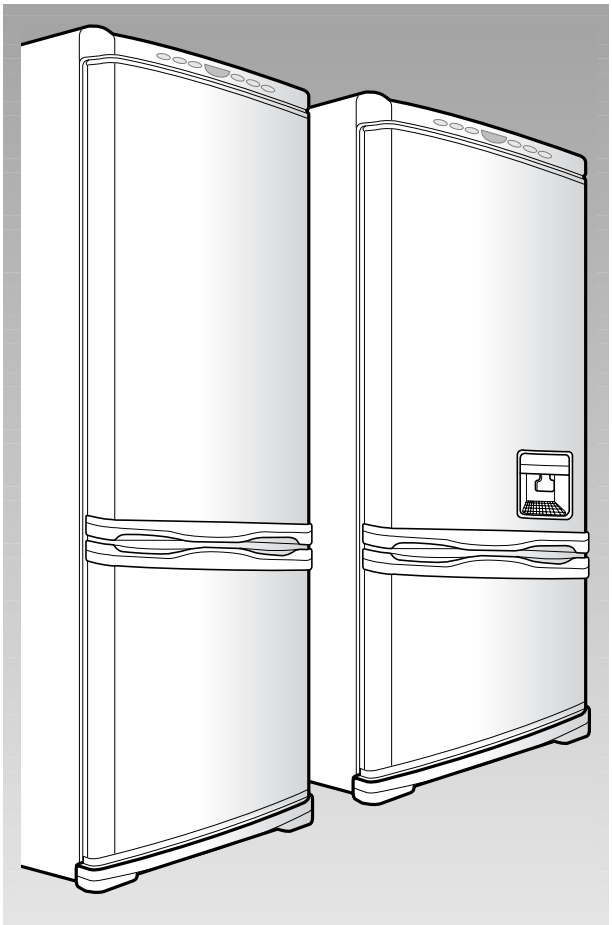
# FREEZER/REFRIGERATOR

**Model : SRL3928B(A)/39WEB(A)**
**SRL3926B(A)/39NEB(A)**
**SRL3916B(A)/39NMB(A)**
**SRL3626B(A)/36NEB(A)**
**SRL3616B(A)/36NMB(A)**

HFC FREE
GREEN

# SERVICE Manual

## FREEZER / REFRIGERATOR



## CONTENTS

# 1. Precautions

**Warning** : Please abide by the following precautions in order to conduct the maintenance procedures in a safety fashion.

**Cleaning** : After completing repairs, clean the surrounding area and the refrigerator and tell the consumer about the repairs being made.

### 1-1. Caution when you replacing compressor.

- Do not smoke. Remove all the possible ignition sources and then replace compressor in well-aired places.
- Don't use welding machines if R600a refrigerant does not exposed.
- In the case of gas leakage, always open the windows.
- When cutting the SUCTION, DISCHARGE pipe of the compressor, always take caution of the inner pressure of the remaining gas.

### 1-2. Take out the power plug

- Always take out the power plug from the outlet when doing repairs.

### 1-3. Be careful of electric shocks

- When inspecting the circuit, don't touch the battery charger and be careful of electric shocks.

### 1-4. Use proper components

- Always use the component labeled in the service component chart when replacing components for repairs.

### 1-5. Use proper tools

- Always use proper tools for repairs. If worn out tools are used, it would cause defects in tuning and electrical contact, leading to accidents.

### 1-6. When doing repairs, inspect the **POWER CORD** or whether there is fire in the lead wire and make sure they are replaced.

### 1-7. Cutting of LEAD-WIRE

- For connecting the lead-wire that has been cut off, use soldering or connector and always disconnect the vinyl tapes.

### 1-8. Check for disconnection

- After completing the assembly, always measure the disconnection resistance level, and turn on the power after checking it is above 1MΩ.

### 1-9. Earth

- Check the status of earthing and repair the incomplete ones.

### 1-10. Be careful of children

- There is always the possibility of danger when doing repairs so make sure that children can't come nearby.

This appliance contains a small amount of the refrigerant isobutane(R600a), a natural gas with high environmental compatibility but which is also combustible. When transporting and installing the appliance, care should be taken to ensure that no parts of the refrigerating circuit are damaged. Refrigerant squirting out of the pipes could ignite or cause an eye injury. If damage occurs nevertheless, avoid any flames or potential sources of ignition, and air the room in which the appliance is standing for several minutes.

- In order to avoid the creation of a flammable gas-air mixture if a leak in the refrigerating circuit occurs, the size of the room in which the appliance may be sited depends upon the amount of refrigerant used. The room must be 1m$^3$ in size for every 8 g of refrigerant R600a inside the appliance. The amount of refrigerant contained in your particular appliance is shown on the identification plate inside the appliance.
- Never start up an appliance showing any signs damage. If in doubt, consult your dealer.

| | |
|---|---|
| | Refers to prohibition. |
| | Refers to prohibition of dismantling. |
| | Refers to prohibition of contact. |
| | Refers to guidelines which have to be followed. |
| | Refers to detaching the power plug from the outlet. |
| | Refers to earth connection for preventing electric shocks. |

| | |
|---|---|
| **Warning** | Refers to possibility of death or serious injury of a person. |
| **Caution** | Refers to possibility of injury of a person or damage to property. |

# 2. Product Specifications

| Model | | | SR-L3928B(A)<br>SR-L39WEB(A) | SR-L3926B(A)<br>SR-L39NEB(A)<br>SR-L3626B(A)<br>SR-L36NEB(A) | SR-L3916B(A)<br>SR-L39NMB(A)<br>SR-L3616B(A)<br>SR-L36NMB(A) |
|---|---|---|---|---|---|
| Capacity (ISO) | Net (Liter) | Total | 345 | 350/325 | 350/325 |
| | | Freezer | 104 | 104/104 | 104/104 |
| | | Refrigerator | 241 | 246/221 | 246/221 |
| Dimension | Width(mm) | | 595 | 595 | 595 |
| | Depth(mm) | Recessed type | 631 | 631 | 631 |
| | | Bar type | 663 | 663 | 663 |
| | Height(mm) | | 1920 | 1920/1820 | 1920/1820 |
| Net weight (kg) | | | 76 | 76/73 | 76/73 |
| Cooling technology | | | No-frost | No-frost | No-frost |
| Freezer performance | | | ★★★★ (4-STAR) | ★★★★ (4-STAR) | ★★★★ (4-STAR) |
| Control&Display | Temperature control type | | Electronic | Electronic | Semi electronic |
| | Temperature display type | | Digital | Digital | LED |
| Function | Power off | | ○ | ○ | ○ |
| | Super Freezer | | ○ | ○ | × |
| | VAC | | ○ | ○ | × |
| | ECO | | ○ | ○ | × |
| | Alarming display for power failure | | ○ | ○ | × |
| | Alarming melody for door open | | ○ | ○ | × |
| REFRIGERATOR COMPARTMENT | | | | | |
| Water dispenser(4.2L/Child lock) | | | ○ | × | × |
| Shelf | Tempered glass shelf | | Optional | Optional | Optional |
| | Transparent plastic | | Optional | Optional | Optional |
| Vegetable/Salad bin(Moisture controller) | | | 2 | 2 | 2 |
| Interior lamp | Incandescent lamp | | Optional | Optional | ○ |
| | Fluorescent lamp | | Optional | Optional | × |
| Door storage | Can-carry | | Optional | Optional | Optional |
| | Door pocket | Transparent/White | Optional | Optional | Optional |
| | | Dairy pocket | 1EA | 1EA | 1EA |
| | | Deep bottle storage | 1EA | 1EA | 1EA |
| | | Egg tray | 1EA | 1EA | 1EA |
| FREEZER COMPARTMENT | | | | | |
| Drawer | Transparent / White | | Optional | Optional | Optional |
| Ice tray | Twist / Normal tray(2EA) | | Optional | Optional | Optional |
| Blowing agent | | | Cyclo Pentane | Cyclo Pentane | Cyclo Pentane |
| Refrigerant | | | R600a(65g) / R134a(155g) | | |

# 3. Electrical part specification & standard

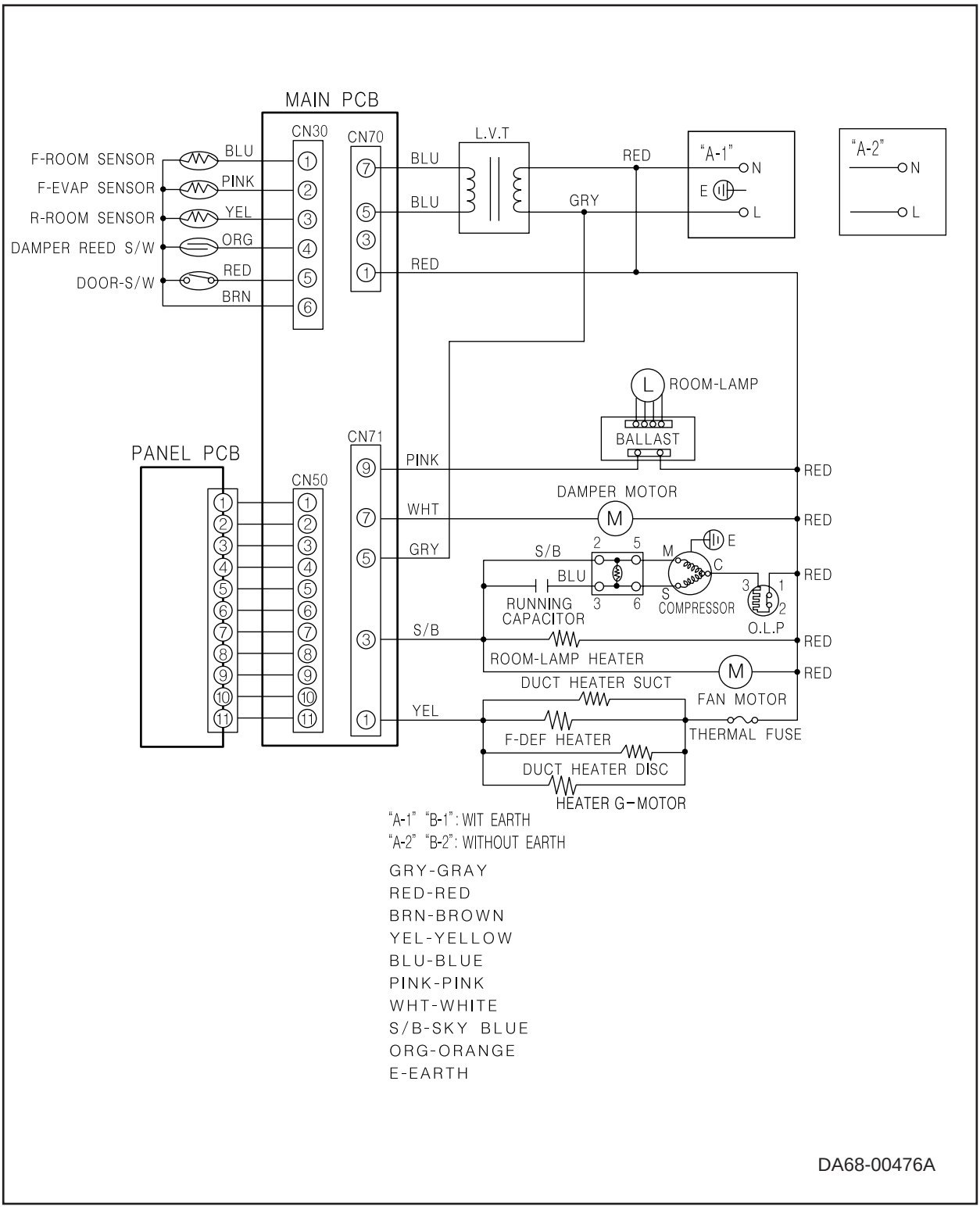
| ITEM | | | STANDARDS | | | |
|---|---|---|---|---|---|---|
| Model | | | SR-L3928B(A)/L39WEB(A), SR-L3926B(A)/L39NMB(A)<br>SR-L3916B(A)/L39NMB(A), SR-L3626B(A)/L36NEB(A)<br>SR-L3616B(A)/L36NMB(A) | | | |
| Power source | | | 230-240V/50Hz | 230V/50Hz | 220V/50Hz | 127V/60Hz |
| Refrigeration cycle | Compressor | Model | DK4A1Q-L1U (R600a) | DK172Q-L2U (R134a) | | DK172P-L2U (R134a) |
| | | starting type | R.S.C.R | | | |
| | | Oil charging | SUNISO-2GSD/265cc | FREOL α15c/265cc | | |
| | Evaporator | | Split fin.Tube Type | | | |
| | Condenser | | Natural Convection Type | | | |
| | Dryer | | Molecular Sieve XH-9 | | | |
| | Capilary tube | | I.D 0.75 × L4,000mm | | | |
| Electrical parts | Sensor | Freezer | 502AT | | | |
| | | Refrigerator | 502AT | | | |
| | | Defrost | 502AT | | | |
| | | Room TEMP. | 502AT | | | |
| | Heater | Defrost | 310W/240V | | 310W/220V | 310W/127V |
| | | Lamp | 2W/240V | | 2W/220V | 2W/127V |
| | | | For Only Fluorescent Lamp | | | |
| | | Disc-Duct | 7W/240V | | 7W/220V | 7W/127V |
| | | Suct-Duct | 15W/240V | | 15W/220V | 15W/127V |
| | | Cover-EVAP,RE | 7W/240V | | 7W/220V | 7W/127V |
| | Fuse | Defrost | 250V/10A, 72±4℃ | | | |
| | Defrosting | Defrost Time | 6~19hr(Vary According To The Environmental Conditions) | | | |
| | | | 4hr±10min(At The First Operating Cycle) | | | |
| | | Rest Time | 7min±2min | | | |
| | Capacity | Running | 350VAC/3.5μF | 350VAC/5μF | | 250VAC/12μF |
| | Over-Load Protector | Model | 4TM213PHBYY-53 | 4TM232SHBYY-53 | | 4TM435PHBYY -53 |
| | | On Temp | 69℃ | 69℃ | | 69℃ |
| | | Off Temp | 125℃ | 135℃ | | 125℃ |
| | PTC-Relay | Model | J531Q35E330M385-2 | | | J531Q33E100M200-2 |
| | | Resistance | 33Ω ± 20% | | | 10Ω ± 20% |
| | Lamp | | OSLAM DELUX S/E11W(Fluorescent Lamp) | | | |
| | | Refrigerator | KE257024025(240V/25W) (Incandescent Lamp) | | | (130V/25W) (Incandescent Lamp) |
| | Damper(Geared)-motor | Freezer | 220~240VAC, 50/60Hz MN71MNBA6(M2LA49Z) | | | 110VAC, 50/60Hz JX71MLBA6 |
| | Door Switch | | H3005CL, 250VAC/25W | | | |
| | Motor Fan | Freezer | IS3210-SNL5C | | IS3210SNF7F | IS3210SNP6C |

# 4. Setting Temperature of the Fridge/Freezer

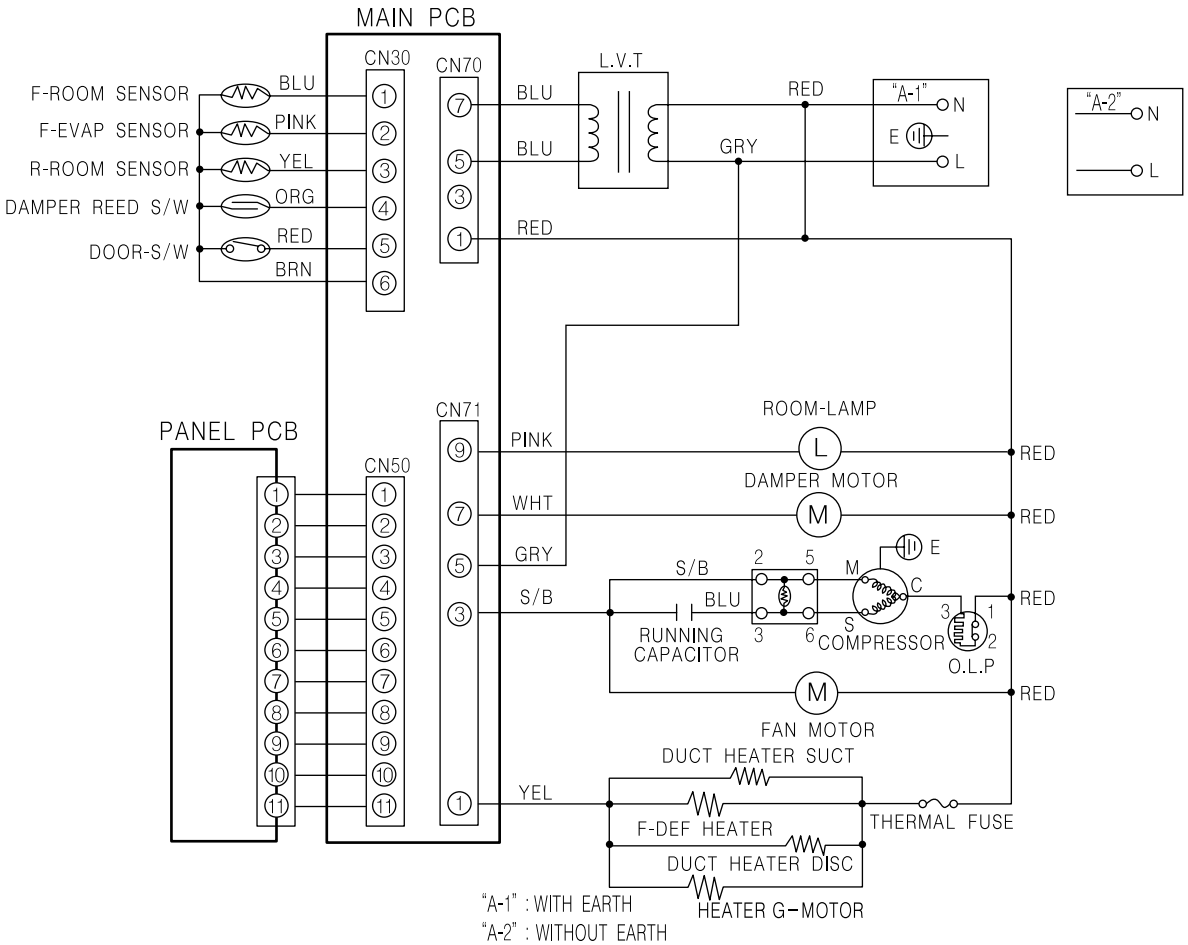
| ITEM | | | | ELECTRONIC | | SEMI-ELECTRONIC | |
|---|---|---|---|---|---|---|---|
| | | | | SR-L3928B(A)/L39WEB(A)<br>SR-L3926B(A)/L39NEB(A)<br>SR-L3626B(A)/L36NEB(A) | | SR-L3916B(A)/L39NMB(A)<br>SR-L3616B(A)/L36NMB(A) | |
| Temperature | Freezer | Type | Type | ON(℃) | OFF(℃) | ON(℃) | OFF(℃) |
| | | F-Sensor | Warm | -14℃ | -20℃ | -14℃ | -20℃ |
| | | | | | | -15℃ | -21℃ |
| | | | Normal | -18℃ | -24℃ | -17℃ | -23℃ |
| | | | Cold | -22℃ | -28℃ | -20℃ | -26℃ |
| | | | | | | -22℃ | -28℃ |
| | Refrigerator | Type | Type | ON(℃) | OFF(℃) | ON(℃) | OFF(℃) |
| | | F-Sensor | Warm | 6.5℃ | 5.5℃ | 6.5℃ | 5.5℃ |
| | | | | | | 5.5℃ | 4.5℃ |
| | | | Normal | 4.5℃ | 3.5℃ | 4.5℃ | 3.5℃ |
| | | | Cold | 1.5℃ | 0.5℃ | 3.5℃ | 2.5℃ |
| | | | | | | 2.5℃ | 1.5℃ |

# 5. Circuit Diagram

## 5-1. ELECTRONIC MODEL(SR-L3928B(A)/L39WEB(A)/ SR-L3926B(A)/L39NEB(A)) for Fluorescent Lamp Option



## 5-2. ELECTRONIC MODEL (SR-L3928B(A)/L39WEB(A)/L3926B(A)/L39NEB(A)/ SR-L3626B(A)/L36NEB(A)) for Incandescent Lamp Option

