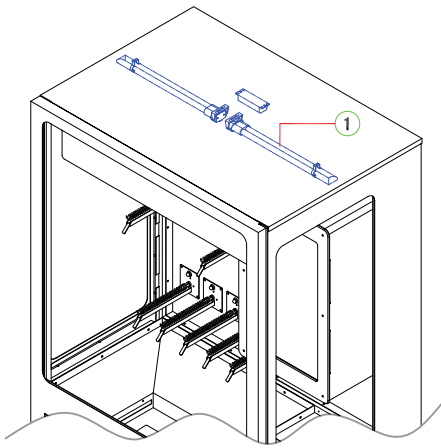
[ COIN SELECTOR : M6 Bolt x 4ea, NUT / SPEAKER : M4 Bolt x 4ea ]

NO.	PART NAME	SPEC.	CODE NO.
②	SPEAKER	MID 4.5"+TW1/2 8Ω	MZZZ0SPE021
③	COIN SELECTOR	TW-100B	MZZZ0COS029

# 9. HOW TO REPLACE CONSUMABLES

## 9-1. REPLACEMENT OF LAMP

1



PICTURE A



PICTURE B

- (1) As shown in Figure A has a unit inside the case at the top of the LAMP. ①
- (2) Turn the power off, unplug the connectors, LAMP, replace it.

