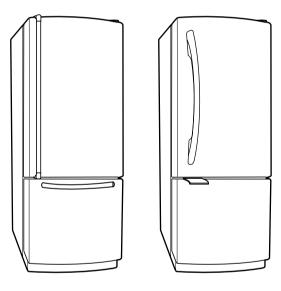


REFRIGERATOR SERVICE MANUAL

CAUTION BEFORE SERVICING THE UNIT, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



MODEL:

LRBN22514WW LRBN22514SB LRBN22514ST

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SAFETY PRECAUTIONS

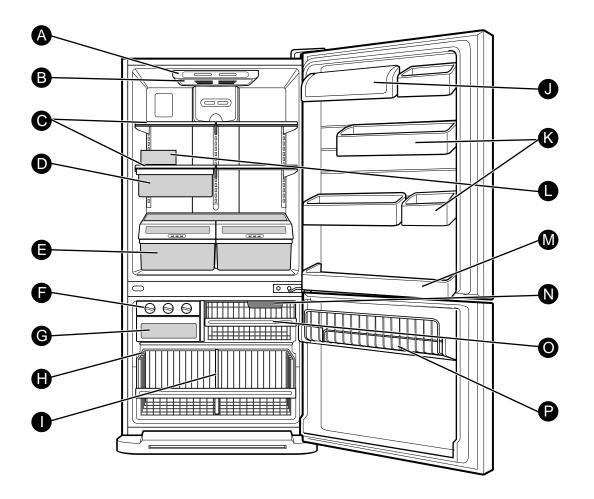
Please read the following instructions before servicing your refrigerator.

- 1. Check the refrigerator for electrical faults.
- 2. To prevent electric shock, unplug before servicing.
- 3. Always check line voltage and amperage.
- 4. Use standard electrical components.
- 5. Don't touch metal products in the freezer with wet hands. This may cause frostbite or cause your skin to freeze and stick to the surfaces inside the freezer.
- 6. Prevent water from flowing onto electric elements in the mechanical parts.
- 7. Close the top door before opening the bottom door. Otherwise, you might hit your head when you stand up.

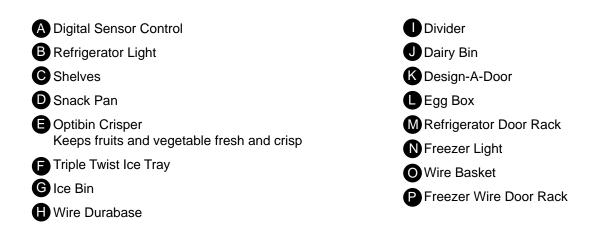
- 8. When tilting the refrigerator, remove any materials on the refrigerator, especially the glass shelves and stored foods.
- 9. When servicing the evaporator, wear cotton gloves. This is to prevent injuries from the sharp evaporator fins.
- 10. Disassembly, repair, and servicing the sealed refrigeration system should be performed only by qualified and certified personnel. Refrigerant should not be vented into the atmosphere; proper recovery equipment should be used.

1. SPECIFICATIONS

			Models			
		LRBN22514WW	LRBN22514SB	LRBN22514ST		
	Color	White	Black	Stainless Steel		
	Capacity	22cuft	22cuft	22cuft		
	Dimensions	32.8 (\	N) x 33.66 (D) x 69.4	159 (H)		
	Refrigerant		R134A (4.2oz)			
	Climate Class		Temperature(N)			
	Control Type	F-control				
	Rating	115/60				
ior	Case Material	EMBO(Normal)				
pecification	Door Material	Embo	PCM	Stainless		
Cifi	Reversible Door	Yes				
bē	Lamp (F)	1 (60W)				
S	Lamp (R)	2 (60W)				
	Basket (F)	1				
	Basket (R)	3				
	Shelf (F)	No				
	Shelf (R)	1Fix(Full non S/Proof)+2Fix(non S/Proof)				
	Cover, TV	Optibin Crisper+Humidity				
	Drawer	Wire (1 Upper + 1 Lower)				
	Vegetable		Yes			
	Tray Meat	Yes				



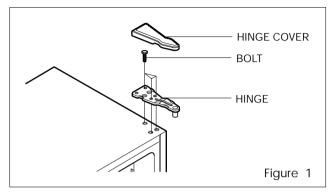
NOTE: This guide covers several different models. The refrigerator you have purchased may have some or all of the items listed below. The locations of the features shown below may not match your model.



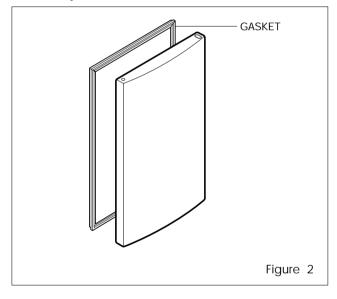
3. DISASSEMBLY

3-1 DOOR

- Refrigerator Door
- 1. Remove the hinge cover by pulling it upwards.
- 2. Loosen the hexagonal bolts attaching the upper hinge to the body and lift the freezer door.

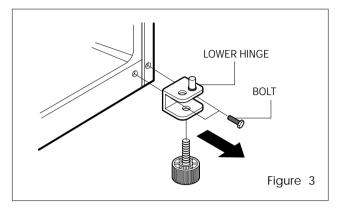


3. Pull out the door gasket to remove from the door foam assembly.



Freezer Door

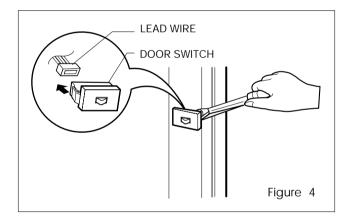
1. Loosen the hexagonal bolts attaching the lower hinge to the body to remove the refrigerator door only.



2. Pull out the door gasket to remove from the door foam assembly.

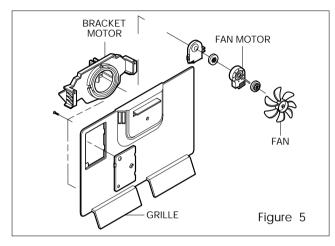
3-2 DOOR SWITCH

- 1. To remove the door switch, pry it out with a slotted-type driver, as shown in (Figure 4).
- 2. Disconnect the lead wire from the switch.



3-3 FAN AND FAN MOTOR

- 1. Remove the freezer shelf. (If your refrigerator has an icemaker, remove the icemaker first)
- 2. Remove the grille by pulling it out and by loosening a screw.
- 3. Remove the Fan Motor assembly by loosening 2 screws and disassemble the shroud.
- 4. Pull out the fan and separate the Fan Motor and Bracket.

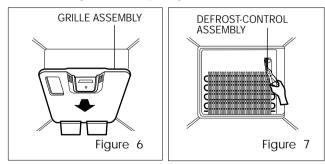


3-4 DEFROST CONTROL ASSEMBLY

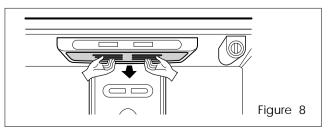
Defrost Control assembly consists of Defrost Sensor and FUSE–M.

The Defrost Sensor works to defrost automatically. It is attached to the metal side of the Evaporator and senses its temperature. At 72°C, it turns the Defrost Heater off. Fuse-M is a safety device for preventing over-heating of the Heater when defrosting.

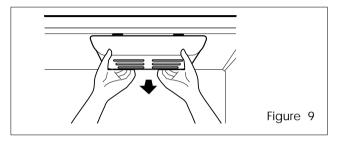
- 1. Pull out the grille assembly. (Figure 6)
- 2. Separate the connector with the Defrost Control assembly and replace the Defrost Control assembly after cutting the Tie Wrap. (Figure 7)



3-5 LAMP



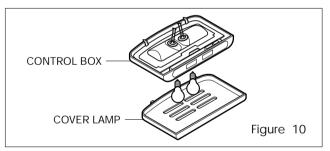
- 3-5-1 Refrigerator Compartment Lamp
- 1. Unplug the power cord from the outlet.
- 2. Remove refrigerator shelves.
- 3. Release the hooks on both ends of the lamp shield and pull the shield downward to remove it.
- 4. Turn the lamp counterclockwise.
- Assemble in reverse order of disassembly. Replacement bulb must be the same specification as the original (Max. 60 W-2EA).



- 3-5-2 Freezer Compartment Lamp
- 1. Unplug refrigerator or disconnect power.
- 2. Reach behind light shield to remove bulb.
- 3. Replace bulb with a 60-watt appliance bulb.
- 4. Plug in refrigerator or reconnect power.

3-6 CONTROL BOX-REFRIGERATOR

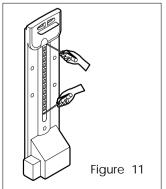
1. First, remove all shelves in the refrigerator, than remove the Refrigerator control Box by loosening 2 screws.



- 2. Remove the Refrigerator Control Box by pulling it downward.
- 3. Disconnect the lead wire on the right position and separate the lamp sockets.

3-7 MULTI DUCT

- 1. Remove an upper and lower Cap by using a flat screwdriver, and loosen 3 screws. (Figure 11)
- 2. Disconnect the lead wire on the bottom position.



4. ADJUSTMENT

4-1 COMPRESSOR

4-1-1 Role

The compressor intakes low temperature and low pressure gas from the evaporator of the refrigerator and compresses this gas to high-temperature and high-pressure gas. It then delivers the gas to the condenser.

4-1-2 Composition

The compressor includes overload protection. The PTC starter and OLP (overload protector) are attached to the outside of the compressor. Since the compressor is manufactured to tolerances of 1 micron and is hermetically sealed in a dust and moisture-free environment, use extreme caution when repairing it.

4-1-3 Note for Usage

- (1) Be careful not to allow over-voltage and over-current.
- (2) If compressor is dropped or handled carelessly, poor operation and noise may result.
- (3) Use proper electric components appropriate to the Particular Compressor in your product.
- (4) Keep Compressor dry.

If the Compressor gets wet (in the rain or a damp environment) and rust forms in the pin of the Hermetic Terminal, poor operation and contact may result.

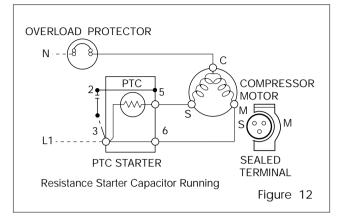
(5) When replacing the Compressor, be careful that dust, humidity, and soldering flux dont contaminate the inside of the compressor. Dust, humidity, and solder flux contaminate the cylinder and may cause noise, improper operation or even cause it to lock up.

4-2 PTC-STARTER

4-2-1 Composition of PTC-Starter

- PTC (Positive Temperature Coefficient) is a no-contact semiconductor starting device which uses ceramic material consisting of BaTiO₃.
- (2) The higher the temperature is, the higher the resistance value. These features are used as a starting device for the Motor.
- 4-2-2 Role of PTC-Starter
- (1) The PTC is attached to the Sealed Compressor and is used for starting the Motor.
- (2) The compressor is a single-phase induction motor. Durign the starting operation, the PTC allows current flow to both the start winding and main winding.

4-2-3 PTC-Applied Circuit Diagram Starting Method for the Motor



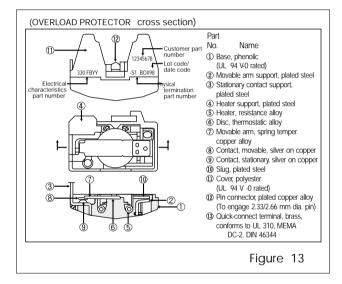
- 4-2-4 Motor Restarting and PTC Cooling
- (1) It requires approximately 5 minutes for the pressure to equalize before the compressor can restart.
- (2) The PTC device generates heat during operation. Therefore, it must be allowed to cool before the compressor can restart.
- 4-2-5 Relation of PTC-Starter and OLP
- (1) If the compressor attempts to restart before the PTC device is cooled, the PTC device will allow current to flow only to the main winding.
- (2) The OLP will open because of the over current condition. This same process will continue (3 to 5 times) when the compressor attempts to restart until the PTC device has cooled. The correct OLP must be properly attached to prevent damage to the compressor.

Parts may appear physically identical but could have different electrical ratings. Replace parts by part number and model number. Using an incorrect part could result in damage to the product, fire, injury, or possibly death.

- 4-2-6 Note for Using the PTC-Starter
- (1) Be careful not to allow over-voltage and over-current.
- (2) Do not drop or handle carelessly.
- (3) Keep away from any liquid.
 If liquid such as oil or water enters the PTC, PTC materials may fail due to breakdown of their insulating capabilities.
- (4) If the exterior of the PTC is damaged, the resistance value may be altered. This can cause damage to the compressor and result in a no-start or hard-to-start condition.
- (5) Always use the PTC designed for the compressor and make sure it is properly attached to the compressor. Parts may appear physically identical but could have different electrical ratings. Replace parts by part number and model number. Using an incorrect part could result in damage to the product, fire, injury, or possibly death.

4-3 OLP (OVERLOAD PROTECTOR)

- 4-3-1 Definition of OLP
- (1) OLP (OVERLOAD PROTECTOR) is attached to the Compressor and protects the Motor by opening the circuit to the Motor if the temperature rises and activating the bimetal spring in the OLP.
- (2) When high current flows to the Compressor motor, the Bimetal works by heating the heater inside the OLP, and the OLP protects the Motor by cutting off the current flowing to the Compressor Motor.
- 4-3-2 Role of the OLP
- (1) The OLP is attached to the Sealed Compressor used for the Refrigerator. It prevents the Motor Coil from being started in the Compressor.
- (2) For normal operation of the OLP, do not turn the Adjust Screw of the OLP in any way.



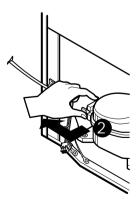
4-4 TO REMOVE THE COVER PTC



- 1) Remove the Cover Back M/C.
- (2) Remove the screw on Cover PTC.



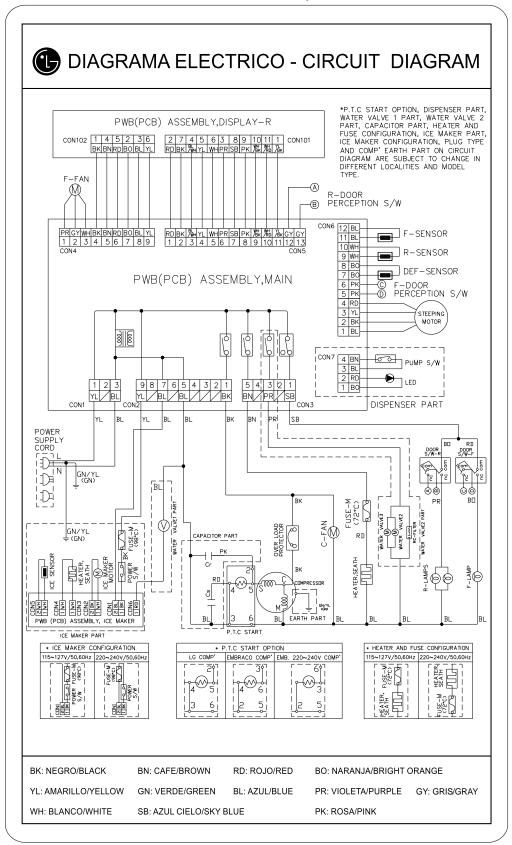
- (3) Remove two Housings on upper part of Cover PTC.
- (4) Take out the cover PTC from upper to lower position like .



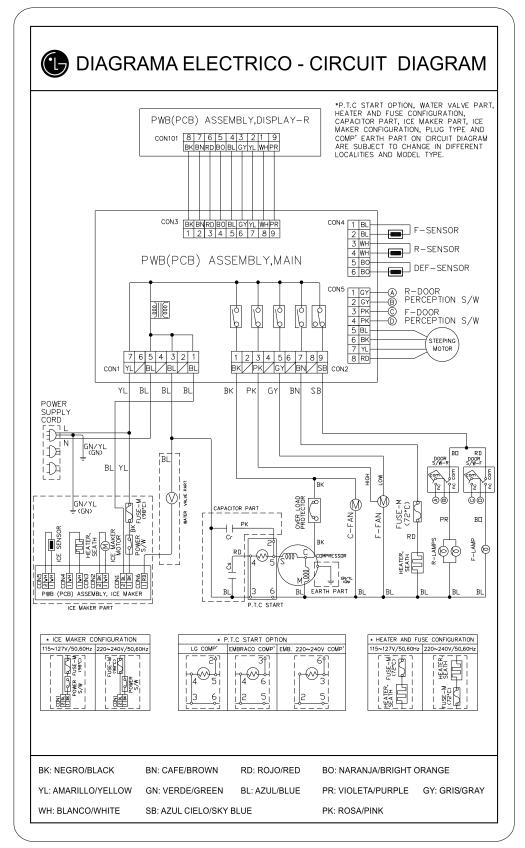
(5) Turn 45_i in the direction of and take it out.(6) Assembly in reverse order of disassembly.