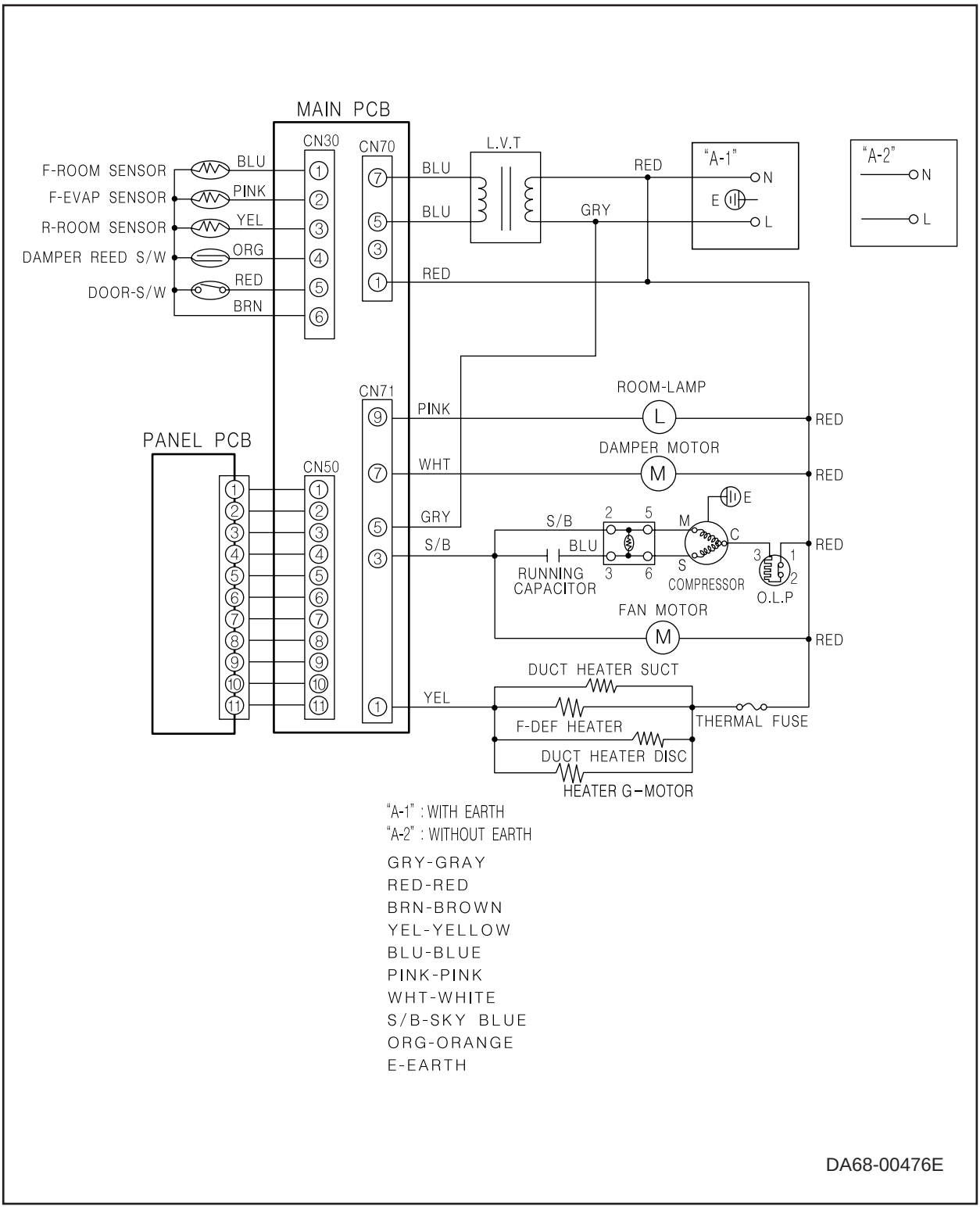



"A-1" : WITH EARTH
"A-2" : WITHOUT EARTH

GRY-GRAY
RED-RED
BRN-BROWN
YEL-YELLOW
BLU-BLUE
PINK-PINK
WHT-WHITE
S/B-SKY BLUE
ORG-ORANGE
E-EARTH

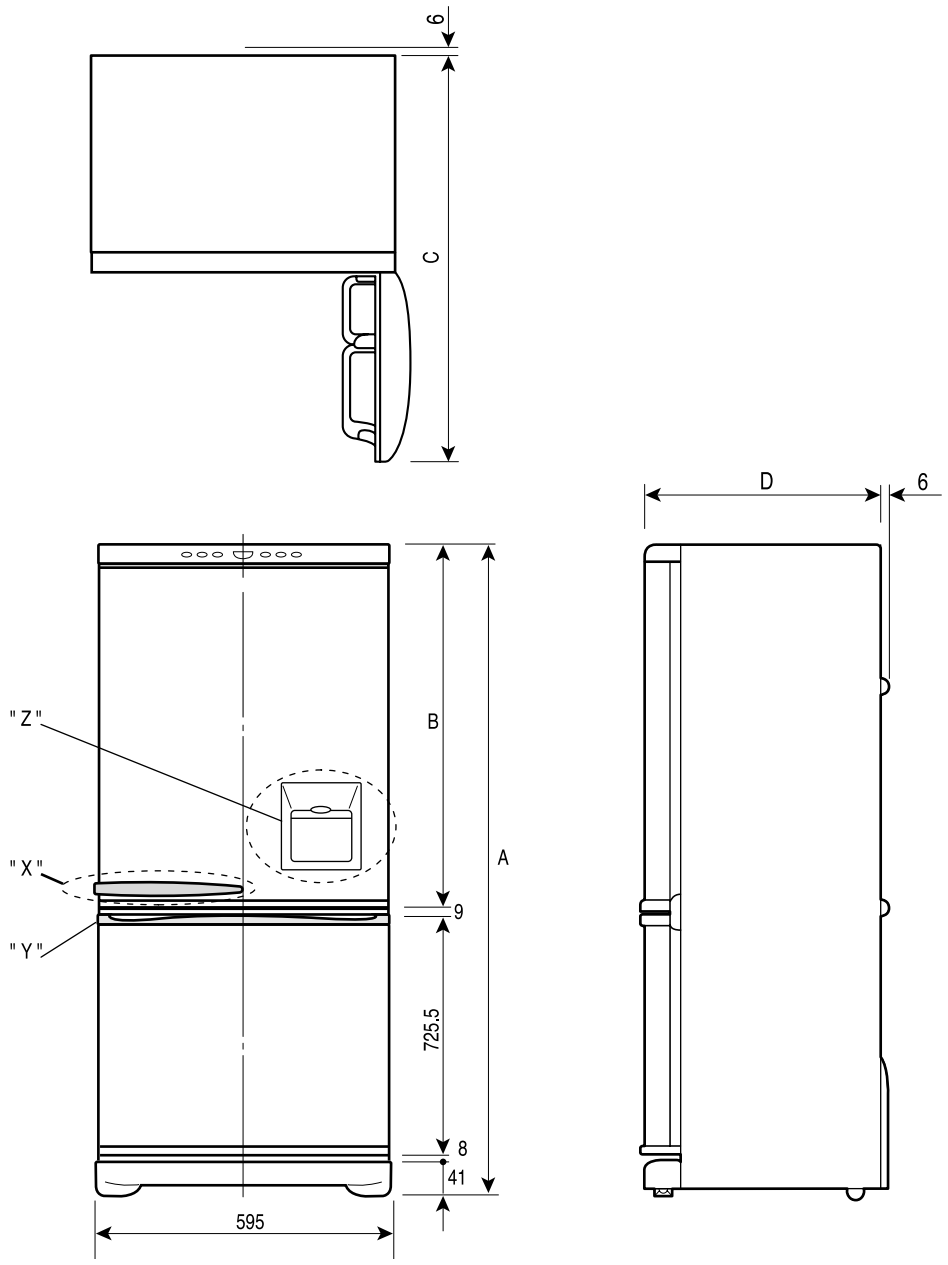
DA68-00476C

## 5-3. SEMI-ELECTRONIC MODEL (SR-L3916B(A)/L39NMB(A)/ SR-L3916B(A)/L36NMB(A))



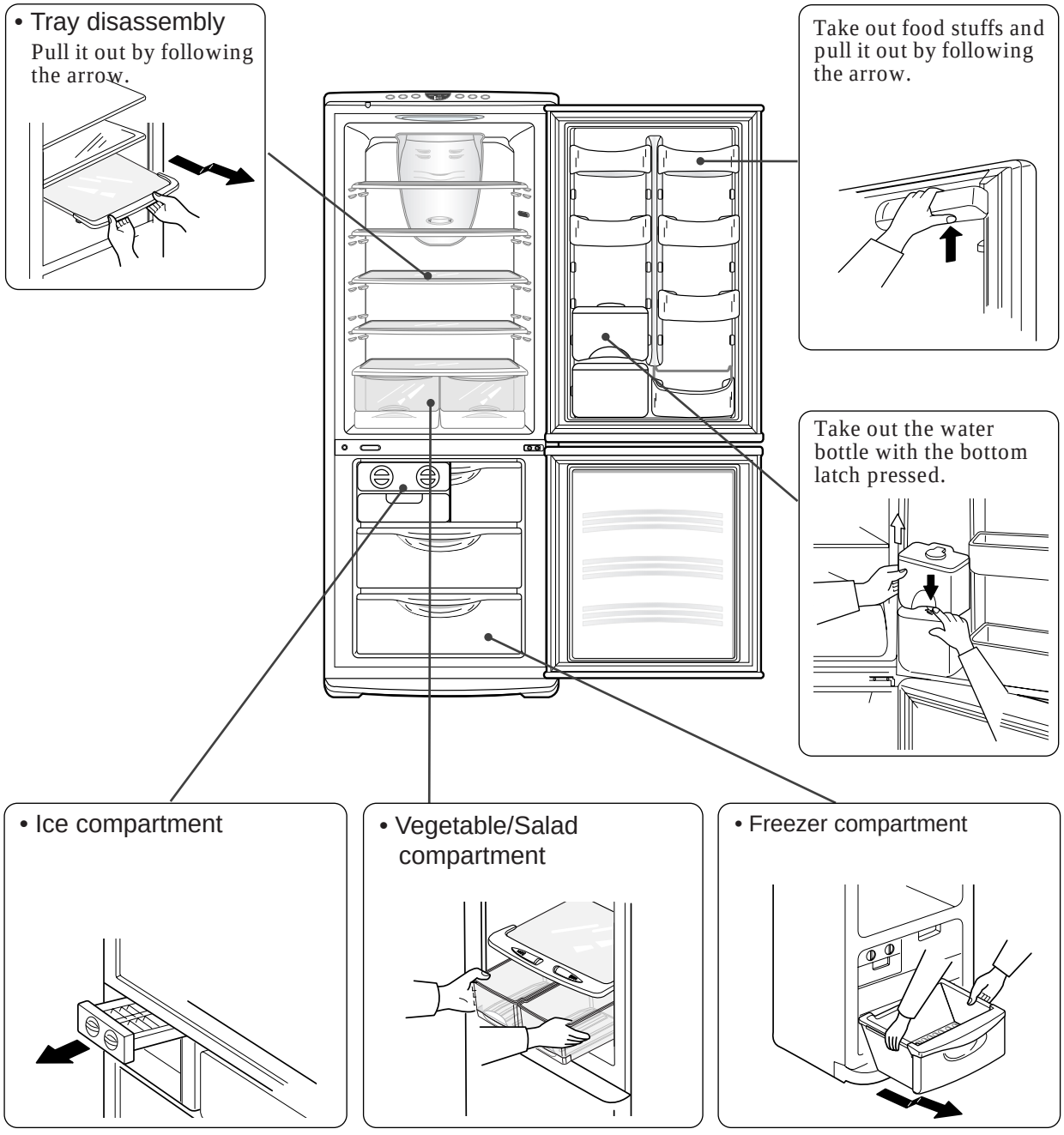
# 6. Function & Operating Instruction

## 6-1. Product Dimension



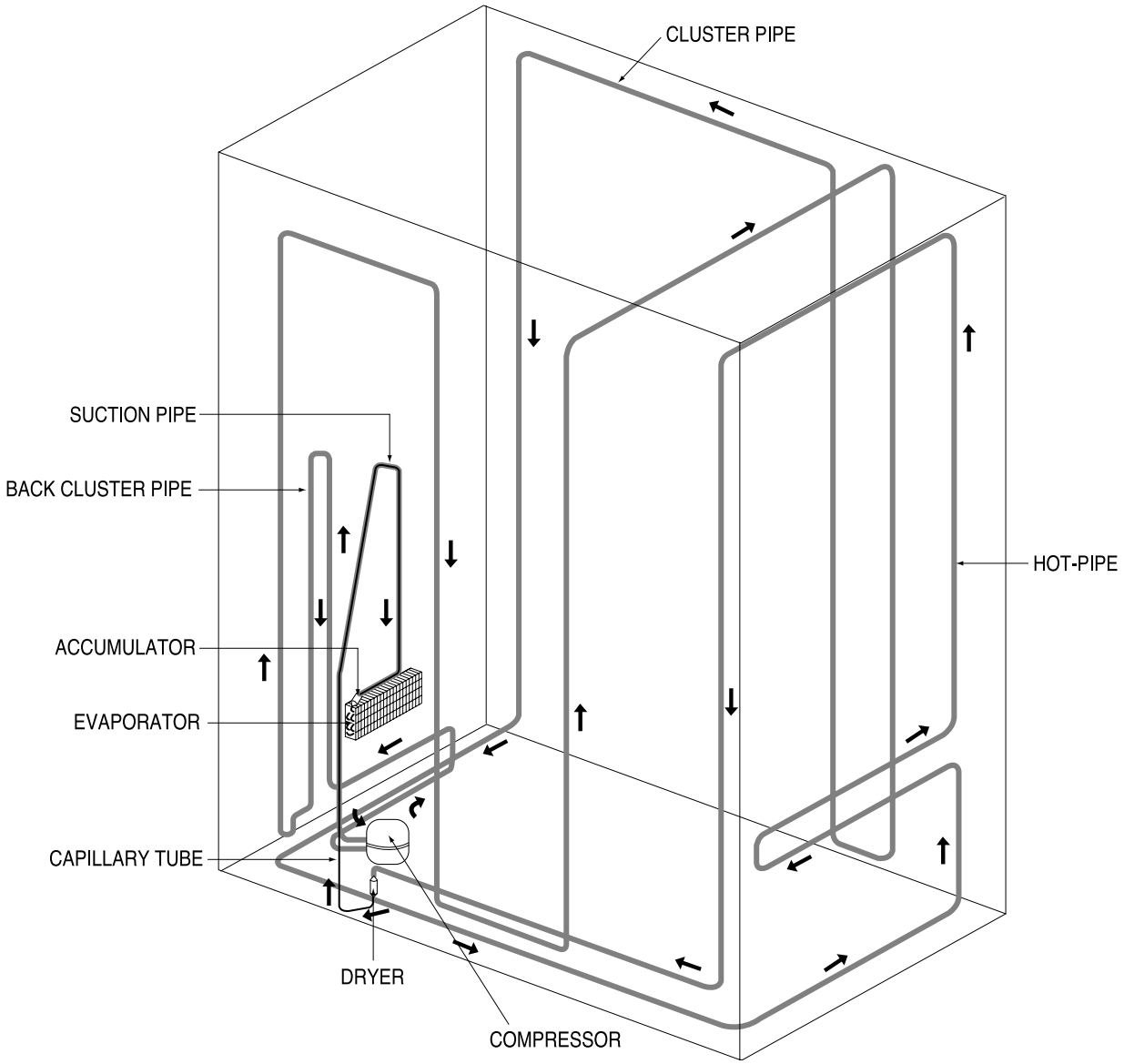

| MODEL | A | B | C | D | HANDLE | Remarks | |
|---|---|---|---|---|---|---|---|
| SR-L3928B/L39WEB | 1,920 | 1114.5 | 1,169 | 631 | RECESS | “Y” “Z” | ELECTRONIC |
| SR-L3926B/L39NEB | 1,920 | 1114.5 | 1,169 | 631 | RECESS | “Y” | |
| SR-L3626B/L36NEB | 1,820 | 1014.5 | 1,169 | 631 | RECESS | “Y” | SEMI ELECTRONIC |
| SR-L3916B/L39NMB | 1,920 | 1114.5 | 1,169 | 631 | RECESS | “Y” | |
| SR-L3616B/L36NMB | 1,820 | 1014.5 | 1,169 | 631 | RECESS | “Y” | |
| SR-L3928A/L39WEA | 1,920 | 1114.5 | 1,169 | 663 | BAR | “Y” “Z” | ELECTRONIC |
| SR-L3926A/L39NEA | 1,920 | 1114.5 | 1,169 | 663 | BAR | “X” | |
| SR-L3626A/L36NEA | 1,820 | 1014.5 | 1,169 | 663 | BAR | “X” | SEMI ELECTRONIC |
| SR-L3916A/L39NMA | 1,920 | 1114.5 | 1,169 | 663 | BAR | “X” | |
| SR-L3616A/L36NMA | 1,820 | 1014.5 | 1,169 | 663 | BAR | “X” | |

## 6-2. Part Name & Disassembly

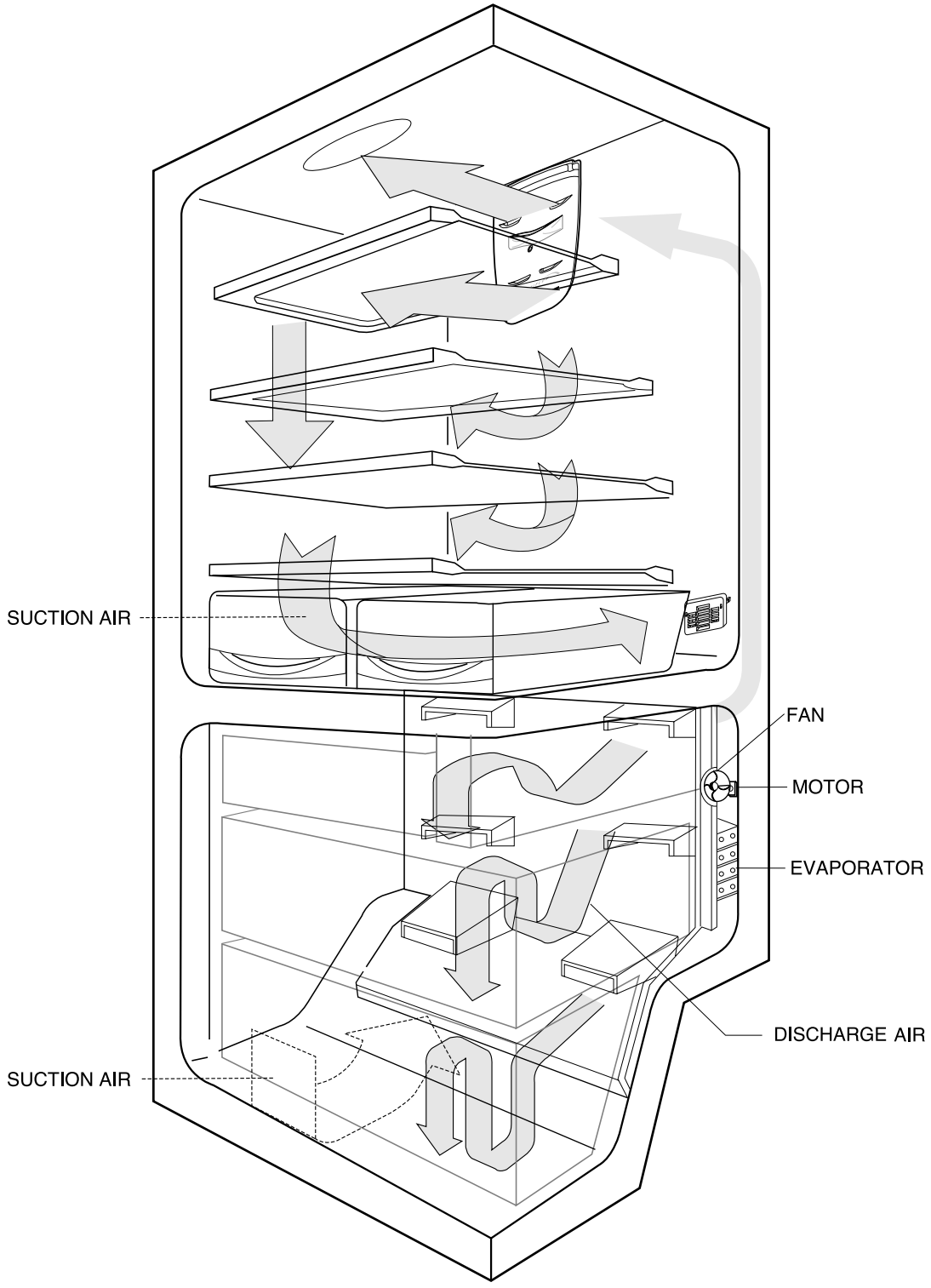


## 6-3. Circulation of Refrigerant

Compressor → Back cluster pipe → Cluster pipe → Hot pipe → Dryer → Capillary tube → Evaporator → Accumulator → Suction pipe → Compressor



## 6-4. Cool Air Circulation



# 7. Functions of Refrigerator

## 7-1. 7-Segments Display Function

| Section | | Function |
|---|---|---|
| Initial POWER ON (Power s/w, instantaneous electricity failure) | Notch setting (YES) | Blink setting temperature of freezer until temperature reaches below TFSET_ON +3℃ |
| | Notch setting (NO) | "--" displayed (until the notch control is operated) |
| Stabilization of the temperature in the freezer (Since the setting temperature have reached) | | Blink if temperature goes above TFSET_ON +3℃.<br>Display the setting temperature if the temperature goes below TFSET_ON +2℃ |
| Defrosting (precooling+defrosting+pause) | | Display "Blinking" continuously ignoring temperature of freezer if displayed state of freezer before defrosting was "Blinking". Display "Setting temperature of freezer" continuously ignoring temperature of freezer if displayed state of freezer before defrosting was "Setting temperature of freezer".<br>Maintain temperature constantly while it reaches TFSET_OFF point When you return to the operating cycle. |
| Super | | Blink if temperature goes above TFSET_ON +3℃<br>Display the setting temperature if the temperature goes below TFSET_ON +2℃ |
| Forced freezing | | Display "FF"(Forced Freezing) |
| Forced defrosting | | Display "Fd"(Forced Defrosting) |
| Display function of the temperature of refrigerator | | If you push "REF. TEMP." button indicative LAMP of refrigerator starts to light up and blink the setting temperature of refrigerator.<br>If you do not input the KEY, it is blinked 5 times for 5 seconds at 0.5-second interval and automatically converted to the displayed state of setting temperature of refrigerator. |
| Display function of the temperature of freezer | | If you push "FRE. TEMP." button indicative LAMP of freezer starts to light up and blink the setting temperature of freezer.<br>If you do not input the KEY, it is blinked 5 times for 5 seconds at 0.5-second interval and automatically converted to the displayed state of setting temperature of freezer. |

∗ References

1) TFSET-ON : "Setting temperature of freezer +3℃"

2) TFSET-OFF : "Setting temperature of freezer -3℃"

## 7-2. Function of Thermostatic Control

### A. Function of controlling the temperature of freezer

1) You can control the temperature of freezer from -17℃ to -25℃ at 1℃ interval by pushing the control button of the temperature of freezer.(FRE. TEMP.)

2) Temperature is displayed in following order "-19℃, -20℃, -21℃, -22℃, -23℃, -24℃, -25℃, -17℃, -18℃", whenever you push the control button of temperature.

