SERVICE MANUAL

i-Cube

Ver 2.0

ISSUEDATE:Feb.25, 2013

STOP

IMPORTANT

▶ 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 safty 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

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 resu t 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 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

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 of 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 form the machine.

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

Avoid excessive force while moving the machine.
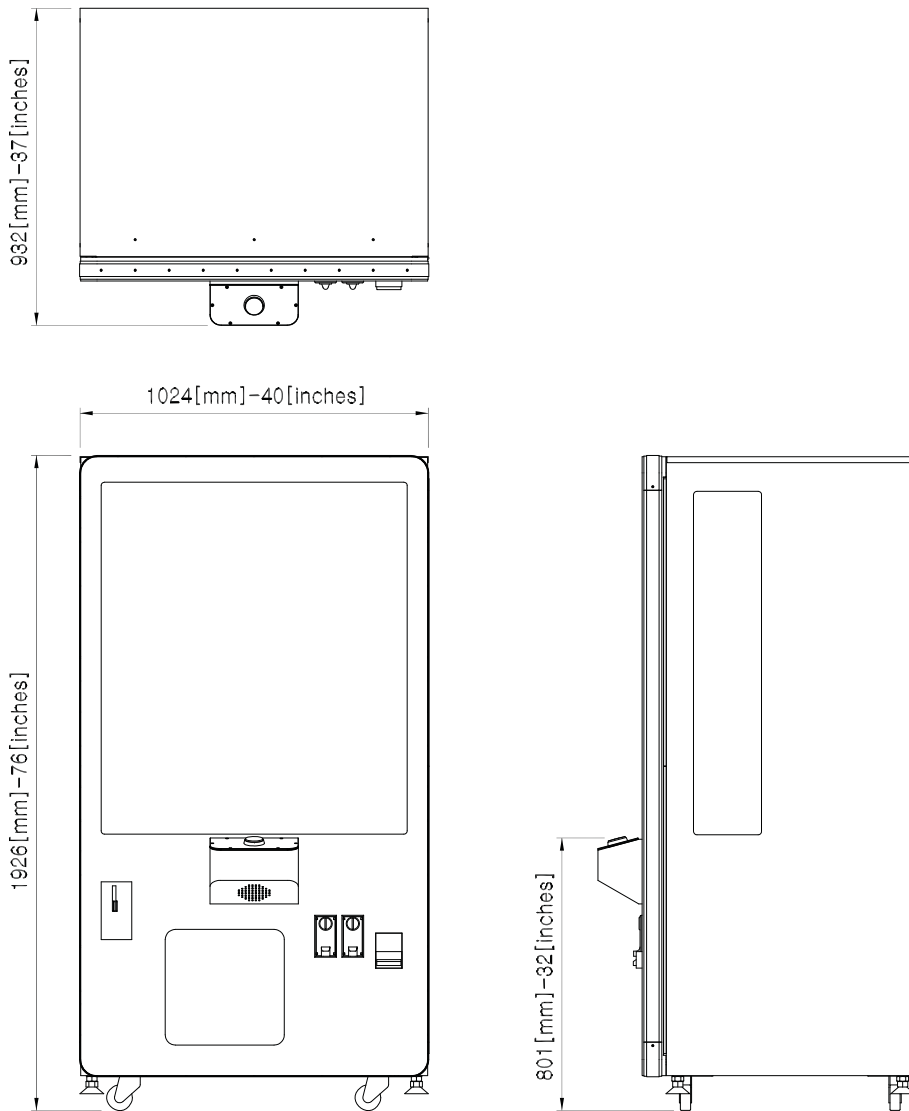
PRECAUTIONS IN HANDLING

- 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.

CONTENTS

1. SPECIFICATION AND DIMENSION

1-1. DIMENSION

1-2. SPECIFICATION

DIMENSION(W x D x H)	984 x 950 x 1853 (mm)
PACKING DIMENSION (W x D x H)	1150 x 850 x 2050 (mm)
WEIGHT (kg)	283kg [WEIGHT INCLUDING PACKAGING : 300kg]
VOLTAGE	AC 110V / AC 220V
FREQUENCY RANGE	60Hz
COMSUMPTION	180W
CERTIFICATION	–

1-3. NAME OF PARTS

MAIN CABINET

FRONT DOOR

FRONT GLASS

SIDE GLASS

BUTTON PANEL [BUTTON]

FRONT KEY DOOR

PRIZE OUT

COIN SELECTOR

BILL ACCEPT

TARGET DISPLAY PART

PRIZE DISPENSER PART

PRIZE GUIDE PART

LAMP

MAIN PCB & IO PCB

SPEAKER

COIN BOX

SMPS PANEL

SETUP PANEL

1-4. STICKER LOCATION

① ⚠ CAUTION **DO NOT PUSH OR HIT THIS. IT WOULD BE DAMAGED.**
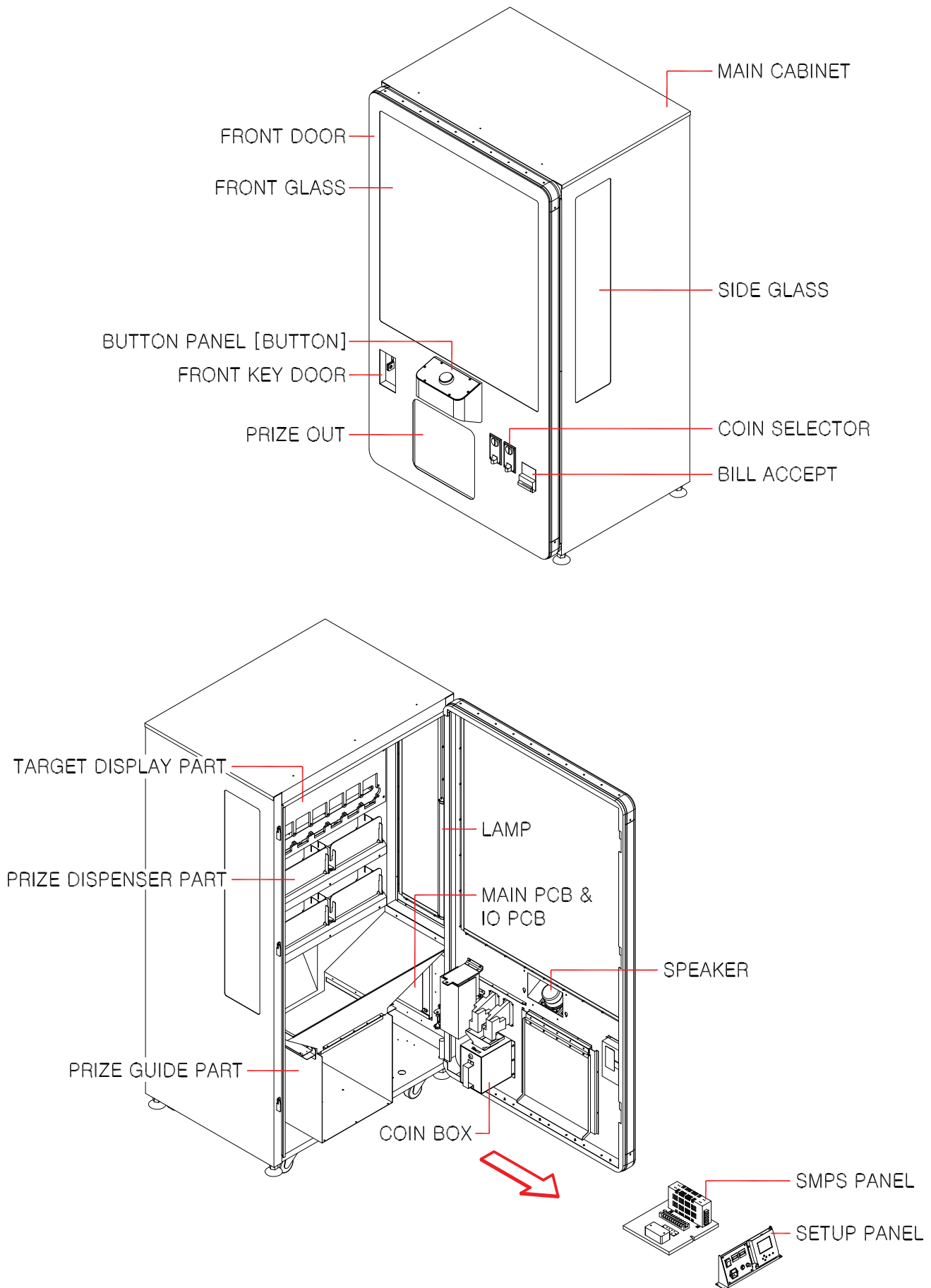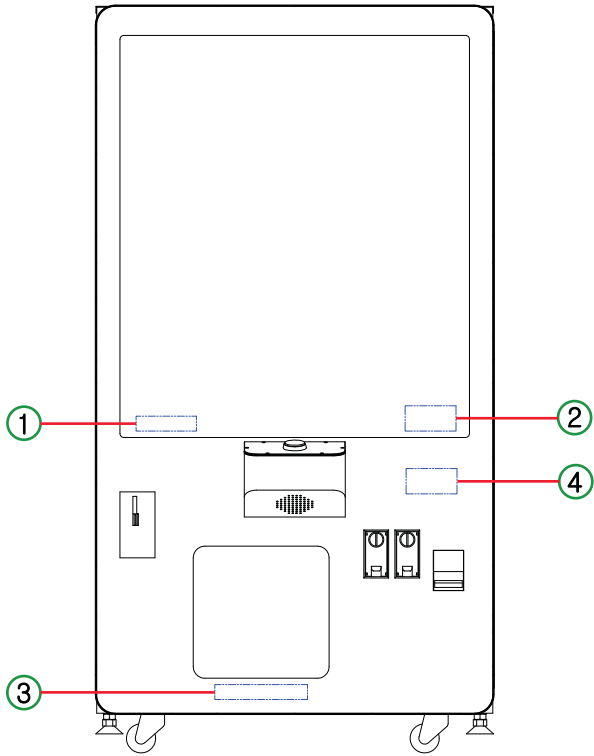
: Do not beat me up by sliding glass.
  May be damaged.

② ⚠ WARNING

GAME IS EQUIPPED
WITH SHAKE ALARM
ALARM WILL SOUND
IF SHAKEN
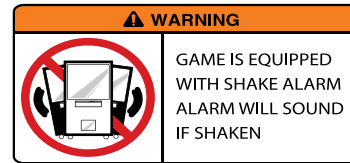
: An alarm to sound when shaken products
  Alarm is equipped with a device.

③ ⚠ CAUTION **Watch your head or hands!**
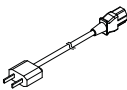
: Beware of the head and hands exit prizes.

④

MODEL NAME	I 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	BOLT	M4x10L		8
4	WRENCH	2.5mm, 4mm		1
5	MANUAL	–		1

2. INSTALLATION

2-1. INSTALLATION SPACE

– Need to have installation place.
  Maintenance Zone & Play zone should have at least
  2000mm x 2000mm each.

IMPORTANT

– Please make sure to reserve installation
   space as following.