5. CIRCUIT DIAGRAM

Best / Best dispenser

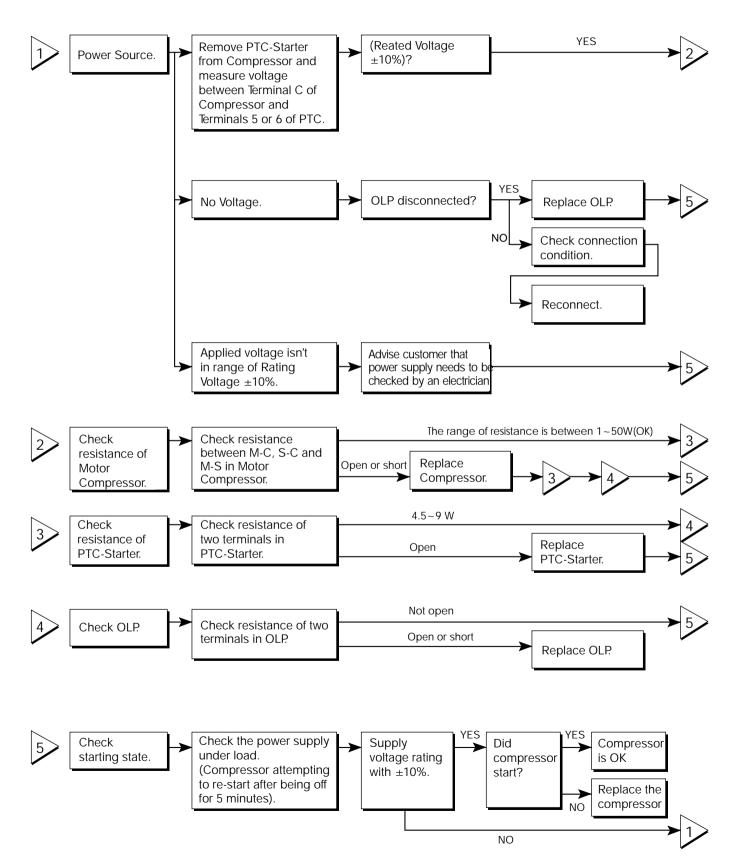


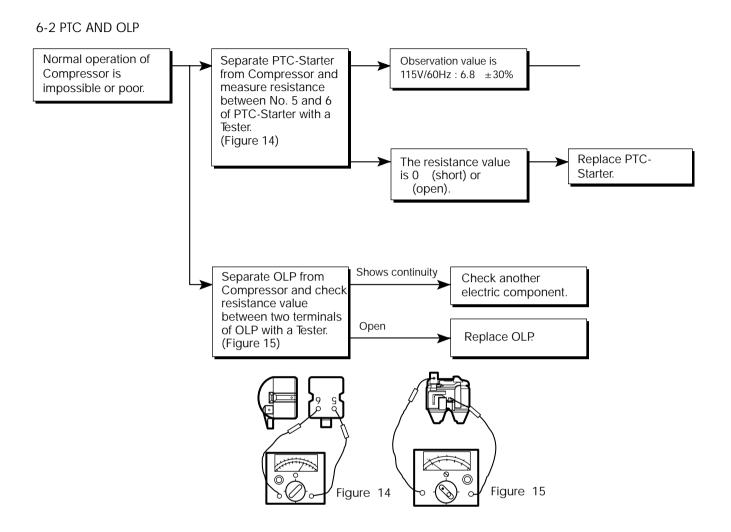
Good / Better



6. TROUBLESHOOTING

6-1 COMPRESSOR AND ELECTRIC COMPONENTS

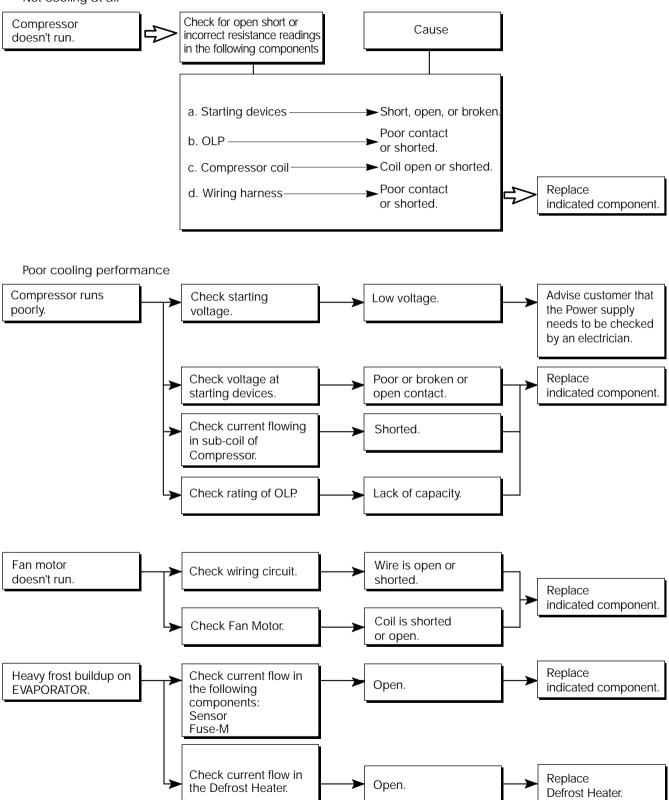




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6-3 OTHER ELECTRICAL COMPONENTS

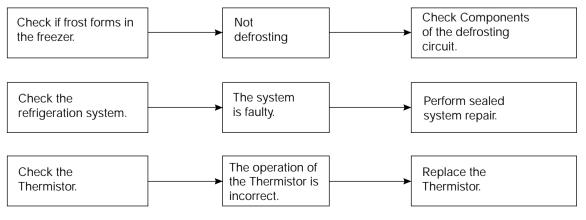
Not cooling at all



6-4 SERVICE DIAGNOSIS CHART

COMPLAINT	POINTS TO BE CHECKED	REMEDY
No Cooling.	 Is the power cord unplugged from the outlet? Check if the power switch is set to OFF. Check if the fuse of the power switch is shorted. Measure the voltage of the power outlet. 	 Plug into the outlet. Set the switch to ON. Replace the fuse. If the voltage is low, correct the wiring.
Cools poorly.	 Check if the unit is placed too close to the wall. Check if the unit is placed too close to the stove, gas cooker, or in direct sunlight. Is the ambient temperature too high or the room door closed? Check if food put in the refrigerator is hot. Did you open the door of the unit too often or check if the door is sealed properly? Check if the Control is set to Warm position . 	 Place the unit about 4 inches (10 cm) from the wall. Place the unit away from these heat sources. Lower the ambient temperature. Put in foods after they have cooled down. Don't open the door too often and close it firmly. Set the control to Recommended position.
Foods in the Refrigerator are frozen.	 Is food placed in the cooling air outlet? Check if the control is set to colder position. Is the ambient temperature below 41°F(5° C)? 	 Place foods in the high-temperature section. (front part) Set the control to Recommended position. Set the control to Warm position .
Condensartion or ice forms inside the unit.	 Is liquid food sealed? Check if food put in the refrigerator is hot. Did you open the door of the unit too often or check if the door is sealed properly? 	 Seal liquid foods with wrap. Put in foods after they have cooled down. Don't open the door too often and close it firmly.
Condensartion forms in the Exterior Case.	 Check if the ambient temperature and humidity of the surrounding air are high. Is there a gap in the door gasket? 	 Wipe moisture with a dry cloth. It will disappear in low temperature and humidity. Fill up the gap.
There is abnormal noise.	 Is the unit positioned in a firm and even place? Are any unnecessary objects placed in the back side of the unit? Check if the Drip Tray is not firmly fixed. Check if the cover of the compressor enclosure in the lower front side is taken out. 	 Adjust the Leveling Screw, and position the refrigerator in a firm place. Remove the objects. Fix the Drip Tray firmly in the original position. Place the cover in its original position.
Door does not close well.	 Check if the door gasket is dirty with an item like juice. Is the refrigerator level? Is there too much food in the refrigerator? 	 Clean the door gasket. Position in the firm place and level the Leveling Screw. Make sure food stored in shelves does not prevent the door from closing.
Ice and foods smell unpleasant.	 Check if the inside of the unit is dirty. Are foods with a strong odor unwrapped? The unit smells of plastic. 	 Clean the inside of the unit. Wrap foods that have a strong odor. New products smell of plastic, but this will go away after 1-2 weeks.

Other possible problems:



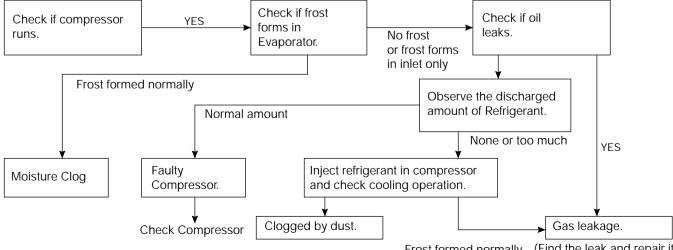
6-5 REFRIGERATION CYCLE

Troubleshooting Chart

	CAUSE	state of The Unit	state of the evaporator	TEMPERATURE OF THE COMPRESSOR	REMARKS
LEAKAG	PARTIAL LEAKAGE	Freezer compartment and Refrigerator don't cool normally.	Low flowing sound of Refrigerant is heard and frost forms in inlet only.	A little higher than ambient temperature.	 Refrigerant level is low due to a leak. Normal cooling is possible by restoring the normal amount of refrigerant and repairing the leak.
AGE	COMPLETE LEAKAGE	Freezer compartment and Refrigerator don't cool normally.	Flowing sound of refrigerant is not heard and frost isn't formed.	Equal to ambient temperature.	 No discharging of Refrigerant. Normal cooling is possible by restoring the normal amount of refrigerant and repairing the leak.
CLOGGED	PARTIAL CLOG	Freezer compartment and Refrigerator don't cool normally.	Flowing sound of refrigerant is heard and frost forms in inlet only.	A little higher than ambient temperature.	 Normal discharging of the refrigerant. The capillary tube is faulty.
BY DUST	WHOLE CLOG	Freezer compartment and Refrigerator don't cool.	Flowing sound of refrigerant is not heard and frost isn't formed.	Equal to ambient temperature.	Normal discharging of the Refrigerant.
	MOISTURE CLOG	Cooling operation stops periodically.	Flowing sound of refrigerant is not heard and frost melts.	Lower than ambient temperature.	Cooling operation restarts when heating the inlet of the capillary tube.
COMPR	COMP- RESSION	Freezer and Refrigerator don't cool.	Low flowing sound of refrigerant is heard and frost forms in inlet only.	A little higher ambient temperature.	• Low pressure at high side of compressor due to low refrigerant level.
DEFECTIVE COMPRESSION	NO COMP- RESSION	No compressing operation.	Flowing sound of refrigerant is not heard and there is no frost.	Equal to ambient temperature.	No pressure in the high pressure part of the compressor.

Leakage Detection

Observe the discharging point of the refrigerant, which may be in the oil discharging part of the compressor and in a hole in the evaporator.



Frost formed normally (Find the leak and repair it)

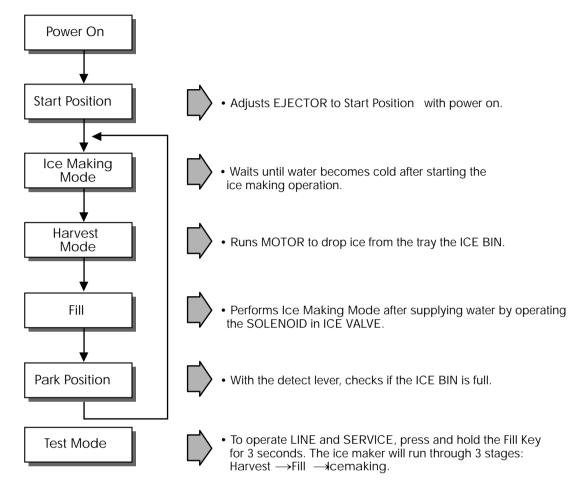
General Control of Refrigerating Cycle

NO.	ITEMS	UNIT	STANDARDS P	URPOSES	REMARKS
1	Pipe and piping system opening time	Min.	Pipe: within 1 hour. Comp: within 10 minutes. Drier: within 20 minutes.	To protect moisture penetration.	The opening time should be reduced to a half of the standards during rain and rainy seasons (the penetration of water into the pipe is dangerous).
2	Welding	Nitrogen pressure	Weld under Nitrogen atmosphere. (N ² pressure: 0.1~0.2 kg/cm ³)	To protect oxide scale formation.	 Refer to repair note in each part. R-134a refrigerant is more susceptible to leaks than R-12 and requires more care during welding. Do not apply force to pipes before and after welding to protect pipe from crackir
3	N2 sealed parts	Confirm N₂ leak	Confirm the sound of pressure relief when removing the rubber cap. Sound: usable No sound: not usable	To protect moisture penetration.	- In case of evaporator parts, if it doesn make sound when removing rubber cap, blow dry air or N gas for more than 1 min. and than use the parts.
4	Refrige- ration time	Min.	More than 40 minutes	To remove moisture.	
	Cycle Vacuum degree		here 0.03 (ref) high and low pressure sides are evacuated at the same time for models above 200 l.		Note: Only applicable to the model equipped with reverse flow protect plate. Vacuum efficiency can be improved by operating compressor during evacuation.
			Use R-134a manifold exclusively.	To protect mixing of mineral and ester oils.	The rubber pipes for R-12 refrigerant will be melted when they are used for R-134a refrigerant (causes of leak.)
			Use R-134a manifold exclusively.	To protect R-12 refrigerant mixing.	
		/	R-134a manifold exclusively.	To protect R-12 refrigerant mixing.	
			R-134a manifold exclusively.	To protect R-12 refrigerant mixing.	
	9 9	EA	Use R-134a exclusively. Weighing allowance: 5g Note: Winter: -5g Summer: +5g	Do not mix with R-12 refrigerant.	 Do not weigh the refrigerant at too hot or too cold an area. (77°F [25°C] is adequate.) Make Copper charging canister (Device filling refrigerant) Socket: 2SV Plug: 2PV R-134a Note: Do not burn O-ring (bushing) during welding.
	Drier replacement		 Use R-134a exclusively for R-134a refrigerator. Replace drier whenever repairing refrigerator cycle piping. 	To remove the moisture from pipe inside.	
7	Leak check		 Do not use soapy water for check. It may be sucked into the pipe by a vacuum. 	Defect in refrigerant leak area.	 Check for an oil leak at the refrigeran leak area. Use an electronic leak detector if an oil leak is not found. The electronic leak detector is very sensitive to halogen gas in the air. It also can detect R-141b in urethane. Practice many times before using this type of detector to avoid false reading

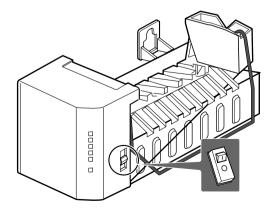
7. OPERATION PRINCIPLE AND REPAIR METHOD OF ICEMAKER

ICE MAKER: 5 STEPS

- 7-1 OPERATION PRINCIPLE
- 7-1-1 Operation Principle of IceMaker



- 1. Turning the Icemaker stop switch off (O) stops the ice making function.
- 2. Setting the Icemaker switch to OFF and then turning it back on will reset the icemaker control.



7-2 CONTROL METHOD ACCORDING TO FUNCTIONS

7-2-1 Start Position

- 1. After POWER OFF or Power Outage, check the EJECTOR's position with MICOM initialization to restart.
- 2. How to check if it is in place:
 - Check HIGH/LOW signals from HALL SENSOR in MICOM PIN.
- 3. Control Method to check if it is in place:
 - (1) EJECTOR is in place,
 - It is an initialized control, so the mode can be changed to ice making control.
 - (2) EJECTOR isn't in place:
 - A. If EJECTOR is back in place within 2 minutes with the motor on, it is being initialized. If not, go to Step B.
 - B. If EJECTOR is back in place within 18 minutes with the heater on (to control Heater on its OFF condition), it is being initialized. If not, it is not functioning. Repeat Step B with Heater and Motor off.

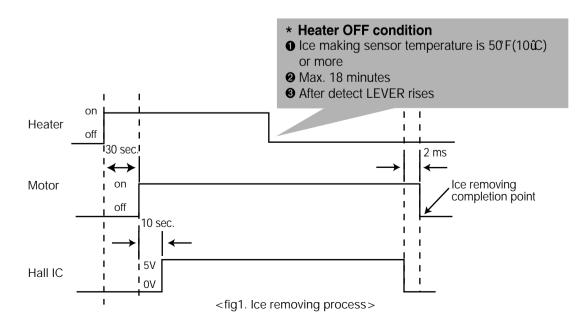
7-2-2 Ice Making Mode

- 1. Ice Making control refers to the freezing of supplied water in the ice trays. Complete ice making operations by measuring the temperature of the Tray with Ice-Making SENSOR.
- 2. Ice Making starts after completing fulfilled ice control and initial control.
- 3. The Ice Making function is completed when the sensor reaches $19F(-7_1C)$, 60 to 240 minutes after starting.
- 4. If the temperature sensor is defective, the ice-making function will be completed in 4 hours.