3) The temperature of freezer is automatically set to be "-19℃" on initial POWER ON.

| Section | Power | 1 time push | 2 time push | 3 time push | 4 time push | 5 time push | 6 time push | 7 time push | 8 time push | 9 time push |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 Segment | ----► | --► –19˚C | --► –20˚C | --► –21˚C | --► –22˚C | --► –23˚C | --► –24˚C | --► –25˚C | --► –17˚C | --► –18˚C |
| Controlled temperature of freezer | | –19˚C | –20˚C | –21˚C | –22˚C | –23˚C | –24˚C | –25˚C | –17˚C | –18˚C |

## B. Function of controlling the temperature of refrigerator

1) You can control the temperature of refrigerator from 6℃ to 1℃ at 1℃ interval by pushing the control button of the temperature of refrigerator.
2) Temperature is displayed in following order "4℃, 3℃, 2℃, 1℃, 6℃, 5℃", whenever you push the control button of temperature.
3) The temperature of refrigerator is automatically set to be "4℃" on initial POWER ON.

| Section | power on | 1 time push | 2 time push | 3 time push | 4 time push | 5 time push | 6 time push | note |
|---|---|---|---|---|---|---|---|---|
| 7 Segment | | 4˚C | 3˚C | 2˚C | 1˚C | 6˚C | 5˚C | |
| Controlled temperature of freezer | | 4˚C | 3˚C | 2˚C | 1˚C | 6˚C | 5˚C | |

## C. SUPER Function

1) Press "SUPER" button briefly so that the LED lights up. The Freezer temperature will decrease and the appliance will switch to the lowest temperature.
2) The displayed state is circulated in following order, SUPER is selected → SUPER is released → SUPER is selected, whenever you push the SUPER button one time.

| Section | Initial power on | 1 time push | 2 time push | note |
|---|---|---|---|---|
| Dispaly change | "SUPER" Lamp off | "SUPER" Lamp ON | "SUPER" Lamp off | |

3) If you select the ECO function while SUPER function is working, SUPER function is released and ECO function begins to work.
4) If you select SUPER function, Compressor(and Fan) will be operating continuosly until the temperature of freezer reaches -25℃. (10 seconds after selection)
5) If the temperature does not reach -25℃ after working for 2 hours, compressor will be turned off automatically for 25minutes, and then compressor will be turned on antomatically until the temperature of freezer reaches -25℃ and this function will repeat for 8 hours.
6) If the commencing condition of defrosting is reached during super function, a defrosting cycle will be postponed until the next 25minutes delay time.

## D. ECO Function

1) You can select or release this function by pushing the ECO button.
2) If you select the SUPER function while ECO function is working, ECO function will be released and SUPER function will begin to work.
3) If you select the function of controlling the temperature of freezer compartment or fresh food compartment while ECO function is working, ECO function will be released.
4) If you select the ECO function, the temperature of freezer and refrigerator will be controlled as -17℃ and 6℃, respectively.

## E. VACATION Function

1) You can select or release this function by pushing the VAC button.
2) If you select the VAC function, the temperature of refrigerator will not be controlled and DAMPER will be maintained as closed state. So that, cool air will not be supplied to the refrigerator.
3) VAC function does not affect setting up of the temperature of freezer.
4) If you push the button of controlling the temperature of refrigerator while VAC function is working, VAC function will be released automatically.

## 7-3. Initial Function

### A. Initial function of first POWER ON

1) If power is pressed (POWER S/W ON), it will begin to make a self diagnosis and light all DISPLAY for 2 seconds if normal condition is confirmed
2) After lighting DISPLAY ON, 7-Segment will be displayed as "--".
3) Defrosting HEATER is set to be ON forcibly for 3 seconds irrespective of the evaporator temperature.
4) After turning the defrosting HEATER ON for 3 seconds, turn off the defrosting HEATER and turn COMP. ON and keep it up for 5 minute irrespective of temperature of refrigerator.
5) After turning COMP. ON, operate DAMPER-MOTOR for control of refrigerator and confirm the zero point and 60Hz/50Hz and then control as considering the temperature condition of refrigerator.
6) At this moment, if it does not confirm the zero point due to the disorder of the some part of DAMPER-MOTOR, COMP. will be stoped immediately and display self diagnosis.

## 7-4. Defrosting Function

### A. Common function

1) The period of defrosting is set to be 19 hours according to the COMP intergrated criterion. Previous standard means the following conditions : frequency of opening and closing of the DOOR of refrigerator must be less than one time, the temperature of refrigerator and the temperature of freezer did not increase above TRSET ON+6℃ and TFSET ON+4℃, respectively and special functional button (VAC,SUPER,ECO)was not selected. Besides the predescribed condition, the period of defrosting will be 6 hours and 50 minutes unconditionally.
2) If power is turned off and then is turned on again, the commencement of defrosting will be after 4 hours of the running time of compressor.
3) The COMP and FAN during defrosting, will stop and DAMPER-MOTOR will swing continuously.
4) At a pause time, DAMPER-MOTOR.
5) With the exception of 19 hours in the period of defrosting, will also swing the Pre_Cooling will be executed by operating the COMP forcibly for 50 minutes before execution of defrosting.
6) You are recommended to have a pause time after completion of HEATING.
7) The HEATING for defrosting will be controlled by SENSOR. If SENSOR is out of order or the temperature of EVAP is higher than HEATER ON temperature, HEATING will be skipped and ref only has a pause time.

### B. Defrosting Function while SUPER function is working

1) The operation of defrosting while SUPER function is working will be delayed until the compressor running time is to be 2 hours.
2) If the SUPER function is released by pushing the button before completion of SUPER function, the defrosting function will be operating including the worked time of COMP. operation which was worked by SUPER function.
3) If SUPER function is selected while defrosting function is working, DISPLAY will be set to be SUPER ON condition immediately, but SUPER function will be working after completion of defrosting function.

### C. HEATER ON/OFF during defrosting

1) The temperature of defrosting HEATER ON

| General defrosting | Forced defrosting | Note |
|---|---|---|
| below -5℃ | below -5℃ | Same under all defrosting condition |

2) The temperature of defrosting HEATER OFF

| Section | 6 hours and 50 minutes | 19 hours | 4 hours | Note |
|---|---|---|---|---|
| OFF | 12℃ | 12℃ | 12℃ | |
| OFF | 12℃ | 12℃ | 12℃ | |

## 7-5. TEST Function

◆ TEST function is for examination of product and PCB, process control and service.
◆ After confirmation of function of product by selecting TEST S/W, You must reboot the POWER and operate self-diagnosis function.

### A. Forced operating function

1) If you push REF. TEMP. and FRE. TEMP. button simultaneously for 5 seconds, COMP will begin to work immediately and "FF" will be displayed on the 7 SEGMENTS.
2) If the forced operation is selected, COMP. will work immediately without the delay of 5 minute. At this time, despite of running of defrosting the defrosting will stop.
3) If the forced operation is selected, COMP. will be working as PULL DOWN for 28 hours but the temperature of refrigerator will be controlled by REF. TEMP. button.
4) During the forced operation, SUPER function does not work. If you select the SUPER function, SUPER LAMP will be turned off immediately within 0.2 second after turning on the LAMP.

### B. Forced defrosting function

1) If you push REF. TEMP. and FRE. TEMP. button simultaneously for 5 seconds only once during the forced defrosting, COMP will begin to set to be OFF and "Fd" will be displayed on the 7 SEGMENTS.
2) If the temperature of evaporator sensor is below -5℃ during the forced defrosting, heating will not work and will begin to work as delay time immediately.

### C. TEST release function

1) If you push REF. TEMP. and FRE. TEMP. button simultaneously for 5 seconds only once during the forced defrosting, the forced TEST function will be converted immediately to the previous temperature setting state immediately and "Fd" will disappear on the DISPLAY.

## 7-6. The compensating function for electricity failure

### A. NOTCH SAVE function

1) Whenever you push one of the SUPER, ECO, VAC, FRE.TEMP. and REF.TEMP. Button, the current state will be saved and set to be the NOTCH and DISPLAY state which value was memorized
as the one at rebooting point of POWER, respectively.
2) If the evaporator temperature at the inititial POWER ON state is less than the general defrosting OFF temperature, a clause1) will begin to work. If the evaporator temperature at the inititial POWER ON state is above the defrosting OFF temperature, the NOTCH of FRE.TEMP. and REF.TEMP. will be set to be -19℃ and 4℃, and SUPER, ECO and VAC function does not selected.

## 7-7. The rest control functions

### A. Function of COMP protection

1) After COMP is turned off, 5 minutes must be elapsed for the another operation under all conditions.
2) For the forced operation, compressor will begin to work immediately by pushing the forced operating function without any delay for 5 minutes.
3) At the initial moment of POWER ON or POWER S/W ON, this function begins to work immediately after heating of defrosting for 3 seconds.

### B. Function of supercooling protection of refrigerator with a surrounding air of low temperature.

1) If the temperature of surrounding air begins to drop below 13℃, the hysteresis of freezer sensor will alter ±3.0℃ into ±1.5℃ and the temperature of refrigerator will be controlled with -1℃ shifted.
2) If the temperature of surrounding air will be between 14℃ and 31℃, the hysteresis of freezer sensor will be back to ±3.0℃ and the refrigerator will be controlled with REF. TEMP. setting temperature.
3) If the temperature of surrounding air begins to rise above 33℃, the hysteresis of freezer sensor will alter ±3.0℃ into ±1.5℃.

### C. Function of NOTCH compensation

1) The NOTCH of refrigerator temperature will be -1℃ shifted when the NOTCH setting of freezer and refrigerator are ranged from -17℃ to -19℃ and 1℃ to 2℃, respectively.
2) The NOTCH of refrigerator temperature will be +2℃ shifted when the NOTCH setting of freezer and refrigerator are ranged from -25℃ to -23℃ and 5℃ to 6℃, respectively.
3) The NOTCH of refrigerator temperature will be set to be normal condition when the NOTCH setting of freezer is ranged from -20℃ to -22℃.

## 7-8. Function of Self diagnosis

### A. Function of self diagnosis

1) The criterion of disorder of temperature sensor is out of temperature range from -50℃ to +50℃. It is treated as SHORT/OPEN if the MICOM input voltage is out of voltage range from 0.5 VOLT to 4.5 VOLT.

◆ The disorder table prepared by self-diagnosis

| NO | Items | Segments display | Contents of disorder | Note |
|---|---|---|---|---|
| 1 | R-SENSOR | "r-5" | OPEN disorder<br>SHORT disorder | if sensing below -50℃<br>if sensing above +50℃ |
| 2 | F-EVAP SENSOR | "d5" | 〃 | 〃 |
| 3 | F-SENSOR | "F5" | 〃 | 〃 |
| 4 | DAMPER-MOTOR (GEARED) | "rd" | CONTROL RELAY of DAMPER-MOTOR disorder or MOTOR, REED S/W, MAGNET disorder | cannot sensing ON/OFF of REED S/W for more than 1 minute operation |

### B. Function of initial self diagnosis by POWER ON

1) After POWER ON, inside of MICOM automatically detects the existence of the disorder of temperature sensor within one second.
2) If bad sensor is found out by self diagnosis, it will be displayed rotatory on the 7 Segment at 0.5 second interval.
3) If bad sensor is detected, any button will not be recognized and all electrical load will be set to be OFF and normal control of temperature will be reserved.
4) If bad part is repaired, it will be restored to the original state.

C. Function of self diagnosis during normal operation

1) If you push SUPER and VAC button simultaneously for 5 seconds while the refrigerator is working, "EC" on the 7 SEGMENTS will be displayed and function of self diagnosis will be selected.
2) KEY input will not work while self diagnosis function is operating. (except for POWER button)

## 7-9. Function of DOOR OPEN WARNING and control the light in refrigerator.

### A. Warning of DOOR OPEN

1) BUZZER WARNING(ding-dong) SOUND will be generated if 2 minutes are elapsed continuously with the refrigerator door open.
2) Initial BUZZER WARNING will be generated for 10 seconds after 2 minutes of DOOR OPEN, and since then "Ding-Dong" sound will be generated every one minute for 10 seconds periodically.
3) If the refrigerator door is closed, warning will stop immediately.
4) If 10 minutes are elapsed continuously with the door open, light in refrigerator will be turned off and warning continues to work.

### B. Function of controlling the light in refrigerator

1) If 10 minutes are elapsed continuously with refrigerator door open, the light in the refrigerator will be turned off automatically.
2) Despite of turning the light in the refrigerator off, it will be set to be ON again if you open the DOOR which was closed.
3) At this moment, OFF time of the light will be set to be 10 minutes again.

## 7-10. Function of POWER ON/OFF & Alarm of electricity failure

### A. Function of POWER ON/OFF

1) This function is selected or released by POWER button.
2) If the power switch is turned on, all electrical load work normally, "--" will be displayed on the 7-SEGMENTS DISPLAY.
3) At above state, 7-SEGMENTS will display the setting temperature if you push the freezer or the refrigerator setting BUTTON.

### B. Function of Alarm of electricity failure

1) Above state( 1-3 of (A)) will be maintained if the power is turned on after electricity failure
2) "--" on the 7-SEGMENTS means the occurrence of electricity failure if any handling of operating part was not done specially.

## 7-11. Function of BUZZER

### A. Button input

1) If you push the BUTTON during normal working condition, "ding-dong" sound will be generated every 1 second.
2) Only "ding" sound is generated when the BUTTON is pushed continuously.
3) It does not sound in case of mistaken operation

### B. Door alarm

1) DOOR OPEN ALARM will be generated as "ding-dong, ding-dong" if 2 minutes are elapsed continuously with the refrigerator door open.

### C. Forced operation

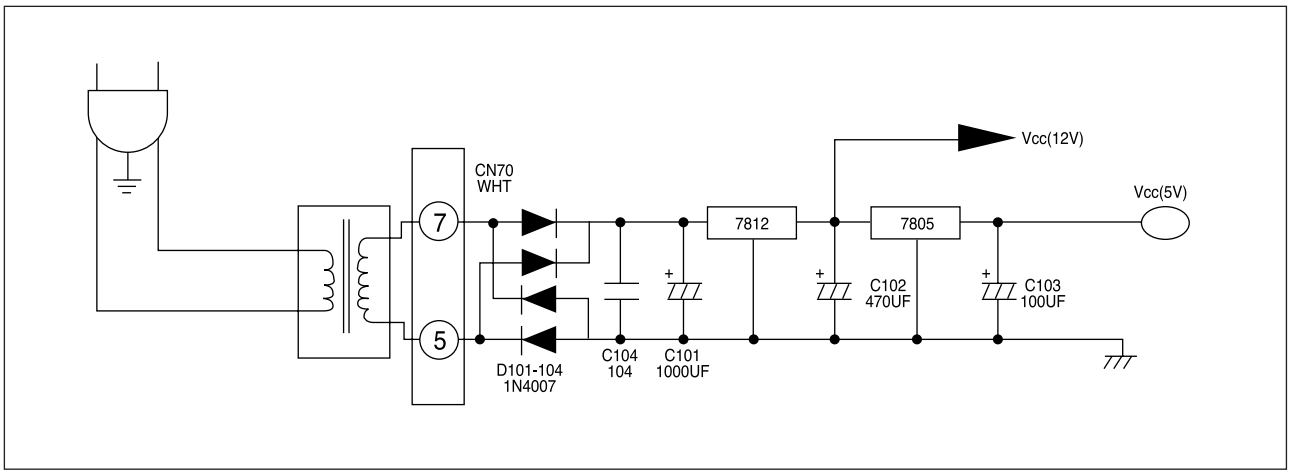
1) BEEP SOUND will be generated with a period of 0.25 second ON/0.75 second OFF if you push REF. TEMP. and FRE. TEMP. button simultaneously for 5 seconds.

### D. Forced defrosting

1) BEEP SOUND will be generated with a period of 0.1 second ON/1 second OFF if you push REF. TEMP. and FRE. TEMP. button simultaneously for 5 seconds only once during the forced defrosting.

# 8. Circuit Descriptions

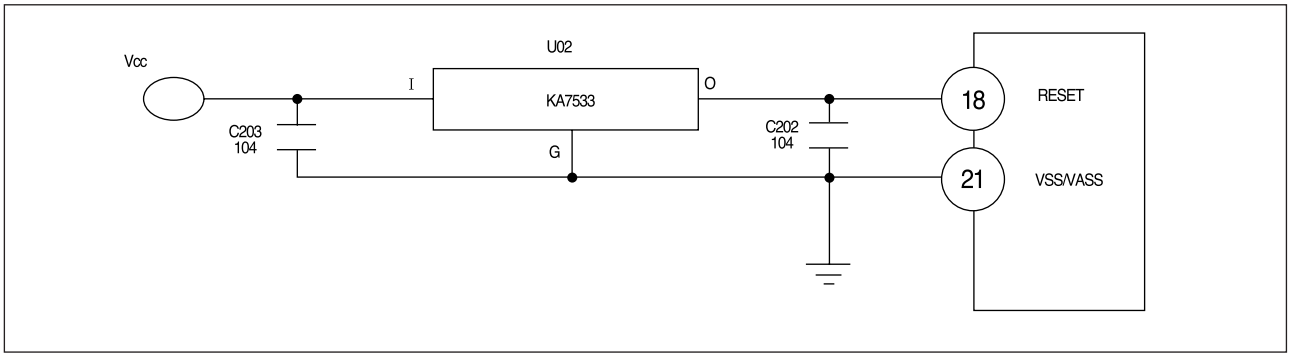
## 8-1. Division of power supply




| Power supply | Used circuit |
|---|---|
| Vcc (DC 5V) | Auxiliary power supply of MICOM and sensing part of SENSOR |
| Vcc (DC 12V) | LED DISPLAY working part, RELAY working |

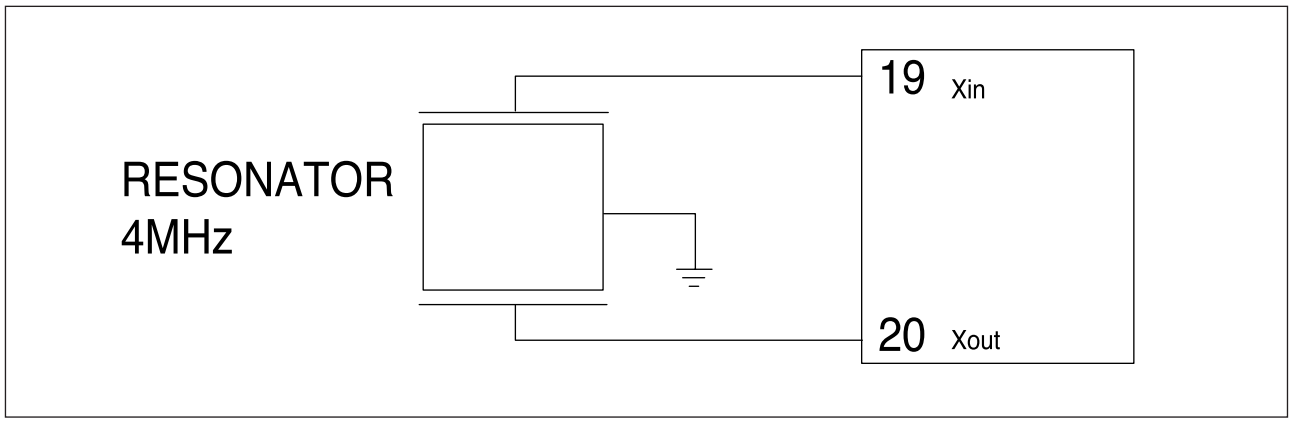
◆AC inputed power is decompressed through DC-TRANS and the reduced volatage is converted to the DC voltage through rectifying DIODE. Then it becomes flat through 1000 F/35V CAPACITOR and through REGULATOR 7812, stabilized DC 12V output comes and it is used as power source for RELAY and DISPLAY.Also from this 12V, stabilized 5V output comes through REGULATOR7805 and used as power source for MICOM auxiliary circuit and various signals(SENSOR, S/W).

## 8-2. Division of RESET Circuit



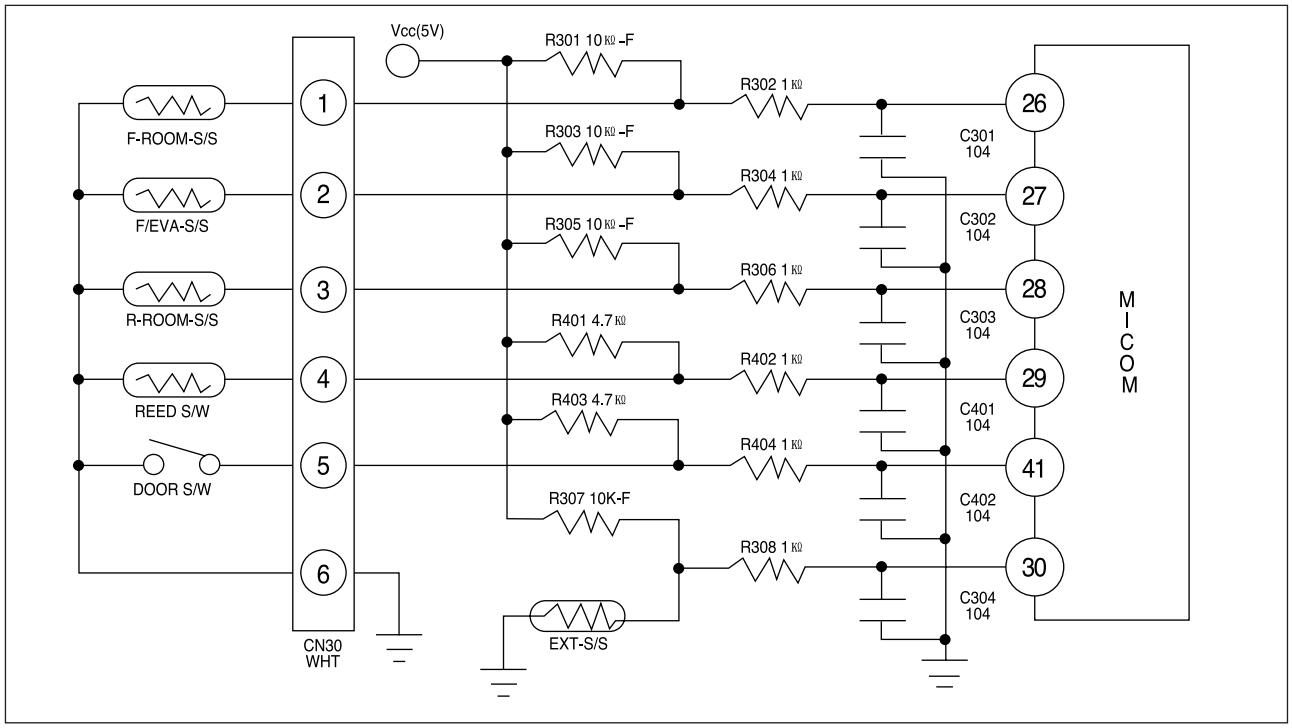

◆Division of RESET circuit makes it possible that programed function of system is set to be initial state by initializing various parts such as RAM in MICOM when power is impressed or instantaneous electricity failure is occurred. RESET voltage at the impressed moment of power is maintained as "LOW" state for a few seconds and "High" under normal working condition.