NUT

ADJUSTER

CASTER

PLAY ZONE +
MAINTENANCE
ZONE

2000mm

2000mm
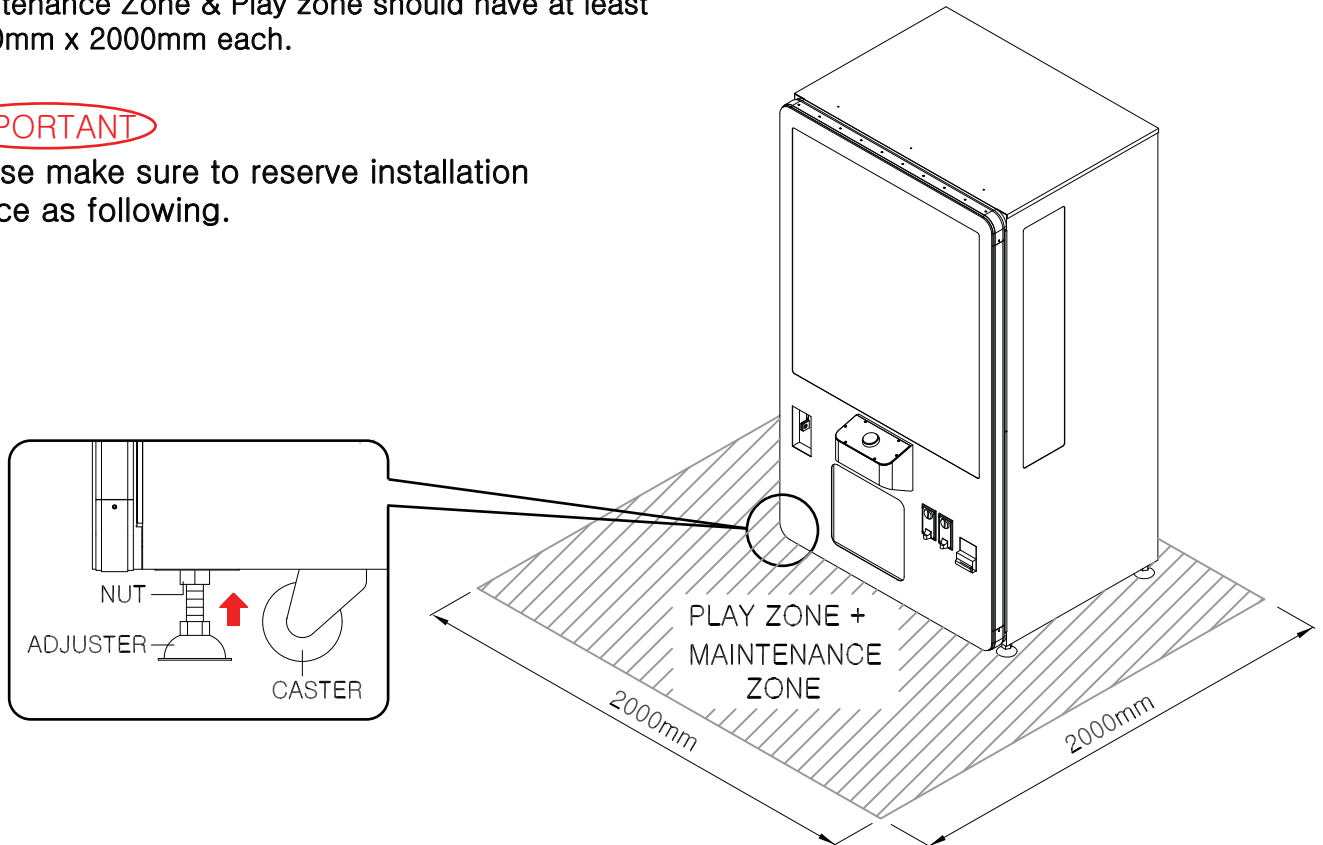
2-2. PRECAUTIONS FOR USE

* Optimum temperature for game operation is between –10°C to 45°C. Installing/operating
   the game outside given temperature range may cause malfunction or damages to the components.

2-3. HOW TO INSTALL

1
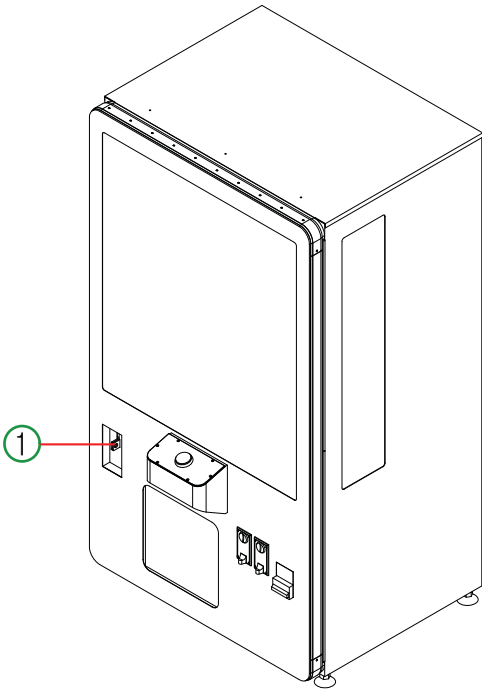
– ①Open door using door
   bracket.

2
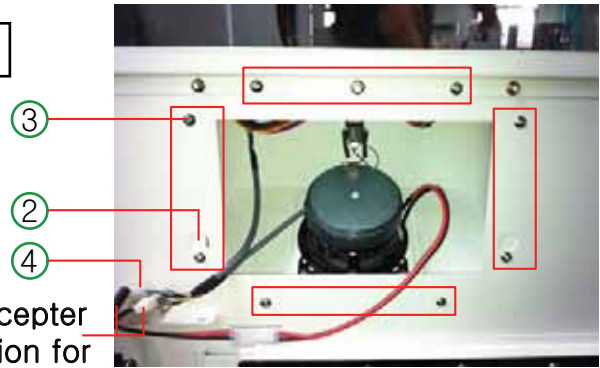
* BILL Accepter
  connection for
  connector

– After fasten bolt in Button panel Ass'y,
  hang it on cabinet using holes (2Ea:②).
  Then fasten rest of bolts (M4 bolt x 8Ea).
  Connect main connector with cable from
  button panel ass'y

3

– Complete the Ass'y as shown picture.

4

– Connect AC Cord in Control panel⑥ through
  internal hole⑤ and fix it with cable tie⑦.

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3. GAME CHARACTERISTICS

3-1. i-Cube is a prize redemption game with most accurate payout control using the stepping motor.

3-2. Unsurpassed ample prize display capacity enables operator to use various eye-catching prizes, and making iCube the most operator-friendly prize redemption game.

3-3. Unsurpassed ample prize display capacity enables operator to use various eye-catching prizes, and making iCube the most operator-friendly prize redemption game.

3-4. Optical illusion, orchestrated by the hidden delicate designs on the moving arm and the target holes, boosts confidence of the players.

3-5. Payout can be set at 1 to 9999.

3-6. Its' attention-grabbing, sophisticated, modern design will ensure iCube a prosperous and luxurious addition to all locations.

4. HOW TO PLAY

HOW TO PLAY ANDAMIRO

Step 1.
Press & Hold

Step 2.
Release
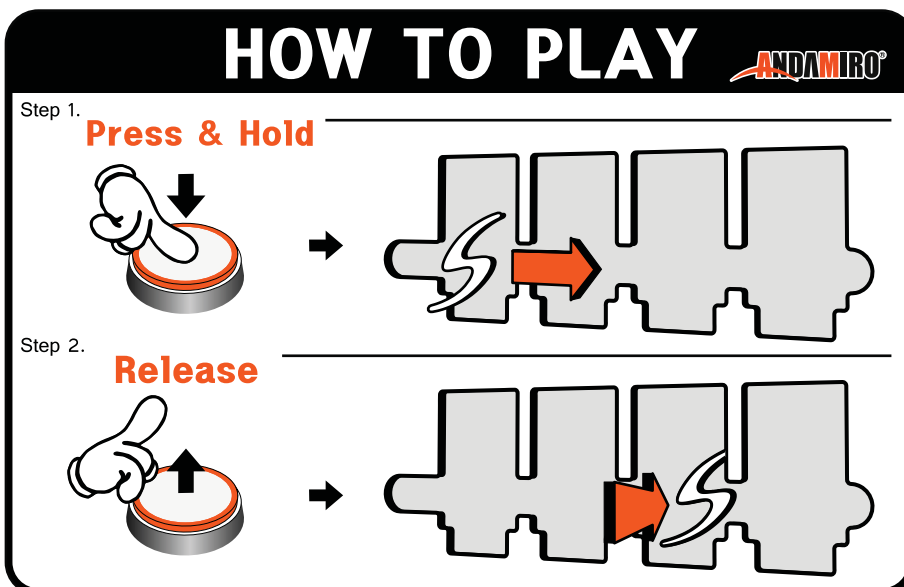
4-1. Choose a desired prize on disply either by numbers or A,B.

4-2. Insert coin(s), and press and hold the button to move the arm to target number/A,B hole.

4-3. Release the button when the arm reaches the target hole. When the arm enters the hole successfully, desired prize pays out.

4-4. Unsuccessful trial ends the game.

5. SETUP SETTINGS

5-1. MACHINE SETUP

1. HOW TO ENTER SETUP MENU

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

COIN COUNTER

ON

OFF

POWER S/W

PRIZE COUNTER

SERVICE   MASTER V/R

LCD

[CONTROL PANEL]

2. BUTTON INSTRUCTIONS FOR USE

MENU/
SELECT

CANCEL

CHANGE   CHANGE
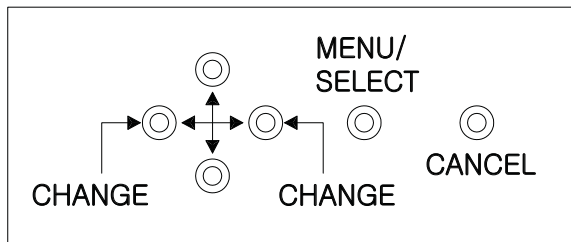
- There are Up/Down/Right/Left/Select/ Cancel button on panel.
  All buttons can perform different functions depending on whether
  it's a short press or a long press & hold on the button(s).

1) [↑↓] Up/Down Button : To move up and down the menu.
2) [← →] Left/Right Button : To change the set values (−/+) after
                                              pressing Select button.
3) SELECT Button : To select desired menu. Changing Set Value.
4) CLEAR Button : To reset to Factory setting / Calibration

* In Setup mode, you may check game status, change set values and test functions.
  Once it turns on, it displays program version as shown below :

```
***** i-CUBE *****
------------V1.00B.

      V1.00B
```
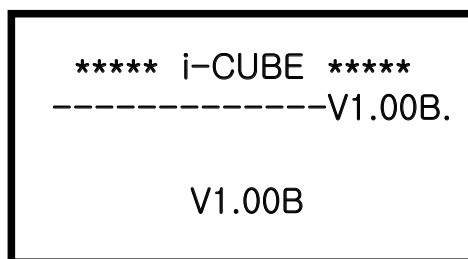
5-2. STATUS MODE

1. PLAY COUNT

```
* TOTAL STATUS *
--------------VX.--.

TODAY :            00
TOTAL :            00
```
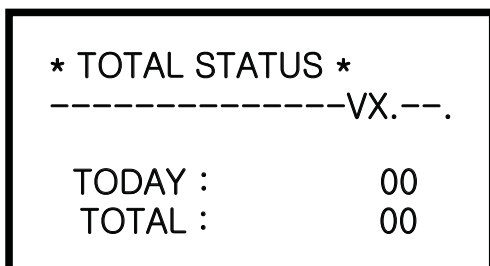
- 'Today' : Total play count since last initialization.
- Note: Press and hold "Clear" button to initialize "TODAY"
  play count.
- Total : it displays the number of total play. You may
  initialize this data by "Factory initialize" from menu.
- Total : Total play count up to 999999. Go to "Factory
  Initialize"
  menu to initialize "TOTAL" play count.