7-2-3 Harvest Mode

- 1. Ice-removing control refers to the operation of dropping cubes into the ice bin from the tray when ice-making has completed.
- 2. Ice removing control mode:
 - (1) Operates Heater for 30 seconds; then operate MOTOR.
 - (2) After performing Step 1 (to control the Heater on its off condition), Ice-Removal control will be back in place within 18 minutes. (Hall SENSOR sign = OV). Ice removal is then complete. Then change the mode to the water supply control. If this control phase fails to start, it is not functioning. Put the Heater and Motor in the off position. Restart every 2 hours. (Refer to fig.1)

NOTE : If the motor malfunctions and starts before the detect lever rises, MICOM regards the Ice-Removing phase as completed. Water then starts flowing. To prevent this, MICOM doesn $\tilde{\Phi}$ switch to water-supply mode, but restarts the ice-removing mode. If this happens 3 times, the motor is malfunctioning and you should stop the loads (Heater, Motor). Then restart the Ice-Removing mode every 2 hours. (See Step 2 above.)



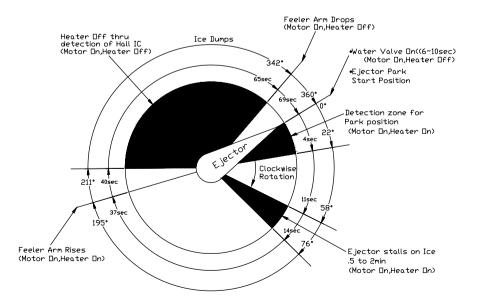
7-2-4 Fill / Park Position

- 1. When Ice-Removing control (Normal Ice-Removing control, Ice-Removing control for test) has completed, and the EJECTOR is in place, this control operates the ICE SOLENOID by time check in the compressor enclosure of the refrigerator. Then it supplies water to the ice making tray.
- 2. Water supply level is adjustable in levels 1-5 by pressing the water supply control Switch and fill time will be determined by the selected level.

STAGE	TIME TO SUPPLY	INDICATIONS	REMARKS
1	6 sec.		
2	7 sec.		
3	8 sec.		The water amount will vary depending on the water control Switch setting, as well as the water pressure of the connected water line.
4	9 sec.		
5	10 sec.		

Water supply amount TABLE

NOTE : Below is an example used by another vendor as an explanation of what is taking place.



7-2-5 Function TEST

- 1. This is a compulsory operation for TEST, SVC, cleaning, etc. It is operated by pressing the water supply control KEY for second
- 2. It operates in the Ice Making mode, but not in the Ice-Removing mode or water supply process. (If there is an ERROR, it can only be checked in the TEST mode.)
- 3. If the water supply control KEY is pressed for 3 seconds in the Ice-Making mode (no matter what condition the Ice-Making tray is in) the Ice-Removing operation starts immediately. Water is not yet frozen, so water is poured instead of ice. If the control does boy operate normally in the TEST mode, check and repair as needed.
- 4. After water is supplied, the normal CYCLE is followied: making Harvest Fill Park Position .
- 5. When Stage 5 is completed in the TEST mode, minimize MICOM in 5 seconds, the time needed to supply water resets to the previous status in the TEST mode.

STAGE	ITEMS	INDICATOR	REMARKS
1	HEATER		Five seconds after heater starts, heater will go off if temperature recorded by sensor is 10 _i C or lever is in up position.
2	MOTOR		Five seconds after heater starts, you can confirm that motor is moving.
3	HALL IC (detection of position)		You can confirm Hall Ic detection of position.
4	VALVE		Two seconds after detection of initial position, you can confirm that value is on.
5	HALL IC (detection of full-filled Ice)		You can check whether hall is sensing Full ice condition. (If there is a full-filled error, the fifth LED is not on.)
6	reset	Mark previous status on TEST mod	Five seconds after fifth stage is completed, lethe icemaker reset at initial status.

Diagnosis TABLE

7-3 DEFECT DIAGNOSIS FUNCTION

7-3-1 ERROR CODES shown on Ice Maker water supply control panel

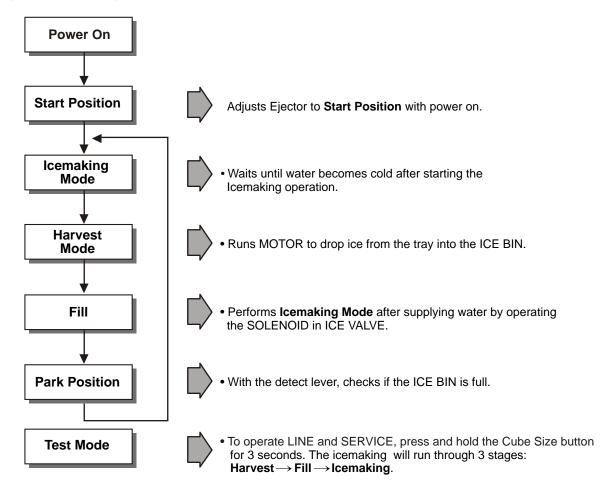
NO	DIVISION	INDICATOR	CONTENTS	REMARKS
1	Normal	Mark time to supply	None	Display switch operates properly
2	Ice-Making Sensor malfunction		Cut or short-circuited wire	Make sure that the wire on each sensor is connected.
3	Ice Maker Kit malfunction		When ejector blades do ô reach park position over 18 minutes since Harvest Mode starts.	Defects of HALL IC/MOTOR/ HEATER/RELAY

ERROR indicators in table can be checked only in TEST mode.

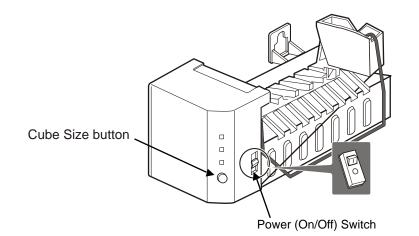
ICE MAKER: 3 STEPS

7-1 OPERATION PRINCIPLE

7-1-1 Operation Principle of Icemaker



- 1. Turning the Icemaker stop switch off (O) stops the icemaking function.
- 2. Setting the Icemaker switch to OFF and then turning it back on will reset the icemaker control.



7-2 ICE MAKER FUNCTIONS

7-2-1 Ice Making Mode

- 1. Icemaking refers to the freezing of supplied water in the ice trays. Complete freezing is assured by measuring the temperature of the Tray with icemaking SENSOR.
- 2. Icemaking starts after completion of the water fill operation.
- 3. The icemaking function is completed when the sensor reaches -7°C, 60 to 240 minutes after starting.

NOTE :After icemaker power is ON, the icemaker heater will be on for test for 9 sec.

7-2-2 Harvest Mode

- 1. Harvest (Ice removing) refers to the operation of dropping ices into the ice bin from the tray when icemaking has completed.
- 2. Harvest mode:
 - (1) The Heater is ON for 30 seconds, then the motor starts.
 - (2) Harvest mode is completed if it reaches start position again while Heater & Motor are on at the same time.
 - A. ice bin is full : The EJECTOR stops (heater off).
 - B. ice bin is not full : The EJECTOR rotates twice to open for ice.
 - **NOTE :**If the EJECTOR does not rotate once within 5 minutes in status (2), separate heater control mode starts operating to prevent the EJECTOR from being constrained. (It is recommended that the user open for ice to return to normal mode.)

7-2-3 Fill/Park Position

- 1. Once a normal harvest mode has been completed, the water solenoid will be activated.
- 2. The amount of water is adjusted by pressing the fill key repeatedly. This changes the time allowed for fill as illustrated in the table below.

STAGE	TIME TO SUPPLY	INDICATIONS	REMARKS
1	6 sec.		
2	7 sec.		The water amount will vary depending on the water control switch setting, as well as the water pressure of the connected water line.
3	8 sec.		

Water supply amount table

7-2-5 Function TEST

- 1. This is a compulsory operation for test, service, cleaning, etc. It is operated by pressing and holding the Cube Size button 3 seconds.
- 2. The test works only in the Icemaking Mode. It cannot be entered from the Harvest or Fill mode. (If there is an ERROR, it can only be checked in the TEST mode.)
- 3. **Caution!** If the test is performed before water in the icemaker is frozen, the ejector will pass through the water. When the fill mode begins (Stage 4), unless the water supply has been shut off, added water will overflow into the ice bin. If the control Doesn't operate normally in the TEST mode, check and repair as needed.
- 4. After water is supplied, the normal CYCLE is followed: icemaking \Rightarrow Harvest \Rightarrow Fill \Rightarrow Park Position.
- 5. Five seconds after Stage 5 is completed, the icemaker returns to MICOM control. The time needed to supply water resets to the pre- test setting.

STAGE	ITEMS	INDICATOR *	REMARKS
1	HEATER		Five seconds after heater starts, heater will go off if temperature recorded by sensor is 10°C (50°F)or lever is in up position.
2	MOTOR		Five seconds after heater starts, you can confirm that motor is moving.
3	HALL IC (TRAY)		You can confirm Hall IC detection of position.
4	SOLENOID VALVE		Two seconds after detection of initial position, you can confirm that valve is on.
5	HALL IC (LEVER)		You can check when the Hall IC is sensing a full ice condition. (If there is a water fill error, the fifth LED is not on.)
6	Reset	Return to Status prior to TEST MODE	Five seconds after fifth stage is completed, the icemaker resets to initial status.

Diagnosis TABLE

7-3 DEFECT DIAGNOSIS FUNCTION

7-3-1 ERROR CODES shown on Ice Maker water supply control panel

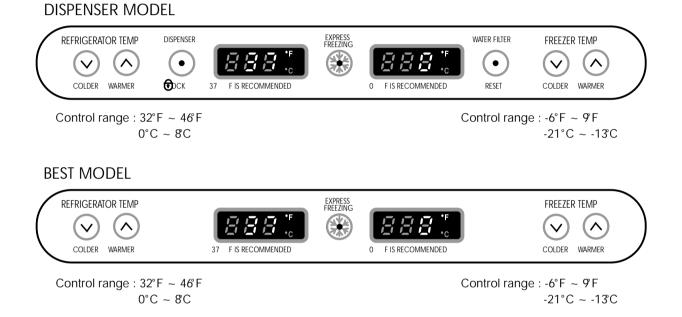
NO	DIVISION	INDICATOR	PROBLEM	REMARKS
1	Normal	Note fill times (see previous page)	None	Display switch operates properly
2	Icemaking Sensor malfunction		Open or shorted wire or sensor	Make sure that the wire on each sensor is connected.
3	Icemaker Kit malfunction		Ejector blades have not reached the park position after 18 minutes from start of harvest mode	Check HALL IC/MOTOR/ HEATER/RELAY

* ERROR indicators in table can be checked only in TEST mode.

8-1 FUNCTION

8-1-1 Function

- When the appliance is plugged in, it is set to 37°F for the Refrigerator and 0 °F for the Freezer. You can adjust the Refrigerator and the Freezer control temperature by pressing the COLDER button or the WARMER button.
- 2. When the power is initially applied or restored after a power failure, it is set to the setting temperature as you set before power off. (applied to DISPENSER MODEL)



8-1-2 How to Change the Temperature Mode to °F / °C

- 1. The setting temperature mode can be changed to[°]F / [°]C by pressing and holding COLDER key of Freezer and COLDER key of Refrigerator over 1 seconds. at the same time.
- 2. The initial setting is °F. Whenever the mode is changed, the LED lights are changed.

8-1-3 Dispenser Lock

- 1. Press and hold the DISPENSER LOCK button for 3 seconds to lock the dispenser.
- 2. When locked, the LED is off and the dispenser function is turned off.
- 3. Press and hold the DISPENSER LOCK button again for 3 seconds to unlock the dispenser. The LED will be on and the dispenser will function normally.

8-1-4 CONTROL OF FREEZER FAN MOTOR

- 1. Freezer fan motor has high and standard speeds.
- 2. High speed is used at power-up, for express freezing, and when refrigerator is overloaded. Standard speeds is used for general purposes.
- 3. To improve cooling speed, the RPM of the freezer fan motor change from normal speed to high.
- 4. High speed (2700RPM) : Initial power on or load corresponding operation, express freezing. Normal speed (2400RPM) : General working conditions.
- 5. Fan motor stops when refrigerator or freezer door opens.

8-1-5 EXPRESS FREEZING

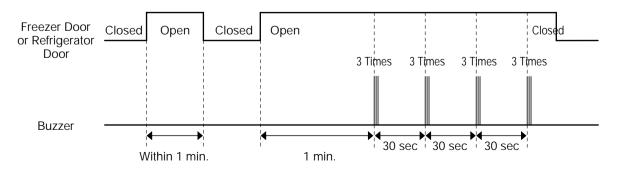
- 1. The purpose of this function is to intensify the cooling speed of freezer and to increase the amount of ice.
- 2. Whenever selection switch is pressed, selection/release, the LED will turn ON or OFF.
- 3. If there is a power cutage and the refrigerator is power on again, EXPRESS FREEZING function will be canceled.
- 4. To activate these function, to press the Express Freezing key and the LED will turn ON. This function will remain activated for 24 hrs. The first three hours the compressor and Freezer Fan will be ON. The next 21 hours the freezer will be controlled at the lowest temperature. After 24 hours or if the Express Freezing key is pressed again, the freezer will return to its previous temperature.
- 5. For the first three hours notice the following cases:
 - (1) Compressor and freezer fan (HIGH RPM) continuously operate for three hours.
 - (2) If defrost starts during EXPRESS FREEZING, EXPRESS FREEZING operates for the rest of time after defrost is completed, when EXPRESS FREEZING operation time is less than 90 minutes. If EXPRESS FREEZING operates for more than 90 minutes, the EXPRESS FREEZING will operate for two hours after defrost is completed.
 - (3) If EXPRESS FREEZING is pressed during defrost, EXPRESS FREEZING LED is on but this function will start seven minutes after defrost is completed and it shall operate for three hours.
 - (4) If EXPRESS FREEZING is selected within seven minutes after compressor has stopped, the compressor (compressor delays seven minutes) shall start after the balance of the delay time.
 - (5) The fan motor in the freezer compartment runs at high speed during EXPRESS FREEZING.
- 6. For the rest of the 21 hours, the freezer will be controlled at the lowest temperature.

8-1-6 REFRIGERATOR LAMP AUTO OFF

1. To avoid heat damage caused by the lamp, it is turned off automatically when the refrigerator door is open for more than 7 minutes.

8-1-7 Alarm for Open Door

- 1. This feature sounds a buzzer when the freezer or refrigerator door is not closed within 1 minute after it is opened.
- 2. One minute after the door is opened, the buzzer sounds three times each for 1/2 seconds. These tones repeat every 30 seconds.
- 3. The alarm is cancelled when the freezer or the refrigerator is closed while the buzzer sounds.



8-1-8 Buzzer Sound

When the button on the front Display is pushed, a Ding \sim Dong \sim sound is produced. (Refer to the Buzzer Circuit 8-2-4 No. 3)

8-1-9 Defrosting (removing frost)

- 1. Defrosting starts each time the COMPRESSOR running time reaches 7 hours.
- 2. For initial power on or for restoring power, defrosting starts when the compressor running time reaches 4 hours.
- 3. Defrosting stops if the sensor temperature reaches 46^(A)(8° C) or more. If the sensor doesrt reach 46.4F(8° C) in 2 hours, the defrost mode is malfunctioning. (Refer to the defect diagnosis function, 8-1-13.)
- 4. Defrosting wort function if its sensor is defective (wires are cut or short circuited)

8-1-10 Filter Replacement Indication

- 1. In 6 months after the UNIT (refrigerator) is power on, or after 28,000 seconds of dispenser use, the water filter Indicator LED (red color) will be ON.
- 2. When the water filter indicator LED is illuminated, you should change the water filter. After this, you must press the water filter button for three seconds and you will hear a ding-dong sound.

The LED will be OFF. This operation will indicate that the UNIT is reset to its initial conditions, so this process is restartd.

8-1-11 Power Failure Compensation Function

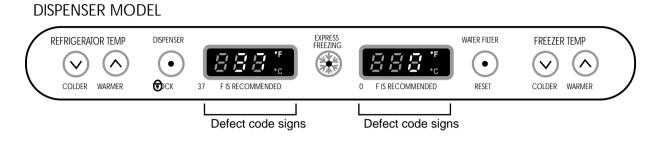
- 1. When the UNIT is power off, the Fresh Food and Freezer Temperature notches, the filter elapsed time for replacement, the temperature mode C or °F) and the dispenser lock mode are saved in the EEPROM.
- 2. When the UNIT is power on, the MICOM will read the specified EEPROM addresses to restore the values indicated in the previous paragraph.