## 8-3. Division of RESONATOR



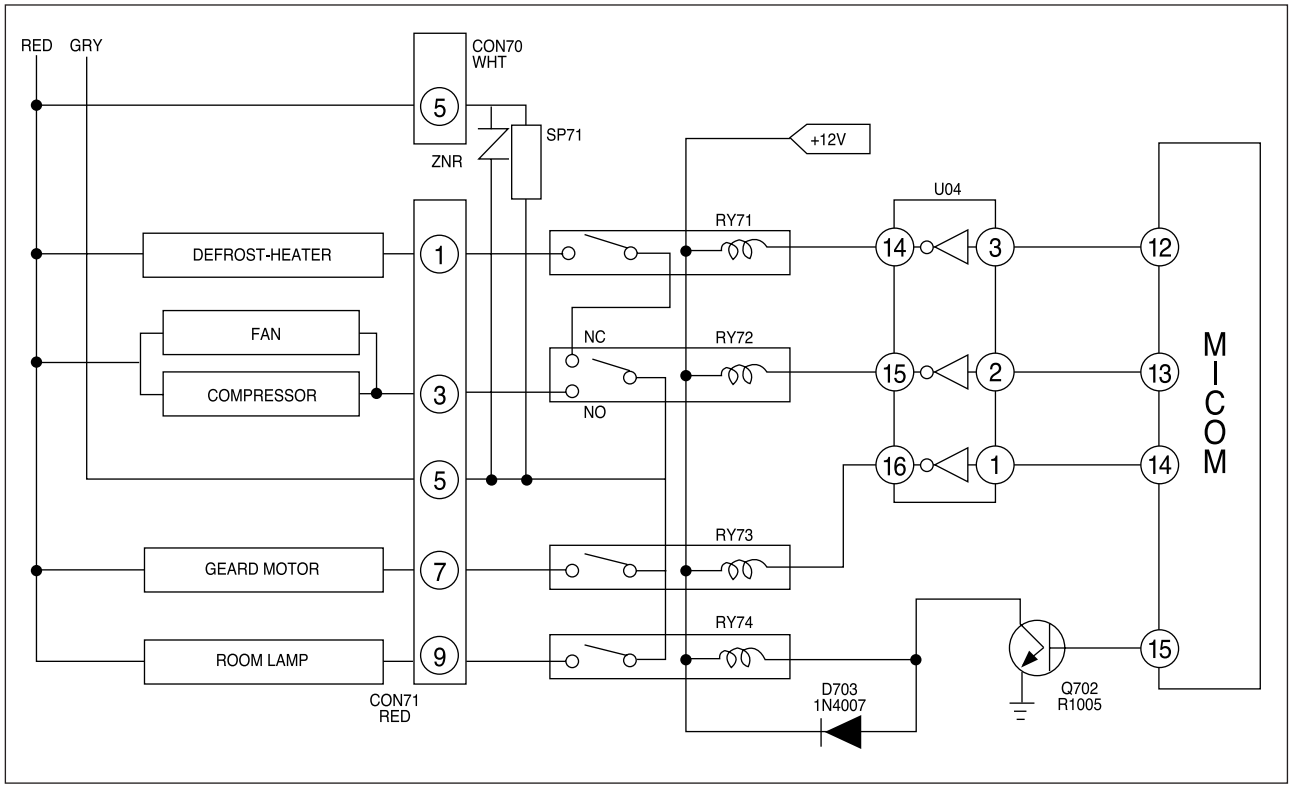

◆The role of this circuit is generation of synchronous CLOCK for transmission/reception of informations of the logical elements inside MICOM and the basic time for the calculation of time. Rated parts must be used in the division of RESONATOR because the calculation time of MICOM is changed or cannot work if specification is changed.

## 8-4. Division of SENSOR



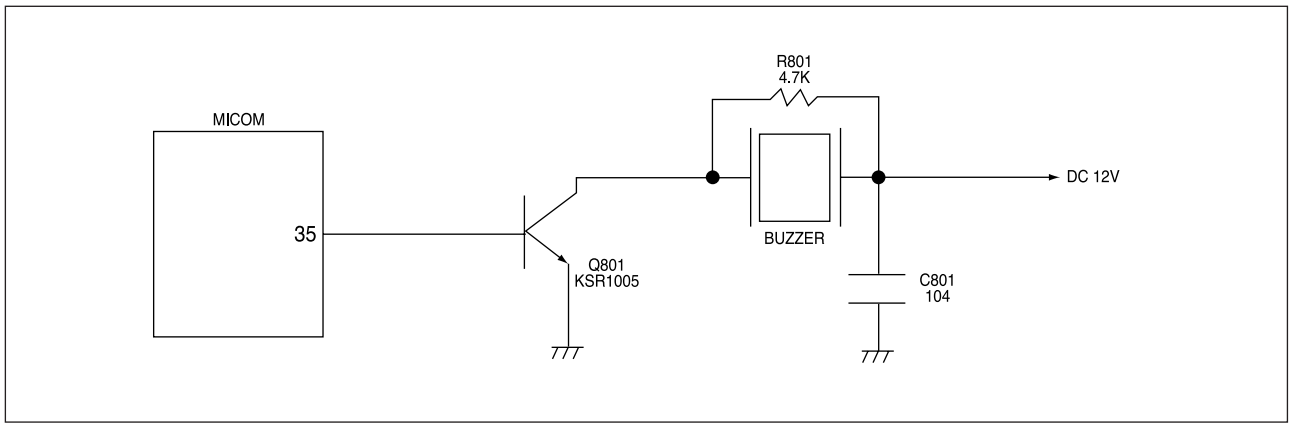

◆ SENSOR and F-rated resistance are connected to the GROUND and DC 5V, respectively. The resistance value which is changed by the temperature is converted to the voltage, and then respective temperature is discriminated by input voltage to A/D PORT of MICOM

## 8-5. Division of OPERATING



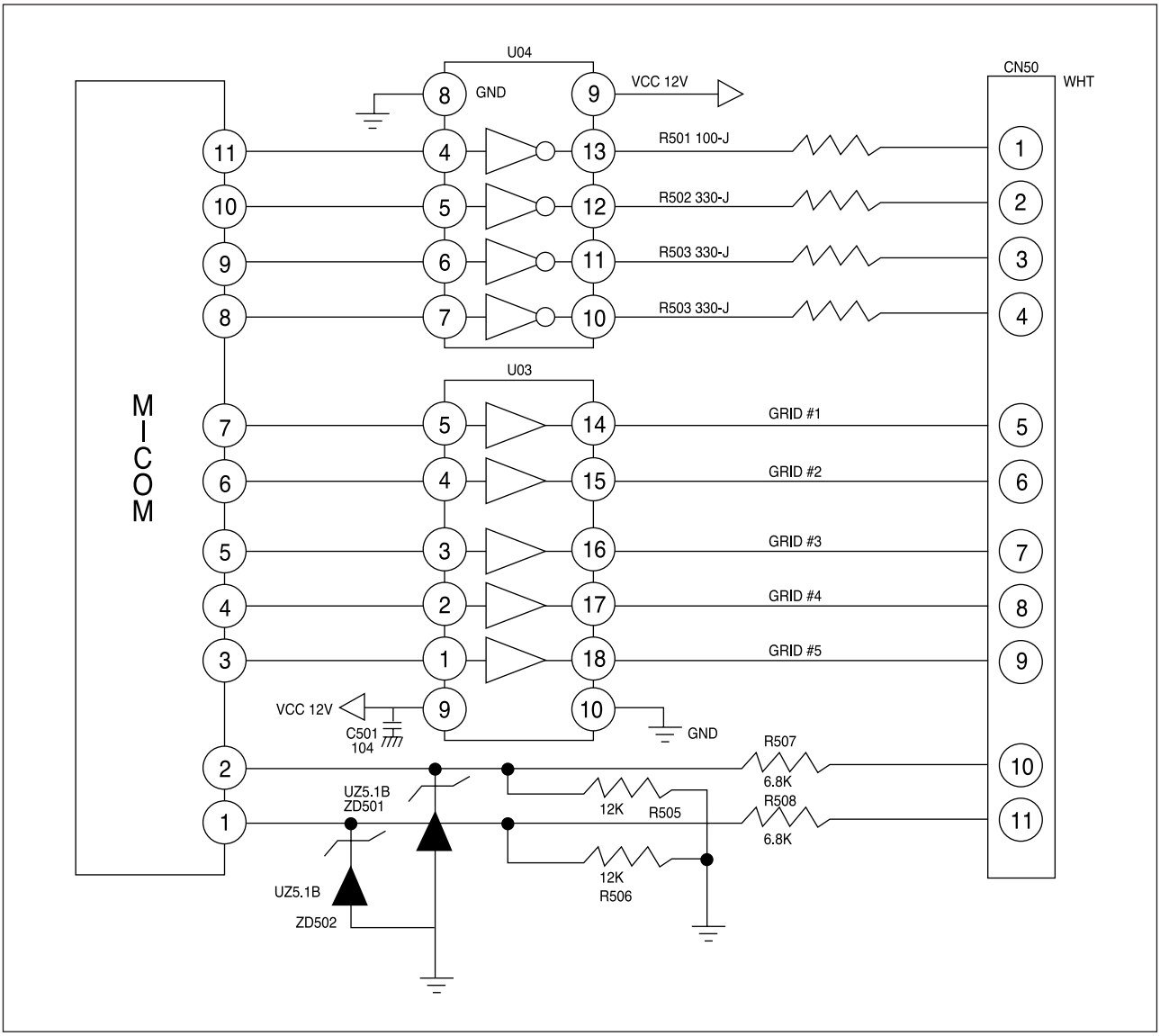

◆ If at MICOM PORT begins to output "High" signal which corresponds to electrical load which we intend to work, DRIVER IC(KA2657) is turned ON and at this moment, corresponding electrical load starts to operate because the DC12 yield the electric current which flows corresponding RELAY COIL and RELAY contacting point is set to be ON so corresponding electrical load begins to operate.

## 8-6. Division of BUZZER



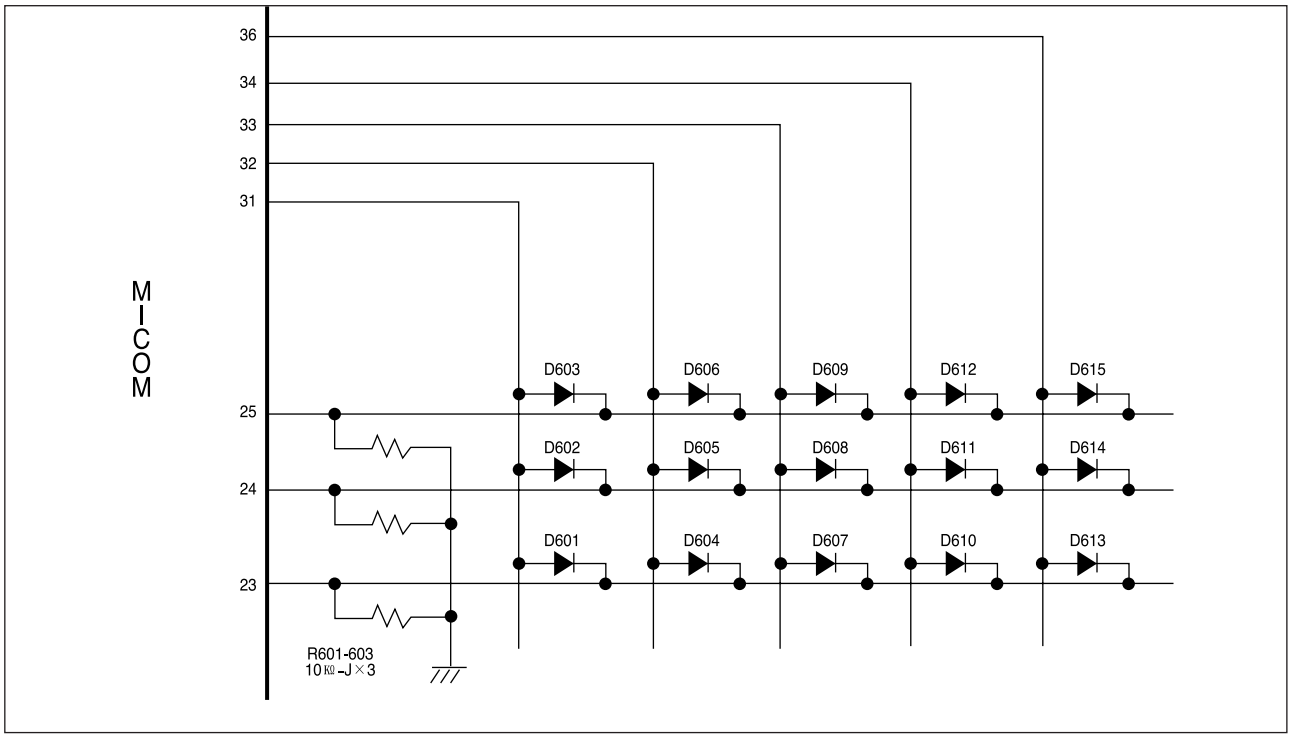

◆ TRANSISTOR begins to operate by CLOCK which was generated at MICOM and BUZZER sound is generated by impression of 12V to the BUZZER.

## 8-7. Division of DISPLAY, KEY SCAN




◆from MICOM #3-#7 GHID signal is generated for 10 sec with the period of 2 sec HIGH signal and for the lighting the corresponding LED, the CONTROL terminal of MICOM PIN #8-#11 output the output signal which is coincident with GRID signal. Meanwhile by pushing the KEY which is connected by respective GRID, corresponding signal is inputted to MICOM.

## 8-8. Division of OPTION




◆The output such as GRID wave form which is only generated at the initial POWER ON is accepted as input through SWITCHING DIODE and discriminate OPTION by matrix method. #23, #24, and #25 PORT of MICOM PORT generate the same output with GRID wave form only at initial POWER ON.

◆Shift of temperature in freezer compartment(unit : ˚C)

| SHIFT | 3 | 2 | 1 |
|---|---|---|---|
| Default | 0 | 0 | 0 |
| -1.0˚C | 0 | 0 | 1 |
| -2.0˚C | 0 | 1 | 0 |
| -3.0˚C | 0 | 1 | 1 |
| +1.0˚C | 1 | 0 | 0 |
| +2.0˚C | 1 | 0 | 1 |
| +3.0˚C | 1 | 1 | 0 |
| +4.0˚C | 1 | 1 | 1 |

◆Shift of temperature in refrigerator compartment(unit : ˚C)

| SHIFT | 6 | 5 | 4 |
|---|---|---|---|
| Default | 0 | 0 | 0 |
| -1.0˚C | 0 | 0 | 1 |
| -2.0˚C | 0 | 1 | 0 |
| -3.0˚C | 0 | 1 | 1 |
| +1.0˚C | 1 | 0 | 0 |
| +2.0˚C | 1 | 0 | 1 |
| +3.0˚C | 1 | 1 | 0 |
| +4.0˚C | 1 | 1 | 1 |

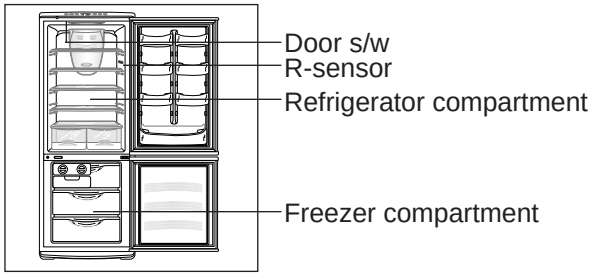
# 9. Diagnosis of disorder and method of repair

Method of inspecting MAIN-PCB

- At the self diagnosis CHECK, you have to turn the main power OFF and turn it ON and check.
- ERROR CODE of self diagnosis is prepared as shown in the following table.

※ ERROR CODE of self diagnosis

| NO | Items | Segments display | Contents of disorder | Note |
|---|---|---|---|---|
| 1 | R-SENSOR | "r-5" | OPEN disorder<br>SHORT disorder | if sensing below -50℃<br>if sensing above +50℃ |
| 2 | F-EVAP SENSOR | "d5" | 〃 | 〃 |
| 3 | F-SENSOR | "F5" | 〃 | 〃 |
| 4 | DAMPER-MOTOR (GEARED) | "rd" | CONTROL RELAY of DAMPER-MOTOR disorder or MOTOR, REED S/W, MAGNET disorder | cannot sensing ON/OFF of REED S/W for more than 1 minute operation |




※ Resistance of sensor and voltage of MICOM according to the temperature

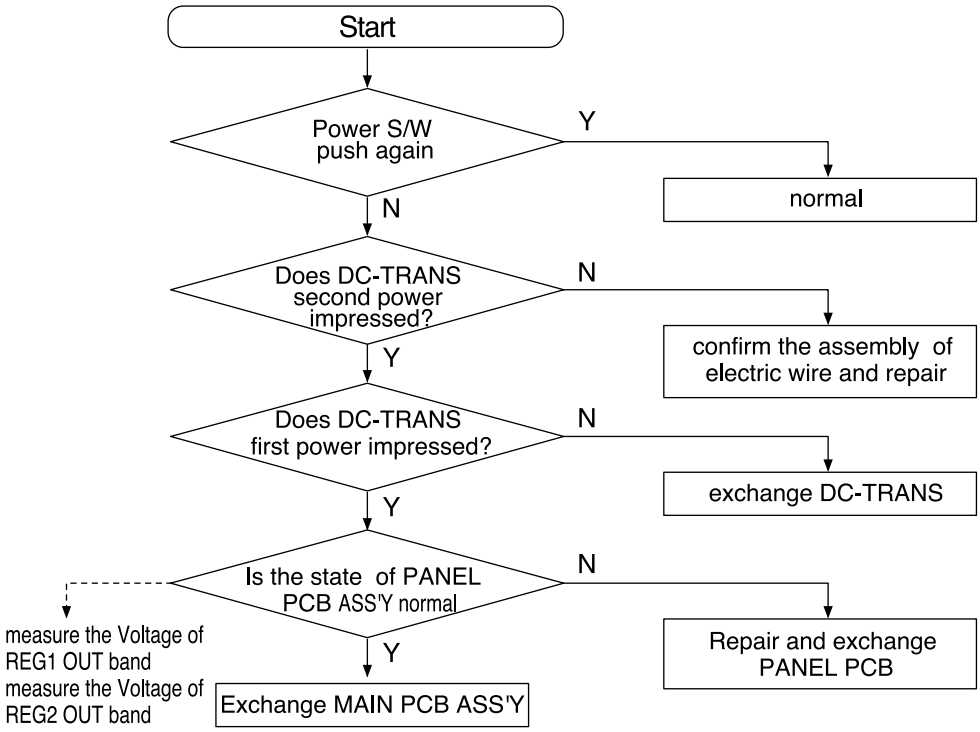
| temperature | resistance | voltage | temperature | resistance | voltage |
|---|---|---|---|---|---|
| -35 | 68150 | 4.360 | -15 | 25650 | 3.597 |
| -34 | 64710 | 4.331 | -14 | 24510 | 3.551 |
| -33 | 61480 | 4.301 | -13 | 23420 | 3.504 |
| -32 | 58430 | 4.269 | -12 | 22390 | 3.456 |
| -31 | 55550 | 4.237 | -11 | 21410 | 3.408 |
| -30 | 52840 | 4.204 | -10 | 20408 | 3.360 |
| -29 | 50230 | 4.170 | -9 | 19580 | 3.310 |
| -28 | 47770 | 4.134 | -8 | 18730 | 3.260 |
| -27 | 45450 | 4.098 | -7 | 17920 | 3.209 |
| -26 | 43260 | 4.061 | -6 | 17160 | 3.159 |
| -25 | 41190 | 4.023 | -5 | 16430 | 3.108 |
| -24 | 39240 | 3.985 | -4 | 15740 | 3.057 |
| -23 | 37390 | 3.945 | -3 | 15080 | 3.006 |
| -22 | 35650 | 3.905 | -2 | 14450 | 2.955 |
| -21 | 33990 | 3.863 | -1 | 13860 | 2.904 |
| -20 | 32430 | 3.822 | 0 | 13290 | 2.853 |
| -19 | 30920 | 3.778 | 1 | 12740 | 2.801 |
| -18 | 29500 | 3.734 | 2 | 12220 | 2.750 |
| -17 | 28140 | 3.689 | 3 | 11720 | 2.698 |
| -16 | 26870 | 3.644 | 4 | 11250 | 2.647 |

| temperature | resistance | voltage | temperature | resistance | voltage |
|---|---|---|---|---|---|
| 5 | 10800 | 2.596 | 25 | 5000 | 1.667 |
| 6 | 10370 | 2.545 | 26 | 4821 | 1.626 |
| 7 | 9959 | 2.495 | 27 | 4650 | 1.587 |
| 8 | 9569 | 2.445 | 28 | 4487 | 1.549 |
| 9 | 9195 | 2.395 | 29 | 4329 | 1.511 |
| 10 | 9839 | 2.346 | 30 | 4179 | 1.474 |
| 11 | 8494 | 2.296 | 31 | 4033 | 1.437 |
| 123 | 8166 | 2.248 | 32 | 3894 | 1.401 |
| 13 | 7852 | 2.199 | 33 | 3760 | 1.366 |
| 14 | 7552 | 2.151 | 34 | 3631 | 1.332 |
| 15 | 7266 | 2.104 | 35 | 3508 | 1.298 |
| 16 | 6992 | 2.057 | 36 | 3390 | 1.266 |
| 17 | 6731 | 2.012 | 37 | 3276 | 1.234 |
| 18 | 6481 | 1.966 | 38 | 3167 | 1.203 |
| 19 | 6242 | 1.922 | 39 | 3026 | 1.172 |
| 20 | 6013 | 1.873 | 40 | 2962 | 1.143 |
| 21 | 5792 | 1.834 | 41 | 2864 | 1.113 |
| 22 | 5581 | 1.791 | 42 | 2770 | 1.085 |
| 23 | 5379 | 1.749 | 43 | 2680 | 1.057 |
| 24 | 5185 | 1.707 | 44 | 2593 | 1.030 |

**Preliminary examination**

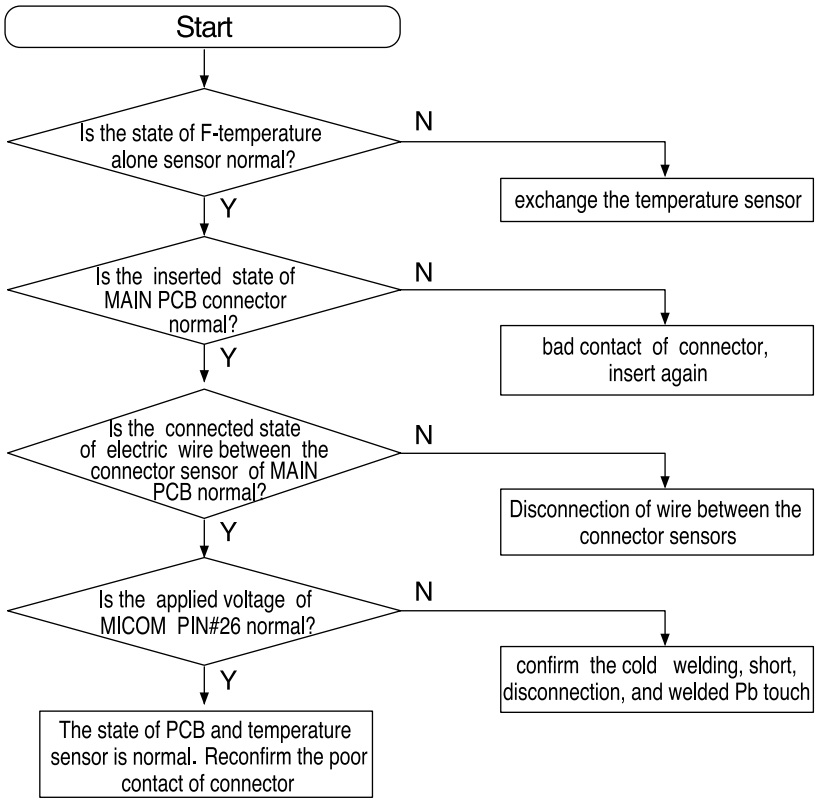
1. Check out whether power of an outlet flows out or not, and POWER CODE is connected normally or not before repair of disorder
2. Check out whether POWER S/W on the PANEL PCB is pushed or not.
3. If additional disorder may detected, check out by referencing the note of next page.