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2. TOTAL PRIZE OUT

```
┌─────────────────────────────┐
│   * TOTAL STATUS *          │
│   ─────────────VX.──.       │
│                             │
│      TOTAL OUT PRIZE        │
│            0                │
└─────────────────────────────┘
```

- Number of prize(s) paid (up to 9999). Prize Out counted by the sensor.
- Press and hold 'Clear' Button to clear "TOTAL PRIZE OUT".

3. CREDIT COUNT

```
┌─────────────────────────────┐
│   * TOTAL STATUS *          │
│   ─────────────VX.──.       │
│                             │
│      CREDIT COUNT           │
│            0                │
└─────────────────────────────┘
```

- Displays "CREDIT COUNT(2 digit)" and credit limit from SET-UP menu.

4. PRIZE OUT & PLAY COUNT (CELL A,B, & 1~6)

```
┌──────────────────────────┐  ┌──────────────────────────┐
│  * ROW STATUS : A *      │  │  * ROW STATUS : B *      │
│  ─────────────VX.──.     │  │  ─────────────VX.──.     │
│                          │  │                          │
│  nRND ,CNT, PRZ, TOTAL   │  │  nRND ,CNT, PRZ, TOTAL   │
│  A1000    0    0 00001   │  │   1000    0    0 00001   │
└──────────────────────────┘  └──────────────────────────┘
```

```
┌────────────────────────┐ ┌────────────────────────┐ ┌────────────────────────┐
│ * ROW STATUS : 1 *     │ │ * ROW STATUS : 2 *     │ │ * ROW STATUS : 3 *     │
│ ─────────────VX.──.    │ │ ─────────────VX.──.    │ │ ─────────────VX.──.    │
│                        │ │                        │ │                        │
│ nRND ,CNT, PRZ, TOTAL  │ │ nRND ,CNT, PRZ, TOTAL  │ │ nRND ,CNT, PRZ, TOTAL  │
│ A1000    0    0 00001  │ │  1000    0    0 00001  │ │  1000    0    0 00001  │
└────────────────────────┘ └────────────────────────┘ └────────────────────────┘
```

```
┌────────────────────────┐ ┌────────────────────────┐ ┌────────────────────────┐
│ * ROW STATUS : 4 *     │ │ * ROW STATUS : 5 *     │ │ * ROW STATUS : 6 *     │
│ ─────────────VX.──.    │ │ ─────────────VX.──.    │ │ ─────────────VX.──.    │
│                        │ │                        │ │                        │
│ nRND ,CNT, PRZ, TOTAL  │ │ nRND ,CNT, PRZ, TOTAL  │ │ nRND ,CNT, PRZ, TOTAL  │
│  1000    0    0 00001  │ │  1000    0    0 00001  │ │  1000    0    0 00001  │
└────────────────────────┘ └────────────────────────┘ └────────────────────────┘
```

RND : Payout rate
CNT : Count of unsuccessful attempts
PRZ : Prize Out count
TOTAL : Total play count

- Of previous odds and emission displays, A 1, B, A OR B is twice

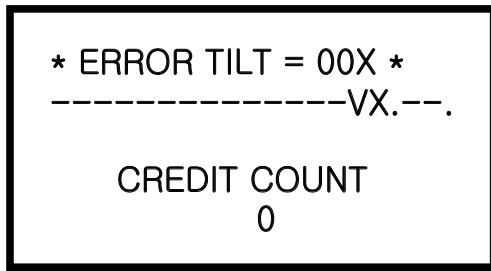Press {Up} and {Dn} buttons to move to desired cell number.
n : Lock Status / o : Unlock Status

Remains "Unlock" until "Prize Out" number matches the set "Pay Out" value.
For Example, if payout rate(RND) is set at 10 with zero Prize Out(PRZ), and unsuccessful attempts(CNT) reaches 30,
i-Cube remains "Unlock" until it pays out three prizes to match its' Payout rate.
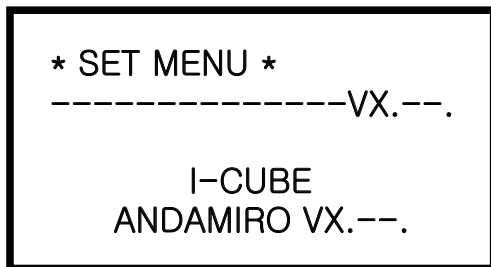
9

5. TILT(SHAKE) ERROR COUNTS

```
┌─────────────────────────────────┐
│                                 │
│    * ERROR TILT = 00X *         │
│    ─────────────VX.──.          │
│                                 │
│        CREDIT COUNT             │
│             0                   │
│                                 │
└─────────────────────────────────┘
```
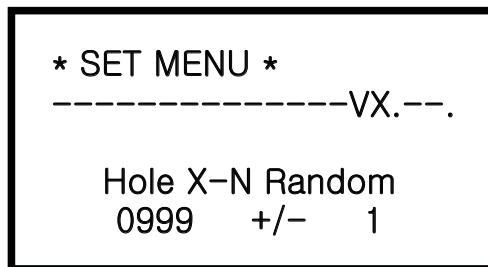
Tilt error lasts for 10 seconds, then resume back to normal operation.
Press [CLEAR] button to initialize the TILT ERROR count.

5-3. Press and hold [SELECT] button in "STATUS MODE" to enter "SET-UP MENU".

[Version Display]

```
┌─────────────────────────────────┐
│                                 │
│    * SET MENU *                 │
│    ─────────────VX.──.          │
│                                 │
│        I-CUBE                   │
│        ANDAMIRO VX.──.          │
│                                 │
└─────────────────────────────────┘
```

1. Payout SET-UP

```
┌─────────────────────────────────┐
│                                 │
│    * SET MENU *                 │
│    ─────────────VX.──.          │
│                                 │
│        Hole X-N Random          │
│        0999    +/-    1         │
│                                 │
└─────────────────────────────────┘
```

* SETTING PAYOUT

*** The setting range is 1~9999 (Default : 0999)

  1) Press [SELECT] button to enter "PAYOUT SET-UP"
  2) Press [Up] and [Dn] button to move the payout value.
  3) Press {<} or {>} to increase or decrease the value from 0 to 9999.

     {<} : Increase, {>} : Decrease

  4) Press [SELECT] button to save.

* DISABLING PRIZE OUT FUNCTION

  Prize Out function of a specific prize cell can be disabled in case of malfunction of parts such as front/rear motor, and switches.

  1) Press [SELECT] button to enter "PAYOUT SET-UP" (Default : 0999).
  2) Press [Up] or [Down] button to move from 1's to 1000's.
  3) Press {<} or {>} button to change the value from 0 to 9 on each digit.

     {<} : Increase, {>} : Decrease

  4) Change the payout rate to ''0'' for a specific prize cell, and "Disabled: n"(n =prize cell number, A,B, or 1~6) appears on FND as below:

```
┌─────────────────────────────────┐
│    * SET MENU *                 │
│    [Disabled : A        ]       │
│                                 │
│        Hole X-A Random          │
│          [Disabled]             │
│                                 │
└─────────────────────────────────┘
```
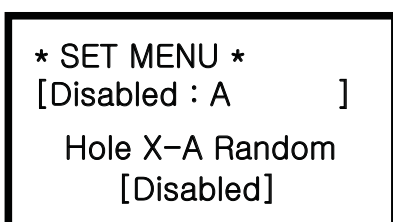
  5) Press [SELECT] button to disable the specified prize cell.
     (For example, Prize cell "A" is disabled above.)

10

```
* TOTAL STATUS *
[Disabled : A        ]
    TODAY :        0
    TOTAL :        0
```

7) Please enter new payout value(other than "0000") to enable the prize cell and resume normal operation.

2. RANDOM PRIZE OUT SET-UP

```
* SET MENU *
------------VX.--.

RANDOM Prize Mode
      No
```

3. SLIT MARGIN SET-UP

```
* SET MENU *
------------VX.--.

  Slit Margin
    4 step
```

Set up the margin for successful attempt. (Default : 4)

4. CHANGING CALIBRATION STARTING POSITION

```
* SET MENU *
------------VX.--.

 Offset :  000
PRESS CLEAR BUTTON
```

You may change the starting position to the right of each target.
1) Setting range is −20 ~ +20 (Default : 000).
2) Press [SELECT] button to enter "PAY OUT SET-UP" (Default : 000).
3) Press {<} or {>} button to increase or decrease the value.
   {<} : Increase, {>} : Decrease
4) Press [SELECT] button to save all changes.

5. COIN CREDIT SET-UP

```
* SET MENU *
------------VX.--.

Credit       Set
1 Credit     4 Coin
```

Default is 4 coins per play (Range : 1~10).

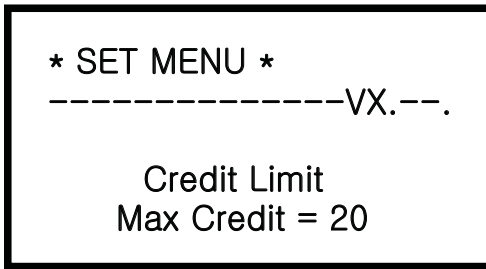ex) Range 1 coin ~10 coins or 1 credit ~ 10 credits

6. BILL CREDIT SET-UP

```
* SET MENU *
------------VX.--.

<1> Coin per Bill
 1-Bill = 4  Coin
```

Default is 4 coins per bill (Range : 1~20 coin(s)).

7. COIN UP LIMIT

```
* SET MENU *
--------------VX.--.

    Credit Limit
   Max Credit = 20
```

Maximum number of coin(s) up credits allowed.
Default coin up limit is 20 (Range : 1~ 100).

8. PLAY TIME LIMIT

```
* SET MENU *
--------------VX.--.

    Time Limit
     30 Sec
```
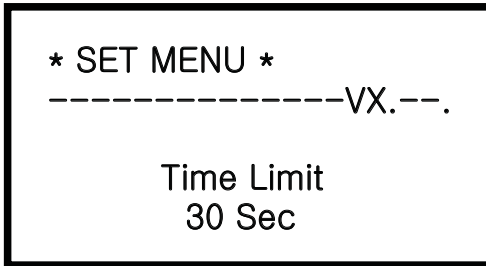
Default play time is 30 seconds
(Range : 10 ~ 60 sec).

9. Mercy Prize (Option)

```
* SET MENU *
--------------VX.--.

    Mercy Prize
       off
```
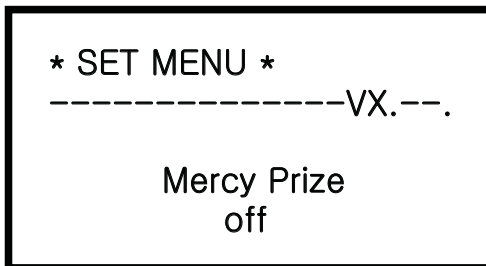
You may set this function if Capsule is installed,

1) Default=Off, (On : pay a capsule when player does
                      not win the main prize.)
2) Press [SELECT] Button to access the menu and change
   set value with {<},{>}Button.