8-1-12 Electrical Parts Are Turned On Sequentially

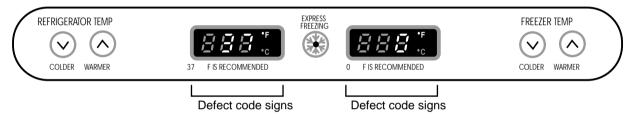
Electrical parts such as COMP, defrosting heater, freezer FAN, etc. are turned on in the following order to prevent noise and parts damage. Several parts are started at the same time at initial power on and are turned off together when TEST is completed.

	OPERATING	ORDERS	
Init	Temperature of Defrosting Sensor is 113°F(45°C) or more (when unit is newly purchased or when moved)	POWER in 1/2 second COMP in 1/2 second Freezer FAN	
Initial power on	Temperature of defrosting sensor is lower than 113°F(45°C) (when power cuts, SERVICE)	POWER ONin 1/2 second \longrightarrow Defrosting heater ONin 10 second \longrightarrow Defrosting heater OFFin 1/2 secondCOMP ONin 1/2 second \longrightarrow Freezer FAN ON	
Reset to normal operation from TEST MODE		Total load in 7 minute COMP in 1/2 second Freezer FAN OFF → ON → ON	

- 8-1-13 Defect Diagnosis Function
- 1. Automatic diagnosis makes servicing the refrigerator easy.
- 2. When a defect occurs, the buttons will not operate; but the tones. such as ding. will sound.
- 3. When the defect CODE removes the sign, it returns to normal operation (RESET).
- 4. The defect CODE shows on the Refrigerator and Freezer Display.



BEST MODEL



ERROR CODE on display panel

NO	ITEM	ERROR	CODE	CONTENTS	REMARKS	
1	Failure of freezer sensor	Er	FS	Cut or short circuit wire		
2	Failure of Refrigerator sensor	Er	rS	Cut or short circuit wire	Inspect Connecting wires on each sensor	
3	Failure of defrost sensor	Er	dS	Cut or short circuit wire		
4	Failure of defrost mode	Er	dH	When defrost sensor doesn@reach 8 _i C within 2 hours after starting defrost.	Snapping of defrost heater or Temperature fuse, pull- out of Connector (indicated minimum 2 Hours after failure occurs)	
5	Failure of BLDC FAN MOTOR at freezing compartment.	Er	FF	If there is no fan motor signal For more than 65sec. in Operation fan motor	Poor motor, hooking to Wires of fan, contact of structures to fan, snapping or short circuit of Lead wire	

8-1-14 TEST Mode

- 1. The Test mode allows checking the PCB and the function of the product as well as finding out the defective part in case of an error.
- 2. The test mode is operated by pressing two buttons at Display panel.
- 3. While in the test mode, the function control button is not recognized, but the recognition tone (beep~) sounds.
- 4. After exiting the test mode, be sure to reset by unplugging and then plugging in the appliance.
- 5. If an error, such as a sensor failure, is detected while in the test mode, the test mode is cleared and the error code is displayed.
- 6. While an error code is displayed, the test mode will not be activated.

MODE	MANIPULATION	CONTENTS	REMARKS
TEST1	Push Express Freezing key and COLDER KEY of Freezer Temp. at the same time over 3 seconds.	 Continuous operation of the COMPRESSOR Continuous operation of the freezer fan STEPPING DAMPER OPEN Defrosting Heater OFF Every DISPLAY LED ON 	
TEST2	Push Express Freezing key and COLDER KEY of Freezer Temp. at the same time over 3 seconds in TEST MODE 1	 COMP OFF Freezer FAN OFF STEPPING DAMPER CLOSE Defrosting heater ON DISPLAY LED shows 222 	Reset if the temperature of the Defrosting sensor is 46°F(8° C) or more.
Reset	Push Express Freezing key and COLDER KEY of Freezer Temp. at the same time over 3 seconds. in TEST MODE 2	Reset to the previously setting before TEST MODE	The compressor will Start after a 7-minute delay.

- NOTE : LED CHECK MODE: When the WARMER button in the refrigerator temperature control and the WARMER button in the freezer temperature control are pushed and held for 1 second or longer, every LED on the display turns on at the same time. When the buttons are released, the previous mode is restored.
- * Freezer Fan RPM Variable Check:

In case the freezer fan is in operation when the WARMER KEY in Refrigerator and Freezer Temp. Control are pressed for more than one second at the same time freezer fan RPM changes. (for example if high speed, to normal speed or if normal speed, to high speed for 30 seconds)

After 30 seconds, it turns to its original RPM.

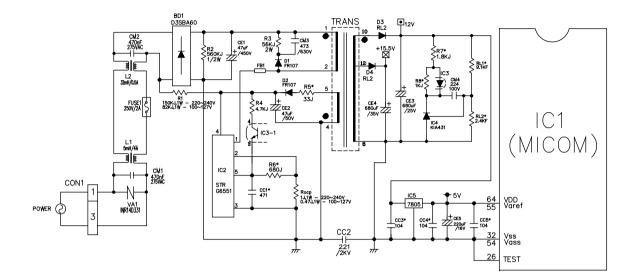
* Demostration MODE:

- 1. When the WARMER KEY of refrigerator Temp. control or of freezer Temp. control in the the warmest temperature status are pushed and held for 3 seconds or longer, It converts to Demonstration Mode.
- 2. It shows OFF on the display panel.
- 3. In this status, all Loads are off (Compressor / Fan / Damper / Heater)

(Even is Demonstration Mode, the refrigerator Lamp automatic off function warks normally and can be demonstrated) 4. Exit the test mode and reset the display by pressing the COLDER and WARMER buttons.

8-2 PCB FUNCTION

8-2-1 Power Circuit

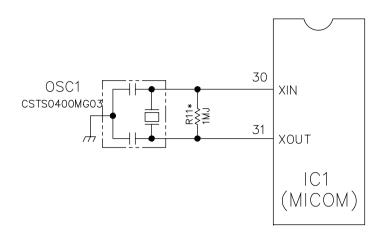


The secondary part of the TRANSFORMER is composed of the power supply for the display, the BLDC FAN Motor drive (15.5 V), the relay drive (12 Vdc) and the MICOM and IC (5 Vdc). The voltage for each part is as follows:

PART	VA 1	CE 3	CE 4	CE 5
VOLTAGE	115 Vac	12 Vdc	15.5 Vdc	5 V

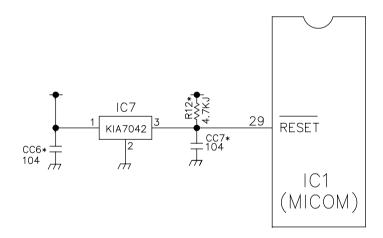
VA1 is a part for preventing over voltage and noise. When 385V or higher power is applied, the inside elements are shortcircuited and broken, resulting in blowout of the fuse in order to protect the elements of the secondary part of the TRANSFORMER.

8-2-2 Oscillation Circuit



This circuit generates the base clock for calculating time and the synchro clock for transmitting data from and to the inside logic elements of the IC1 (MICOM). Be sure to use specific replacement parts, since calculating time by the IC1 may be changed. If changed, the OSC1 SPEC will not work.

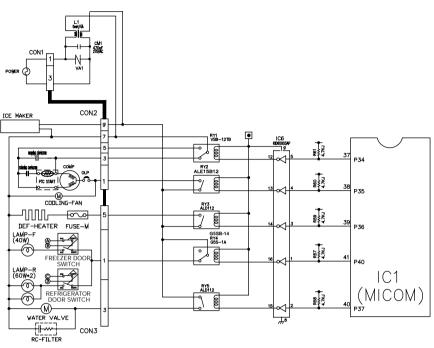
8-2-3 Reset Circuit



The RESET circuit allows all the functions to start at the initial conditions by initializing various parts, including the RAM inside the MICOM (IC1) when the power is initially supplied or the power supply to the MICOM is restored after a momentary power failure. For the initial 10ms of power supply, LOW voltage is applied to the MICOM RESET terminal. During a normal operation, 5V is applied to the RESET terminal. (If a malfunction occurs in the RESET IC, the MICOM will not operate.)

8-2-4 Load / Buzzer Drive & Open Door Detection Circuit

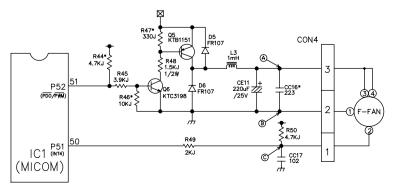
1. Load Drive Condition Check



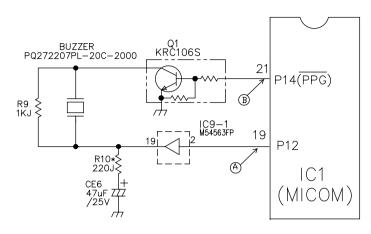
LOAD TYPE		COMP	DEFROSTING HEATER	LAMP	TCM POWER MODE (OPTIONAL)	VALVE (DISPENSER MDL)		
Measurement Lo	Measurement Location (IC6)		NO.14	NO.16	NO.12	NO.15		
Condition	ON		1V or below					
Condition	OFF			12V				

- 2. Fan motor driving circuit (freezing compartment fan)
- 1. This circuit makes standby power0 by cutting off power supplied to ISs inside of the fan motor in the fan motor OFF.
- 2. This is a circuit to perform a temporary change of speed for the fan motor and applies DC voltage up to 7.5V ~ 16V to motor.
- 3. This circuit prevents over-driving the fan motor by cutting off power applied to the fan motor in the lock of fan motor by sensing the operation RPM of the fan motor.

	(a) part	(b) part	© part
MOTOR OFF	2V or less	OV	5V
MOTOR ON	13V~15V	٥V	2V~3V

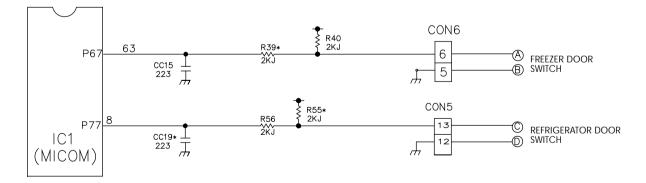


3. Buzzer Drive Condition Check



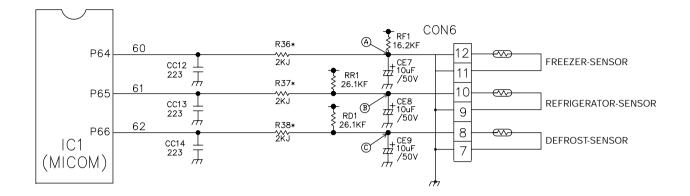
Condition Measure- ment Location	Tone (Ding~Dong~) when the button on the display is pushed.	Alarm for open door (beep-beep-beep)	OFF
IC1 ((À)	5 V 0 V	5 V 0 V	0 V
IC1 (B)	5 V 0 V2.63 kz(Ding~)2.21 kz(Dong~)	5 V 0 V2.63 kz(Beep-)OFF	0 V

4. Open Door Detection Circuit Check



Measurement Freezer/Location Refrigerator Door	(PIN NO.63 & PIN NO.8)
Closed	5 V
Open	0 V

8-2-5 Temperature Sensor Circuit

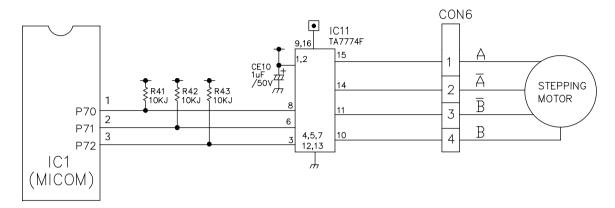


The upper CIRCUIT reads REFRIGERATOR temperature, FREEZER Temperature, and DEFROST-SENSOR temperature for defrosting and the indoor temperature for compensating for the surrounding temperature into MICOM. OPENING or SHORT state of each TEMPERATURE SENSOR are as follows:

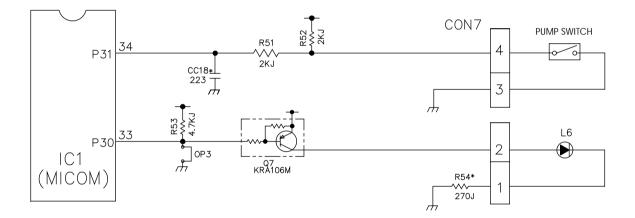
SENSOR	CHECK POINT	NORMAL (-30°C ~ 50°C)	SHORT-CIRCUITED	OPEN
Freezer Sensor	POINT (A) Voltage			
Refrigerator Sensor	POINT (B) Voltage	0.5 V ~ 4.5 V	0 V	5 V
Defrosting Sensor	POINT © Voltage			

8-2-6 Refrigeration Compartment Stepping Motor Damper Circuit

* The circuit shown below is the damper circuit to regulate the refrigerator temperature.



8-2-7 Dispenser Input/LED Output Circuit



8-2-8 Temperature Compensation & Overcooling/Undercooling Compensation Circuit

1. Refrigerator Temperature Compensation



Refrige	erator	
Resistance	Temperature	Remark
(RCR)	Compensation	
180 K	+2.5°C	Compensation by
56 K	+2.0°C	raising the temperature
33 K	+1.5°C	
18 K	+1.0°C	T 1
12 K	+0.5°C	
10 K	0°C	Standard Temperature
8.2 K	-0.5°C	Compensation by
5.6 K	-1.0°C	lowering the temperature
3.3 K	-1.5°C	
2 K	-2.0°C	1 L
470	-2.5°C	

Table of Temperature Compensation by adjusting the resistance (difference from the current temperature) e.g., If the refrigerator compensation resistance (RCR) is changed from 10K (the current resistance) to 18K (the adjustment resistance), the temperature of the refrigerator rises $33.8_iF(+1_iC)$.

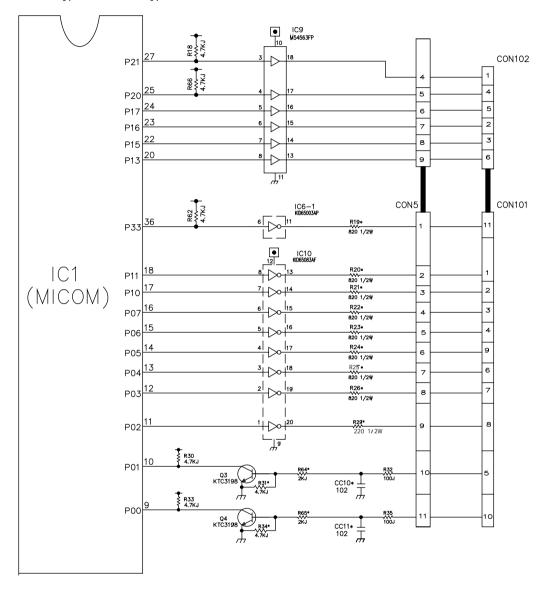
2. The temperature	compensation	for refriderator	compartment	is in the followi	na table
z. me temperature	compensation	ion reingerator	compartment	13 IT LIC TOILOWI	ng table.

	Revised resistance Present resistance	470	2k	3.3k	5.6k	8.2k	10k	12k	18k	33k	56k	180k
	470	No change	0.5°C Up	1°C Up	1.5°C Up	2°C Up	2.5°C Up	3°C Up	3.5°C Up	4°C Up	4.5°C Up	5°C Up
	2k	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up	2°C Up	2.5°C Up	3°C Up	3.5°C Up	4°C Up	4.5°C Up
	3.3k	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up	2°C Up	2.5°C Up	3°C Up	3.5°C Up	4°C Up
	5.6k	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5℃ Up	2°C Up	2.5°C Up	3°C Up	3.5°C Up
	8.2k	2°C Down	1.5°C Down	1°C Down	0.5° Down	No Change	0.5°C Up	1℃ Up	1.5°C Up	2°C Up	2.5°C Up	3°C Up
Refrigerator (RCR)	10k	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1℃ Up	1.5°C Up	2°C Up	2.5°C Up
	12k	3°C Down	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up	2°C Up
	18k	3.5°C Down	3°C Down	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up
	33k	4°C Down	3.5°C Down	3°C Down	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up
	56k	4.5°C Down	4°C Down	3.5°C Down	3°C Down	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up
	180k	5°C Down	4.5°C Down	4°C Down	3.5°C Down	3°C Down	2.5°C Down	2°C Down	1.5°C Down	1°C (Down	0.5°C Down	No Change

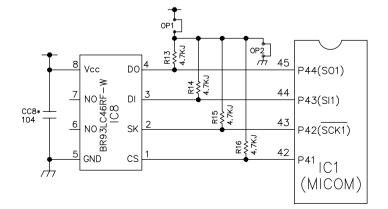
NOTE: This circuit is designed to input the necessary temperature compensation values into the MICOM. This adjusts the refrigerator temperature, which is different in each model.