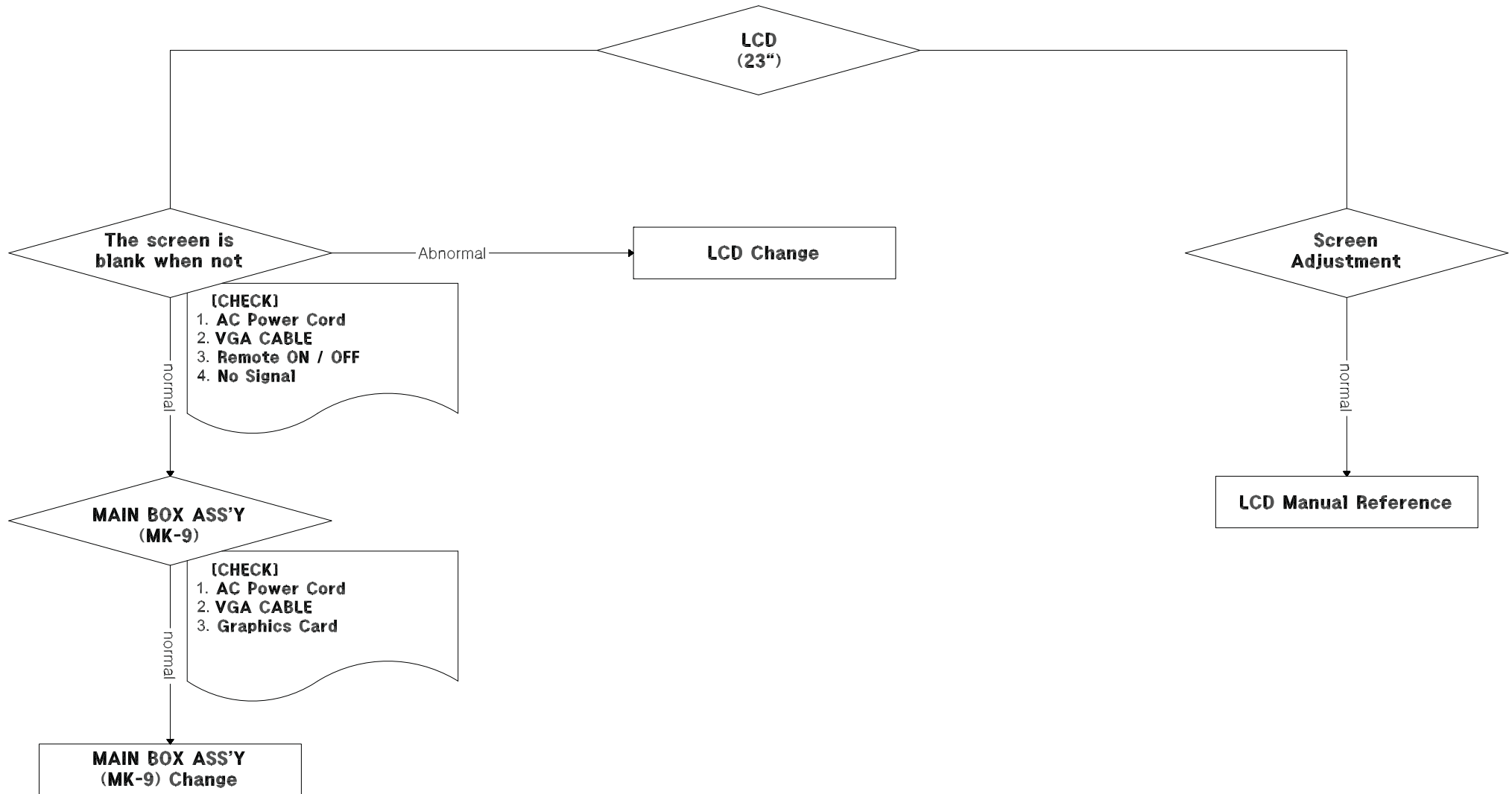
NO.	PART NAME	SPEC.	CODE NO.
①	LAMP	FPL36W WHITE	MELE0LAM028



# 10. TROUBLESHOOTING

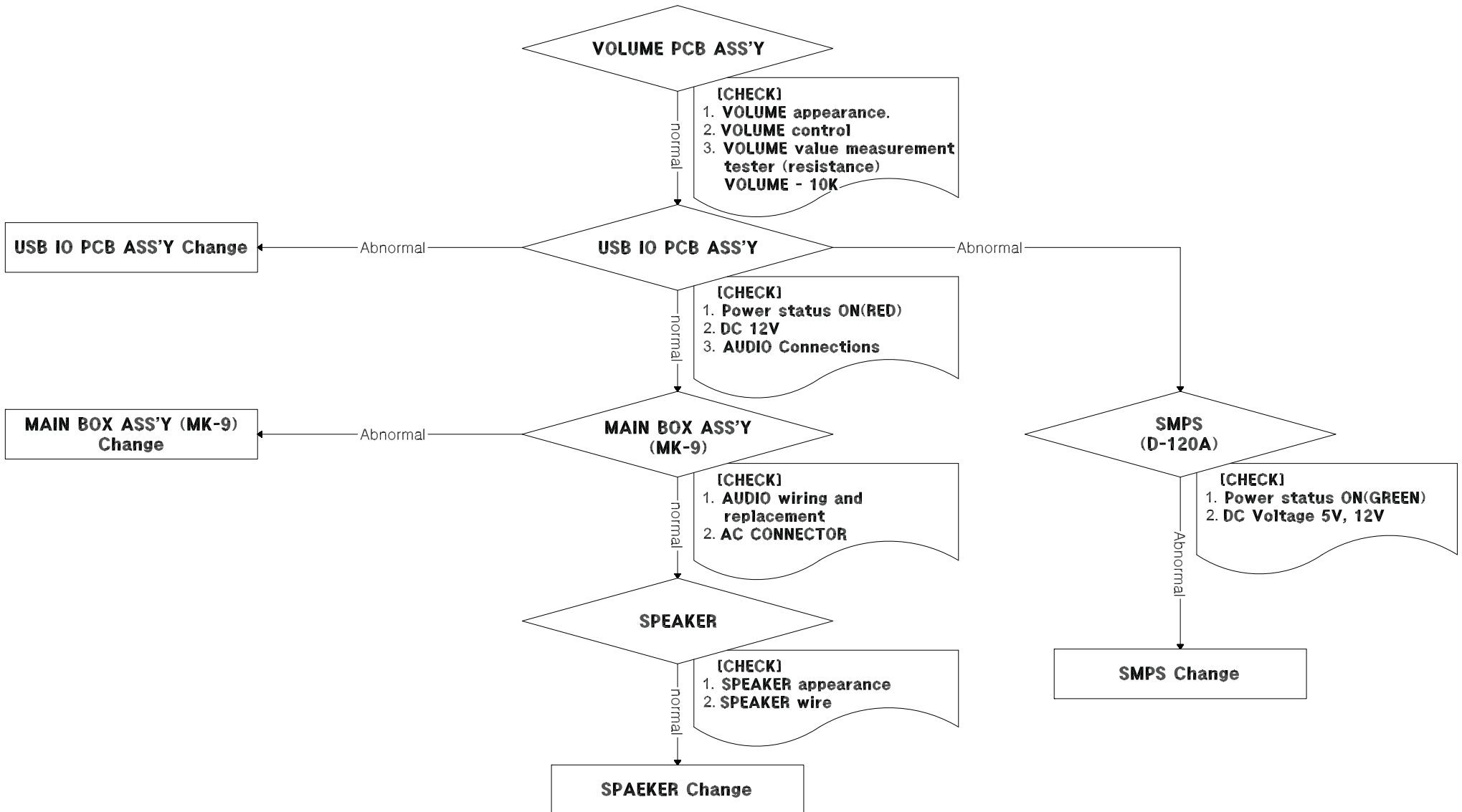
## 10-1. THE SCREEN IS BLANK WHEN NOT

\*Common: Check the input voltage, check wiring