10. DEMO SOUND

```
* SET MENU *
--------------VX.--.

    Demo Sound
       On
```
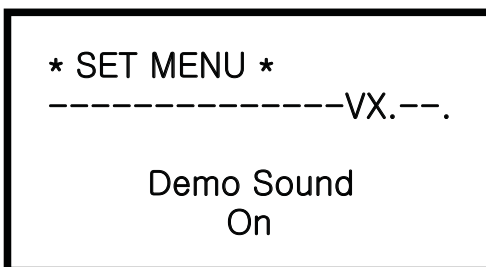
Turn ON/OFF demo sound.
Default=On

11. SAVE & EXIT

```
* SET MENU *

   Save & Cancel
  Press [SEL] & [CLR]
```
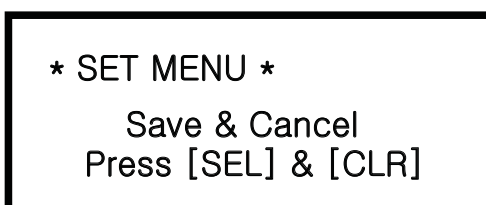
PRESS [SELECT] button to save & exit.
To exit without saving, press and hold [CLEAR] button.

5-4. Press and hold UP & DOWN buttons at the same time to enter "TEST MENU".

1. CHECKING HOLE POSITION(S)

```
* TOTAL STATUS *
--------------VX.--.

    Test All Rows
  > Press CLR Button <
```

Press [CLEAR] button to calibrate all holes to check the hole positions.
"ts tn" appears Front panel FND , "n" stands for a hole number.
"do nE" appears when calibration completes.

2. CALIBRATION

```
* TOTAL STATUS *
--------------VX.--.

    Calibration
    0  (CLR=Reset)
```

Press [CLEAR] button to start calibration.
Calibration will initialize "Slit Margin".
The screen of calibration is as below picture.
It shows the number of success for each hole which should be stay between 3~4 because it's related with payout. Unless the number is between 3~4, It's strongly recommended to adjust "S" on Pusher Box.

```
* TEST MENU *
--------------VX.--.

  Hole : 1 2 3 A B 4 5 6
  CNT : 0 0 0 0 0 0 0 0
```

"Ca tn" appears Front panel FND, "n" stands for a hole number.
"do nE" appears when calibration completes.

3. TESTING PRIZE MOTOR(S)

```
* TOTAL STATUS *
--------------VX.--.

    Prize Motor
    ALL  (CLR=MOVE)
```

*** Test the prize motor on each prize cell.

1) Press [CLEAR] button to test all eight motors at the same time (Default "ALL").
2) Press [SELECT] button to choose a specific prize cell.
3) Press {<},{>} button to locate the desired prize cell, and press clear button to test the motor. Corresponding prize loader moves forward and back to Its' original position.

4. Pusher Box의 Motor/Sensor Test

```
* TEST MENU *
－－－－－－－－－－－－VX.－－.

   Motor Test
   Press SELECT Button
```

*** "Motor test" will test all functions and motor of Capsule hopper.
It moves Pusher box right and left to test motors and sensors in Pusher Box.
Once you press [SELECT] Button, you may see following screen and activate Test Mode.

```
* TEST MENU *
－－－－－－－－－－－－VX.－－.

－－ S2 X0 RL －－ －－
Press CLEAR TO Exit
```

1) Capsule Hopper Test (If installed)

   If you press Select button on the status like picture, Capsule hopper dispenses one capsule.
   (Please make sure hopper is filled with capsule)

2) Prize out Door Test

   If you press start button on the status like picture, prize outdoor will be open and display S1.
   And Press Start button again, Prize outdoor will be closed and display S2

   S1 : Door Open SW,   S2 : Door Close SW

3) Pusher Box Motor/Sensor Test

   For Pusher box testing, button functions for moving pusher box are as following.

   {<} : Right, {>} : Left   /   {Up} : Up, {Dn} : Down

   3-B) Once a sensor perceives movement of pusher Box, relevant sensor will be displayed.
         Then next sensor is activated. Previous sensor will be shown as "－－".
         -Clt will display four items as following:
   3-C) 4가지 항목이 표시되는데,
         X0: Origin Sensor, RL:Rear Sensor, ML: Middle Sensor(Fail), FL: Front Sensor(Success)

```
* TEST MENU *
－－－－－－－－－－－－VX.－－.

S1 S2 X0 RL ML FL
Press CLEAR TO Exit
```

7) If you press Clear button after finishing Motor/Sensor Test, it moves to [Motor Test]

14

5. Aging Test

```
* TEST MENU *
----------------VX.--.

   Aging Test
   Press SELECT Button
```

*** Aging Test, depending on the game is set according to the probability of the normal routine,
Each hole in order to try to game consoles, and Aging Test.
1) [SELECT] Button is pressed, the following screen will appear Aging Test To run.
2) Aging Test is repeated until the power is turned off.

```
* TEST MENU *
----------------VX.--.

   Entering Aging Test
```

6. 공장 초기화 설정

```
* TEST MENU *
----------------VX.--.

   Factory Initialize
   Press CLEAR Button
```

If you press [CLEAR] Button, all setup come to factory setting and perform calibration.
The screen of calibration is as below picture.
It shows the number of success for each hole which should be stay between 3~4 because it's related with payout. Unless the number is between 3~4, It's strongly recommended to adjust "S" on Pusher Box.

```
* TEST MENU *
----------------VX.--.

   Hole : 1 2 3 A B 4 5 6
   CNT : 0 0 0 0 0 0 0 0
```

If you press [SELECT] Button., it activates "Test All Rows" showing "ts tn" in FND. When it's finished you may see "do nE" in FND.

7. INITIALIZING SET-UP VALUES

```
* TOTAL STATUS *
----------------VX.--.

   Initialize Setup
   Press CLEAR Button
```

Press and hold [CLEAR] button to initialize the SET-UP values and data excluding calibration,TOTAL PLAY COUNT, & SLIT MARGIN.

8. SAVING THE TEST MENU AND EXIT

```
* TEST MENU *

Save & Cancel
Press [SEL] & [CLR]
```

Press the [SELECT] key to save the settings and exit the test menu.
press the [CLEAR] key to longkey without saving.

5-5. ERROR CODE

ERROR CODE	CONTENT	STATUS
1. EE-12	Home(Origin) Return Error	ERROR EVENT, STOP
2. EE-AC	Prize Out Door Error	ERROR EVENT, STOP
3. EE 52	Prize Out Door Close SW. Error	ERROR EVENT, STOP
4. EE 51	Prize Out Door Open SW. Error	ERROR EVENT, STOP
5. EE-Fn	Prize Box Front S/W or Motor Error n: Hole No.	ERROR EVENT, STOP
6. EE-rn	Prize Box Front S/W or Motor Error n: Hole No.	ERROR EVENT, STOP
7. EE-09	Capsule Hopper Error	ERROR EVENT, NORMAL
8. EE-15	TILT Error	ERROR EVENT, NORMAL

6. HOW TO REPLACE MAJOR COMPONENTS

6-1) REPLACING MAIN PCB & IO PCB

MAIN BOARD & IO PCB

COIN SELECTOR
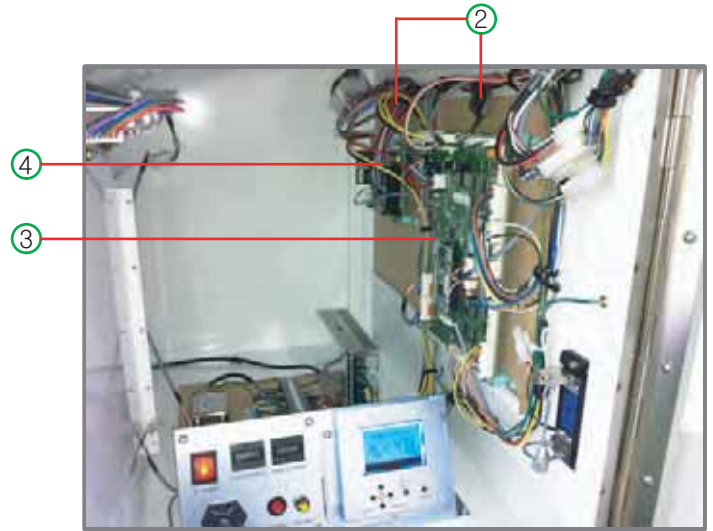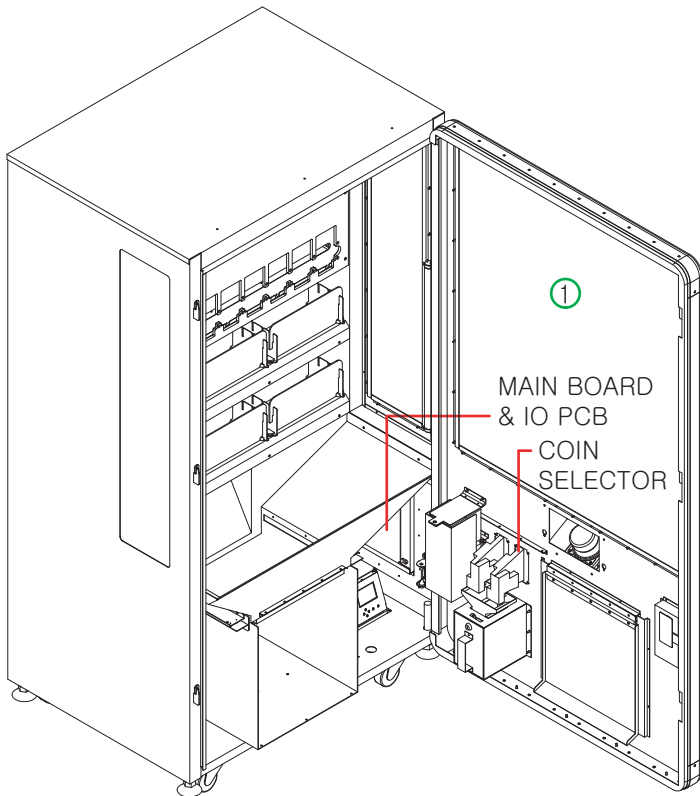
(1) Open ① the front door.
(2) ② Remove two bolts (size: M6).
(3) Remove the connector between ③ Main PCB & ④ IO PCB, and then replace the Main PCB.
(4) Re-assemble the parts in reverse order.

NO.	PART NAME	SPEC.	CODE NO.
③	MAIN PCB ASS'Y	–	AICU0PCB001
④	IO PCB ASS'Y	–	AICU0PCB002

6-2) REPLACING COIN SELECTOR

(1) Open ① the front door.
(2) ② Remove the connecter.
(3) ③ Remove eight bolts (size: M4) and nuts.
(4) Remove the connector between ④ Main PCB & IO PCB, and then replace the Main PCB.
(5) Re-assemble the parts in reverse order.

NO.	PART NAME	SPEC.	CODE NO.
⑤	COIN SELECTOR	TW-130B	MZZZ0COS032

* Reassemble them in reverse order and check performance of the game.