8-2-9 Key Button Input & Display Light-On Circuit

The circuit shown above determines whether a function control key on the operation display is pushed. It also turns on the corresponding function indication LED (LED Module) SEVEN SEGMENT DISPLAY (SEVEN SEGMENT DISPLAY MODULE). The drive type is the scan type



8-2-10 Power Failure Compensation Circuit (DISPENSER MODEL)



8-3 RESISTANCE SPECIFICATION OF SENSOR

TEMPERATURE DETECTED BY SENSOR	RESISTANCE OF FREEZER SENSOR	RESISTANCE OF REFRIGERATOR & DEFROST SENSOR & ROOM SENSOR
- 20 ûC	22.3 K	77 К
- 15 ûC	16.9 K	60 K
- 10 ûC	13.0 K	47.3 K
- 5 ûC	10.1 K	38.4 K
0 ûC	7.8 К	30 K
+ 5 ûC	6.2 K	24.1 K
+ 10 ûC	4.9 K	19.5 K
+ 15 ûC	3.9 К	15.9 K
+ 20 ûC	3.1 K	13 K
+ 25 ûC	2.5 K	11 K
+ 30 ûC	2.0 K	8.9 K
+ 40 ûC	1.4 K	6.2 K
+ 50 ûC	0.8 K	4.3 K

¥ The resistance of the SENSOR has a $\pm 5\%$ common difference. ¥ Measure the resistance of the SENSOR after leaving it for over 3 minutes in the measuring temperature. This delay is necessary due to sensor response speed.

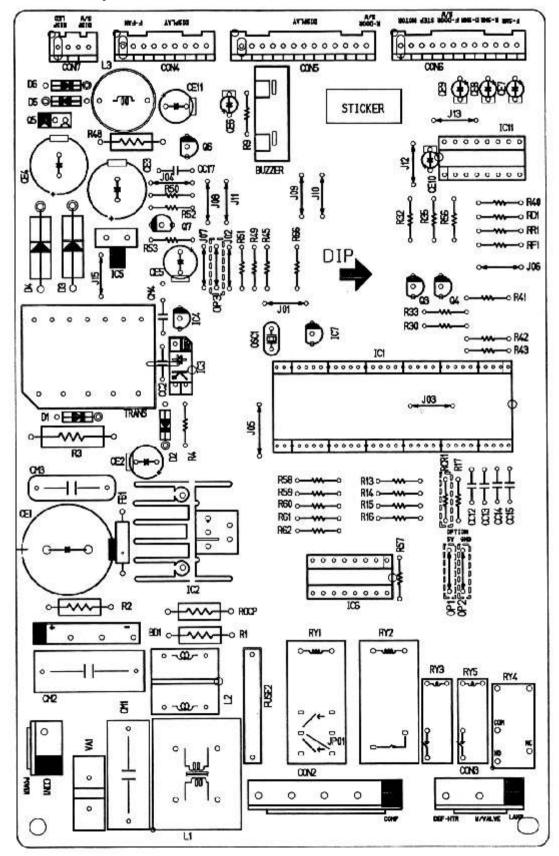
			<u> </u>					COOLING is poor.			2.	POWER SOURCE 1. is poor.	PROBLEM
			incorrect	FREEZER TEMPERATURE is				NO COOLING.	abnormally	SEVEN SEGMENT	2. DISPLAY LED/	The whole DISPLAY LED/SEVEN SEGMENT DISPLAY is off.	INDICATED BY
4. Door Line contact.	3. If SENSOR is normal.	2. If DEFROSTING is normal.	-	1. If FAN MOTOR operates.	2. If refrigerant is leaking.			1. If the COMPRESSOR operate.	CONNECTOR.	3. The connection of the MAIN PWB	2. If LAMP is dim.	1. FREEZER/ REFRIGERATOR.	CHECK
Check the seal when the door is closed.	Check the resistance of the Refrigerator SENSOR.	Check the amount of frost sticking on the EVAPORATOR .		USE TEST MODE1 (forced COOLING).	Measure the amount of frost sticking on EVAPORATOR and the surface temperature of the condenser pipe.	wait.	If less than 7 minutes pass after compressor shuts off, don't press the KEY and	USE TEST MODE1 (forced COOLING).		Check connection of CONNECTOR.	Check visually.	Check if FREEZER/ REFRIGERATOR DOOR IS OPEN and check display.	CHECKING METHOD
Door liner damaged.	SENSOR RESISTANCE is poor.	DEFROSTING is poor.	CONNECTING WIRE is poor.	FAN MOTOR is poor.	Refrigerant leakage.	THE CONNECTING WIRE is poor.	OLP, PTC is poor. COMPRESSOR RELAY is poor.	COMPRESSOR locked or blocked.	TRANS FUSE is open.	CONNECTOR connection is poor.	Applied voltage error.	POWER SOURCE is poor.	CAUSE
Replace door liner.	Replace SENSOR.	See DEFROSTING is poor .	Certify the MOTOR and the connection of the black wire of the MAIN PWB CONNECTOR (CON2).	Replace the FAN MOTOR.	Replace the leaking part and replace any lost refrigerant.	Check the connection of the black wire of the MAIN PWB CONNECTOR (CON2).	Replace OLP, PTC. Replace MAIN PWB.	Replace COMPRESSOR.	Replace TRANS.	Reconnect CONNECTOR.	Use boosting TRANS.	Check outlet Voltage.	SOLUTION

8-4 TROUBLESHOOTING

PROBLEM	INDICATED BY	CHECK C	CHECKING METHOD	CAUSE	SOLUTION
COOLING is poor.	If REFRIGERATOR	1. If FREEZER TEMPERATURE	Check is FREEZER		Make sure the
	TEMPERATURE	isnormal.	TEMPERATURE is too low.		DOOR isattached.
	is too low.	2. If amount of cool air from	Make sure that the amount	FAN MOTOR is poor.	Replace FAN MOTOR.
		FAN MOTOR is	and speed of cool air are	Passage of cool air	Remove impurities.
		sufficient.	sufficient by touching the	is blocked.	
			check supplied on the	EVA frozen.	See DEFROSTING is poor .
			REFRIGERATOR.		
		3. Door Line contact.	Check door seal when	Door liner damaged.	Replace Door liner.
DEFROSTING is	NO DEFROSTING.	1. If HEATER emits heat.	USE TEST MODE2	HEATER disconnection.	Replace HEATER.
poor.			(forced DEFROSTING).		
				TEMPERATURE FUSE	Replace TEMPERATURE
				disconnection.	FUSE.
				Connection is poor.	Check EVAPORATOR
					connection and wire of MAIN
					PWB CONNECTOR.
				DEFROST-SENSOR is poor.	Replace DEFROST-SENSOR.
				HEATER RELAY is poor.	Replace RY3 of MAIN PWB.
		2. If DRAIN PIPE is	Check DRAIN PIPE.	DRAIN PIPE is blocked.	Remove ice and impurities.
		blocked.			Check HEATER PLATE
					resistance.
		3. If ice remains after	Make sure that DEFROST	Connection is poor.	Reassemble the
		DEFROSTING.	SENSOR is connected.		DEFROST-SENSOR.
			Make sure that FREEZER /	DOOR does not close	Reassemble DOOR.
			REFRIGERATOR DOOR is closed.	properly.	Replace GASKET.