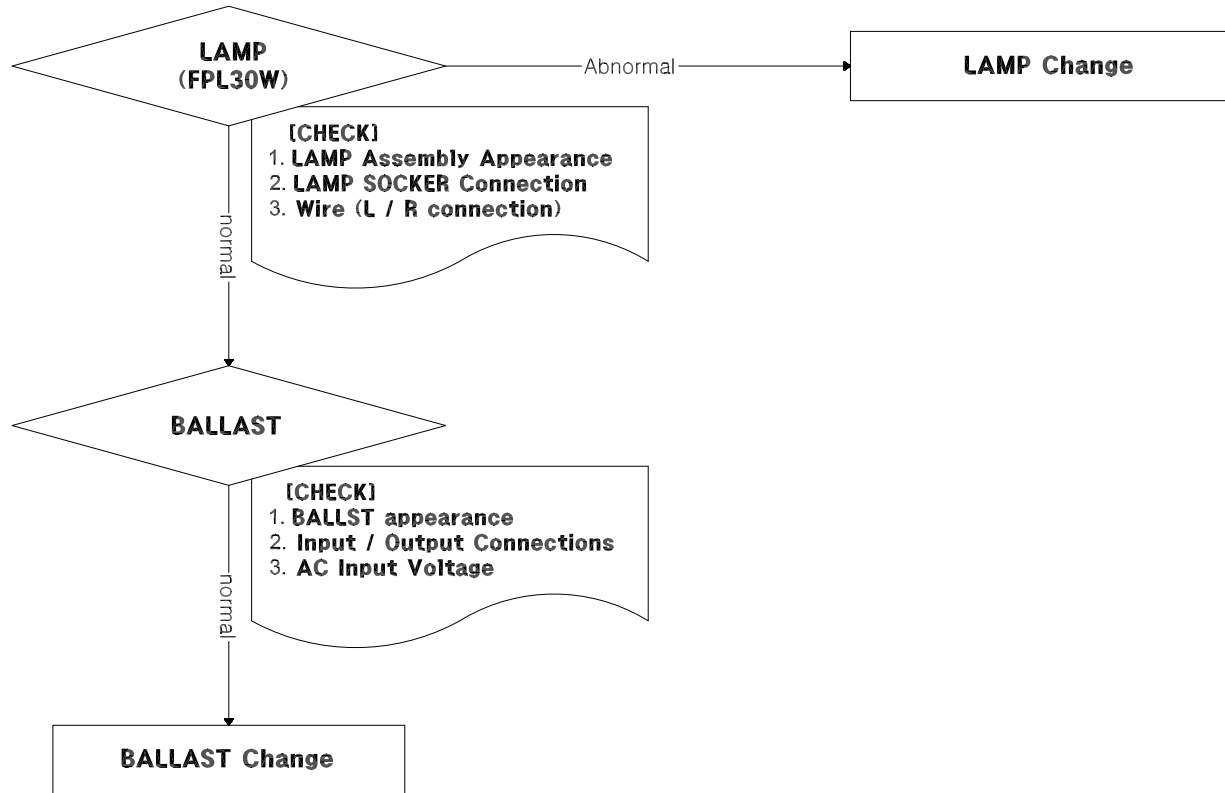
# 10-2. SOUND ERROR

\*Common: Check the input voltage, check wiring



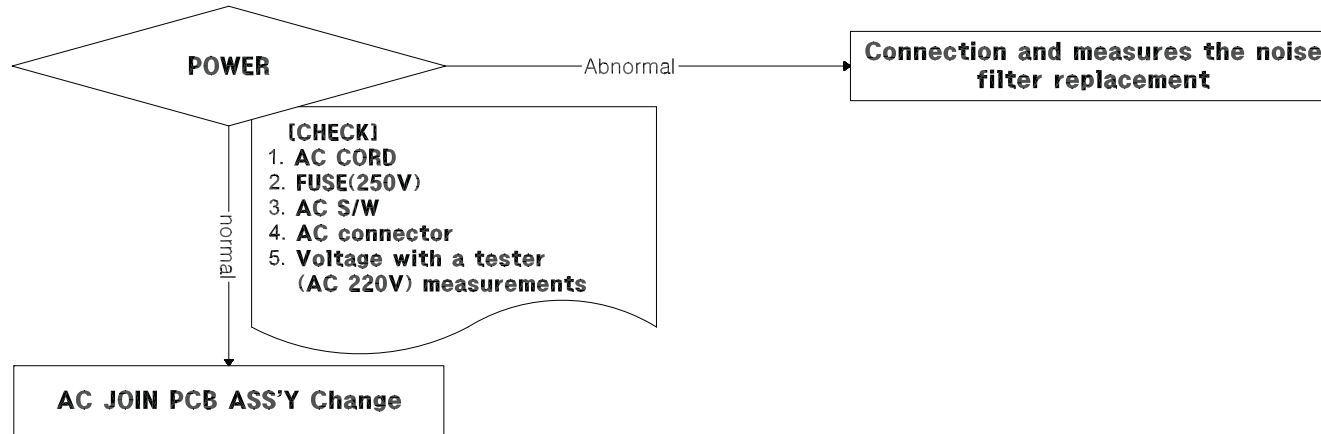
# 10-3. AC LAMP ERROR

\*Common: Check the input voltage, check wiring