6-3) REPLACING BLLBOARD LED PCB & UPPER CABINET LED PCB

PRIZE DISPENSER PART
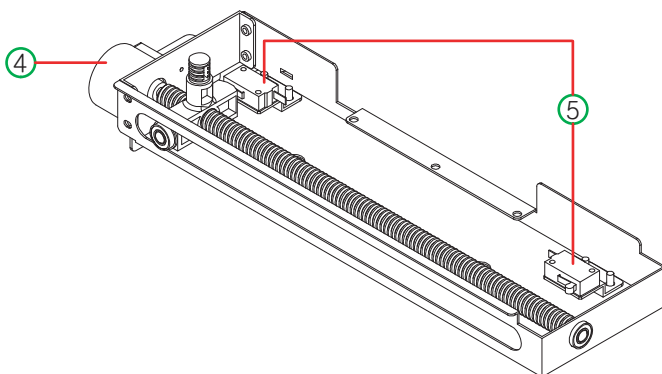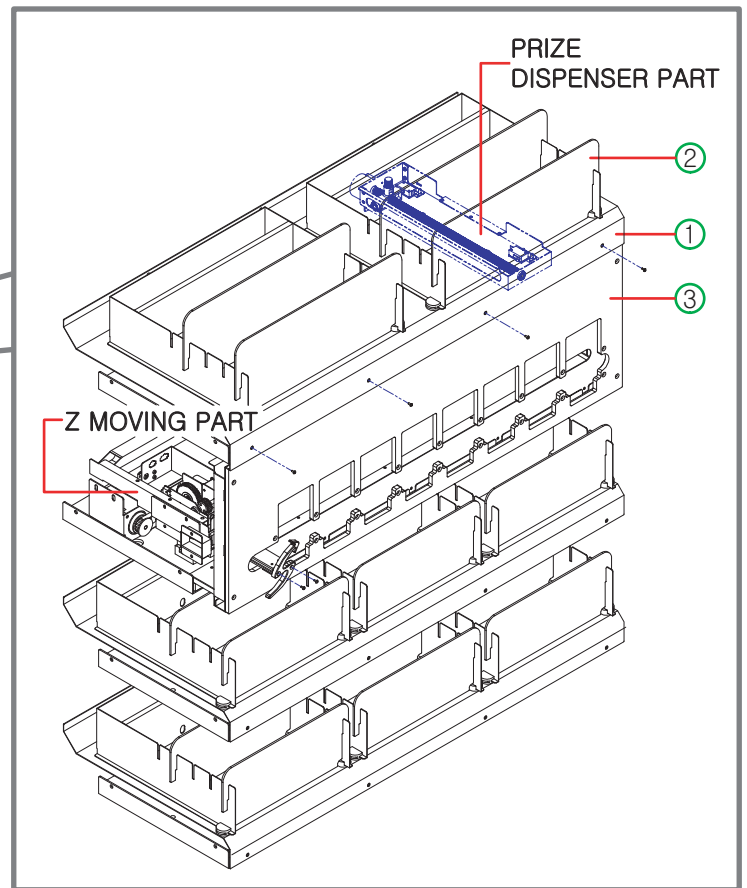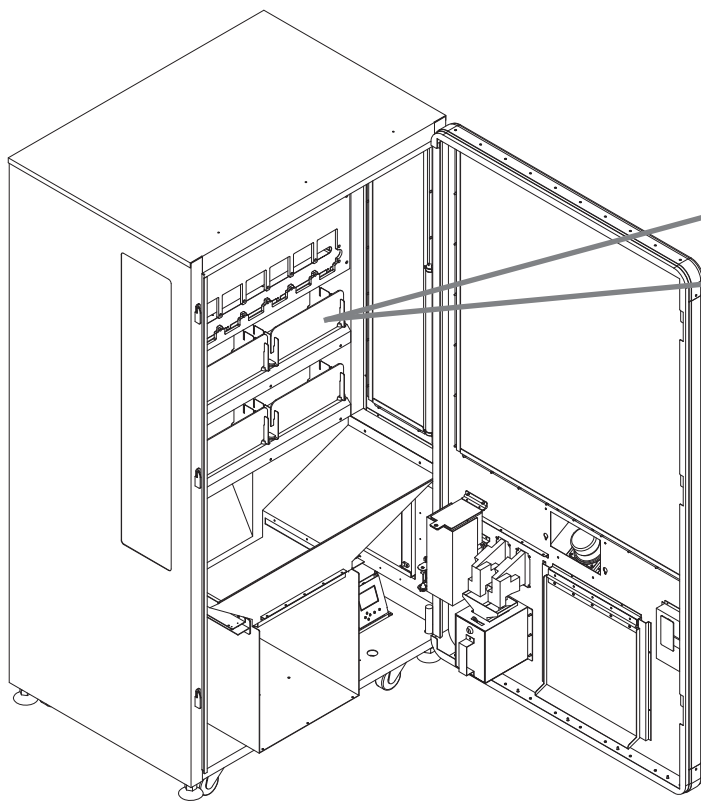
Z MOVING PART

PRIZE DISPENSER PART
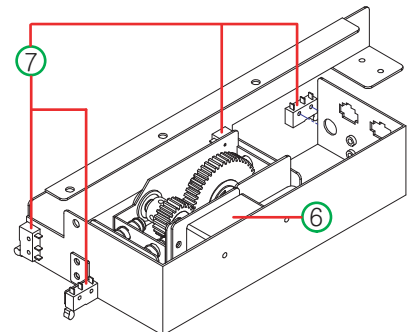
Z MOVING PART

- PRIZE DISPENSER PART
(1) Remove the ① prize dispenser cover then remove the ② prize dispenser.
(2) Locate the prize dispenser parts inside.
(3) Remove connector, then replace ④ motor or ⑤ micro switch.

- Z MOVING PART
(1) Remove ③ Target Display Part to locate Z-Moving part.
(2) Remove the connector, then replace ⑥ motor or ⑦ Micro Switch.

NO.	PART NAME	SPEC.	CODE NO.
④	DC MOTOR	KWC_KD1-3429-095 (1:25)	MZZZ0MOT063
⑤	MICRO SWITCH	GSMV1651A2	MELE0MIC021
⑥	MOTOR	KWA-0255-IMF-04	MWIC0PAR025
⑦	MICRO SWITCH	SSM3142	MELE0MIC003

* Reassemble them in reverse order and check performance of the game.

6-4) REPLACING FRONT LIGHT DECO PCB
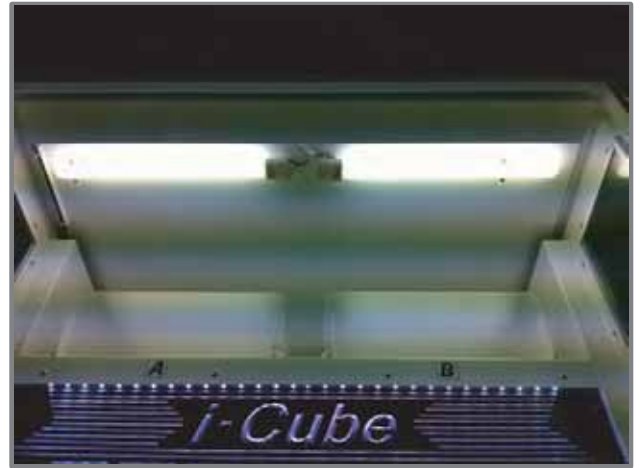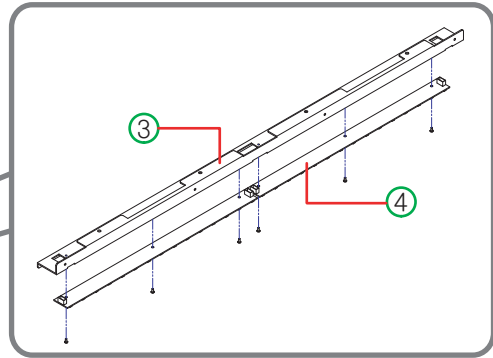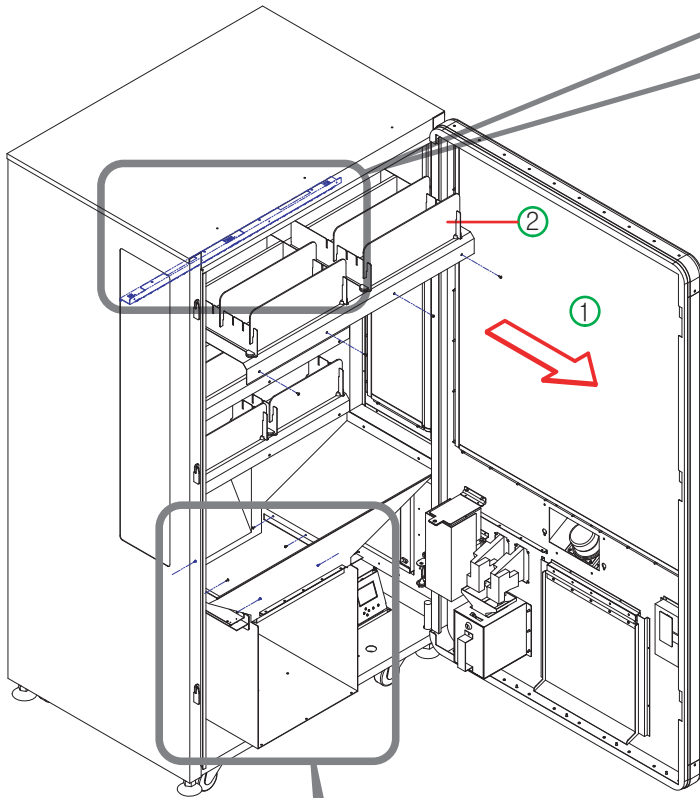
(1) Open the ①front door.
(2) Unscrew the four bolts (size: M4) to remove②prize dispenser.
(3) Remove the prize dispenser PCB Ass'y and the connecter, then replace the④PCB.
(4) Re-assemble the parts in reverse order.

NO.	PART NAME	SPEC.	CODE NO.
④	FRONT LIGHT DECO PCB ASS'Y	–	APUT0PCB006

6-5) REPLACING SENSOR PCB
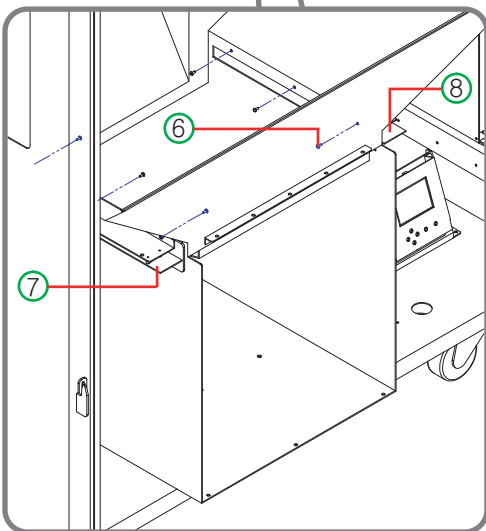
(1) Open the①front door.
(2) Remove the⑤connecter attached to the Sensor PCB Ass'y.
(3) Unscrew⑥six bolts (size: m4) to remove the sensor PCB Ass'y attached to the Prize Out Box.
(4) Reassemble the parts in reverse order.

NO.	PART NAME	SPEC.	CODE NO.
⑦	SENSOR PCB ASS'Y	EMITEER	AFCU0PCB001
⑧	SENSOR PCB ASS'Y	RECEIVER	AFCU0PCB002

* Reassemble them in reverse order and check performance of the game.