8-5 MAIN PWB ASSEMBLY AND PARTS LIST

8-5-1 Main PWB Assembly



8-5-2 Replacement Parts List

No. Cont. Cont. Weth Weth More No. Cont.						
J. Description Descripion <thdescription< th=""> <thdescr< td=""><td></td><td></td><td></td><td></td><td></td><td></td></thdescr<></thdescription<>						
I Description Description Description Description I Marked Description Marked Descripion Marked Descripi			PWB(PCB) TRANSFORMER SWPS(COUL)			
Image: Second	3	6170JB2012B	TRANSFORMER, SMPSI COIL 1	KS-PJT 100-127V	SAM IL	TRANS
Section Name of Control Name of Control <td></td> <td>6630A09106A</td> <td>CONNECTOR (CIRC), WAFER</td> <td>YW396-030V</td> <td>YEON HO</td> <td></td>		6630A09106A	CONNECTOR (CIRC), WAFER	YW396-030V	YEON HO	
Image: Probability of the second se		6630A09I06B	CONNECTOR (CIRC) WAFER	YW396 YEONHO 5P 3.96MM AV		
Image: Second	<u>?</u> [6630JB8007H	CONNECTOR (CIRC), WAFER	917787-1 AMP 9P 2.5MM STRAIGHT SN	AMP	
Image: Solution of the second secon			CONNECTOR (CIRC), WAFER	917791-1 AMP 13P1N 2,5MM STRAIGHT SN 917790-1 AMP 12P 2,5MM STRAIGHT SN		CON6
D Distance Weinbook of the Bit is not marked. Distance Distance State State State State Not State	10	6630JB8007C	CONNECTOR (CIRC), WAFER	917782-1 AMP 4P 2.5MM STRAIGHT SN	AMP	CON7
Description Company		015K655100A	IC, SANKEN	STR-6551 5PIN BK SMPS 2,4PIN FORM		
Sector Additional Mail 1979		-	-	-		-
Image of a second base of the second basecond basecond base of the second base of the second base of the						
Image: Solution Application of the form Prime						
S Description Construct Description Description <thdescription< th=""> <thdescription< th=""> <thdescript< td=""><td> 17 E</td><td>01KE650830B</td><td>IC.KEC</td><td>KID65083AF 2050P LED DRIVER</td><td>KEC</td><td></td></thdescript<></thdescription<></thdescription<>	17 E	01KE650830B	IC.KEC	KID65083AF 2050P LED DRIVER	KEC	
Image: Section of the sectio		OIKE650030B		KID65003AP I6P SDIP BK DRIVE	KEC	100
D Distriction CARDING Distriction Distriction <thdistriction< th=""> <thdistrion< th=""> Distrion<td></td><td></td><td></td><td></td><td></td><td></td></thdistrion<></thdistriction<>						
B B Direct State Stat		0IT0777400A	IC. TOSHIBA	TA7774AP IG.SDIP BK DRIVE.IC STEPPING M	TOSHIBA	ICII
B B Direct State Stat		6920000001A	RELAY	ALEISBIZ MATSUSHITA IZV IGA IS.6V IA	NAIS	RY2
St. Display Display <thdisplay< th=""> <thdisplay< th=""> <thdispl< td=""><td>24</td><td>6920ALZ00IA</td><td>RELAY</td><td>ALZIZBIZ NAIS 250VAC 16A 12VDC IC NO VENTING</td><td></td><td></td></thdispl<></thdisplay<></thdisplay<>	24	6920ALZ00IA	RELAY	ALZIZBIZ NAIS 250VAC 16A 12VDC IC NO VENTING		
P Res Control No. Control Contro Contro Control	25			G558-14 250VAC 5A 12VDC IC VSR-12TB TAKAMISAWA DC12V 60MA 250V IC		
B EXCAPTOR CARGE					NAIC	RY3
Bit						
2 Description Product in Link 16 and 200 Link 16 and 200 <thlink 16="" 200<="" and="" th=""> Link 16 and 200<td></td><td>6102JB8003A</td><td>VARISTOR</td><td></td><td></td><td></td></thlink>		6102JB8003A	VARISTOR			
J Discription Discription is an one of a set	30	6102JB8001B	VARISTOR	INRI4062L IL JIN LI ZVDE BK 620V	ILJIN	
International and a statistic part of a statisti part of a statistic part of a statisti part of a stati		ODRSA00070A	DIODE , RECTIFIERS	RL2 SANKEN BK NON 400V 2A 40A 50NSEC 10UA		D3.D4
Image: Proceedings of the second se	33	0DB360000AA	DIODE, RECTIFIERS	D3SBA60 BK SHINDENGEN 600V 4A	SHINDENGEN	BDI
Image: Proceedings of the second se		6102W5V006A	VARISTOR CAPACITOR, FIXED, ELECTROLYTIC	INRIAUJJJIK ILJIN UL/CSA/VDE BK 471 F. HE 450V, 20% BULK SNAP, IN(105°)		
Image: 1 Description of the second structure is the second str		0CE476BK638	CAPACITOR, FIXED ELECTROLYTIC	470F KME TYPE 50V 20% FM5 TP 5 (105°)	SAM WHA	CE2
B Description Description <thdescription< th=""> <thdescription< th=""> <thdescri< td=""><td></td><td>0CE1076H638</td><td>CAPACITOR, FIXED ELECTROLYTIC</td><td>100UF SMS, SG 25V 20% FM5 TP 5</td><td></td><td></td></thdescri<></thdescription<></thdescription<>		0CE1076H638	CAPACITOR, FIXED ELECTROLYTIC	100UF SMS, SG 25V 20% FM5 TP 5		
al Control Park	39	0CE687YJ618	CAPACITOR, FIXED ELECTROLYTIC	680UF RX 35V 0.2 TP 5 FL(105°)	SAM WHA	CE4
cl cl<	40	0CE2278F638	CAPACITOR, FIXED ELECTROLYTIC	220UF KME TYPE 16V 20% FM5 TP 5(105°)	SAM WHA	CE5
0 000000000000000000000000000000000000	41		CAPACITOR, FIXED ELECTROLYTIC	2200F NG 11112 20V 20% FM5 TP 5(105") 10F KME TYPE 50V 20% FM5 TP 5(105")		CEIO
B Description Description <thdescription< th=""> <thdescr< td=""><td>43</td><td>0CE476BH638</td><td>CAPACITOR, FIXED ELECTROLYTIC</td><td>47UF KME TYPE 25V 20% FM5 TP 5(105°)</td><td>SAM WHA</td><td>CE6</td></thdescr<></thdescription<>	43	0CE476BH638	CAPACITOR, FIXED ELECTROLYTIC	47UF KME TYPE 25V 20% FM5 TP 5(105°)	SAM WHA	CE6
••••••••••••••••••••••••••••••••••••		0CE106EK638		10UF KMG 50V 20% FM5 TP 5(105°)	SAM WHA	CE7-CE9
Image: Proceedings Operations OPErations (Constrained Description) OPERations (Con			CAPACITOR, FIXED CERAMIC(HIGH DIELECTRIC)		SAM WHA	CC2
Bit Discrete Discrete Discrete Discrete Discrete Discrete Bit Discrete	47		CAPACITOR, FIXED CERAMIC (HIGH DIELECTRIC)		MURATA	003-007
B Control (C) CONTROL (C) <thcontrol (c)<="" th=""> <thcontr< td=""><td>48</td><td></td><td></td><td>1000PE 50V K B TA52</td><td></td><td></td></thcontr<></thcontrol>	48			1000PE 50V K B TA52		
P DOXCONSIGN DOXCONSIGN DOXCONSIGN DOXADIAN DOX P DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN P DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN P DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN DOXADIAN	49	0CK223DK96A	CAPACITOR, FIXED CERAMIC (HIGH DIELECTRIC)	22NF 2012 50V 80%, 20% R/TP X7R		CCI6,CCI8,CCI9
Control (Control (Contro) (Contro) (Control (Contro) (Contro) (Contro) (Contro) (Contro)		0CK2230K949	CAPACITOR, FIXED CERAMIC (HIGH DIELECTRIC)	22NF 50V Z F TA52	MURATA	
D DOT 200000 Default 2007 S (20) Aut We N First Sector 0 DOT 200000 Default DOT 200000 Default Defau						CCII
bit Contraction C						CMI, CM2
Image: Second Structure (Structure) Discond (00122408670	CAPACITOR, FIXED FILM	220NF 0 275V 20% BULK M/PP NI 47000PF S 630V J M/PF NI R		CM3
De Description Descripion <thdescription< th=""> <thdescr< td=""><td>55</td><td>0C0224IN630</td><td>CAPACITOR, FIXED FILM</td><td>0.22UF D 100V M M/PE NI R</td><td>SAM WHA</td><td></td></thdescr<></thdescription<>	55	0C0224IN630	CAPACITOR, FIXED FILM	0.22UF D 100V M M/PE NI R	SAM WHA	
B B DSSULGS RESIDE / FIDI Leff, CODE FLU EXC / UP EXC / UP SUM / OP SUM / OP Res 0 PSSULGS RESIDE / FIDI LEff, CODE FLU O/T OH / I SUZ / COP SUM / OP SUM		0C0223IN409 0R I2200H672	CAPACITOR, POLYESTER RESISTOR, METAL GLAZED (CHIP)	0.022UF D 100V J PE TP 220.0HM 1/2 W 5% 2012 R/TP		CM5 R29
6 0	58	0RSI503J609	RESISTOR, FIXED METAL OXIDE FILM	150K OHM IW 5.00% TA52	SMART, CHOHYANG	RI
6 0		0R58202609	RESISTOR FIXED METAL OXIDE FILM	82K OHM IN 5,00% TA52	SMART, CHOHYANG	RI
D D <thd< th=""> D <thd< th=""> <thd< th=""></thd<></thd<></thd<>	61	0RS0470J609	RESISTOR, FIXED METAL OXIDE FILM	0.47 OHM I W 5% TA52	SMART, CHOHYANG	ROCP
6 000006620 RESIGN_INED CARDEN FLM L.S. OM L/2 # 3.000. TAS2 SMRT, DerVine Reg 6 000000620 RESSIGN_INED CARDEN FLM CO M VIN # 202 5.000. D ROM RO2 6 040000052 RESSIGN_INED CARDEN FLM CO M VIN # 202 5.000. D ROM R02 6 044000052 RESSIGN_INED CARDEN FLM CO M VIN # 202 5.000. D ROM R02 6 044000052 RESSIGN_INED CARDEN FLM CO M VIN # 202 5.000. D ROM R02 7 040000520 RESSIGN_INED CARDEN FLM CO M VIN # 202 5.000. D ROM R04 R5 7 040000520 RESSIGN_INED CARDEN FLM CO M VIN # 200 5.000. D ROM R04 R5 7 040000520 RESSIGN_INED CARDEN FLM CO M VIN # 50.00. TR2 SMRT, DO MINK R04 R5 7 040000520 RESSIGN_INED CARDEN FLM CO M VIN # 50.00. TR2 SMRT, DO MINK R04, R5, R5, R5, R5 7 040000520 RESSIGN_INED CARDEN FLM CO M VIN # 50.00. TR2 SMRT, DO MINK R04, R5, R5, R5, R5, R5 7<		0RS5602K641	RESISTOR, FIXED METAL OXIDE FILM	56K OHM 2 W 5.00% TA52	SMART, CHOHYANG	R3
6 Discrite(2) Reside(7): Resid(7): Reside(7): Resid(7): Reside(7): Reside(7): Resid(7)		0RD5603H609	RESISTOR, METAL GLAZEDICHIPT	560K OHM 1/2 W 5,00% TA52	SMART, CHOHYANG	R19-R20
P Dec200.622 RESIDE ALTLA, CAZED LOAP ZO, VM, UP, XOZ, SOX, D POM PRO P PROVIDES2 RESIDE ALTLA, CAZED LOAP 4/// VM, UP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP 4/// VM, UP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D	65	0RDI50IH609	RESISTOR, FIXED CARBON FILM	1.5K OHM 1/2 W 5.00% TA52	SMART, CHOHYANG	R48
P Dec200.622 RESIDE ALTLA, CAZED LOAP ZO, VM, UP, XOZ, SOX, D POM PRO P PROVIDES2 RESIDE ALTLA, CAZED LOAP 4/// VM, UP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP 4/// VM, UP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D POM PRE P PROVIDES2 RESIDE ALTLA, CAZED LOAP X// VM, VP, VOZ, SOX, D	66	0RD1000G609	RESISTOR, FIXED CARBON FILM	100 OHM 1/4 W 5.00% TA52	SMART, CHOHYANG	R32
B MMR Display File Display Display B B CONTROLOGY CONTROL C	67	0RH2200L622	RESISTOR, METAL GLAZED (CHIP)	220 OHM 1/8 W 2012 5.00% D	ROHM	RIO
9 0	68	0RH470IL622	RESISTOR, METAL GLAZED (CHIP)	4.7K OHM 1/8 W 2012 5.00% D	ROHM	RI2,R44,R3I,RI8
h D00006600 RESISTOR_FINED_ORGEN_FLW IK OM 1/4 % 5.002, TA22 SPAIN_COMPAGE P0 0 PR000L622 RESISTOR_METAL_GLAZED/OHP1 IX OM 1/8 % 702, 5002, D P04 P01 P01 17 OP400L622 RESISTOR_METAL_GLAZED/OHP1 IX OM 1/8 % 702, 5002, D P04 P04 P01 17 OP400L622 RESISTOR_METAL_GLAZED/OHP1 IX OM 1/8 % 702, 5002, D P04 P01 P0		0RH1002L622	RESISTOR, METAL GLAZED (CHIP)	IOK OHM 1/8 W 2012 5.00% D	ROHM	R46
P Deficiency FCSTOR, METAL, GAZEDIOAPPI IK: OM 1/9 W 20125, 2002 D POM PES PES <t< td=""><td></td><td>0RJ0332E672</td><td>RESISTOR, FIXED CARBON FILM</td><td>33 OHM 1/8 W 5% 2012 R/TP</td><td></td><td></td></t<>		0RJ0332E672	RESISTOR, FIXED CARBON FILM	33 OHM 1/8 W 5% 2012 R/TP		
17 694200L622 RESIGN_RETA, QAZDIO-0P1 20 M //M 9 //202 S.000 D ROM RESIGN_RETA, QAZDIO-0P1 16 DE2000L620 RESIGN_RETA, QAZDIO-0P1 20 M //M 9 //202 S.000 D ROH ROL				IK OHN 1/4 1 3.00% 1/32	ROHM	
Part Display Control Part Processor Part Processor </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
75 Deg3300.222 RESIGN_RETA_GAZEUCHP 330 OH //2 W 202 5.00X D ROW R47 77 OPH300.622 RESIGN_RETA_GAZEUCHP W OH //2 W 202 5.00X D ROM R11 77 OPH302.6240 RESIGN_RETA_GAZEUCHP W OH //2 W 202 5.00X D ROM R11 77 OPH302.6240 RESIGN_RETA_GAZEUCHP K.W.M. W 1.00X, TAS2 SMATLOOHYAG R71 78 OPH302.6269 RESIGN_REDA_CAREON FLUM 3.94 OM 1/4 W 1.00X, TAS2 SMATLOOHYAG R71 79 OPU3300.639 RESIGN_REDA_CAREON FLUM 3.94 OM 1/4 W 5.00X, TAS2 SMATLOOHYAG R71 70 OPU3300.639 RESIGN_REDA_CAREON FLUM 400 OH 1/2 W 5.00X, TAS2 SMATLOOHYAG R71 80 OPH300.622 RESIGN_REDA_CAREON FLU 100 OH 1/2 W 5.00X, TAS2 SMATLOOHYAG R71 81 OPH300.622 RESIGN_REDA_CAREON FLUM 47X OH 1/4 W 5.00X, TAS2 SMATLOOHYAG R7 82 OPH300.622 RESIGN_REDA_CAREON FLUM 47X OH 1/4 W 5.00X, TAS2 SMATLOOHYAG - 80 OPH300.6220 RESIGN_REDA_CA		0RD20016609	RESISTOR FIXED CARBON FILM			
77 OWNE22409 RESIGN_FIND CAREN FLM 16,20 CM 1/4 W 1,002 TAS2 SMATLOGHYANG Fr1 79 OWNE22409 RESIGN_FIND CAREN FLM 23,80 CM 1/4 W 1,002 TAS2 SMATLOGHYANG R65 79 OWNE22409 RESIGN_FIND CAREN FLM 3,91 CM 1/4 W 1,002 TAS2 SMATLOGHYANG R65 70 OWNE22409 RESIGN_FIND CAREN FLM 4,76 CM 1/4 W 1,002 TAS2 SMATLOGHYANG R74,703,763,765,762,765 70 OWNE22409 RESIGN_FIND CAREN FLM 4,76 CM 1/4 W 1,002 TAS2 SMATLOGHYANG R74,703,763,764,763 80 OWNE22409 RESIGN_FIND CAREN FLM 4,76 CM 1/4 W 1,502,762 SMATLOGHYANG R74,703,764,744,743 81 OWNE2400 RESIGN_FIND CAREN FLM 276 CM 1/4 W 1,502,762 SMATLOGHYANG - 83 OWNE2400 RESIGN_FIND CAREN FLM 276 CM 1/4 W 1,500,7762 SMATLOGHYANG - 84 OWNE2400 RESIGN_FIND CAREN FLM 476 CM 1/4 W 5,002,7762 SMATLOGHYANG - 85 OWNE2400 RESIGN_FIND CAREN FLM 476 CM 1/4 W 5,002,7762 SMATLOGHYANG - 86 OWNE2000 RESIGN_FIND CAREN FLM 476 CM 1/4 W 1,002,75,022 <td< td=""><td></td><td>0RH3300L622</td><td>RESISTOR, METAL GLAZED (CHIP)</td><td>330 OHM 1/8 W 2012 5.00% D</td><td>ROHM</td><td>R47</td></td<>		0RH3300L622	RESISTOR, METAL GLAZED (CHIP)	330 OHM 1/8 W 2012 5.00% D	ROHM	R47
78 OPREXIZAD9 RESISTICIT, FUXD_CARENT FLIM 23, KO MI / 4 W 5.002, TAS2 SUMPT, OPDTANG FDI, FRI 70 OPREXIZAD9 RESISTICH, FUXD_CARENT FLIM 3.35, OU MI / 4 W 5.002, TAS2 SUMPT, OPDTANG FRI, FRI, FRIS,	"· -	0RNI622G409	RESISTOR, FIXED CARBON FILM			
9 040300609 RESIDE, FUED CAREN FLUX 3.4K OM 1/4 W 5.00X TAS2 SMRT, CO-MIAG R45, R43, R53, R53, R53 8 076,600069 RESISTER, FUED CAREN FLUX 4,7K OM 1/4 W 5.00X TAS2 SMRT, CO-MIAG R4, R3, R53, R53 8 076,6000697 RESISTER, FUED CAREN FLUX IX ON 1/4 W 5.00X TAS2 SMRT, CO-MIAG R4, R3, R53, R53 8 076,0000609 RESISTER, FUED CAREN FLUX IX ON 1/4 W 5.00X TAS2 SMRT, CO-MIAG R7, R2R, R41-R43 80 076,000070609 RESISTER, FUED CAREN FLUX IX ON 1/4 W 1202, SOX TAS2 SMRT, CO-MIAG R7, R2R, R41-R43 81 076,0000706097 RESISTER, FUED CAREN FLUX IX ON 1/4 W 1202, SOX TAS2 SMRT, CO-MIAG R7, R2R, R41-R43 81 076,0000706097 RESISTER, FUED CAREN FLUX IX ON 1/4 W 1202, SOX TAS2 SMRT, CO-MIAG R7, R2R, R41-R43 81 070,0000706097 RESISTER, FUED LEVAL IX ON 1/4 W 1202, SOX TAS2 SMRT, CO-MIAG R1 81 070,00007 RESISTER, FUED LEVAL FUL SMRT, CO-MIAG R2 81 071,80007 RCS RX, R0, R02, R2 SMRT, R0	78	0RN2612G409	RESISTOR, FIXED CARBON FILM	26.IK OHM 1/4 W 1.00% TA52	SMART, CHOHYANG	RDI,RRI
Organization Organization 4.7. KOW // PLance Seven // Local made R3-RE_RG3 9 OFGEORGE72 RESIGN_FLED_CARZDICHP GOUDATIONED R3-RE_RG3 9 OFGEORGE72 RESIGN_FLED_CARZDICHP GOUDATIONED R3-RE_RG3 9 OFGEORGE7 RESIGN_FLED_CARZDICHP GOUDATIONED R3-RE_RG3 9 OFGEORGE7 RESIGN_FLED_CARZDICHP LBK OWN 1/8 W 2012 Store Spart Country R7 9 OFGEORGE9 RESIGN_FLED_CARZDICHP LBK OWN 1/8 W 2012 Store Spart Country R7 9 OFGEORGE9 RESIGN_FLED_CARZDICHP LBK OWN 1/8 W 2012 R/1P ROHM R1 9 OFGEORGE9 RESIGN_FLED_CARZDICHP ROHM R2 R2 9 OFGEORGE9 RESIGN_FLED_CARZDICHP ROHM R2 R2 9 OFGEORGE9 RESIGN_FLED_CARZDICHP R2/04 H /8 W 2, 2012 R/1P R0HM R2 9 OFREGORG9 RESIGN_FLED_CARZDICHP R2/04 H /8 W 7, 2012 S/07, 20 R2 R2 9 OFREGORG9 RESIGN_FLED_CARZDICHP </td <td></td> <td>0RD3901G609</td> <td>RESISTOR, FIXED CARBON FILM</td> <td>3.9K OHM 1/4 W 5.00% TA52</td> <td>SMART, CHOHYANG</td> <td>R4, R30, R33, R50, R57-R62, R66</td>		0RD3901G609	RESISTOR, FIXED CARBON FILM	3.9K OHM 1/4 W 5.00% TA52	SMART, CHOHYANG	R4, R30, R33, R50, R57-R62, R66
B 0	I I				SMART, CHUHTANG	RI3-RI6,R53
B3 OPHIGOLGS2 RESISTOR, NETAL G.AZEDICHEP I, KK 0-M, I/2W Z025 5, OX D POM P7 66 OPD/7025609 RESISTOR, FINC DARBON FLM 2% 0-M, I/2W X0, XK 22 SMATL, ODHYANG -		0RJ6800E672	RESISTOR, METAL GLAZED (CHIP)	680 OHM 1/8 W 5% 2012 R/TP	ROHM	R6
94 OPOZ702603 RESISTER, FIXED CARBON FLUM 27K OW IV 4W 5.00%, TAS2 SUART, C-OHWAG - 66 OPD/202609 RESISTER, FIXED ARBON FLUM 3/K OW IV 4W 5.00%, TAS2 SUART, C-OHWAG - 66 OPD/202609 RESISTER, FIXED METAL, FLUM 3/K OW IV 4W 7.2012 R/TP ROHM RL 70 OR.2400E472 RESISTER, FIXED METAL, FLUM 2,4K OW IV 8W 7.2012 R/TP ROHM RL2 70 OR.2400E472 RESISTER, FIXED METAL, FLUM 2,4K OW IV 8W 7.2012 R/TP ROHM RL2 70 OR.2400E472 RESISTER, FIXED METAL, FLUM 2,4K OW IV 8W 7.2012 R/TP ROHM RL2 70 OR.2400E472 RESISTER, FIXED METAL, GLAZELICHIP 270 OW IV 7.2012 R/TP ROHM R54 70 ORTEX0003A TRANSISTER, BIPCLAR KEC K10165 K/TP 5012 S.00X D RCC G0 90 OTREE0016A TRANSISTER, BIPCLAR KEC K10166 K/TP 5012 S.00 KEC OT 91 OTREE0016A TRANSISTER, BIPCLAR KEC K10166 K/TP 5012 S.00 KEC OT 92 OTREE0016A TRAN	83	0RH1801L622	RESISTOR, METAL GLAZED (CHIP)	I.8K OHM 1/8 W 2012 5.00% D	ROHM	
66 OR_900E472 RESISTOR, FINED METAL, FILM 9. K. AM / JC W. 1/2 OV 27/P ROM. R.1 87 OR_200E472 RESISTOR, FINE METAL, FILM 2. KK OM / JC W. 1/2 OV 27/P ROM. R22 88 OR.2700E672 RESISTOR, RETAL, CLAZEDICHIP 270 OH / JC W. 1/2 W. 2012 5.00% D ROM. R54 89 OTRKE00008A TRANSISTOR, BIPCLAR KEC K1BIJSI BK 1026 60V 5A KEC O5 90 OTRSIG0008A TRANSISTOR, BIPCLAR KEC K10165 RXTP SOT23 50V 100MA KEC O1 91 OTRXE80016A TRANSISTOR, BIPCLAR KEC KRC1065 RXTP SOT23 50V 100MA KEC O1 92 OTRXE80016A TRANSISTOR, BIPCLAR KEC KRC1065 RXTP SOT23 50V 100MA KEC O1 93 OTRXE80016A TRANSISTOR, BIPCLAR KRC10305 XMMR4 52 SAM KEC O1 94 620.0E3001A FILTERCIRCI, LAC BY SONG XAMR4 52 SAM WHA FBI 95 65007R102 SMITOL, TACT JTPI280A5 CLIL LY OL CSMA JEL SMI SMI 965495001A JUP W		0RD2702G609	RESISTOR, FIXED CARBON FILM	27K OHN 1/4 W 5.00% TA52	SMART, CHOHYANG	
BB OFR.27002672 RESISTOR, METAL GLAZEDLOHP ZD OHL //B W 2012 5.00%. D ROM. R54 99 OTRKE0000BA TRANSISTOR, BIPOLAR KEC KIBIJS BK KEC 03,06 91 OTRKE000BA TRANSISTOR KEC KIBIJS BK KEC 04 91 OTRKE000BA TRANSISTOR, BIPOLAR KEC KR01065 R/TP S0T23 50V 100MA KEC 04 91 OTRKE000BA TRANSISTOR, BIPOLAR KEC KR01065 R/TP S0T23 50V 100MA KEC 07 92 OTRKE000BA TRANSISTOR, BIPOLAR KEC KR01065 R/TP S0T23 50V 100MA KEC 07 93 - TRANSISTOR, BIPOLAR KEC KR01065 R/TP S0T23 50V 100MA KEC 07 94 6210_EB001A FILTERCIRCI, SUP BY S00_SMMHA 52 SAM WHA FBI 95 66507K10/L SWITCH, TACT JP1280AS _ELL Z/V DC S0MA JEL SM SAM WHA FBI 96 685485001A JUP WIRE 0.50M S2M TP TAPINS SNITURAL DEA & LEAD 07-U7_Q, 05-J3_J14_, P01 96 685485001A JUP WIRE 0.50M S2M TP TAPINS SNITURAL <td></td> <td>0RJ9101E472</td> <td>RESISTOR, FIXED METAL FILM</td> <td>9. K OHM 1/8 W 1% 2012 R/TP</td> <td>ROHM</td> <td></td>		0RJ9101E472	RESISTOR, FIXED METAL FILM	9. K OHM 1/8 W 1% 2012 R/TP	ROHM	
99 OTRECO002A TRANSISTOR, BIPCLAR KEC K10151 BK 1025 G0/ SA KEC C5 90 OTR319809AA TRANSISTOR, BIPCLAR KEC K10151 KC KEC C4 90 OTREGOORA TRANSISTOR, BIPCLAR KEC KP01055 RTP 5072 507 100MA KEC OI 91 OTREGOORA TRANSISTOR, BIPCLAR KEC KP01055 RTP 5072 507 100MA KEC OI 92 OTR000509AL TRANSISTOR, BIPCLAR KEC KP01055 RTP 5072 507 100MA KEC OT 93 - TRANSISTOR, BIPCLAR KEC KP01055 RTP 5072 500MA KEC - 94 6200 E8001A FLUTERCIPCI ADC BTP3800 500M HS 52 SMM WHA FBI 95 650 FR001Z SMITOH, TACT JTP188004 5.LL V2 OF 50MA LEL SMI 96 650 FR001Z SMITOH, TACT OF AM TEXM TP TAPING SMITOH DAE A LEAD JOT-JAL, JOE-JIR, JOE JIR, JOE JIR		0RJ240IE472	RESISTOR, FIXED METAL FILM	2.4K OHM 1/8 W 1/2 2012 R/TP	ROHM	RL2
9 OTR3/9809AA TRANSISTOR KTC3/99-TP-Y_IKTC/BISIKEC KEC 03,06 9 OTR6/98006A TRANSISTOR, BIPOLAR KEC MICOSE RUTP SOT23 50V 100MA KEC 04 9 OTR0/68009AC TRANSISTOR, BIPOLAR KEC MICOSE RUTP SOT23 50V 100MA KEC 07 9 OTR0/68009AC TRANSISTOR, BIPOLAR KRA 100M KEC KEC 07 94 6210, BEOLAR FILTER/CIRCI, DAC BTS-SEL000 SAMIHA 52 SAM WHA FBI 96 BES-BESO01A JUP WIRE 0.00M 200 SAMIHA 52 SAM WHA FBI 96 BES-BESO01A JUP WIRE 0.00M 20M TI TAPINS SNITURAL UX 00 SOMAN JEL SMI 96 BES-BESO01A JUP WIRE 0.00M 20M TI TAPINS SNITURAL DAE A LEAD OT-04, J06-J13, JI4, JP01 96 BES-BESO01A JUP WIRE 0.00M 20M TI TAPINS SNITURAL DAE A LEAD OF-07, QP3, RI3-RI6 90 6554BESO01A JUP WIRE 0.00M 20M TI TAPINS SNITURAL DAE A LEAD OF-2, QP3, RI3-RI6 90 654BESO01A JUP WIRE 0.00M 200 TK 20M TI TAP			TRANSISTOR, BIPOLAR	2/0 0mm 1/8 W 2012 3.00% D KEC K 181151 BK 10126 60V 5A		
9 OTFREEBOIGA TRANSISTOR, BIPOLAR KEC OT 92 OTFREEBOIGA TRANSISTOR, BIPOLAR KRC (DEG RATE KEC OT 92 OTRICECOPAC TRANSISTOR, BIPOLAR KRC (DEG KAC KEC OT 94 6210, EBOUAR FILTER. (CIPC), EAC BTS:STOR, BIPOLAR KRC (DEG KAC KEC OT 94 6210, EBOUA FILTER. (CIPC), EAC BTS:STOR, BIPOLAR KEC SAM WHA FBI 95 6500FRIOUZ SWITCH, TACT JPIP2806, ELL LEV DC SOMA JEL SM 96 6543ESCOUTA JUP WIRE OLGM S2M TP TAPING SWITCH SWITCH DAE A LEAD JOT-UT, JOS-UT, JUF, JOS 96 6543ESCOUTA JUP WIRE OLGM S2M TP TAPING SWITCH SWITCH DAE A LEAD OP 96 6543ESCOUTA JUP WIRE OLGM S2M TP TAPING SWITCH SWITCH DAE A LEAD OP 96 6543ESCOUTA JUP WIRE OLGM S2M TP TAPING SWITCH MAC DAE A LEAD OP 90 6544ESCOUTA JUP WIRE OLGM S2M TP TAPING SWITCH MAC DE A LEAD					VEC	03,06
92 OTROE0094C TRANSIDR_BIPOLAR RPA DOW HEC IEC 07 94						
99 - TRANSIGN, BIPCLAR KTC2075 KEC KEC - 95 66004 FILTER(CIPC, LABC BF35510A0, SAMIHA 52 - SAM MAA FBI 95 66004 JULP VIRE 0.5MX 52M TPAINS SNILOM DEA LEAD JUL-04, JOG-J13, JI4, JPOI 96 685455001A JULP VIRE 0.5MX 52M TPAINS SNILOMI DAE A LEAD JOG-VA, JOG-J13, JI4, JPOI 97 685485001A JULP VIRE 0.5MX 52M TPAINS SNILOMI DAE A LEAD JOG 98 685485001A JULP VIRE 0.5MX 52M TPAINS SNILOMI DAE A LEAD OPI 99 685485001A JULP VIRE 0.5MX 52M TPAINS SNILOMI DAE A LEAD OP2, OP3, RIS-RIG 90 685485001A JULP VIRE 0.5MX 52M TPAINS SNILOMI DAE A LEAD OP2, OP3, RIS-RIG 90 685485001A JULP VIRE 0.5MX 52M TPAINS SNILOMI DAE A LEAD OP2, OP3, RIS-RIG 91 620.088007A FLIETR(CIRC), JAC LVII-05320 TNC EN C TNC L1 <tr< td=""><td>92</td><td>0TRI06009AC</td><td>TRANSISTOR, BIPOLAR</td><td>KRA IO6M KEC</td><td>KEC</td><td></td></tr<>	92	0TRI06009AC	TRANSISTOR, BIPOLAR	KRA IO6M KEC	KEC	
66 GESIESCOIA JUP WIRE 0.60M T2AM TP TAPING SNITUAMI DAE A LEAD JOT-JAT_JGT_J3_J14, JP01 96 GESIESCOIA JUP WIRE 0.60M T2AM TP TAPING SNITUAMI DAE A LEAD JOS 98 GESIESCOIA JUP WIRE 0.60M T2AM TP TAPING SNITUZ-SMM DAE A LEAD OP 98 GESIESCOIA JUP WIRE 0.60M T2AM TP TAPING SNITUZ-SMM DAE A LEAD OP 99 GESIESCOIA JUP WIRE 0.60M T2AM TP TAPING SNITUAMI DAE A LEAD OP 90 GESIESCOIA JUP WIRE 0.60M S2AM TP TAPING SNITUAMI DAE A LEAD OP 90 GESIESCOIA JUP WIRE 0.60M S2AM TP TAPING SNITUAMI DAE A LEAD OP 90 GESIESCOIA JUP WIRE 0.60M S2AM TP TAPING SNITUAMI DAE A LEAD OP 90 GESIESCOIA JUP WIRE 0.60M S2AM TP TAPING SNITUAMI DAE A LEAD OP 90 GESIESCOIA JUP WIRE 0.60M F0 INDC CIRCLARALLEAD INC L2 90 GESIESCOIA NUC FGELASEAD NUC FGELASEAD <t< td=""><td></td><td></td><td>TRANSISTOR, BIPOLAR</td><td></td><td></td><td>- FBI</td></t<>			TRANSISTOR, BIPOLAR			- FBI
96 GESAESCOTA JUP WIRE 0.00 MIRE 0.00	95	6600RRT00IZ	SWITCH, TACT	JTPI280A6 JEIL IZV DC 50MA	JEIL	SWI
98 655/45:001A JUP WIRE 0.0MM IS2MI IP TAPING SNITUMMI DAE A LEAD OPI 96 655/45:001A JUP WIRE 0.0MM IS2MI IP TAPING SNITUMMI DAE A LEAD OP2, OP3, RI3-RI6 100 6220, 88004A FILITER (CIRC), EAC CVM0000 TNC BK DK 0.5A S2MI TNC Li 101 6220, 88004A FILITER (CIRC), EAC UVII (-5520 TNC BK TNC Li 102 0.0R000MF0 IND.CTOR, RADIAL LEAD 0000LH 20X R 6X12, 5 BU.K TNC Li 103 OTMBODIESCI FUE STRICKER, STELON 90000A 250V G. 3X31.8 CV//L KS SAM JU FUE FILITER (CIRC), EAC 103 OTMBODIESCI FUE, FASTELON 9000A 250V G. 3X31.8 CV//L KS SAM JU FUE FILITER 104 630.0B3007A FUE, ASSEMELY KORE *P.71 TV/S LITTLE FUE, FIRIAD SAM JU FUE FILITER 105 6727, 26300A FUE, ASSEMELY KORE *P.21 TV/S LITTLE FUE, FIRIAD SAM JU FUE FILITER 106 6303, 83072F BUZZER CRE200P REISONAN DAE YOUNG BUZZER	96	685485000IA	JUMP WIRE	0.6MM 52MM TP TAPING SN(10MM)	DAE A LEAD	
99 655455001A JUMP WIRE 0.0M IN ZAM TP TAPINS SNITUMNI Date A LEAD OP2, (P3, Fil3-Fil6) 00 6202,68004A FILTERICIF.LBC CV940050 TNC BK TNC L1 01 6202,68004A FILTERICIF.LBC CV940050 TNC BK TNC L2 02 0.0006421 FILSERICIF.LBC UVII-05320 TNC BK SAM JU FILE 02 0.0000621 FILSE, FAST BLOW 90004A 200 K 6XI2,5 BL/K TNC L3 03 07M000621 FILSE, FAST BLOW 90004A 200 K 6XI2,5 BL/K SAM JU FILE 04 6301,68001A FILE EX, FAST BLOW 90004A 200 K 6XI2,6 SL SAM JU FILE 04 6302,68001A FUES, FAST BLOW 90004A 200 K 6XI2,6 SL SAM JU FUE 05 072,0301A FUES, DRAING 27, 250 V 9.0 M-B.00 K LITTLE FUES, TRIAD SAM JU FUE 06 6908,63002F BUZZER 082204P ME 00.0 K PE0 2 MC 72810 MAIL DAE YOUNG BUZZER 07 4320,083001A FUES, FORMING 28, 24717 * 72 SMA JU FUE </td <td>98</td> <td>6854850001A</td> <td>JUMP WIRE</td> <td>0.6MM 52MM TP TAPING SN(10MM)</td> <td>DAE A LEAD</td> <td>091</td>	98	6854850001A	JUMP WIRE	0.6MM 52MM TP TAPING SN(10MM)	DAE A LEAD	091
01 6200_B8007X FILTERCIPIC, BAC UNIO5230 TNC BK 0.5A 32M TNC L2 0.01 6200_B8007X FILTERCIPIC, BAC UNIO5230 TNC BK 0.5A 32M TNC L3 02 0.0100MF0 INDCTOR, RADIA LEAD 9000M 420K 65/2.5 BLK TNC L3 03 07M800IB621 FUSE, FAST BLOW 9000M 420K 65/2.5 BLK SAU JU FUSE 04 690.19801A FUSE, ASST BLOW 9000M 420K 65/2.5 BLK SAU JU FUSE 06 690.18902/F AUXE ASSEMBLY KORE P-DT N/S SAU JU FUSE 06 690.18902/F AUZER 0.2200 FW 0100 KF220 FW 2500 KF220 FW 2500 KF20 K D42 KV0 KS BUZER 07 4920.083007A FUSE, ASSEMBLY 0.8220FW 0100 KF220 FW 2500 KF220 KF2 2500 KF40 KF2 115(5), BNDING FE 103, 0.43, 0.45 KF27 KF2 KF40 KF40 KF2 KF40 KF40 KF2 KF40 KF40 KF2 KF40 KF40 KF40 KF2 KF40 KF40 KF40 KF40 KF40 KF40 KF40 KF40	99				DAE A LEAD	0P2,0P3,RI3-RI6
Inc L3 02 OURIDOIMAFO INDUCTOR, RADIAL LEAD 1000 H 20%, R 5K12, 5 BLV. TNC L3 03 OFMBODIRE21 FUSE, FAST BLOW 900004, 250%, 5 X31, B CYGL, KS SAM JJ FUSE1 04 6500, JB9001A FUSE, FAST BLOW 900004, 250%, 5 X31, B CYGL, KS SAM JJ FUSE1 04 6500, JB9001A FUSE, SSMBLY KORE-PUT IV/S SAM JJ FUSE1 05 0FZZ, JB3001A FUSE, JPSNING 2A 250% SLOW BLOW LITTLE FUSE, TRIAD SAM JJ FUSE1 06 6900, B3002F BJZZRR C ROLE AND READ READ READ READ READ READ READ REA		6200JB8004A	FILTER(CIRC).EMC			
104 690UB800/A FUSE ASSUMELY KOME - P1 IV/S SAM JU FUSE HOLER 06 697UL9800/A FUSE SAM JU FUSE HOLER EGE 06 072Z 3900/A FUSE SAM JU FUSE FUSE 06 6970L9300/A FUSE SAM JU FUSE FUSE 06 6970L9300/A FUSE SAM JU FUSE FUSE 07 4920L93007/A FEAT SINK DAE YOUNG BUZZER 07 4920L93007/A FEAT SINK IIC21 IIC21 06 ISP70302418 SOERT TAP TITE(S), BINDING FE H03.0 UB/O MIRG/FZY BMA/L IIC21 09 9WF020000 SOLDERINGSIN WIRE I RS0 DI, ZO - - 04 9IIIO04 SOLDERINGSIN WIRE I RS0 H63A HISUNG -	102	OLRIOOIM4F0	INDUCTOR-RADIAL LEAD	1000UH 20% R 6XI2.5 BULK		L3
105 0FZZ_J3300A FUSE, DRAWING 2A 250V SLOW-BLOW LITTLE FUSE, TRIAD SAM JU FUSE 106 6908_B3002F BJZZER 0822004 DAE YONG BJZZER 107 4320_0307A HEAT SINK 23.3*17*25 DRIVE (C STR IIIC21 108 ISPE0302418 SOPEW TAP TITE(S)_BINDING HE +03.0 L8.0 MSIR3/FZY MSAI IIIC21 109 9WF020000 SOLDER, ROSIN WIRE I FS0 D.7.20 - - 104 4900_04 SOLDER, SOLDERING H63A HISJNG -		0FM9001B621 6901.JB8001A	FUSE ASSEMBLY	SUUUMA 250V 6.3X31.8 CY/GL KS	SAM JU	FUSE HOLDER
06 6908.03002F BJZZER DBEZER DBEZER 07 4920.03007A HEAT SINK 23.317x25 RHVE IC STR IIC21 08 ISBF0302418 SOFEW TAP TITE (S), BINDING HE +03.0 LB.0 MSHR3/FZY MSMA IIC21 09 9WF0120000 SQLDER, IRDSIN INFET IRS0 DI.220 - - 04 9U004 SQLDER, SQLDERING H63A HISUNG -	105	OFZZJB300IA	FUSE, DRAWING	2A 250V SLOW-BLOW LITTLE FUSE, TRIAD	SAM JU	FUSEI
IO8 ISBP 03024IB SCHEW TAP TITE ISI, BINNING HE H03, 0 L8, 0 MSIR3/FZY MMA (IC2) 109 9WIF0120000 SOLDER INDERSIN WIFE I FSO DI, 20 - - - 104 9WIF0120000 SOLDER, SOLDERINGS HF30A HF30A - -		6908JB3002F	BUZZER	CBE2220BP DAE YOUNG PIEZO 2KHZ 750BICHINAI	DAE YOUNG	BUZZER
199 9WF020000 SQ.DER.105IN WEE 1750 DL20		ISBF0302418	SCREW TAP TITE(S) BINDING HE	+D3.0 L8.0 MSWR3/FZY		
11/2 1/2010/27 2/2010/27 2/2010/2010/2010/2010/2010/2010/2010/20	109	9VWF0120000	SOLDER (ROSIN WIRE) RSO	DI.20	-	-
		59333105	FLUX	SG;0.825-0.830 KOREA F.H-206	KOKI	
112 0C01031#609 CAPACITOR,FIXED FILM 0.010F D 100V 107, PE TP5 SAW IH-A 0M4		0001031N509	CAPACITOR, FIXED FILM	0.01UF D 100V 10% PE TP5	SAM WHA	CM4