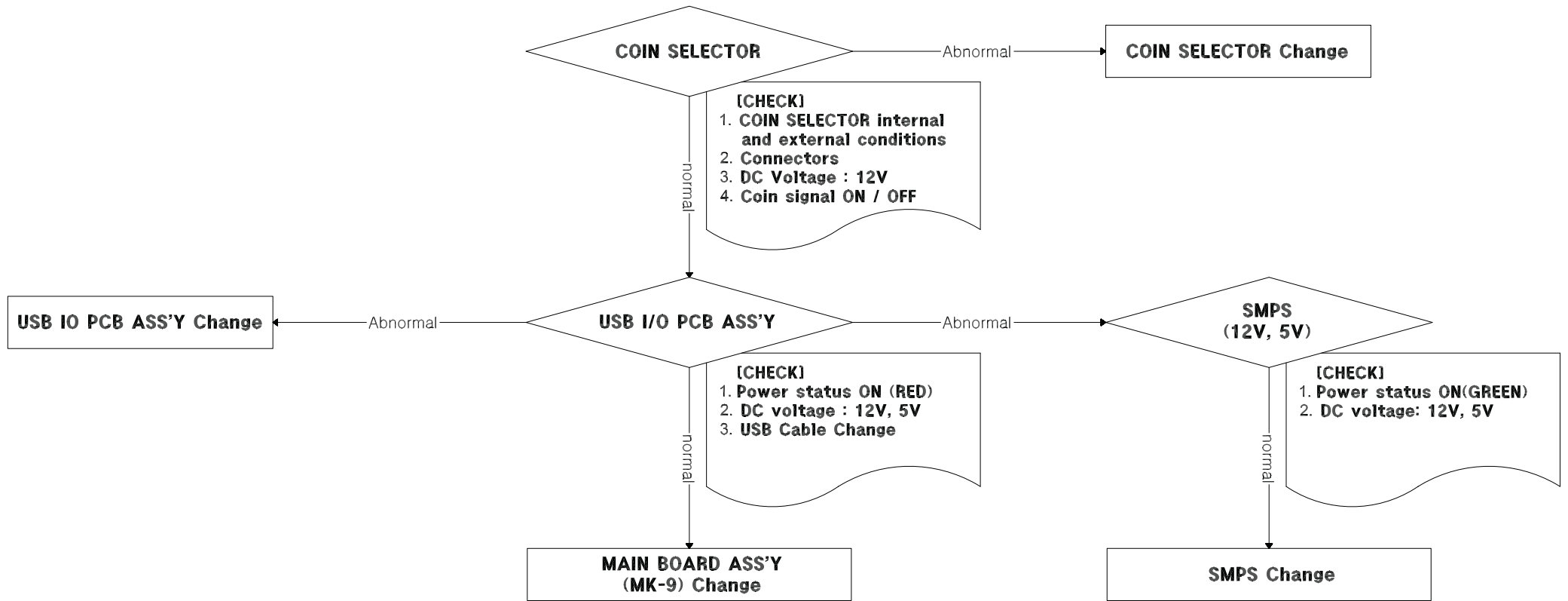
# 10-4. WHEN NO POWER

\*Common: Check the input voltage, check wiring



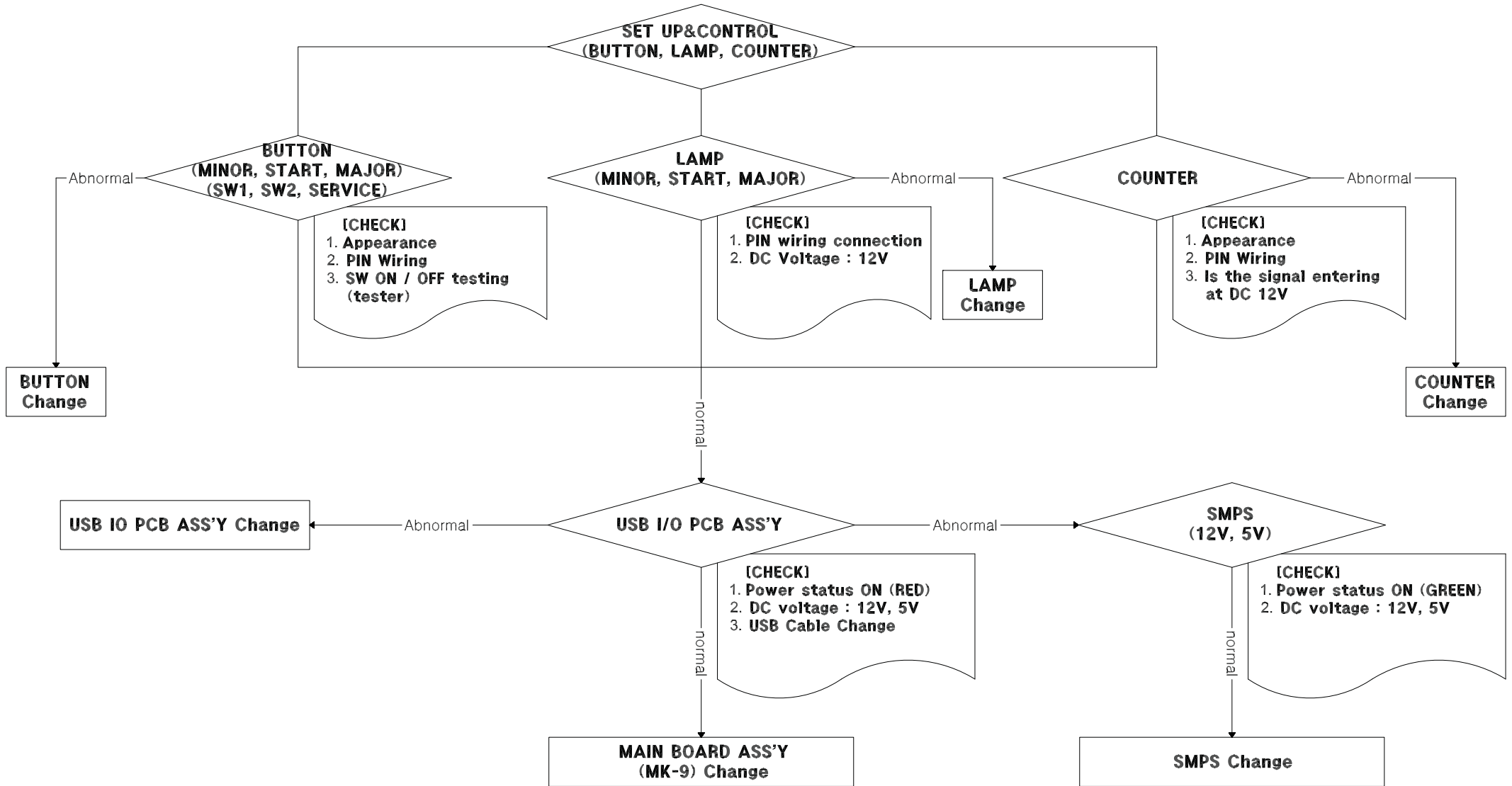
# 10-5. COIN SELECTOR ERROR

\*Common: Check the input voltage, check wiring



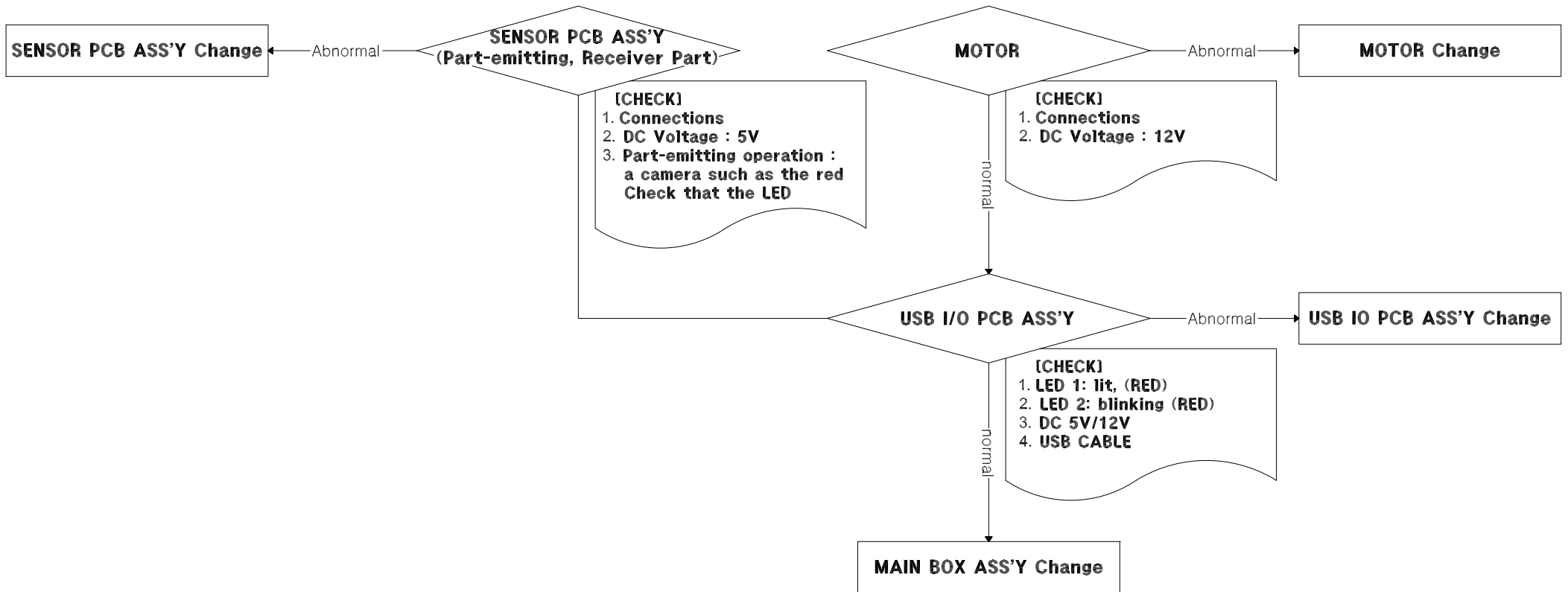