## 9-1. When the POWER does not transmitted

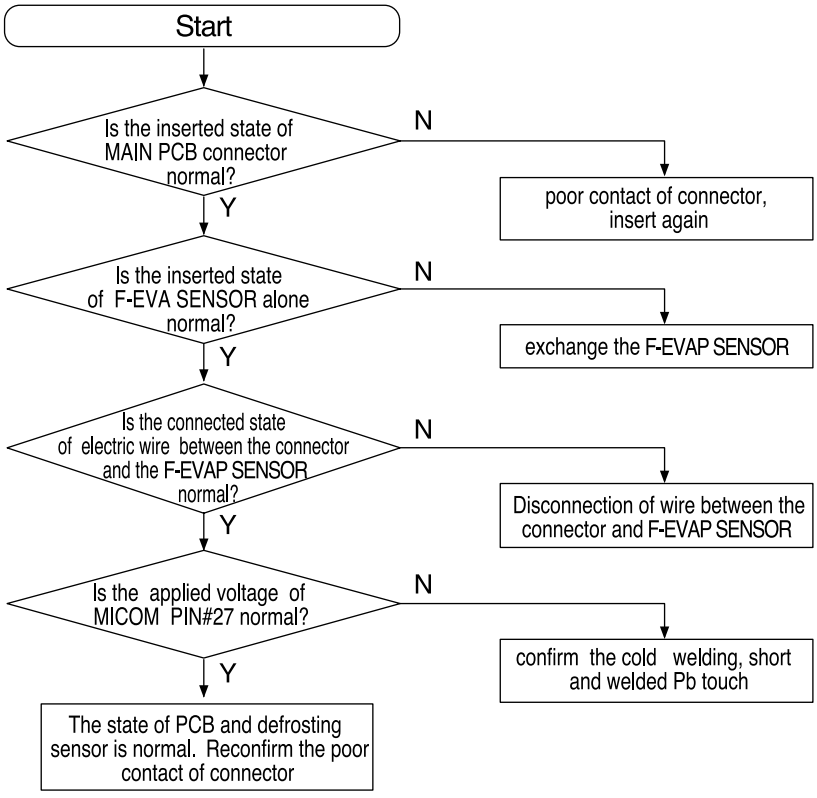


## 9-2. When the disorder has detected by self diagnosis

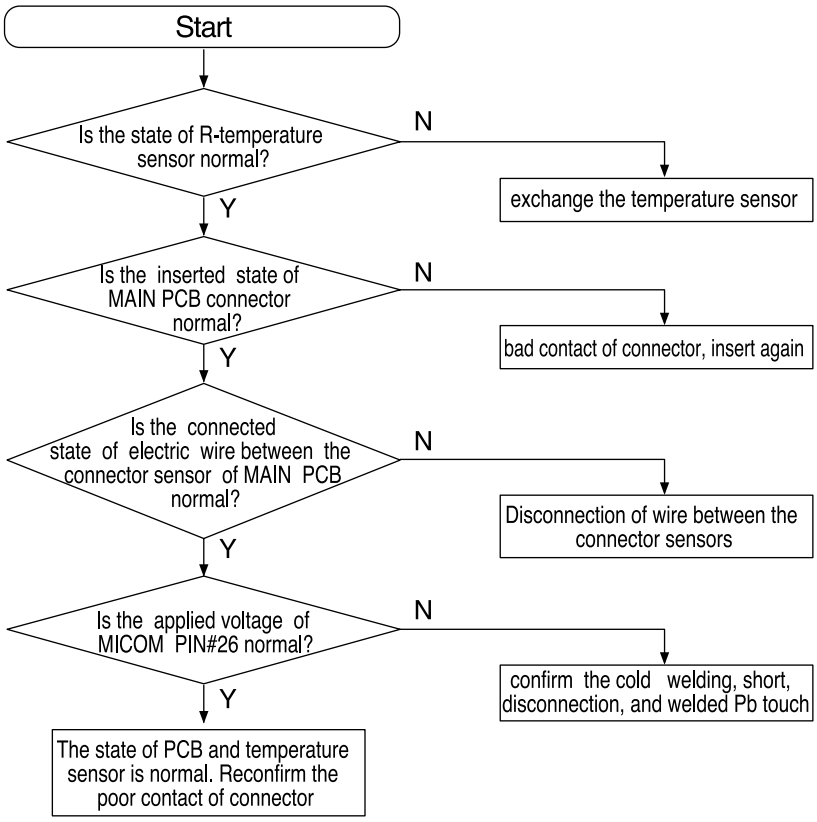
A. When the Disorder of F-ROOM SENSOR has occurred



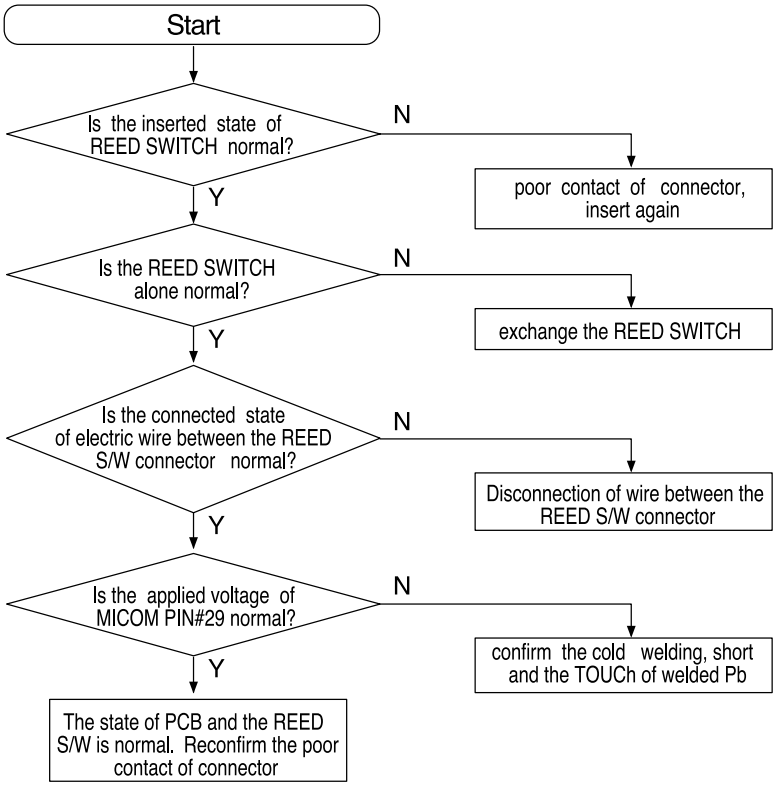

B. When the disorder of F-EVA SENSOR has occurred



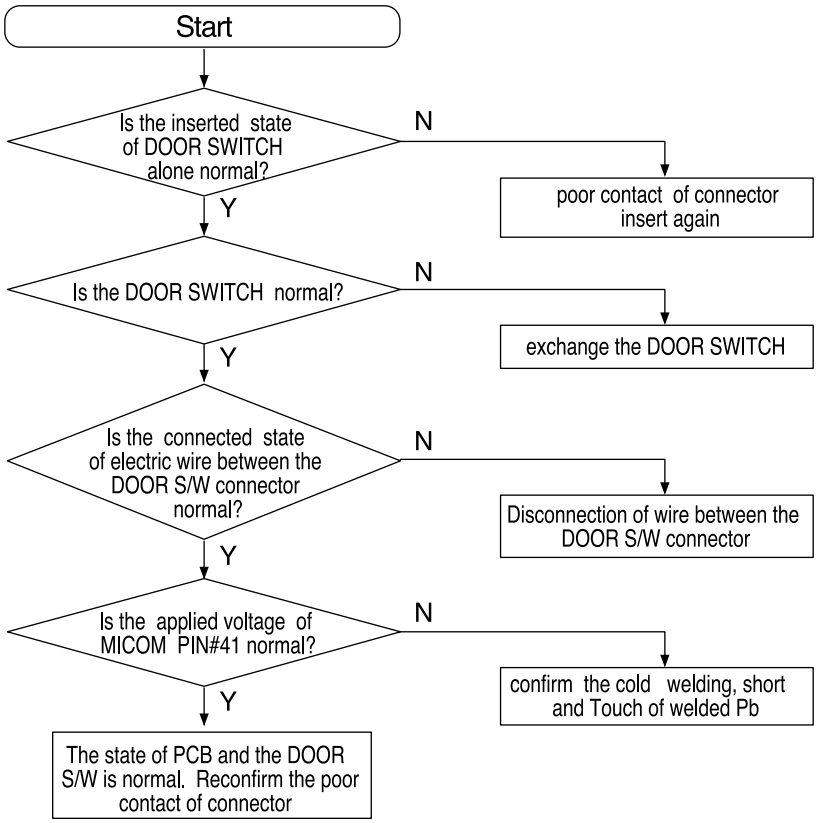
## C. When the disorder of R-ROOM SENSOR has occurred




## D. When the disorder of DAMPER REED S/W has occurred



## E. When the disorder of DOOR S/W has occurred

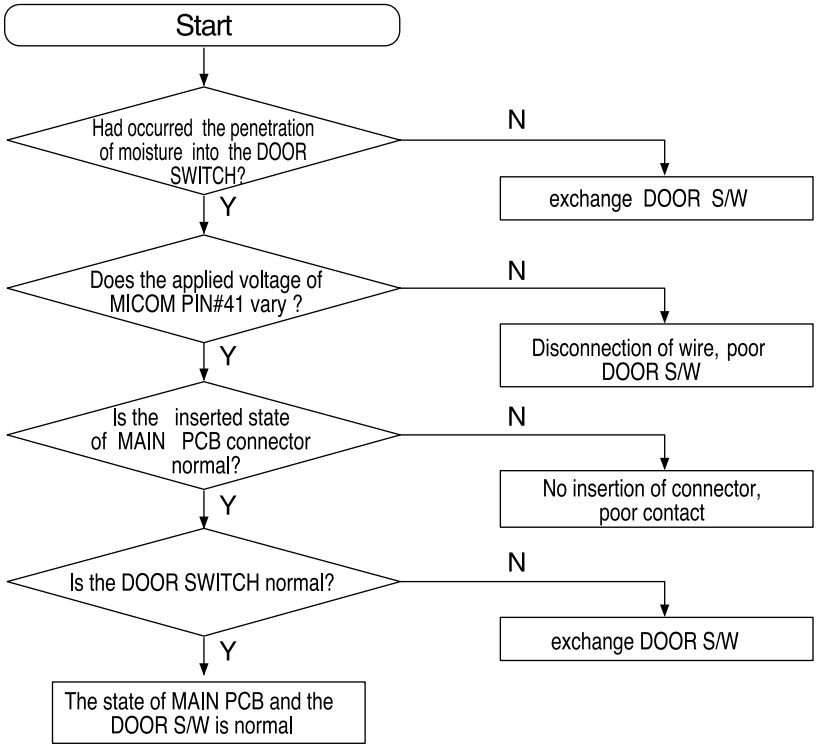


## 9-3. When BUZZER sounds is generated continuouly

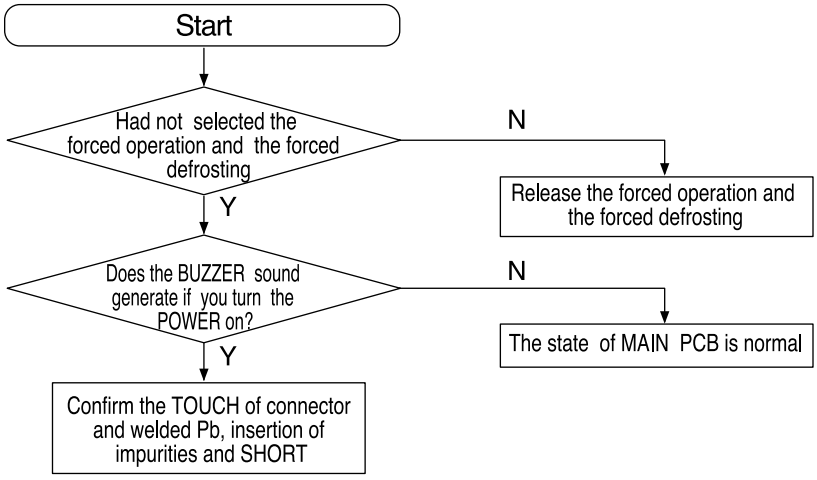
References

- DOOR OPEN WARNING of refrigerator compartment alarms for 10 seconds after 2 minutes when DOOR opened initially. If the door is opened continuously it is alarmed for 10 seconds with a period of 10 seconds.
- Because the penetration of moisture or vapor into DOOR S/W causes the junction SHORT of DOOR S/W, the warning is alarmed continuously by judgement of MICOM which regards the DOOR as open state.In this case, DOOR is regarded as continuously opened state after 10 minutes and the lamp of refrigerator is set to be OFF. So if you open the DOOR, the lamp of refrigerator is maintained as OFF state.
- If the moisture or vapor penetrates into the junction and corrodes it, the lamp of refrigerator is kept as OFF state and DOOR OPEN warning does not work because the signal does not inputted to the MICOM.

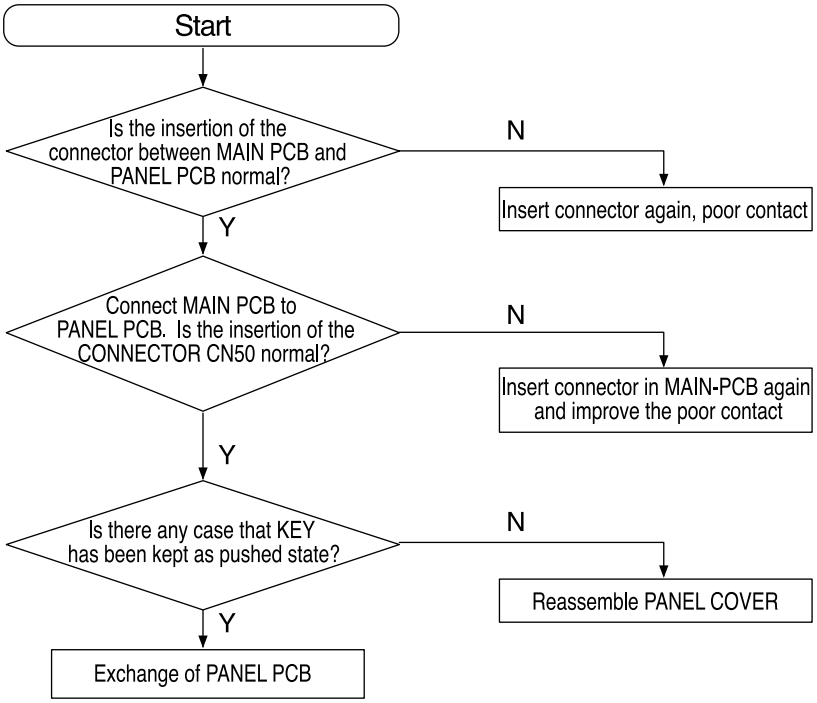
A. When “Ding-Dong” sound is generated continuously.