6-6) REPLACING LAMP
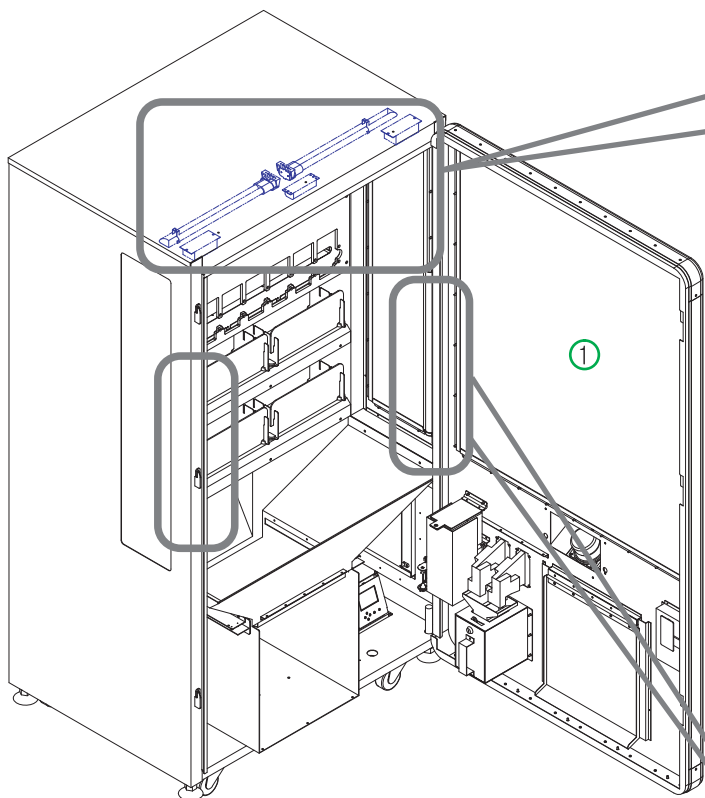
(1) REPLACING FPL LAMP
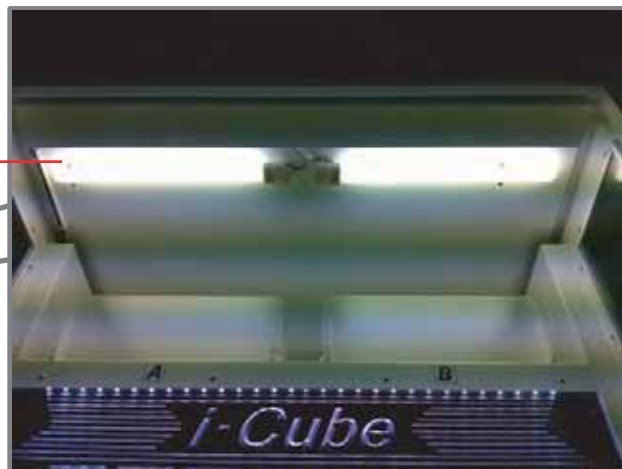
(1) Open the ①front door.
(2) Locate ②Lamp on the ceiling.
(3) Re-assemble the parts in reverse order.

NO.	PART NAME	SPEC.	CODE NO.
②	LAMP	FPL36W	MELE0LAM028

(1) REPLACING FLUORESCENT LAMP

(1) Open the ①front door.
(2) Locate two lamps each on the right & the left side.
(3) Re-assemble the parts in reverse order.

NO.	PART NAME	SPEC.	CODE NO.
⑦	FLUORESCENT LAMP	FL20SD-20W	MELE0LAM002

* Reassemble them in reverse order and check performance of the game.

7. TROUBLESHOOTING

7-1. IN CASE OF POWER FAILURE

```
        ┌──────────┐                            ┌──────────────────────────────┐
        │  POWER   │──── Abnormal ─────────────▶│ 1. Connection & A measure    │
        └──────────┘                            │ 2. Displacement NOISE FILTER │
             │                                  └──────────────────────────────┘
             │   [CHECK]
             │   1. Connection AC CORD
             │   2. FUSE(250V,2A)
      normal │      OPEN/SHORT TESTER
             │   3. AC S/W
             │   4. Connection AC TERMINAL BLOCK
             │   5. INPUT VOLTAGE TESTER
             │      : AC 110V or 220V
             ▼
        ┌──────────────┐
        │ SMPS Change  │
        └──────────────┘
```

7-2. MOTOR ERROR

```
        ┌─────────────────────────────────┐
        │          MOTOR                  │
        │ (KWC_KD1-3429-095 (1:25)        │
        │  KWA-0255-IMF-04                │──── Abnormal ────▶┌────────────────────┐
        │ STEPPING MOTOR / 4S56Q-08576S)  │                   │ MOTOR ASS'Y Change │
        └─────────────────────────────────┘                   └────────────────────┘
             │   [CHECK]
             │   1. Assemble appearance of
             │      MOTOR ASS'Y
      normal │   2. MOTOR Wiring connection
             │   3. MAIN PCB Wiring connection
             ▼
        ┌──────────────────────┐
        │ MAIN PCB ASS'Y Change │
        └──────────────────────┘
```

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7-3. MICRO SWITCH ERROR

MICRO SWITCH
(GSMV1651A2 / SSM3142)

Abnormal ──→ **MICRO SWITCH Change**

normal

[CHECK]
1. Assemble appearance of MICRO SWITCH
2. MICRO SWITCH Wiring connection
3. MAIN PCB Wiring connection

MAIN PCB ASS'Y Change

7-4. AC LAMP ERROR

```
        LAMP
(FLUORESCENT LAMP,20W /  ──Abnormal──────────►   LAMP Change
      FPL36W)

                    [CHECK]
                    1. Assemble appearance of LAMP
        normal      2. LAMP SOCKET
                       Wiring connection
                    3. WIRING (L/R connection)


       BALLAST

                    [CHECK]
                    1. BALLST appearance
        normal      2. Input / Output Connections
                    3. AC Input Voltage


    BALLAST Change
```

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7-5. COIN SELECTOR ERROR

COIN SELECTOR ──Abnormal──→ COIN SELECTOR Change

[CHECK]
1. COIN SELECTOR internal and external conditions
2. Connectors
3. DC Voltage : 12V
4. Coin signal ON / OFF

normal

MAIN PCB ASS'Y ──Abnormal──→ SMPS (12V, 5V)

[CHECK]
1. MAIN PCB ASS'Y appearance
2. Power status ON(RED)_Blinking

[CHECK]
1. Power status ON(GREEN)
2. DC voltage : 12V, 5V

normal

MAIN PCB ASS'Y Change

SMPS Change

24

7-6. SOUND ERROR

VOLUME PCB ASS'Y

[CHECK]
1. **VOLUME appearance**
2. **VOLUME Control**
3. **VOLUME value measurement tester (resistance)**

normal

MAIN PCB ASS'Y Change ←─Abnormal─ **MAIN PCB ASS'Y** ─Abnormal─→ **SMPS (12V, 5V)**

[CHECK]
1. **MAIN PCB ASS'Y appearance**
2. **Power status ON(RED)_Blinking**
3. **AUDIO Wiring connection**

[CHECK]
1. **Power status ON(GREEN)**
2. **DC voltage : 12V, 5V**

normal

SMPS Change

SPEAKER

[CHECK]
1. **SPEAKER appearance**
2. **SPEAKER Wiring connection**

normal

SPAEKER Change

25

7-7. BUTTON & COUNTER ERROR

**SET UP
(BUTTON, COUNTER)**

**BUTTON
(PLAY, SERVICE)**

—Abnormal—

[CHECK]
1. Appearance
2. PIN Wiring
3. SW ON / OFF testing
   (tester)

COUNTER

—Abnormal—

[CHECK]
1. Appearance
2. PIN Wiring
3. Is the signal entering
   at DC 12V

BUTTON Change

normal

COUNTER Change

MAIN PCB ASS'Y

—Abnormal—

**SMPS
(12V, 5V)**

[CHECK]
1. MAIN PCB ASS'Y appearance
2. Power status ON(RED)_Blinking

[CHECK]
1. Power status ON(GREEN)
2. DC voltage : 12V, 5V

normal

MAIN PCB ASS'Y Change

SMPS Change

7-8. SETUP LCD PCB ERROR

```
┌─────────────────────────┐                          ┌──────────────────────┐
│   SETUP LCD PCB ASS'Y    │────Abnormal──────────▶  │  SETUP LCD PCB ASS'Y │
└─────────────────────────┘                          │        Change        │
            │                                         └──────────────────────┘
            │         [CHECK]
            │         1. SETUP LCD PCB appearance
            │         2. CONNECTOR Connection
         normal      3. BUTTON Operation
            │         4. DC voltage : DC+5V
            ▼
┌─────────────────────────┐
│     MAIN PCB ASS'Y       │
└─────────────────────────┘
            │         [CHECK]
            │         1. MAIN PCB ASS'Y appearance
         normal      2. Power status ON(RED)_Blinking
            │
            ▼
┌─────────────────────────┐
│   MAIN PCB ASS'Y Change  │
└─────────────────────────┘
```

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*Common: Check the input voltage, check wiring

FRONT LIGHT DECO PCB
CREDIT FND, TIME FND

FRONT LIGHT DECO PCB

—Abnormal—

[CHECK]
1. FRONT LIGHT DECO PCB appearance
2. Wiring connection

CREDIT FND, TIME FND

—Abnormal—

[CHECK]
1. CREDIT FND, TIME FND appearance
2. Wiring connection

FRONT LIGHT DECO PCB
Change

CREDIT FND, TIME FND
Change

normal

MAIN PCB ASS'Y

—Abnormal—

SMPS
(12V, 5V)

[CHECK]
1. MAIN PCB ASS'Y appearance
2. Power status ON(RED)_Blinking

[CHECK]
1. Power status ON(GREEN)
2. DC voltage : 12V, 5V

normal

MAIN PCB ASS'Y Change

SMPS Change

* **PLAY PANEL LED's power at the state Flashing
red, blue, 10 seconds when the sensor is a rogue state.**

| SENSOR PCB ASS'Y Change | ←—Abnormal——— | SENSOR PCB ASS'Y (EMISSION, RECEIVER) |