# 10-6. BUTTON & COUNTER ERROR

\*Common: Check the input voltage, check wiring



# 10-7. WHEN PRESENT, DEFECTIVE EXHAUST, AND SENSOR RECOGNITION

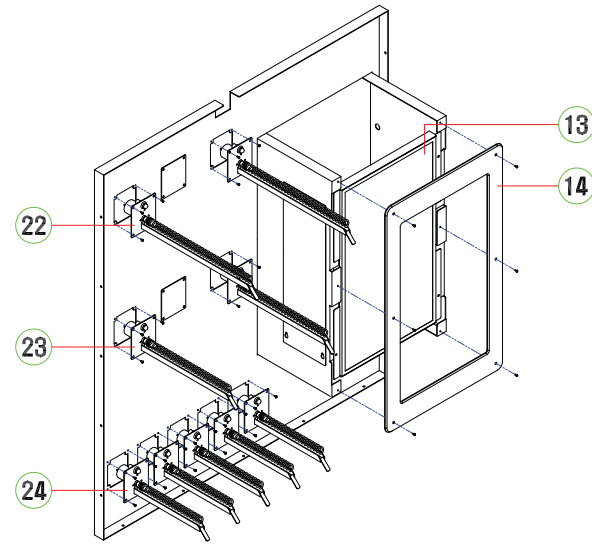
\*Common: Check the input voltage, check wiring