B. When the beeper sound is generated continuously

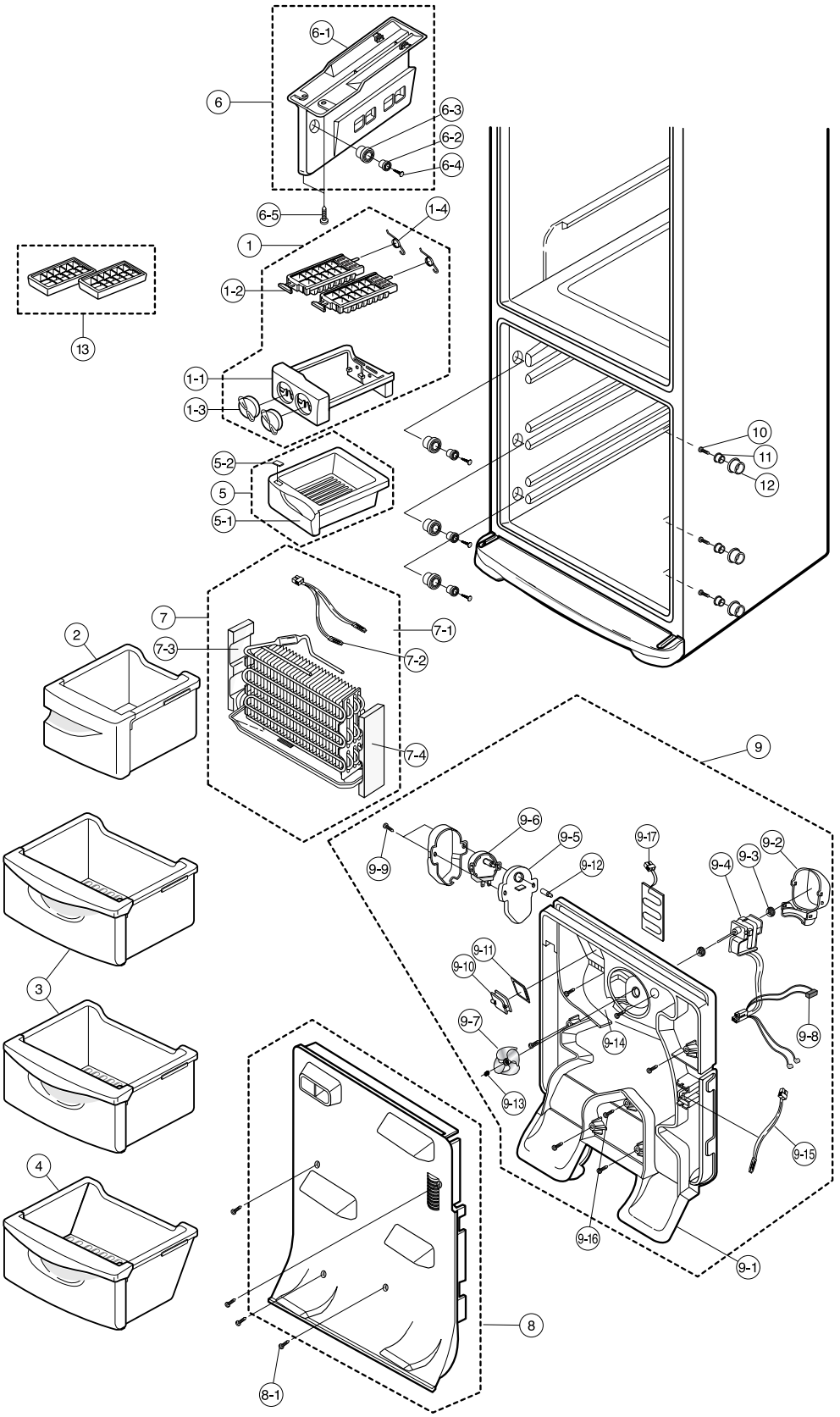


C. When the KEY of PANEL-PCB has not been selected.



# 10. Parts List

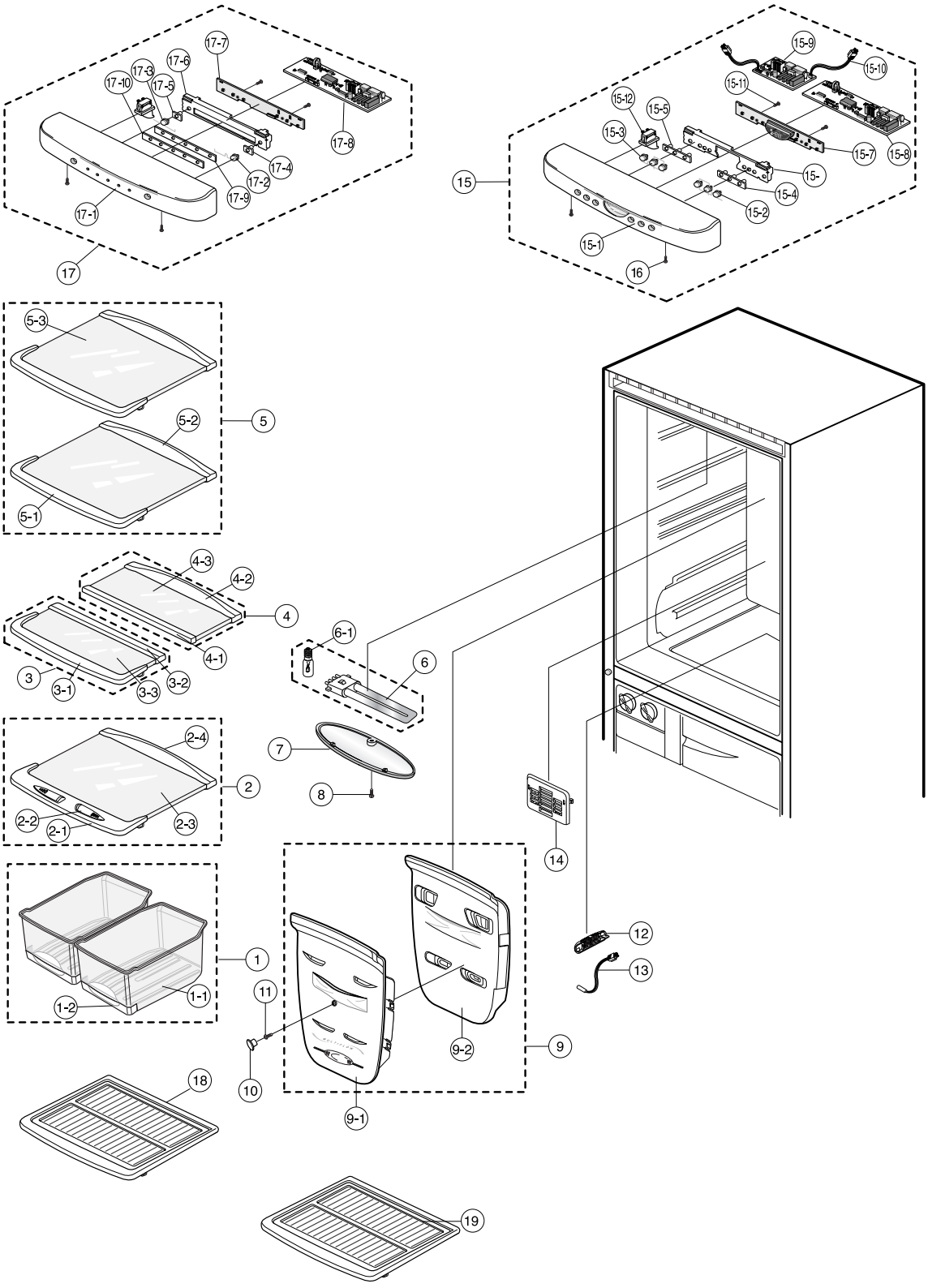
## 10-1. Freezer Compartment



## ■ Freezer List

| NO | CODE-NO | ITEM | SPECIFICATION | Q'TY | REMARK |
|---|---|---|---|---|---|
| 1 | DA66-00087A | TRAY ICE-ASSY | HIPS,SRL36,L39 | 1 | |
| 1-1 | DA71-00108A | FIXER-TRAY ICE | HIPS,W9540,SRL36,L39 | 1 | |
| 1-2 | DA66-00071A | TRAY-ICE | SRL36,L39,W9540 | 2 | |
| 1-3 | DA64-00158A | KNOB-TRAY ICE | HIPS,W9540,SRL36,L39 | 2 | |
| 1-4 | DA61-20136A | SPRING-ICE MAKER | STS304,ID1.0,PI10.5,SR-53E | 2 | |
| 2 | DA66-00086A | TRAY FRE-C-ASSY | SRL36,L39 | 1 | |
| 3 | DA66-00091A | TRAY FRE-A-ASSY | WHT | 2 | |
| | DA66-00091B | TRAY FRE-A-ASSY | TRANSE PARENT | 1 | |
| 4 | DA66-00092A | TRAY FRE-B-ASSY | WHT | 1 | |
| | DA66-00092B | TRAY FRE-B-ASSY | TRANSE PARENT | | |
| 5 | DA66-00101A | TRAY-ICE,CUBE, ASSY | SRL36,L39 | 1 | |
| 5-1 | DA66-00056A | TRAY-ICE,CUBE | SRL36,L39 | 1 | |
| 5-2 | DA67-00302A | CAP-TRAY-ICE,CLUB | | 1 | |
| 6 | DA61-00137A | SUPPORT-RAIL ASSY | HIPS,WHT,SRL36,L39 | 1 | |
| 6-1 | DA61-00082A | SUPT-RAIL | HIPS,SRL36,L39,WHT | 1 | |
| 6-2 | DA66-00052A | ROLLER-FRE-A | POM,SRL36,L39 | 1 | |
| 6-3 | DA66-00053A | ROLLER-FRE-B | POM,SRL36,L39 | 1 | |
| 6-4 | 6002-000215 | SCREW-TAPPING | TH-1S,M4XL16,ZPC(YEL),MSWR1 | 1 | |
| 6-5 | 6002-000213 | SCREW-TAPPING | TH,M4,L12,ZPC(YEL),SWRCH18 | 2 | |
| 7 | DA96-00015A | EVAP ASSY | SRL36,L39,FIN,A1100P-H24,240V,310W | 1 | |
| | DA96-00015B | EVAP ASSY | SRL36,L39,FIN,A1100P-H24,220V,310W | 1 | |
| | DA96-00024A | EVAP ASSY | SRL36,L39,FIN,A1100P-H24,127V,310W | 1 | |
| 7-1 | DA32-10105Q | SENSOR ASSY | 502AT,COMBI-PJT,300,YELLOW,F-DEF-SENSOR | 1 | |
| 7-2 | DA47-10162F | THERMO FUSE | 250V,10A,72 | 1 | |
| 7-3 | DA60-00053A | SPACER-EVAP,L | 127V EVAP ASSY | 1 | |
| 7-4 | DA60-00054A | SPACER-EVAP,I | 127V EVAP ASSY | 1 | |
| 8 | DA63-00395E | COVER-EVAP FRONT-ASSY | TWIST,PP | 1 | |
| | DA63-00395F | COVER-EVAP FRONT-ASSY | NORMAL,PP | 1 | |
| 8-1 | 6002-000215 | SCREW-TAPPING | TH,1,M4.0,L16,ZPC(YEL),MSWR1 | 4 | |
| 9 | DA63-00396R | COVER EVAP REAR-ASSY | 240V/50Hz | 1 | |
| | DA63-00396S | COVER EVAP REAR-ASSY | 220v/50,60Hz | 1 | |
| | DA97-00150A | COVER EVAP REAR-ASSY | 127V/60Hz | 1 | |
| 9-1 | DA63-00237A | COVER-EVAP REAR | PP,NTR,SRL36,L39,T1.5 | 1 | |
| 9-2 | DA61-00081A | CASE-MOTOR | PP,SRL36,L39,NTR | 1 | |
| 9-3 | DA63-40119A | GROMMET-MOTOR | NBR,BLK | 2 | |
| 9-4 | DA31-00002P | MOTOR-FAN | 240V/50Hz, 2550 rpm | 1 | |
| | DA31-00002U | MOTOR-FAN | 220V/50Hz, 2550 rpm | 1 | |
| | DA31-00002X | MOTOR-FAN | 127V/60Hz, 2550 rpm | 1 | |
| 9-5 | DA61-00117A | CASE-G-MOTOR | PP,SRL36,L39,NTR | 1 | |
| 9-6 | DA31-10107C | MOTOR-GEARD | M2LA49Z,220V,SR-41~518 | 1 | |
| | DA31-10107B | MOTOR-GEARD | M2BC59ZR12,110V | 1 | |
| 9-7 | DA31-00019A | FAN-PROPELLER | SRL36,L39,NTR | 1 | |
| 9-8 | DA34-10125B | SWITCH SENSITIVE | 5V,Black | 1 | |
| 9-9 | 6002-000467 | SCREW | PH-2S 4X10 YEL | 2 | |
| 9-10 | DA31-00026A | BLADE | PC,NTR,SRL36,L39 | 1 | |
| 9-11 | DA63-00359A | GASKET-BLADE | SILICON | 1 | |
| 9-12 | DA66-00095A | SHAFT-BLADE ASSY | POM,SRL36,L39 | 1 | |
| 9-13 | DA61-20128A | SPRING-FAN | STS27,ID1.0 | 1 | |
| 9-14 | 6002-000215 | SCREW-TAPPING | TH,1,M4.0,L16,ZPC(YEL),MSWR1 | 2 | |
| 9-15 | DA32-10109P | SENSOR-ASS'Y | 502AT | 1 | |
| 9-16 | 6006-001083 | SCREW ASSY TAPP | TH,M4,L16,ZPC(YEL),SWRCH18 | 1 | |
| 9-17 | DA47-00056A | HEATER-EVAP COVER,RE | 240V | 1 | |
| | DA47-00056B | HEATER-EVAP COVER,RE | 220V | 1 | |
| | DA47-00056C | HEATER-EVAP COVER,RE | 127V | 1 | |
| 10 | 6002-000215 | SCREW-TAPPING | TH,1,M4.0,L16,ZPC(YEL),MSWR1 | 6 | |
| 11 | DA66-00052A | ROLLER-FRE-A | POM | 6 | |
| 12 | DA66-00053A | ROLLER-FRE-B | POM | 6 | |
| 13 | DA67-40146B | TRAY ICE | PE, NTR, SR-1500 | 2 | |

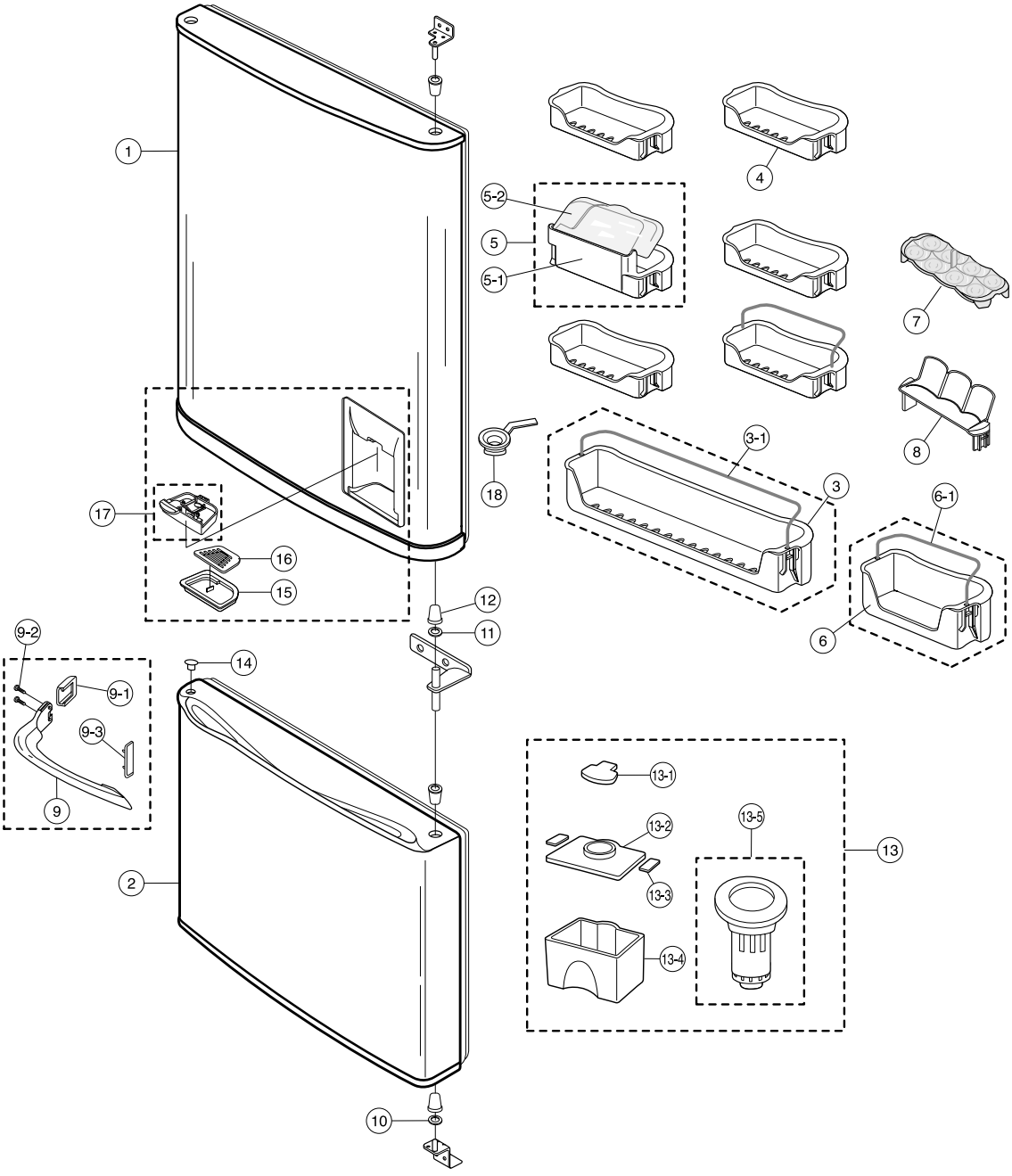
## 10-2. Refrigerator Compartment



## ■ Refrigerator List

| NO | CODE-NO | ITEM | SPECIFICATION | Q'TY | REMARK |
|---|---|---|---|---|---|
| 1 | DA61-00126B | BOX-VEG ASS,Y | | 2 | |
| 1-1 | DA69-00102B | BOX-VEG | GPPS | 2 | |
| 1-2 | DA67-00203A | CAP-VEG | HIPS | 2 | |
| 2 | DA67-00272A | SHELF-VEG ASSY | GLESS | 1 | |
| 2-1 | DA64-00119A | TRIM-SHELF-FRONT, LOW | PP,W9540 | 1 | |
| 2-2 | DA66-00061A | LEVER-HUMIDITY | PP,WHT | 2 | |
| 2-3 | DA67-20346K | SHELF GALSS | GLASS,T4 | 1 | |
| 2-4 | DA64-00116A | TRIM-SHELF REAR-A | P.P,BJ-730T4 | 1 | |
| 3 | DA67-00268A | SHELF REF-B-ASSY | GLASS,,T4 | 1 | |
| 3-1 | DA64-00114A | TRIM-SHELF REF-FRONT | P.P,BJ-730T4 | 1 | |
| 3-2 | DA64-00115A | TRIM-SHELF REAR-B | PP,W9540 | 1 | |
| 3-3 | DA67-20346J | SHELF GALSS | GLASS,T4 | 1 | |
| 4 | DA67-00270A | SHELF REF-C-ASSY | GLESS | 1 | |
| 4-1 | DA64-00115A | TRIM-SHELF REAR-B | P.P,W9540 | 1 | |
| 4-2 | DA64-00116A | TRIM-SHELF REAR-A | P.P,BJ-730T4 | 1 | |
| 4-3 | DA67-20346J | SHELF GALSS | GLASS,T4 | 1 | |
| 5 | DA67-00269A | SHELF REF-A-ASSY | GLESS | 3 | |
| 5-1 | DA64-00114A | TRIM-SHELF REF-FRONT | P.P,BJ-730T4 | 3 | |
| 5-2 | DA64-00116A | TRIM-SHELF REAR-A | P.P,BJ-730T4 | 3 | |
| 5-3 | DA67-20346H | SHELF GALSS | GLASS,T4 | 3 | |
| 6 | 4713-001041 | LAMP-FLUORESCENT | 220V,150mA,11W | 1 | |
| 6-1 | 4713-001140 | LAMP-INCANDESENT | 240V,25W | 1 | |
| | 4713-001141 | LAMP-INCANDESENT | 130V,25W | 1 | |
| 7 | DA63-00235A | COVER-LAMP REF | PP | 1 | |
| 8 | 6002-000213 | SCREW-TAPPING | TH-1S,M4X12,ZPC(YEL) | 1 | |
| 9 | DA97-00228A | COVER DAMPER-REF ASSY | PP,W-9540 | 1 | |
| 9-1 | DA63-00239B | COVER-DAMPER REF | PP,W-9540 | 1 | |
| 9-2 | DA72-00170A | SPACER-DAMPER, REF | PS | 1 | |
| 10 | DA67-30266D | CAP-SCREW | PP | 1 | |
| 11 | 6002-000215 | SCREW-TAPPING | TH-1S,M4X12,ZPC(YEL) | 1 | |
| 12 | DA63-10467A | COVER-SENSOR | HIPS | 1 | |
| 13 | DA32-10105B | SENSOR-ASSY | 502AT | 1 | |
| 14 | DA63-00234A | COVER-SUCTION, REF | PP,W9540 | 1 | |
| 15 | DA63-00870A | COVER-TOP TABEL ASSY | HIPS,SC-97527R | 1 | |
| 15-1 | DA63-00245B | COVER-TOP TABLE ASSY | ABS,SC-97527R,IN HOUSE | 1 | |
| 15-2 | DA64-00118A | BUTTON-PCB, R | ABS,SC-97527R | 1 | |
| 15-3 | DA64-00117A | BUTTON-PCB, L | ABS,SC-97527R | 1 | |
| 15-4 | DA63-00371A | GASKET-BUTTON PCB,R | MBR | 1 | |
| 15-5 | DA63-00390A | GASKET-BUTTON PCB,L | MBR | 1 | |
| 15-6 | DA70-00138A | PLATE-EARTH | SBHG1 | 1 | |
| 15-7 | DA41-00014A | PBA-PANEL | COMBI | 1 | |
| 15-8 | DA41-00018B | PBA-MAIN | COMBI | 1 | |
| 15-9 | DA41-00013A | PBA-SUB | 240V | 1 | |
| | DA41-20160B | PBA-SUB | 127V | 1 | |
| 15-10 | DA39-00112A | WIRE HARNESS-INVERTER | INVERTER | 1 | |
| 15-11 | 6002-000213 | SCREW-TAPPING | TH-1S,M4X12,ZPC(YEL) | 2 | |
| 15-12 | DA34-00015C | SWITCH-DOOR | H3005CL,250V,25W | 1 | |
| 16 | 6001-000366 | SCREW-MACHING | FH,M4X10,CR PLT,STS304 | 2 | |
| 17 | DA97-00526A | COVER TOP TABLE,ASSY | SEMI | 1 | |
| 17-1 | DA63-00328B | COVER TOP TABLE | ≥≠ø¨ ABS | 1 | |
| 17-2 | DA64-00180B | BUTTON PCB,R | ABS,SC-97527R | 1 | |
| 17-3 | DA64-00180A | BUTTON PCB,L | ABS,SC-97527R | 1 | |
| 17-4 | DA63-00375A | GASKET-BUTTON PCB,R | NBR,BLACK | 1 | |
| 17-5 | DA63-00375A | GASKET-BUTTON PCB,L | NBR,BLACK | 1 | |
| 17-6 | DA70-00208A | PLATE-EARTH | COMBI | 1 | |
| 17-7 | DA41-00043A | PAN-PCB | COMBI | 1 | |
| 17-8 | DA41-00042A | MAIN-PCB | COMBI | 1 | |
| 17-9 | DA67-00329A | COVER DISPLAY | GPPS | 1 | |
| 17-10 | DA67-00444A | GASKET-WINDOW | NBR | 1 | |
| 18 | DA67-00206A | SHELF-REF LOW | GPPS(HF-2660),NTR | 1 | |
| 19 | DA67-00207A | SHELF-REF | GPPS(HF-2660),NTR,SRL36,L39 | 4 | |

## 10-3. Door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9-1
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9-3
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13-1
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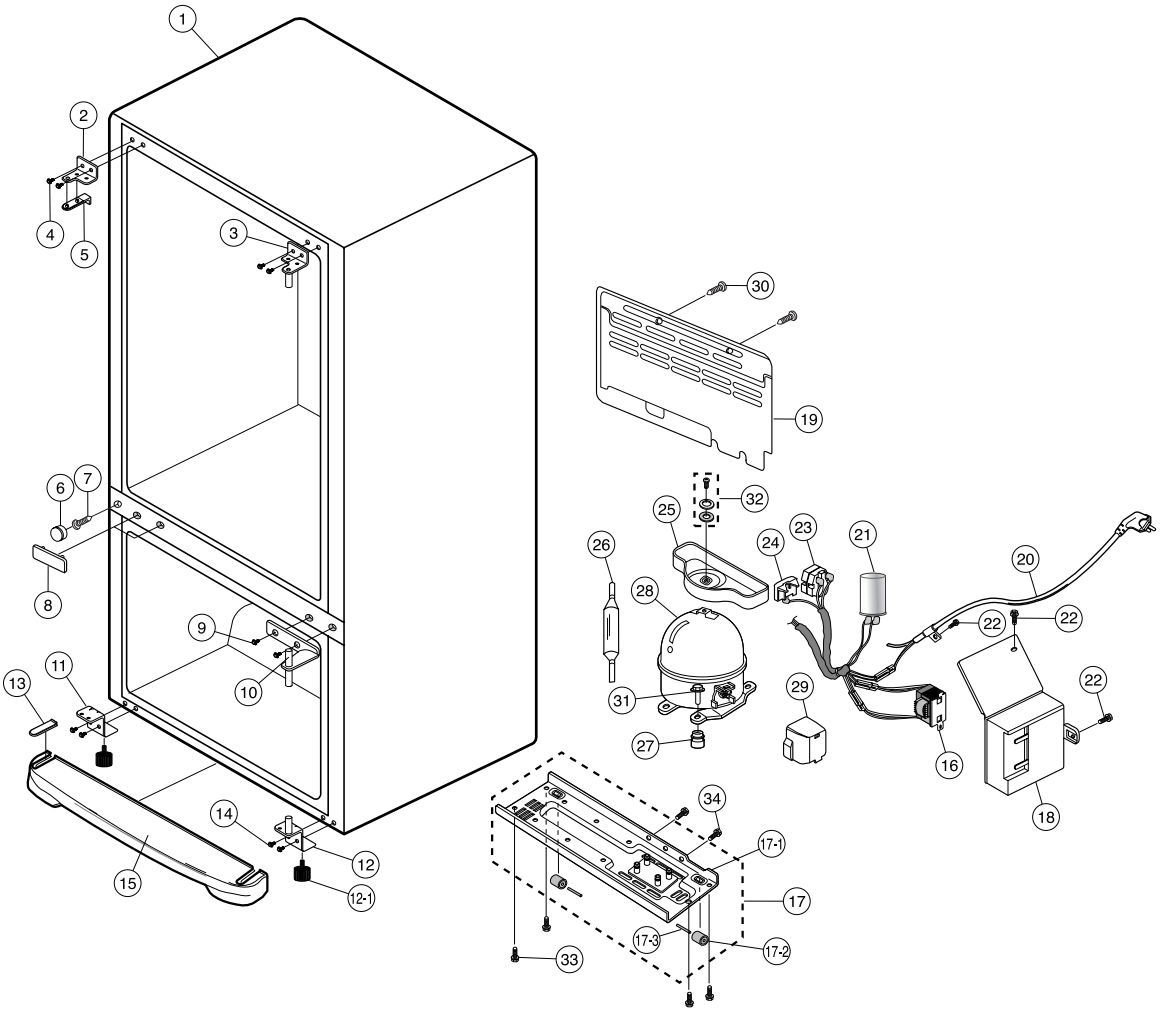
18