[CHECK]
1. Wiring connection
2. DC voltage : DC+5V
3. EMISSION : Camera red light-emitting
portion Check that the LED

normal

| MAIN PCB ASS'Y | ————Abnormal————→ | SMPS (12V, 5V) |

[CHECK]
1. MAIN PCB ASS'Y appearance
2. Power status ON(RED)_Blinking

[CHECK]
1. Power status ON(GREEN)
2. DC voltage : 12V, 5V

normal

| MAIN PCB ASS'Y Change | | SMPS Change |

8. PARTS LIST

8-1. EXPLODED VIEW

⑭ BUTTON FRAME PART
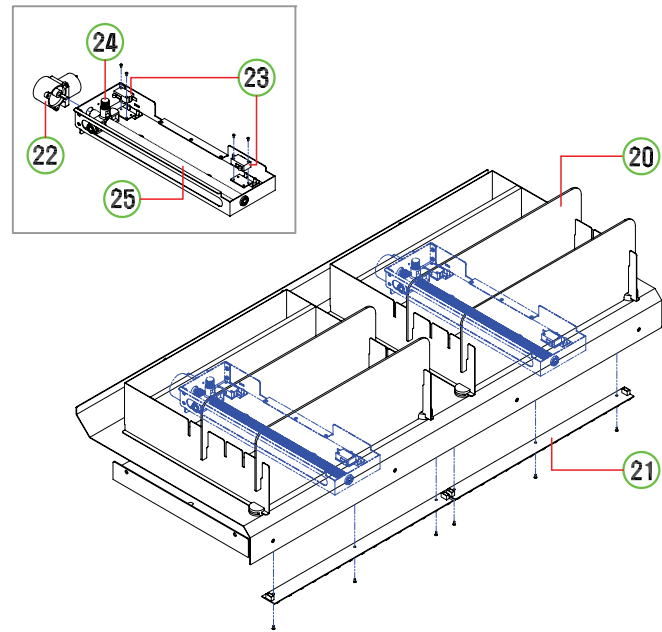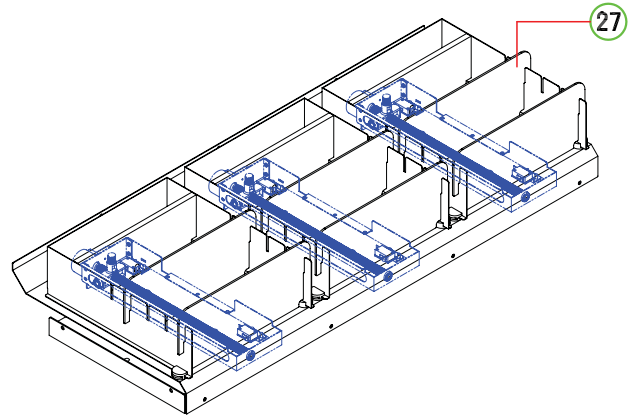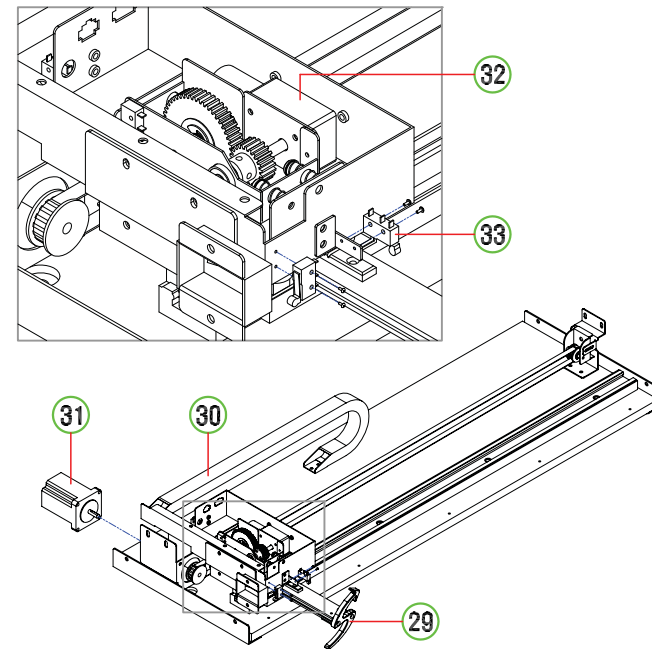
⑲ PRIZE DISPENSER-A PART

㉘ Z MOVING PART

① MAIN CABINET PART

㉖ PRIZE DISPENSER-B PART

㉞ PRIZE GUIDE PART
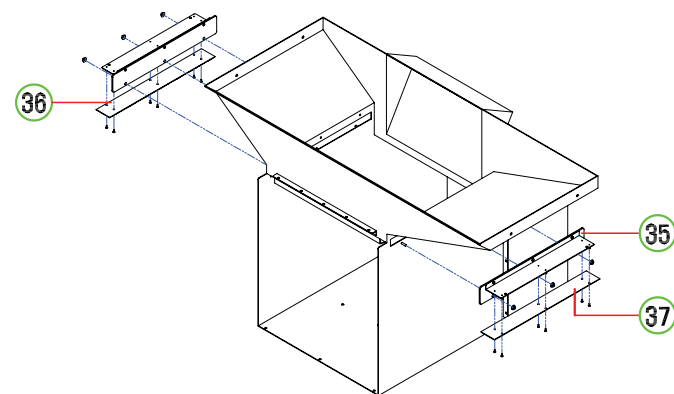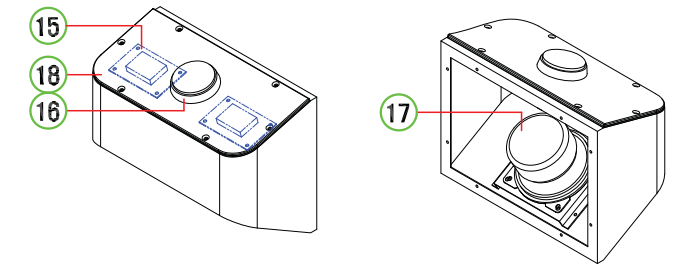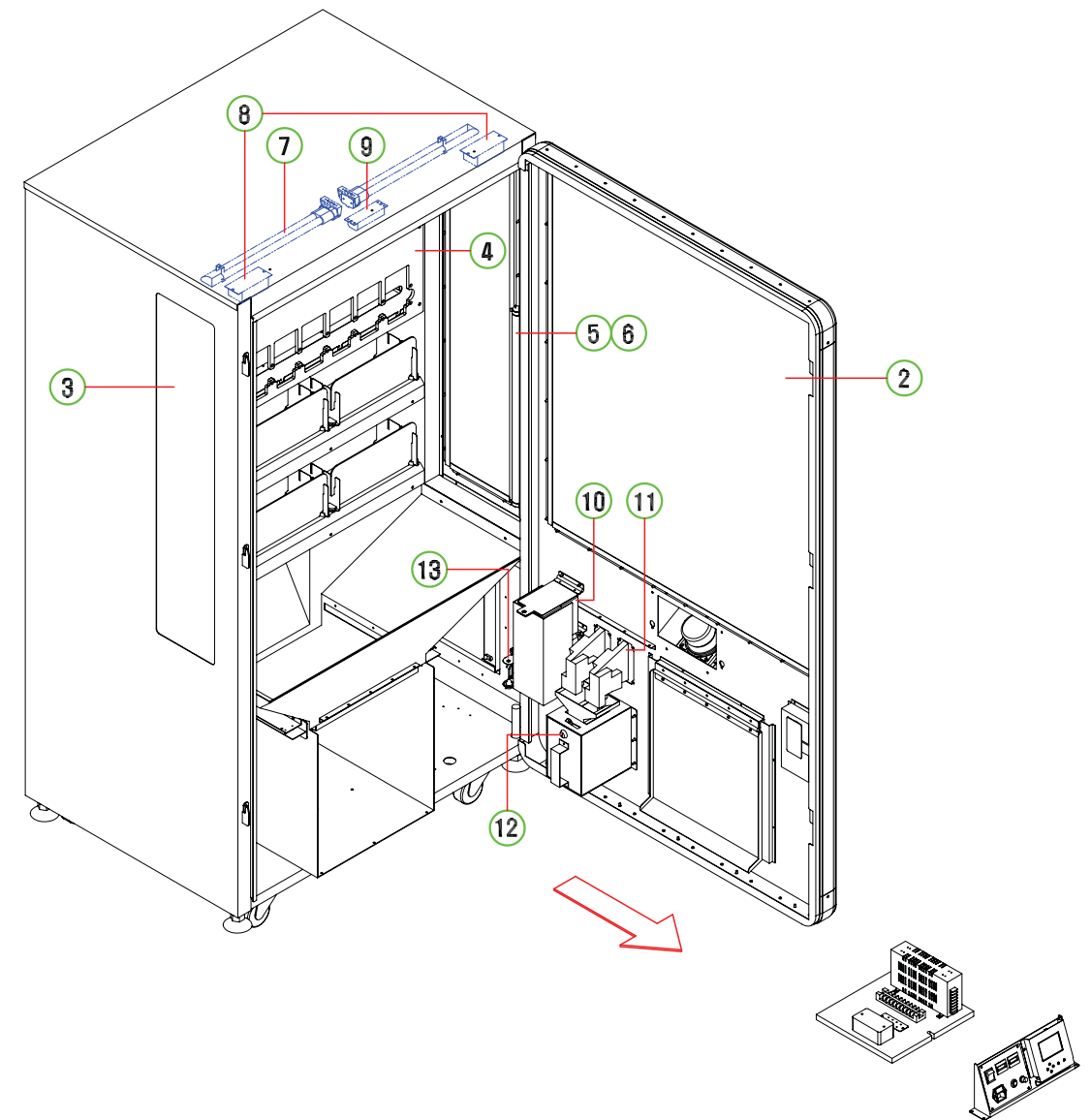
㊳ SETUP PANEL PART
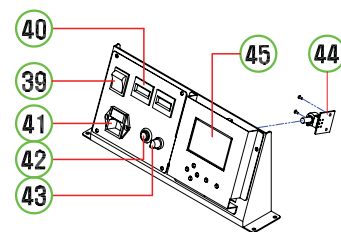
㊼ SMPS PANEL PART
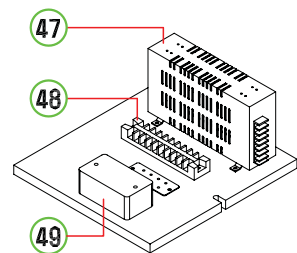
㊿ DC IO PCB PART