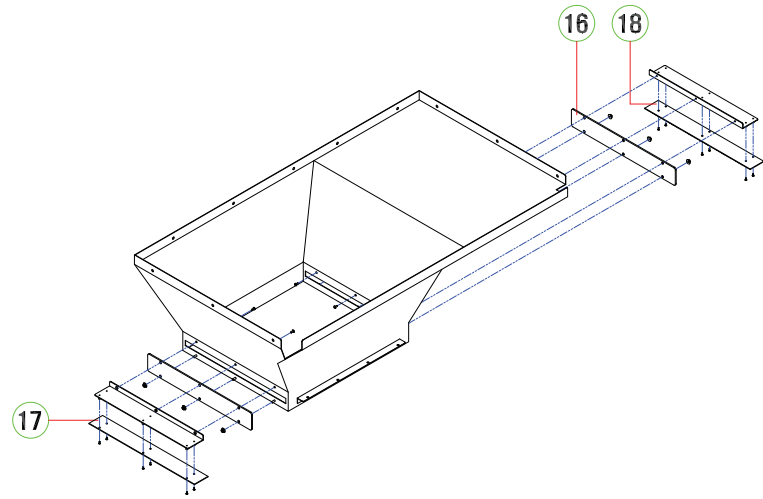
# 11. PARTS LIST

## 11-1. EXPLODED VIEW

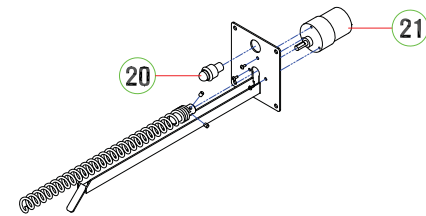
12 FRONT MIDDLE PANEL PART



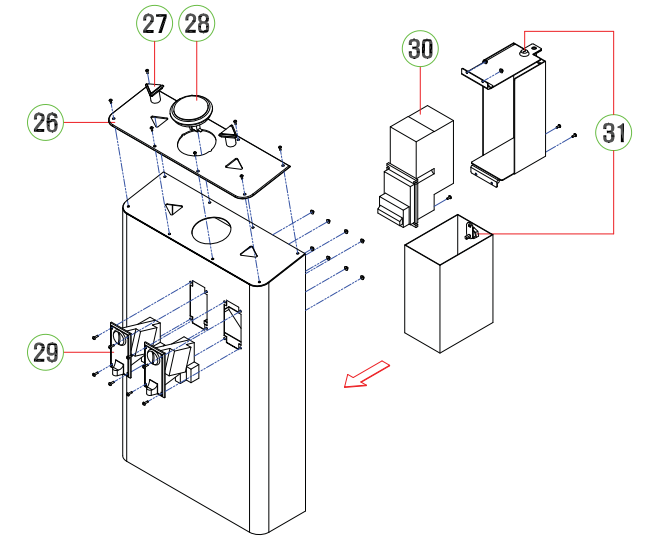
15 PRIZE GUIDE-A PART



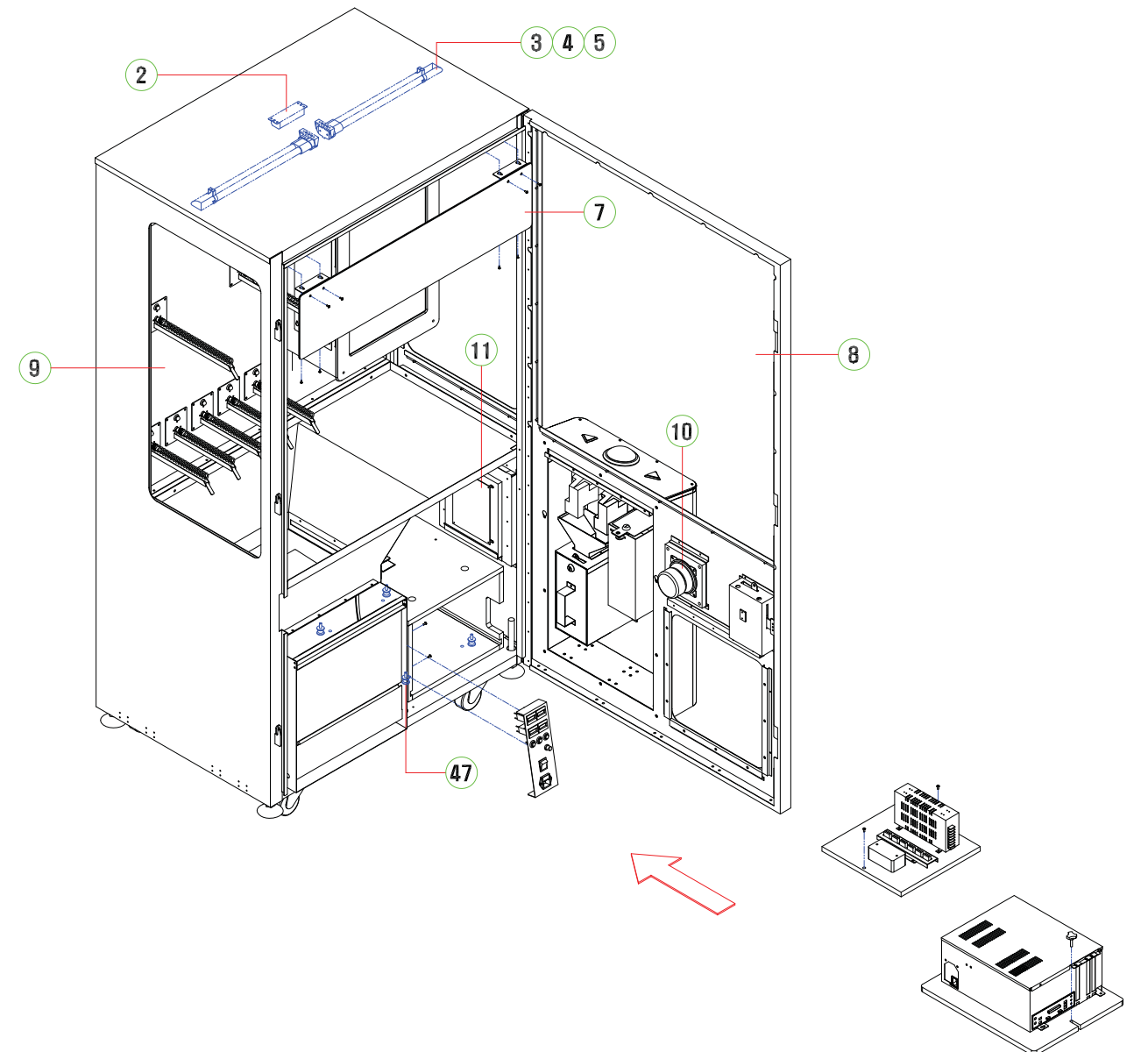
19 PRIZE HANGER PART



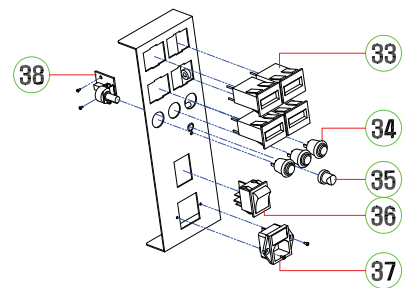
25 CONTROL BOX PART



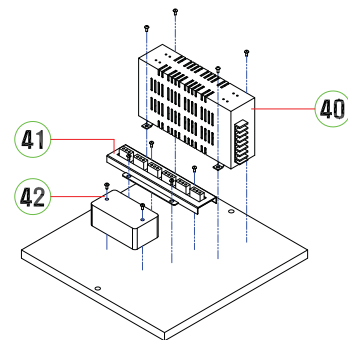
1 MAIN CABINET PART



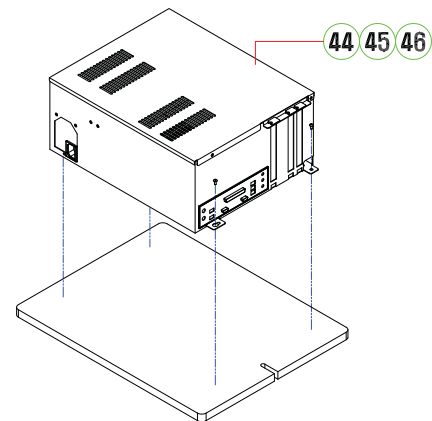
32 CONTROL PANEL PART



39 SMPS PANEL PART



43 MAIN BOX PART





## 11-2. LIST

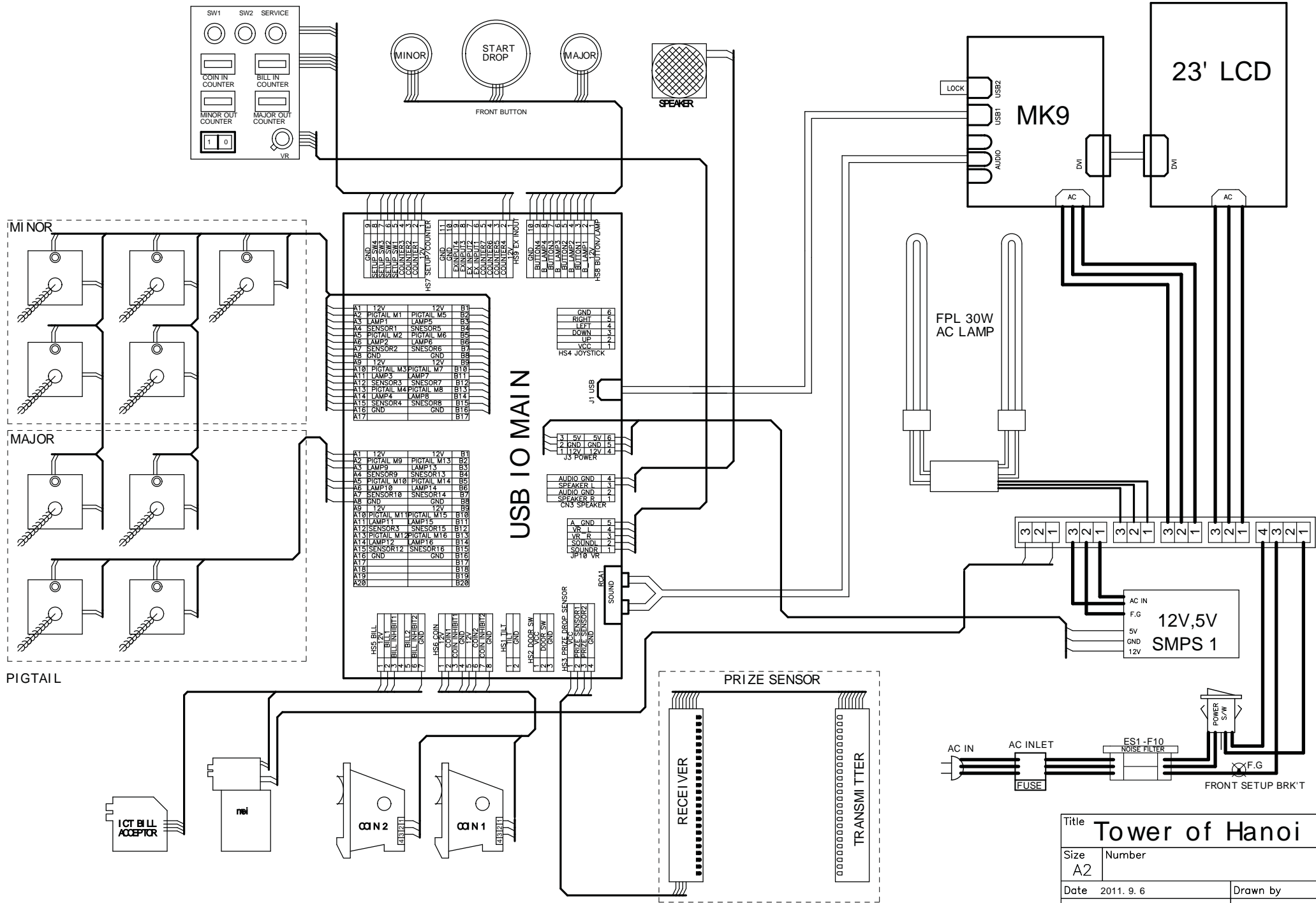
NO.	PIC	LEVEL	PART NAME	SPEC.	QTY	CODE NO.
①		1	<b>BILLBOARD PART</b>			
②	○	2	ELECTRONIC BALLAST	FPL36W_TWIN_220V	2	MELE0BAL026
③	○	2	LAMP SOCKET ASS'Y	-	2	AELE0SOC001
④	○	2	LAMP CLAMP	FPL_SUS CLAMP	2	-
⑤	○	2	LAMP	FPL36W WHITE	2	MELE0LAM028
⑥	○	2	BILLBOARD SHEET	TOWER OF HANOI	1	MFCU0SHE003
⑦	○	2	BILLBOARD ACRYL	ACRYL-2.0t	1	MFCU0ACR004
⑧		2	FRONT WINDOW GLASS	GLASS-8.0t	1	MFCU0GLA002