## ■ Door List

| NO | CODE-NO | ITEM | SPECIFICATION | Q'TY | REMARK |
|---|---|---|---|---|---|
| 1 | DA91-00711A | ASSY DOOR FOAM REF, DISP | SRL39, RICH-ROUND, COOLN'COOL | 1 | |
| | DA91-00711B | ASSY DOOR FOAM REF, DISP | SRL39, RICH-ROUND, COOLTECH DY | 1 | |
| | DA91-00694A | ASSY DOOR FOAM REF | SRL39, RICH-ROUND, COOL N' COOL | 1 | |
| | DA91-00694C | ASSY DOOR FOAM REF | SRL39, RICH-ROUND, COOLATRVH DY | 1 | |
| | DA91-00697A | ASSY DOOR FOAM REF | SRL39, RICH-ROUND, BAR-HANDLZ | 1 | |
| | DA91-00694B | ASSY DOOR FOAM REF | SRL39, RICH-ROUND, COOOOLATRVH DY | 1 | |
| | DA91-00694D | ASSY DOOR FOAM REF | SRL39, RICH-ROUND, COOLTECH DY | 1 | |
| | DA91-00697B | ASSY DOOR FOAM REF | SRL39, RICH-ROUND, BAR-HAUDLZ | 1 | |
| 2 | DA91-00699A | ASSY DOOR FIANM FEF | SRL36,39, RICH-ROUND, RECZSS | 1 | |
| | DA91-00699B | ASSY DOOR FIANM FEF | SRL36,39, RICH-ROUND, RECZSS | 1 | |
| | DA91-00699C | ASSY DOOR FIANM FEF | SRL36,39, RICH-ROUND, RECZSS | 1 | |
| | DA91-00701A | ASSY DOOR FIANM FEF | SRL36,39, RICH-ROUND, BAR-HANDLZ | 1 | |
| | DA91-00701B | ASSY DOOR FIANM FEF | SRL36,39, RICH-ROUND, BAR-HANDLZ | 1 | |
| 3 | DA63-00228A | GUARD-BOTTLE | GPPS(HF-2660),SD-97527R,SRL36,L39,WHT | 1 | |
| | DA63-00228B | GUARD-BOTTLE | GPPS(HF-2660),TRANSPARENT | 1 | |
| 3-1 | DA71-00118A | GUARD-BOTTLE | MSWR10,SNC2,SRL36,L39,PI5.5 | 1 | |
| 4 | DA63-00227A | GUARD-VARIETY | REF,GPPS,SC-97527R,SRL36,L39,WHT | 5 | |
| | DA63-00227B | GUARD-VARIETY | REF,GPPS,TRANSPARENT | 5 | |
| 5 | DA63-00405A | GUARD-DAIRY ASSY | REF,GPPS,SC-97527R,SRL36,L39,WHT | 1 | |
| | DA63-00405B | GUARD-DAIRY ASSY | REF,GPPS,TRANSPARENT | 1 | |
| 5-1 | DA63-00229A | GUARD-DAIRY | REF,GPPS,SC-97527R,SRL36,L39,WHT | 1 | |
| | DA63-00229B | GUARD-DAIRY | REF,GPPS,TRANSPARENT | 1 | |
| 5-2 | DA63-00230A | COVER-DAIRY | GPPS,SRL36,L39 | 1 | |
| 6 | DA63-00263A | GUARD-BOTTLE-DISP | GPPS,W9540,SRL39,WHT | 1 | |
| | DA63-00263B | GUARD-BOTTLE-DISP | GPPS,TRANSPARENT | 1 | |
| 6-1 | DA71-00119A | GUARD-BOTTLE-B | MSWR10,SNC2,SRL39(D),PI5.5 | 1 | |
| 7 | DA66-00058A | TRAY-EGG | SRL36,L39,S.S | 1 | |
| 8 | DA63-00380A | GUARD-CAN CARRY | ABS(HG-0760) | 1 | |
| 9 | DA64-00157A | HANDLE BAR(FAT) | ABS(HG-0760S),W-97527R,SRL39 | 1 | |
| 9-1 | DA67-00216A | CAP-HANDLE | ABS(HG-0760),W-97527R,SRL39 | 1 | |
| 9-2 | 6001-000715 | SCREW-MACHINE | TH,+,M5 $\times$L16,SWRCH18A | 2 | |
| 9-3 | DA67-00298A | CAP HOLE HANDLE BAR | ABS(HG-0760S),WHT(SC-97527R) | 1 | |
| 10 | DA61-00083A | HINGE-WASHER,LOW | POM(TP-20),NTR | 1 | |
| 11 | DA66-00073D | SHAFT-WASHER,D | T2.0,RD-PVC,N.T.R,SRL36,L39 | 1 | |
| 12 | DA63-00247A | GROMMET-HINGE | NY-66,NTR,SRL36,L39,S.S | 4 | |
| 13 | DA74-00054A | TANK WATER-ASSY | PP,SRL39 | 1 | |
| 13-1 | DA67-30216A | CAP-COVER WATER | PE,WHT | 1 | |
| 13-2 | DA63-00240A | COVER-WATER TANK | PP,SRL39,S.S | 1 | |
| 13-3 | DA65-20004A | CLAMP-TANK | P.C | 2 | |
| 13-4 | DA74-00051A | TANK WATER | PP,SRL39 | 1 | |
| 13-5 | DA61-00139A | CASE-COCK ASSY | ABS,SC-97527R,SRL39,DISP | 1 | |
| 14 | DA67-00194A | CAP-HINGE HOLE | PP,SC-97527R,WHT | 1 | |
| 15 | DA66-00054A | TRAY-DISPENSER-A | ABS(HG-0760H),SRL39,W-97527,S.S,WHT | 1 | |
| 16 | DA66-00055A | TRAY-DISPENSER-B | ABS(HG-0760H),SRL39,W-97527,S.S,WHT | 1 | |
| 17 | DA63-00376A | COVER DISPENSER-ASSY | SRL39 | 1 | |
| 18 | DA71-20155B | FIXER-CASE,ASSY | ABS,SR-L5285,L5785,SC-9343 | 1 | |

## 10-4. Cabinet Parts & Unit



## ■ Cabinet Parts & Unit Lists

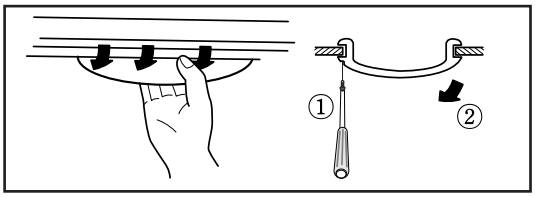
| NO | CODE-NO | ITEM | SPECIFICATION | Q'TY | REMARK |
|---|---|---|---|---|---|
| 1 | — | ASSY CABI FOAM | — | — | |
| 2 | DA61-00075A | HINGE-UPPER-L | SHP1,SRL36,L39,ZPC2 | 1 | |
| 3 | DA61-00073A | HINGE-UPPER ASSY-R | SHP1,SRL36,L39,ZPC2 | 1 | |
| 4 | DA60-10123E | SCREW-TAP TITE | HH,M6,L19,ZPC2-W,GSD 3KM | 4 | |
| 5 | DA67-00196A | CAP-HINGE HOLE-UPP | PP,SC-97527R,WHT | 1 | |
| 6 | DA67-30218R | CAP-SCREW | ABS,SC-97527 | 1 | |
| 7 | DA60-00003A | SCREW-TAP,PH | PH,TAPPING,4X10 | 1 | |
| 8 | DA67-00195A | CAP-HINGE HOLE-MID | PP,SC-97527R,WHT | 1 | |
| 9 | DA60-10123E | SCREW-TAP TITE | HH,M6,L19,ZPC2-W,GSD 3KM | 2 | |
| 10 | DA61-00146A | HINGE MID ASSY | SRL36,L39 | 1 | |
| 11 | DA61-00128A | HINGE-LOW-L-ASSY | SHP1,SRL36,L39,ZPC2 | 1 | |
| 12 | DA61-00127A | HINGE-LOW,R-ASSY | SHP1,SRL36,L39,ZPC2 | 1 | |
| 12-1 | DA61-00084A | FOOT-FRONT | PP,NTR,SRL36,L39 | 2 | |
| 13 | DA67-00197A | CAP-HINGE HOLE-LOW | PP,SC-97527R,WHT | 1 | |
| 14 | DA60-10124A | SCREW-TAP TITE | HH,M6,L16,ZPC2-Y | 4 | |
| 15 | DA63-00241A | COVER-LEG,FR | SC-97527R | 1 | |
| 16 | DA26-00003A | TRANS DC | 240V,50/60Hz | 1 | |
| | DA26-00003B | TRANS DC | 127V,50/60Hz | 1 | |
| 17 | DA71-00109A | CHASSIS-COMP ASSY | SBHG1 | 1 | |
| 17-1 | DA71-00101A | CHASSIS-COMP | SBHG1 | 1 | |
| 17-2 | DA61-40115B | CASTER-FRONT | PP,NTR,SR-50 | 2 | |
| 17-3 | DA60-90124A | RIVET | MSWR10,OD6.0,L56,ZPC3 | 2 | |
| 18 | DA61-00089A | CASE-JUNCTION | PP,SRL36,L39,S.S,NTR | 1 | |
| 19 | DA63-00398A | COVER COMP-ASSY | SBHG1,SRL39 | 1 | |
| 20 | - | POWER-CODE | - | 1 | OPTION |
| 21 | 2501-001185 | C-OIL | 3.5㎌,350V | 1 | |
| | 2501-001185 | C-OIL | 5㎌,350V | 1 | |
| | 2501-001045 | C-OIL | 12㎌,250V | 1 | |
| 22 | 6002-001118 | SCREW-TAPPING | TH,SOCKET(HEX),M4 | 3 | |
| 23 | DA35-10013B | RELAY-PTC | J531Q35E330M3852 | 1 | |
| | DA35-10013E | RELAY-PTC | J531Q33E100M2002 | 1 | |
| 24 | DA34-10003H | PROTECTOR-O/L | 4TM213PHBYY-53 | 1 | |
| | DA34-10003N | PROTECTOR-O/L | 4TM412PHBYY-53 | 1 | |
| 25 | DA66-00031C | TRAY-DRAIN WATER | T3-P/J(2ND),S.S,0.6 | 1 | |
| 26 | DA73-30102B | DRYER-ASSY | CU,OD18.85,ID2,L102,2P,10.0G | 1 | |
| 27 | DA63-40004A | GROMMET-COMP | NBR | 4 | |
| 28 | DK4A1Q-L1U | COMPRESSOR | R600a | 1 | |
| | SK170H-L1U | COMPRESSOR | R134a | 1 | |
| | DK172P-L2U | COMPRESSOR | R134a | 1 | |
| 29 | DA63-10352A | COVER-RELAY | BLK | 1 | |
| 30 | 6002-000217 | SCREW-TAPPING | TH,4X8,ZPC(YEL),MSWR10 | 2 | |
| 31 | DA60-20008A | BOLT-HEX | SM30C,L42.6 | 4 | |
| 32 | DA60-00018A | SCREW-ASSY | TH+,STS304 | 2 | |
| 33 | DA60-10124A | SCREW-TAP TITE | HH,M6,L16,ZPC2-Y | 4 | |
| 34 | DA60-10107A | SCREW-EARTH | BSBN PT M4X10 | 2 | |

# 11. Disassembly & Assembly

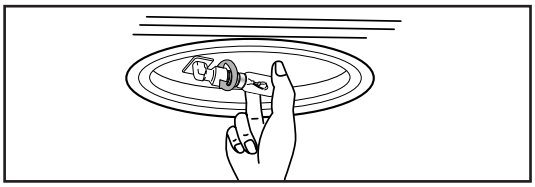
## 11-1. Replacement of refrigerator Incandescent lamp

**Warning**
Always take out the power plug when replacing the refrigerator lamp. There is the danger of electric shock.

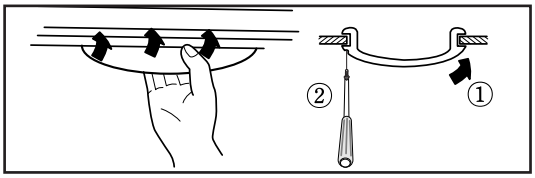
1. Remove a screw from the cover and pull down the cover with the back latch pressed.




2. Pull out the lamp.



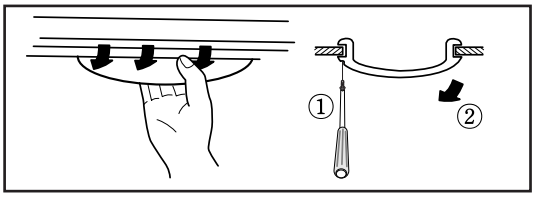
3. After replacing the lamp, assemble the front latch of cover and then connect the back latch and screw on the cover.



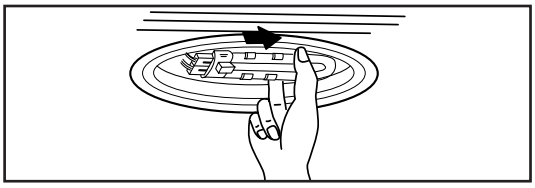

## 11-2. Replacement of refrigerator fluorescent lamp

**Warning**
Always take out the power plug when replacing the refrigerator lamp. There is the danger of electric shock.

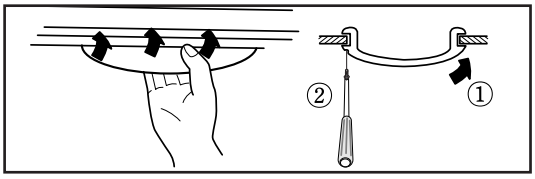
1. Remove a screw from the cover and pull down the cover with the back latch pressed.




2. Pull out the lamp.

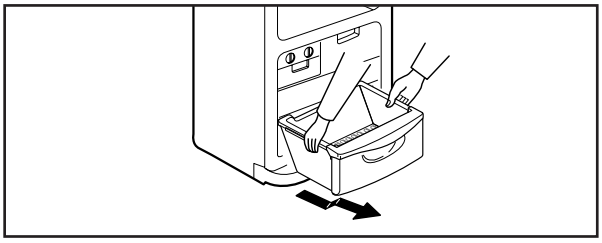


3. After replacing the lamp, assemble the front latch of cover and then connect the back latch and screw on the cover.

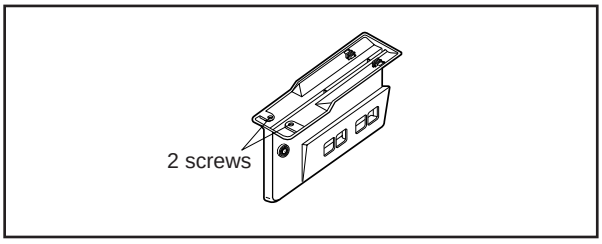


## 11-3. Disassembly of the cooling cycle unit in the freezer

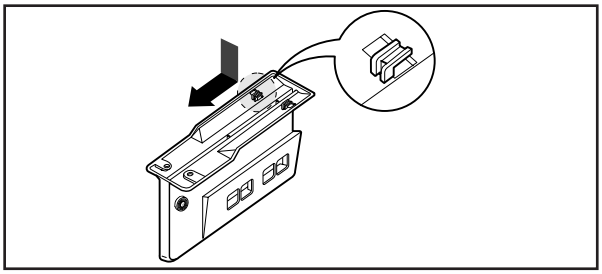
1. Take out the case from the freezer.



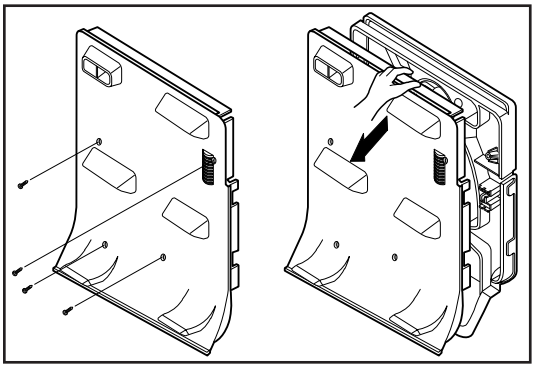
2. Remove 2 screws from the holder of the cooling cycle unit.



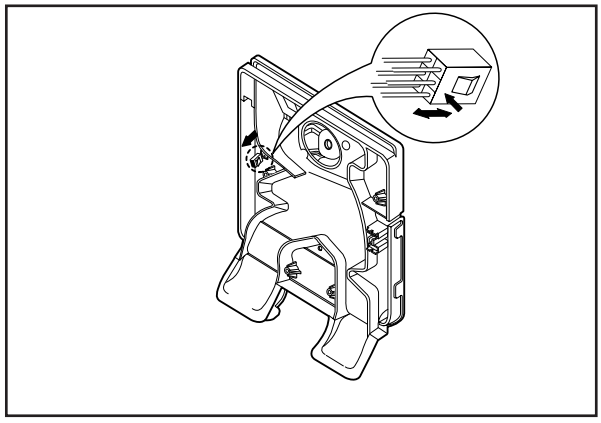

3. Pull out the holder of the cooling cycle unit and disconnect wire terminals.



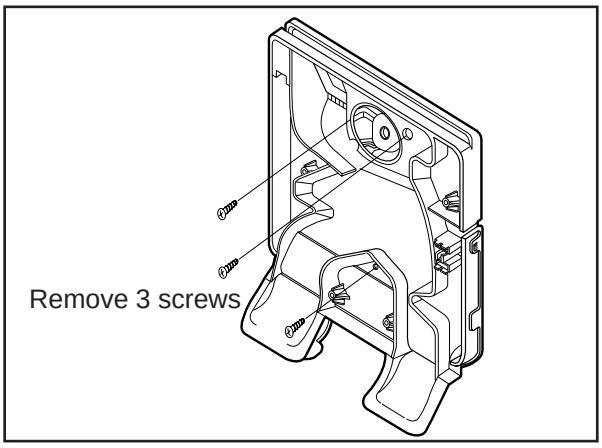
4. Pull forward the insulating material of the cooling cycle unit and remove the wire terminal and insulating material.



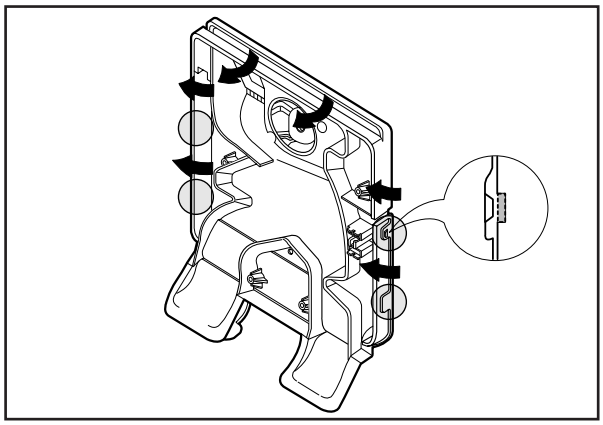
5. Remove 2 screws securing refrigerator duct and pull it out by following the arrow.



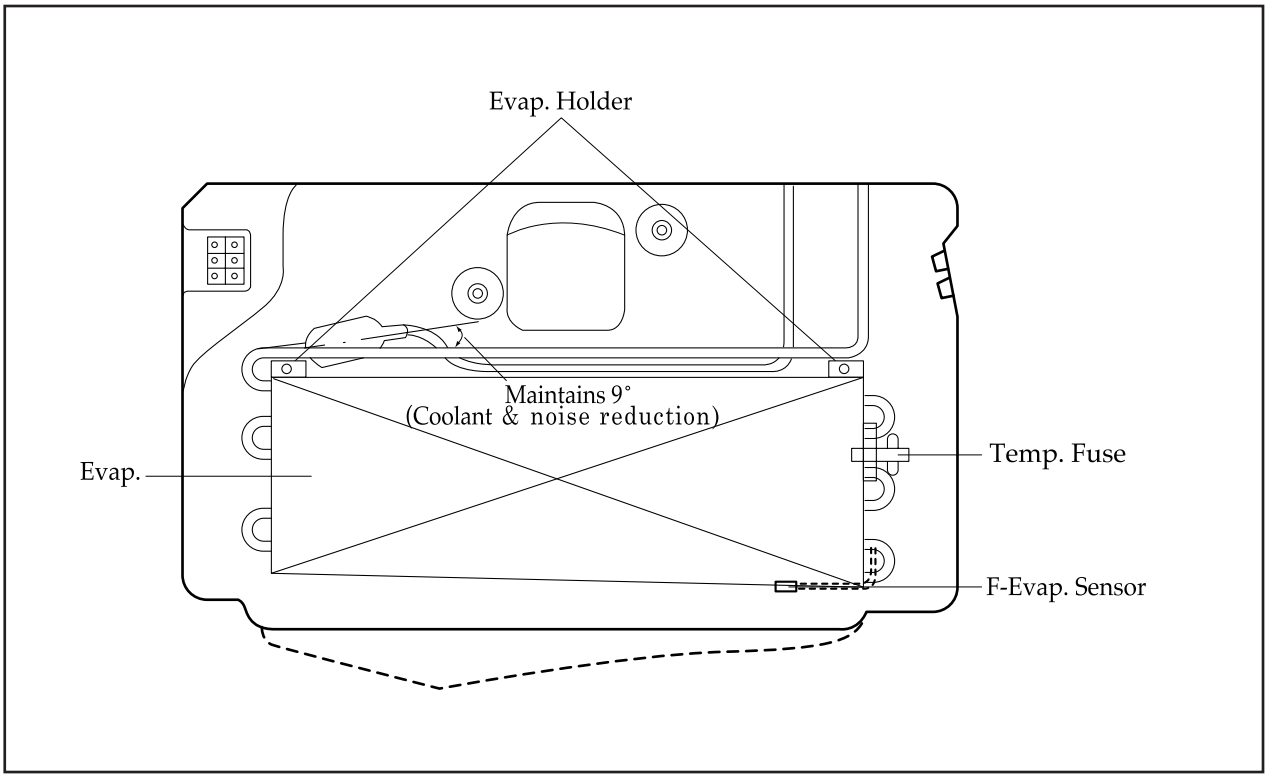
6. Remove 3 screws from the back cover of the cooling cycle unit and remove the latch with (+) driver.