52 MAIN BOARD PART

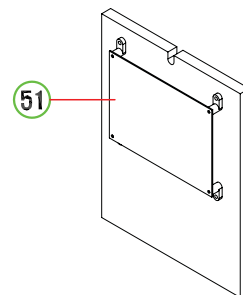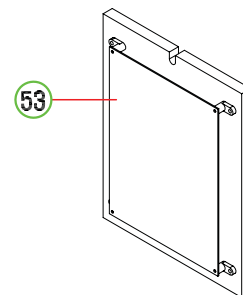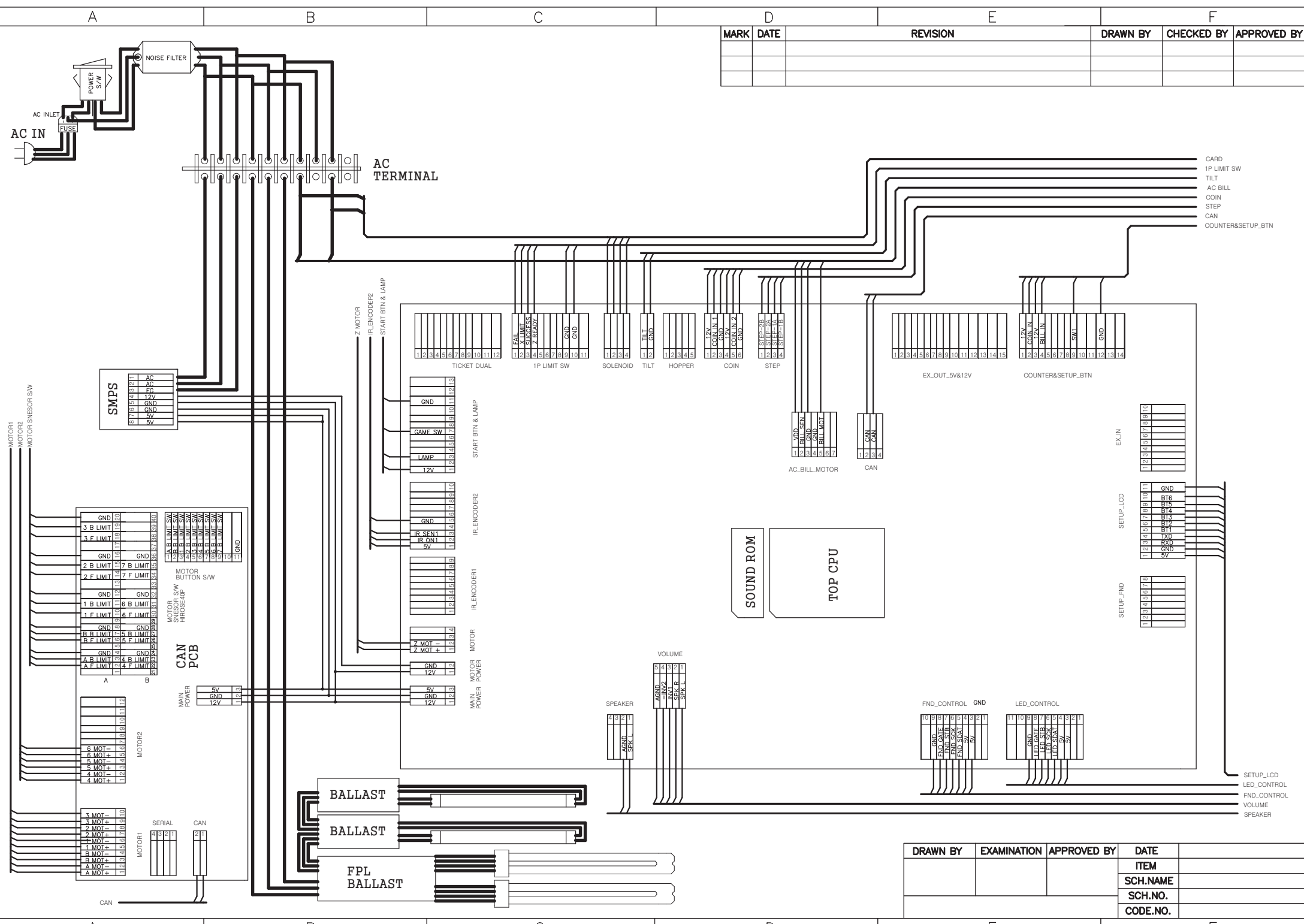| NO.	PIC	LEVEL	PART NAME	SPEC.	QTY	CODE NO.
1		1	**MAIN CABINET PART**			
2		2	FRONT DOOR GLASS	GLASS_8.0t	1	MICU0GLA002
3		2	SIDE GLASS	GLASS_8.0t	2	MICU0GLA001
4		2	TARGET DISPLAY ACRYL	ACRYL-8.0t	1	MICU0ACR002
5	O	2	FLUORESCENT LAMP	FL20SD-20W	2	MELE0LAM002
6	O	2	LAMP CLAMP	–	4	MELE0LAM014
7	O	2	LAMP	FPL 36W	2	MELE0LAM028
8	O	2	ELECTRONIC BALLAST	220V, 20W	2	MELE0BAL001
9	O	2	ELECTRONIC BALLAST	220V, FPL 36W_TWIN	1	MELE0BAL026
10	O	2	BILL ACCEPT	MEI_UP STACKER	1	–
11		2	COIN SELECTOR	TW-130B	2	MZZZ0COS032
12		2	KEY ASS'Y	6001	1	
13	O	2	TILT	–	1	MWIC0PAR100
14		2	**BUTTON FRAME PART**			
15	O	2	FND PCB ASS'Y	–	2	AWID0PCB004
16	O	2	BUTTON SWITCH	AMIPB-60HR-W12D	1	MZZZ0BUT054
17	O	2	SPEAKER	MID4.5"+TW1/2" 8Ω	1	MZZZ0SPE021
18	O	2	BUTTON ACRYL	I CUBE	1	AICU0ACR001
19		1	**PRIZE DISPENSER-A PART**			
20	O	2	PRIZE DISPENSER PUSH ACRYL-B	ACRYL-3.0t	4	MICU0ACR005
21	O	2	FRONT LIGHT DECO PCB ASS'Y	–	2	APUT0PCB006
22	O	2	MOTOR	KWC_KD1-3429-095 (1:25)	8	MZZZ0MOT063
23	O	2	MICRO SWITCH	GSMV1651A2	16	MELE0MIC021
24	O	2	PRIZE DISPENSER BLOCK	ACETAL	8	MICU0PLA002
25	O	2	PRIZE DISPENSER SCREW	ABS	8	MICU0PLA001
26		1	**PRIZE DISPENSER-B PART**			
27	O	2	PRIZE DISPENSER PUSH ACRYL-A	ACRYL-3.0t	12	MICU0ACR004
28		1	**Z MOVING PART**			
29	O	2	PUSH DECO ACRYL	ACRYL-8.0t	1	MICU0ACR003
30	O	2	CABLE CHAIN	KJP018-1B-34LINK	1	MZZZ0CBC004
31	O	2	STEPPING MOTOR	4S56Q-08576S	1	MZZZ0MOT064
32	O	2	MOTOR	KWA-0255-IMF-04	1	MWIC0PAR025
33	O	2	MICRO SWITCH	SSM3142	4	MELE0MIC003
34		1	**MONITOR DECO PANEL PART**			
35	O	2	SENSOR COVER ACRYL	ACRYL-8.0t	2	MICU0ACR001

NO.	PIC	LEVEL	PART NAME	SPEC.	QTY	CODE NO.
36	O	2	SENSOR PCB ASS'Y-A [EMITEER]	I CUBE	1	AICU0PCB005
37	O	2	SENSOR PCB ASS'Y-B [RECEIVER]	I CUBE	1	AICU0PCB006
38		1	**SETUP PANEL PART**			
39	O	2	ROCKER SWITCH	T-125 4P	1	MELE0SWI004
40	O	2	COUNTER	AMMC-712(OA127CL)	2	MZZZ0COU002
41	O	2	AC INPUT	DAC-13H	1	MELE0SWI005
42	O	2	PUSH BUTTON SWITCH	DS-412R	1	MELE0PUS006
43	O	2	VOLUME KNOB	–	1	MELE0VOL007
44	O	2	VR PCB ASS'Y	–	1	AHM20PCB016
45	O	2	SETUP LCD PCB ASS'Y	–	1	AZZZ0PCB113
46		1	**SMPS PANEL PART**			
47	O	2	POWER SMPS	D-120A 12V, 5V	1	MELE0SMP045
48		2	TERMINAL BLOCK	250V, 10P	1	MELE0TEB003
49	O	2	NOISE FILTER	ES1-F10	1	MELE0NOI006
50		1	**DC IO PCB PART**			
51	O	2	DC IO PCB ASS'Y	–	1	AICU0PCB002
52		2	**MAIN PCB PART**			
53	O	2	MAIN PCB ASS'Y	–	1	AICU0PCB001
Parts for 110V						
8		2	ELECTRONIC BALLAST	110V, 20W	2	MELE0BAL022
9		2	ELECTRONIC BALLAST	110V, FPL 36W_TWIN	1	MELE0BAL027

8-3. PICTURE

5	6	7	8	9	10

13	15	16	17	18	20

20	21	22	23	24	25

27	29	30	32	33	35

36	39	40	41	42	43

44	47	49	51	53	

AC IN

POWER S/W

NOISE FILTER

AC INLET

FUSE

AC TERMINAL

CARD
1P LIMIT SW
TILT
AC BILL
COIN
STEP
CAN
COUNTER&SETUP_BTN

SMPS
AC
AC
FG
12V
GND
GND
5V
5V

Z MOTOR
IR_ENCODER2
START BTN & LAMP

TICKET DUAL
1P LIMIT SW — FAIL, X LIMIT, SUCCESS, Z READY, GND, GND
SOLENOID
TILT — TILT, GND
HOPPER — 12V, COIN IN 1, GND, 12V, COIN IN 2, GND
COIN
STEP — STEP-2B, STEP-2A, STEP-1A, STEP-1B

EX_OUT_5V&12V — 12V, COIN_IN, 12V, BILL_IN, SW1, GND

COUNTER&SETUP_BTN

START BTN & LAMP
GND
GAME SW
LAMP
12V

IR_ENCODER2
GND
IR SEN1
IR ON1
5V

IR_ENCODER1

MOTOR
Z MOT −
Z MOT +

MOTOR POWER
GND
12V

MAIN POWER
5V
GND
12V

AC_BILL_MOTOR — VDD, BILL SEN, GND, 12V, GND, BILL MOT
CAN — CAN, CAN

EX_IN

SETUP_LCD — GND, BT6, BT5, BT4, BT3, BT2, BT1, TXD, RXD, GND, 5V

SETUP_FND

SOUND ROM

TOP CPU

MOTOR1
MOTOR2
MOTOR SNESOR S/W

CAN PCB

GND
3 B LIMIT
3 F LIMIT
GND
2 B LIMIT
2 F LIMIT
GND
1 B LIMIT
1 F LIMIT
GND
B B LIMIT
B F LIMIT
GND
A B LIMIT
A F LIMIT

GND
7 B LIMIT
7 F LIMIT
GND
6 B LIMIT
6 F LIMIT
GND
5 B LIMIT
5 F LIMIT
GND
4 B LIMIT
4 F LIMIT
GND

A B LIMIT SW ... 7 F LIMIT SW
GND

MOTOR BUTTON S/W
MOTOR SNESOR S/W HIROSE40P

A   B

MAIN POWER
5V
GND
12V

MOTOR2
6 MOT−
6 MOT+
5 MOT−
5 MOT+
4 MOT−
4 MOT+

VOLUME
AGND
−INV2
−INV1
SPK R
SPK L

SPEAKER
AGND
SPK

FND_CONTROL   GND
GND
FND_GATE
FND_STB
FND_SCK
FND_SDAT
5V

LED_CONTROL
GND
LED_GATE
LED_STB
LED_SCK
LED_SDAT
5V

MOTOR1
3 MOT−
3 MOT+
2 MOT−
2 MOT+
1 MOT−
1 MOT+
B MOT−
B MOT+
A MOT−
A MOT+

SERIAL
CAN

BALLAST
BALLAST
FPL BALLAST

CAN

SETUP_LCD
LED_CONTROL
FND_CONTROL
VOLUME
SPEAKER

A B C D E F

1

Z MOTOR
STEP
MOTOR1
MOTOR2
FP LMIT SW
MOTOR SNESOR S/W
VOLUME
COUNTER&SETUP_BTN
SETUP_LCD
COIN
AC BILL
CARD
IR,ENCODER2
TILT
SPEAKER
FND_CONTROL
START BTN & LAMP
LED,CONTROL

A MOTOR   B MOTOR

LED PCB   LED PCB

X-STEP MOTOR

Z-MOTOR

GAME BUTTON

1 MOTOR   2 MOTOR   3 MOTOR

2

4 MOTOR   5 MOTOR   6 MOTOR

SPEAKER

Z AXIS S/W

4 — 1
FAIL
4 — 1
X LIMIT
4 — 1
Z READY
4 — 1
SUCCESS

DROP SENSOR

TILT

3

DISPENSER S/W

4 — 1
A F LMIT
4 — 1
A B LMIT

4 — 1
B F LMIT
4 — 1
B B LMIT

CARD

4 — 1
1 F LMIT
1 B LMIT

4 — 1
2 F LMIT
2 B LMIT

4 — 1
3 F LMIT
3 B LMIT

COIN IN   BILL IN

LCD

COIN 1   COIN 2

BILL (mei)

SERVICE   VR

4 — 1
4 F LMIT
4 B LMIT

4 — 1
5 F LMIT
5 B LMIT

4 — 1
6 F LMIT
6 B LMIT

CONTROL PANEL

4

A B C D E F

i-Cube

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