8-5-3 PWB Assembly, Display, And Parts List

Dispenser Model



No	P/NO	DESCRIPTION	SPEC	MAKER	REMARK
1	6870JB8090A	PWB(PCB)	KS-PJT DISPENSER DISPLAY	DOO SAN	-
2	-	-	-	1	-
3	6630JB8005D	WAFER	SMAW250-11	YEON HO	CDN101
4	6630JB8004U		SMAW250-06	1	CDN102
5	6600JB8005A	SWITCH,TACT	KPT-1105A	KYUNG IN	SW102~105
6	6600RRT002K		JTP1230A JEIL 12∨ DC 50MA	JEIL	SW102~105
7	6600JB8004A	TACT S/W	KPT-1109R	KYUNG IN	SW101,SW107
8	-	TACT S/W		KYUNG IN	SW106
9	6327JB8001A	DISPLAY LED ASSEMBLY	LN4023-13EWRS GREEN 2.1V 1.7MCD	LEDTECH	SEG1,SEG2
10	0DLLE0059AA	LED	LT8323-41-BCN 2.1V D3 TP GREEN		L102~105
11	0DD414809AA	DIDDE,SWITCHING		PYUNG CHANG	D107~113
12	0DD400400A		1N4004	DELTA	D101~106
13	6854B50001A	JUMP WIRE	0.6MM 52MM TP TAPING SN(10MM)	-	J01~06,J08~13
14	9VWF0120000	SOLDER(ROSIN WIRE) RSO		HEE SUNG	-
15	49111004	SOLDER, SOLDERING	Н6ЗА	-	-
16	59333105	FLUX	SG;0.825-0.830 KOREA F.H-206	KOKI	-