7. Remove the latch of the cooling cycle unit cover from the bottom.

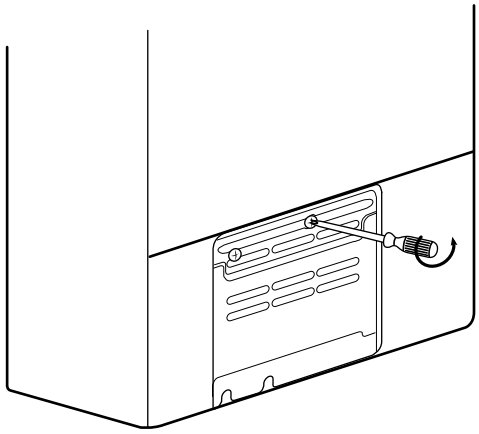


■ Assembly of the cooling cycle unit in the freezer

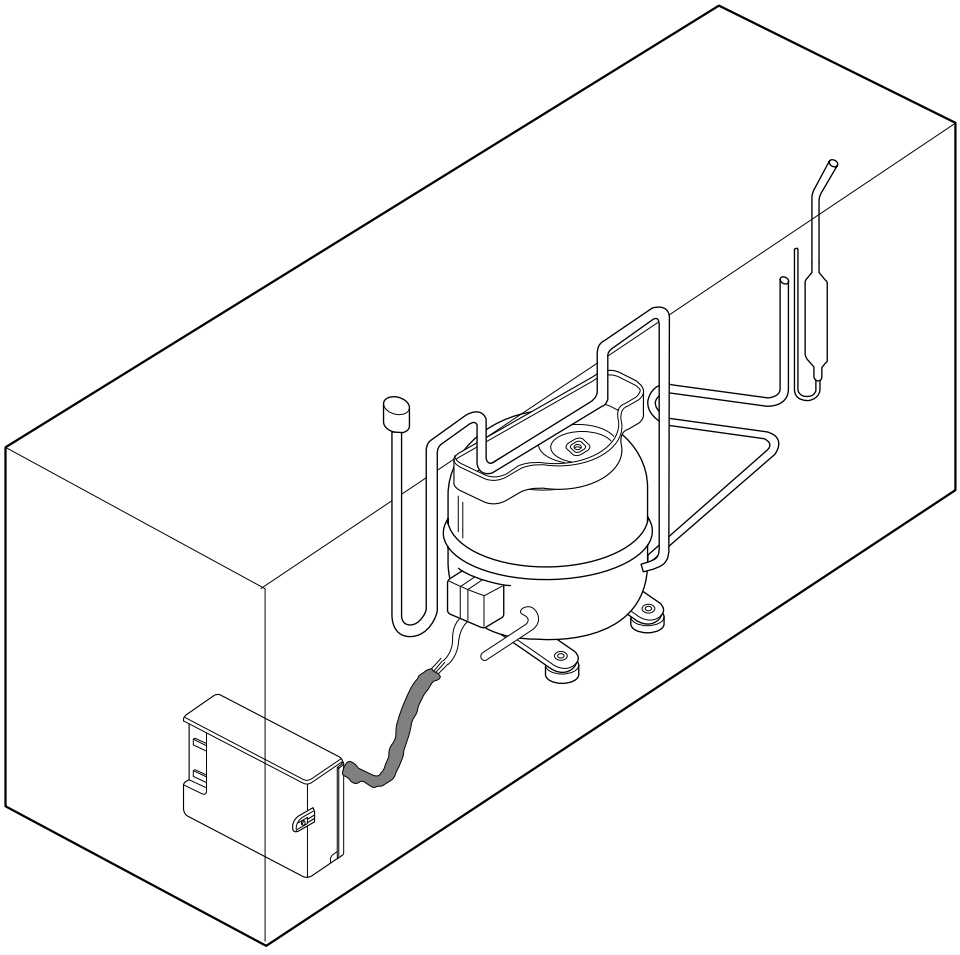


## 11-4. Assembly of mechanic compartment in the refrigerator

1. Remove the screws from the securing cover of the mechanic compartment at the back bottom.



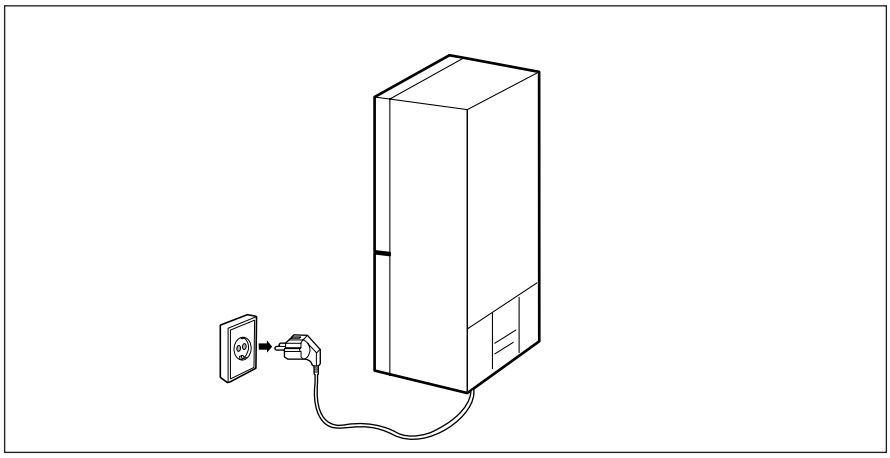
2. Mechanic compartment assembly



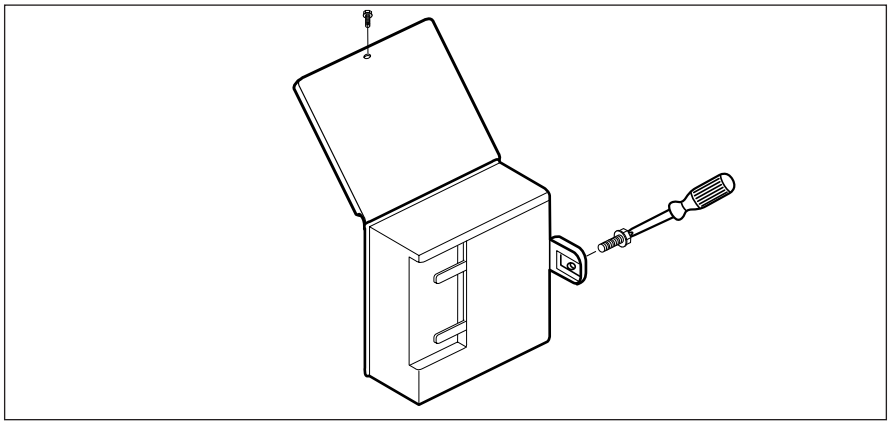
## 11-5. Electric box assembly

**Warning**
Make sure the power plug is taken out when replacing the components for the main PCB.

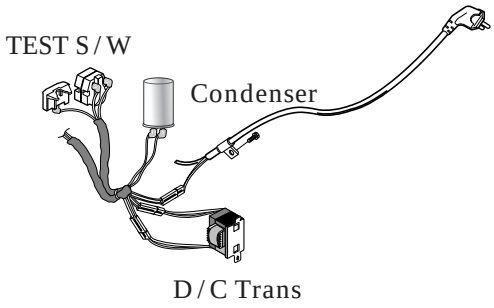
1. Disconnect the power cord.



2. Remove the cover of electrical box with insert driver.(✡)

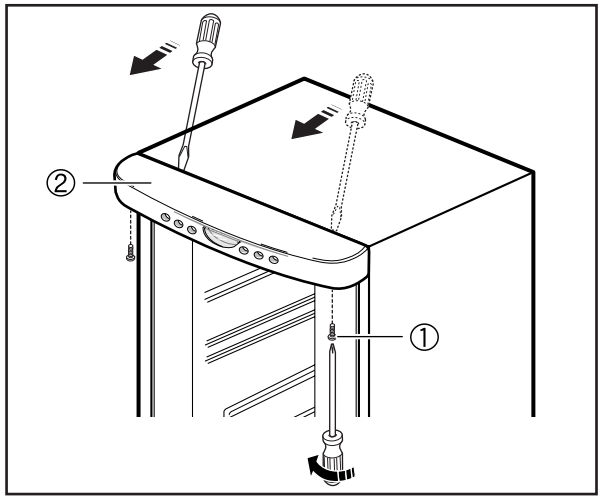


3. Assembly specification of electric box

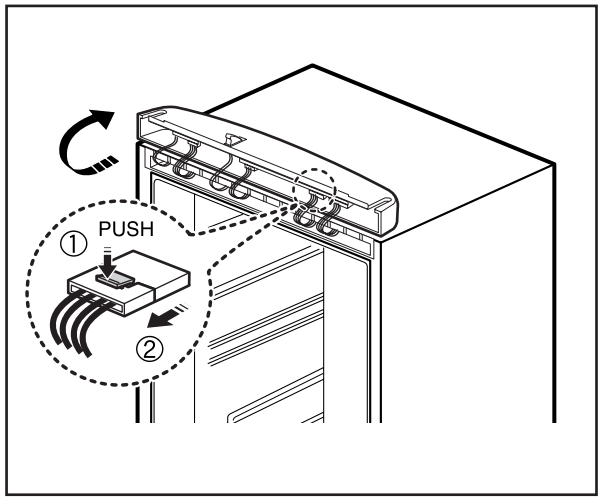


## 11-6. Disassembly of Top Table

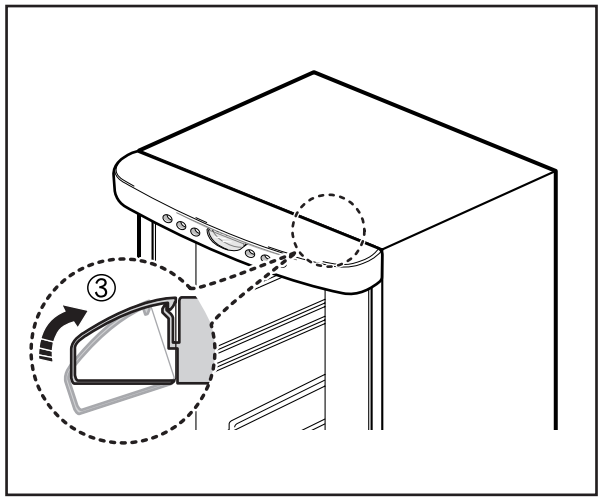
● With the door open, unscrew screws ①
with a screw driver("+" type).
● Lever out top table ②
with a screw driver ("–" type).




● Repair or change electric parts of top table.

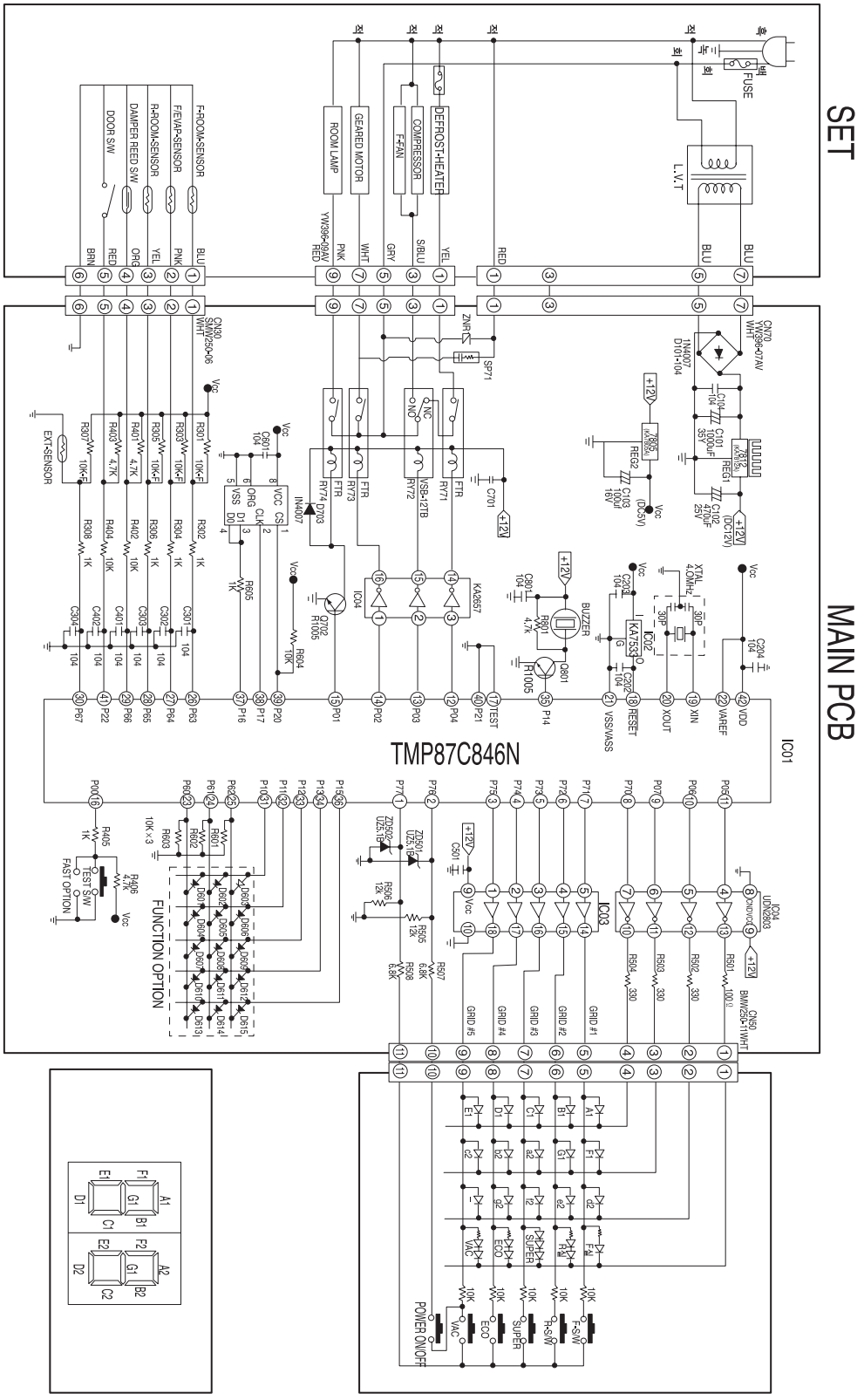



● Attach the top table and click into
hook ③ by pressing.

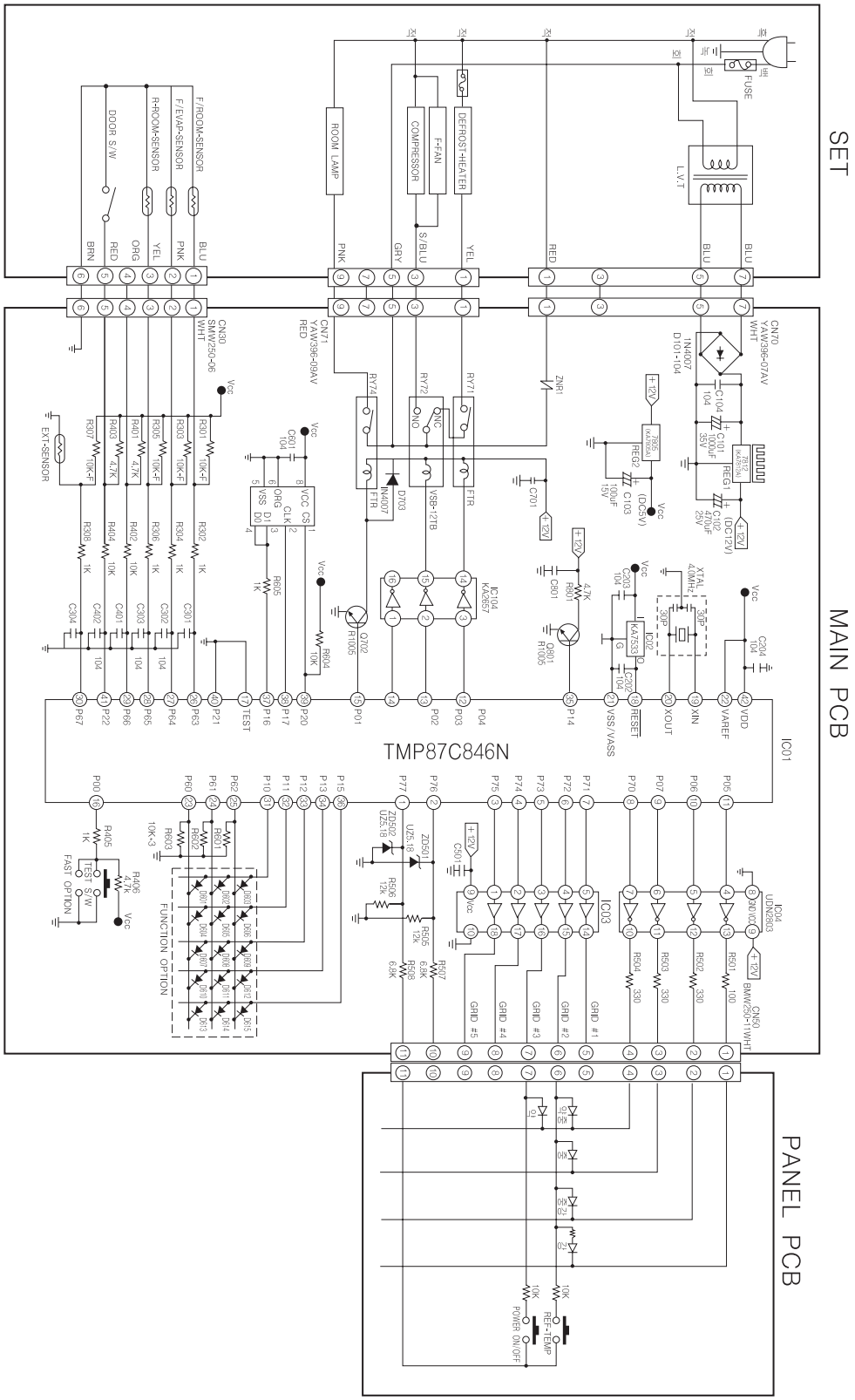


# 12. PCB Circuit Diagram

## 12-1. ELECTRONIC MODEL



# 12-2. SEMI ELECTRONIC MODEL



## 12-3. Service Parts

| NO | CODE-NO | ITEM | STANDARD | COMPANY | Q'ty | Remarks |
|---|---|---|---|---|---|---|
| 1 | DA41-00018A | MAIN PCB | COMBI-P/J | Kwangju Electronics | 1 | |
| | DA41-00042A | MAIN PCB(SEMI) | COMBI-P/J | Kwangju Electronics | 1 | |
| | DA41-00042C | MAIN PCB(SEMI(AH/AM)) | COMBI-P/J | Kwangju Electronics | 1 | |
| 2 | DA41-00014A | PANEL PCB | COMBI-P/J | Seoul Semiconductor | 1 | |
| | DA41-00043A | PANEL PCB(SEMI) | COMBI-P/J | Seoul Semiconductor | 1 | |
| 3 | DA32-10105B | R-SENSOR | 502AT | Dong Kwang | 1 | |
| 4 | DA32-10109P | F-SENSOR | 502AT | Dong Kwang | 1 | |
| 5 | DA32-10105Q | F DEF-SENSOR | 502AT | Dong Kwang | 1 | |
| 6 | DA26-00003A | DC-TRANS | COMBI-P/J | Sigma Telecom | 1 | |
| 7 | DA41-00013A | SUB PCB | COMBI-P/J | YuYu | 1 | INVERTER PCB |

## 12-4. The Changed Part Lists As Supplying Voltages

| NO | ITEM | 240V/50Hz | | 230V/50Hz | | 220V/50Hz | |
|---|---|---|---|---|---|---|---|
| | | CODE-NO | SPEC. | CODE-NO | SPEC. | CODE-NO | SPEC. |
| 1 | THERAFLUOROETHANE | DA02-00038A | R-600a | DA02-40030A | R-134a | DA02-40030A | R-134a |
| 2 | COMPRESSOR | DA59-00144A | DK4A1Q-L1U | DA59-00158A | DK172Q-L2U | DA59-00158A | DK172Q-L2U |
| 3 | PROTECTOR-O/L | DA34-10003H | 4TM213PHBYY-53 | DA34-10003K | 4TM232SHBYY-53 | DA34-10003K | 4TM232SHBYY-53 |
| 4 | C-OIL | 2501-001185 | 3.5uF, 350V | 2501-001186 | 5uF, 350V | 2501-001186 | 5uF, 350V |
| 5 | RELAY-PTC | DA35-10031B | J531Q35E330M3852 | DA35-10013B | J531Q35E330M3852 | DA35-10013B | J531Q35E330M3852 |
| 6 | DC-TRANS | DA26-00003A | 240V/50, 60Hz | DA26-00003A | 240V/50, 60Hz | DA26-00003A | 240V/50, 60Hz |
| 7 | EVAP-ASSY | DA59-00118B | 240V, 310W | DA59-00118B | 240V, 310W | DA59-00118C | 220V, 310W |
| 8 | COVER-EVAP RE ASSY | DA63-00396A | 240V | DA63-00396A | 240V | DA63-00396B | 220V/50, 60Hz |
| 8-1 | MOTOR-FAN | DA31-00002P | 235V/50Hz/2550RPM | DA31-00002P | 235V/50Hz/2550RPM | DA31-00002U | 220V/50,60Hz/2550RPM |
| 8-2 | GEARD-MOTOR | DA31-10107C | M2LA49Z, 220V | DA31-10107C | M2LA49Z, 220V | DA31-10107C | M2LA49Z, 220V |
| 9 | PBA-SUE | DA41-00013A | 240V | DA41-00013A | 240V | DA41-00013A | 240V |
| 10 | Lamp Incandescent | 4713-001140 | 240V/25W | 4713-001140 | 240V/25W | 4713-001140 | 240V/25W |

| NO | ITEM | 127V/60Hz | | | | | |
|---|---|---|---|---|---|---|---|
| | | CODE-NO | SPEC. | CODE-NO | SPEC. | CODE-NO | SPEC. |
| 1 | THERAFLUOROETHANE | DA02-40030A | R-134a | | | | |
| 2 | COMPRESSOR | DA59-00169A | DK172P-L2U | | | | |
| 3 | PROTECTOR-O/L | DA34-10004H | 4TM435PHBYY-53 | | | | |
| 4 | C-OIL | 2501-001045 | 12uF, 250V | | | | |
| 5 | RELAY-PTC | DA35-10013N | J531Q33E100M200-2 | | | | |
| 6 | DC-TRANS | DA26-00003B | 127V/50, 60Hz | | | | |
| 7 | EVAP-ASSY | DA59-00118E | 127V, 310W | | | | |
| 8 | COVER-EVAP RE ASSY | DA63-00396C | 127V/60Hz | | | | |
| 8-1 | MOTOR-FAN | DA31-00002V | 127V/60Hz/2550RPM | | | | |
| 8-2 | GEARD-MOTOR | DA31-10107B | JX71MLBA6, 110V | | | | |
| 9 | PBA-SUE | DA41-20160B | 127V | | | | |
| 10 | Lamp Incandescent | 4713-001141 | 130V/25W | | | | |

# MEMO

# MEMO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