⑨		2	SIDE WINDOW GLASS	GLASS-8.0t	2	MFCU0GLA001
⑩	○	2	SPEAKER	MID 4.5"+TW1/2 8Ω	1	MZZZ0SPE021
⑪	○	2	IO PCB ASS'Y	-	1	AFCU0PCB003
⑫	○	1	<b>FRONT MIDDLE PANEL PART</b>			
⑬	○	2	23" MONITOR	OPEN FRAME	1	-
⑭		2	LCD MASK ACRYL	FUNNY CUBE	1	AFCU0ACR001
⑮	○	1	<b>PRIZE GUIDE-A PART</b>			
⑯	○	2	SENSOR COVER ACRYL	ACRYL-3.0t [345x50]	2	MFCU0ACR001
⑰	○	2	SENSOR PCB ASS'Y	EMISSION	1	AFCU0PCB001
⑱		2	SENSOR PCB ASS'Y	RECEIVER	1	AFCU0PCB002
⑲	○	1	<b>PRIZE HANGER PART</b>			
⑳	○	2	LED SIGNAL LAMP	KLCRAU_16D12R	12	MELE0LAM064
㉑	○	2	DC MOTOR	KGC_210_3429C	12	MHAM0MOT001
㉒	○	2	PRIZE HANGER SPRING A_LONG	-	3	-
㉓	○	2	PRIZE HANGER SPRING B_MIDDLE	-	3	-
㉔		2	PRIZE HANGER SPRING C_SHORT	-	6	-
㉕	○	1	<b>CONTROL BOX PART</b>			
㉖	○	2	BUTTON ACRYL	FUNNY CUBE INT	1	AFCU0ACR002
㉗	○	2	BUTTON SWITCH	CWB 408	2	MZZZ0BUT081
㉘	○	2	BUTTON SWITCH	CWB 401	1	MZZZ0BUT080
㉙	○	2	COIN SELECTOR	TW-130B	2	MZZZ0COS032
㉚	○	2	BILL ACCEPT	MEI_UP STAKER	1	-
㉛	○	2	KEY ASS'Y	6001	2	MZZZ0KEY041
㉜	○	1	<b>CONTROL PANEL PART</b>			
㉝		2	COUNTER	AMMC-712(7D12V)	4	MZZZ0COU002
㉞	○	2	PUSH BUTTON SWITCH	DS-421R	3	MELE0PUS006

NO.	PIC	LEVEL	PART NAME	SPEC.	QTY	CODE NO.
⑳	○	2	VOLUME KNOB	-	1	MELE0VOL007
㉑	○	2	ROCKER SWITCH	T-125 4P	1	MELE0SWI004
㉒	○	2	AC INPUT ASS'Y	DAC_13H, FUSE 10A	2	AELE0FUS002
㉓		2	VOLUME PCB ASS'Y	-	1	AHM20PCB016
㉔		1	<b>SMPS PANEL PART</b>			
㉕	○	2	POWER SMPS	D-120A 12V,5V	1	MELE0SMP045
㉖	○	2	AC JOIN PCB ASS'Y	-	1	AZZZ0PCB100
㉗	○	2	NOISE FILTER	ESI-F10	1	MELE0NOI006
㉘		1	<b>MAIN BOX PART</b>			
㉙	○	2	MAIN BOX	-	1	AFCU0SYS002
㉚		2	HDD	SATA	1	MZZZ0000349
㉛		2	USB LOCK	-	1	-
㉜		2	RUBBER ANTI-VIBRATION BOLTS	∅20x16mm, M6	4	MZZZ0RUB009
<b>Parts for 110V</b>						
㉝	○	2	ELECTRONIC BALLAST	FPL36W_TWIN_110V	2	MELE0BAL027

# 11-3. PICTURE

2	3	4	5	6	7
					
10	11	13	14	16	17
					
18	20	21	22	23	24
					
26	27	28	29	30	32
					
33	34	35	36	37	40
					
41	42	43			
					

# WIRING DIAGRAM



Title <b>Tower of Hanoi</b>		
Size <b>A2</b>	Number	Rev
Date <b>2011. 9. 6</b>	Drawn by	
Filename	Sheet	of

# WINNERS' RINGER