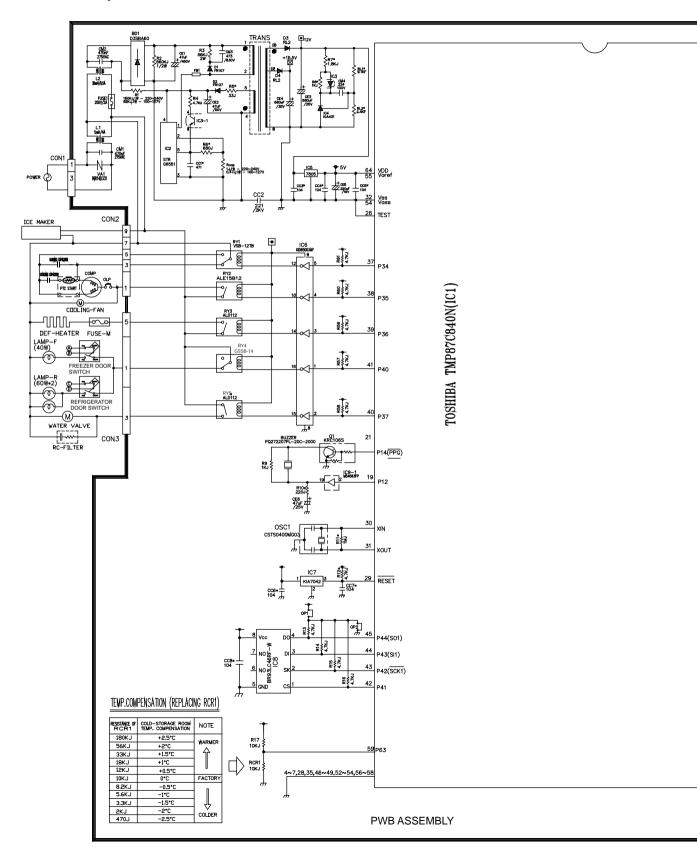
Best Model

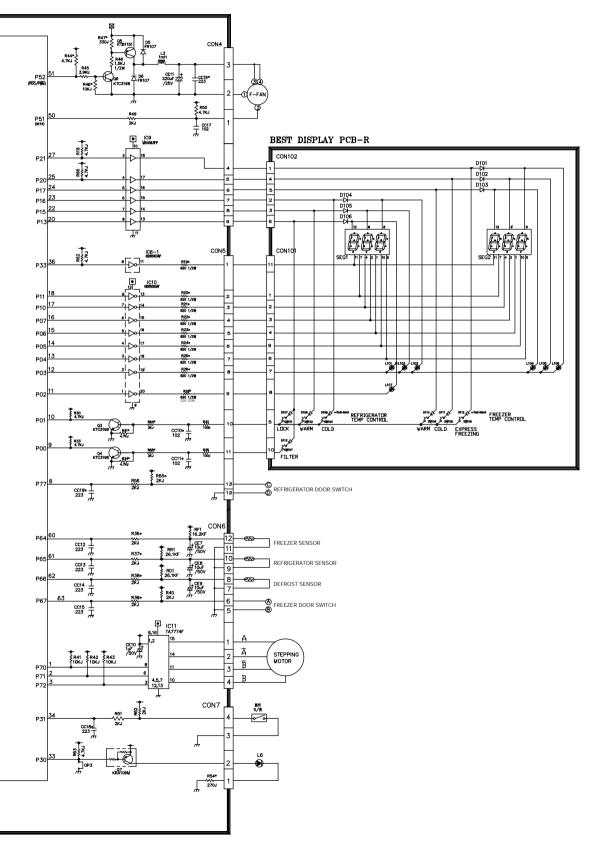
				CON101	CON102	
		L107		J		Ð
SW103 SW102	SEG101	S₩106	SEG102		SW105	SW104

-					
No	P/NO	DESCRIPTION	SPEC	MAKER	REMARK
1	6870JB8090A	PWB(PCB)	KS-PJT DISPENSER DISPLAY	DOO SAN	-
2	-	-	-		-
3	6630JB8005D	WAFER	SMAW250-11	YEON HO	CDN101
4	6630JB8004U	1	SMAW250-06	1	CDN102
5	6600JB8005A	SWITCH,TACT	KPT-1105A	KYUNG IN	SW102~105
6	6600RRT002K]	JTP1230A JEIL 12∨ DC 50MA	JEIL	JSW102~105
7	6600JB8004A	TACT S/W	KPT-1109R	KYUNG IN	SW106
8	-	TACT S/W		KYUNG IN	
9	6327JB8001A	DISPLAY LED ASSEMBLY	LN4023-13EWRS GREEN 2.1∨ 1.7MCD	LEDTECH	SEG1,SEG2
10	0DLLE0059AA	LED	LT8323-41-BCN 2.1V D3 TP GREEN	1	L102~105
11	0DD414809AA	DIDDE,SWITCHING	1N4148 26MM	PYUNG CHANG	D107~113
12	0DD400400A		1N4004	DELTA	D101~106
13	6854B50001A	JUMP WIRE	0.6MM 52MM TP TAPING SN(10MM)	-	J01~06,J08~13
14	9∨WF0120000	SOLDER(ROSIN WIRE) RSO	D1.20	HEE SUNG	-
15	49111004	SOLDER,SOLDERING	Н6ЗА	-	-
16	59333105	FLUX	SG;0.825-0.830 KOREA F.H-206	KOKI	-

8-6 PWB DIAGRAM

8-6-1 PWB Main Assembly





9-1 FUNCTION

9-1-1 Function

- 1. When the appliance is plugged in, it is set to "4" for Refrigerator and "4" for freezer. You can adjust the Refrigerator and the Freezer control temperature by pressing the ADJUST button.
- 2. When the power is initially applied or restored after a power failure, it is automatically set to "4" & "4".

BETTER / GOOD MODEL



9-1-2 Control of freezer fan motor

- 1. Freezer fan motor has high and standard RPMs.
- 2. High RPM is used when electricity is first on, for express freezing, and when refrigerator is overloaded. But standard RPM is used for general purposes.
- 3. To improve cooling speed and load corresponding speed, the RPM of freezer fan motor shall change from normal speed to hign speed.
- 4. High speed (2500RPM) : Initial power on or load corresponding operation, express freezing Normal speed (2200RPM) : General working conditions.
- 5. Fan motor stops when refrigerator of freezer door opens.

9-1-3 EXPRESS FREEZING

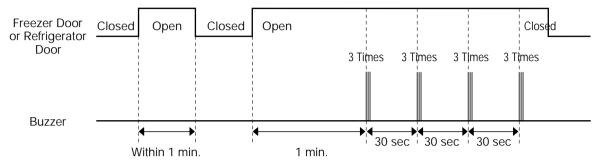
- 1. The purpose of this function is to intensify the cooling speed of freezer and to increase the amount of ice.
- 2. Whenever selection switch is pressed, selection/release, the LED will turn ON or OFF.
- 3. If there is a power cut and the refrigerator is power on again, EXPRESS FREEZING function will be canceled.
- 4. To activate these function you need to press the Express Freezing key and the LED will turn ON. This function will remain activated for 24 hrs. The first three hours the compressor and Freezer Fan will be ON. The next 21hours the freezer will be controlled at the lowest temperature. After 24 hours or if the Express Freezing key is pressed again, the freezer will return to its previous temperature.
- 5. For the first three hours notice the following cases:
 - (1) Compressor and freezer fan(HIGH RPM) continuously operate for three hours.
 - (2) If defrost starts during EXPRESS FREEZING, EXPRESS FREZZING operates for the rest of time after defrost is completed, when EXPRESS FREZZING operation time is less than 90 minutes. If EXPRESS FREZZING operates for more than 90minutes, the EXPRESS FREZZING will operate for two hours after defrost is completed.
 - (3) If EXPRESS FREZZING is pressed during defrost, EXPRESS FREZZING LED is on but this function will start seven minutes after defrost is completed and it shall operate for three hours.
 - (4) If EXPRESS FREZZING is selected within seven minutes after compressor has stopped, the compressor (compressor delays seven minutes) shall start after the balance of the delay time.
 - (5) The fan motor in the freezer compartment rotates at high speed during EXPRESS FREZZING.
- 6. For the rest of 21 hours, the freezer will be controlled at the lowest temperature.

DFCLEAFINGER

1. To protect the risk of lamp heat, when Refrigerator door opens for 7 min., refrigerator lamp is auto off.

9-1-5 Alarm for Open Door

- 1. This feature sounds a buzzer when the freezer or refrigerator door is not closed within 1 minute after it is opened.
- 2. One minute after the door is opened, the buzzer sounds three times each for 1/2 seconds. These tones repeat every 30 seconds.
- 3. The alarm is cancelled when the freezer or the refrigerator is closed while the buzzer sounds.



9-1-6 Buzzer Sound

When the button on the front Display is pushed, a Ding ~ Dong ~ sound is produced. (Refer to the Buzzer Circuit 7-2-4 No. 2)

- 9-1-7 Defrosting (removing frost)
- 1. Defrosting starts each time the COMPRESSOR running time reaches 7 hours.
- 2. For initial power on or for restoring power, defrosting starts when the compressor running time reaches 4 hours.
- 3. Defrosting stops if the sensor temperature reaches $46.4_iF(8_i C)$ or more. If the sensor doesn \overline{D} reach $46.4_iF(8_i C)$ in 2 hours, the defrost mode is malfunctioning. (Refer to the defect diagnosis function, 7-1-9.)
- 4. Defrosting won@function if its sensor is defective (wires are cut or short circuited)

Wirthed Hoter Biegul Patital lyre

Electrical parts such as COMP, defrosting heater, freezer FAN, etc. are turned on in the following order to prevent noise and parts damage. Several parts are started at the same time at initial power on and are turned off together when TEST is completed.

	OPERATING	ORDERS
Initial	Temperature of Defrosting Sensor is 45 ₁ C or more (when unit is newly purchased or when moved)	POWER in 1/2 second COMP in 1/2 second Freezer FAN ON → ON → ON
al power on	Temperature of defrosting sensor is lower than 45 ₁ C (when power cuts, SERVICE)	POWER ONin 1/2 second mathematicDefrosting heater ONin 10 second meater OFFDefrosting heater OFFin 1/2 secondCOMP ONin 1/2 second meater OFFFreezer FAN ON
	et to normal operation n TEST MODE	Total load in 7 minute COMP in 1/2 second Freezer FAN OFF → ON → ON

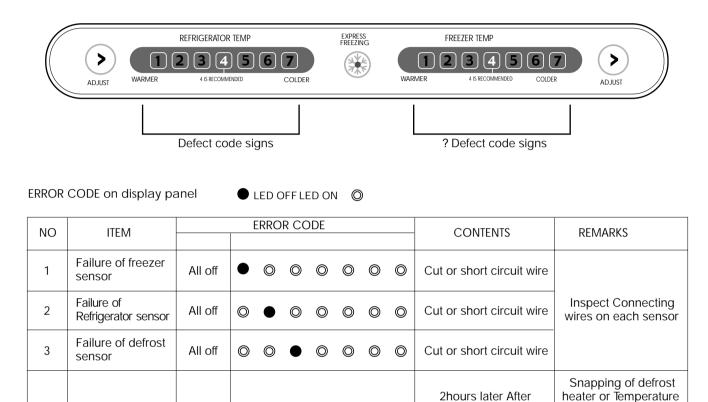
9-1-9 Defect Diagnosis Function

4

Poor of defrost

All off

- 1. Automatic diagnosis makes servicing the refrigerator easy.
- 2. When a defect occurs, the buttons will not operate; but the tones. such as ding. will sound.
- 3. When the defect CODE removes the sign, it returns to normal operation (RESET).
- 4. The defect CODE shows on the Refrigerator and Freezer Display.



fuse, pull-out of

Connector (indicated

minimum 2 Hours after failure occurs)

starting defrost, If

sensor doesn@be over

46_iF (8_iC)

00

9-1-10 TEST Mode

- 1. The Test mode allows checking the PCB and the function of the product as well as finding out the defective part in case of an error.
- 2. The test mode is operated by pressing two buttons at Display panel.
- 3. While in the test mode, the function control button is not recognized, but the recognition tone (beep~) sounds.
- 4. After exiting the test mode, be sure to reset by unplugging and then plugging in the appliance.
- 5. If an error, such as a sensor failure, is detected while in the test mode, the test mode is cleared and the error code is displayed.
- 6. While an error code is displayed, the test mode will not be activated.

MODE	MANIPULATION	CONTENTS	REMARKS
TEST1	Push Express Freezing key and COLDER KEY of Freezer Temp. at the same time over 3 seconds.	 Continuous operation of the COMPRESSOR Continuous operation of the freezer fan STEPPING DAMPER OPEN Defrosting Heater OFF Every DISPLAY LED ON 	
TEST2	Push Express Freezing key and COLDER KEY of Freezer Temp. at the same time over 3 seconds in TEST MODE 1	 COMP OFF Freezer FAN OFF STEPPING DAMPER CLOSE Defrosting heater ON DISPLAY LED 1, 3, 5, 7 ON 	Reset if the temperature of the Defrosting sensor is 46°F (8°C) or more.
Reset	Push Express Freezing key and COLDER KEY of Freezer Temp. at the same time over 3 seconds. in TEST MODE 2	Reset to the previously setting before TEST MODE	The compressor will Start after a 7-minute delay.

- NOTE : LED CHECK MODE: When the refrigerator temperature control and the freezer temperature control button at the same time are hold for 1 second or longer, every LED on the display turns on at the same time. when the button are relesed, the previous mode is restored.
- * Freezer Fan RPM Variable Check:

In case the freezer fan is in operation when the WARMER KEY in Refrigerator and Freezer Temp. Control are pressed for more than one second at the same time freezer fan RPM changes. (for example if high speed, to normal speed or if normal speed, to high speed for 30 seconds)

After 30 seconds, it turns to its original RPM.

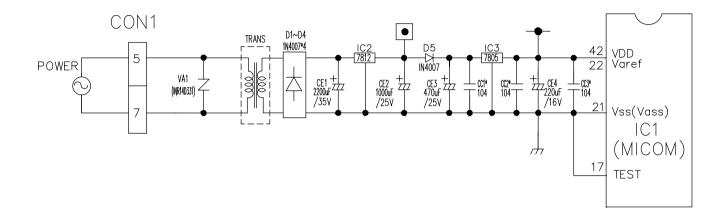
* Demonstration MODE:

- 1. When the KEY of refrigerator Temp. control or of freezer Temp. control is pushed and held over 5 seconds, warmest temperature's It converts to Demonstration Mode.
- 2. In this status, each LED is rotated with 1 second interval.
- 3. In this status, all Loads are off (Compressor / Fan / Damper / Heater)

(Even is Demonstration Mode, the refrigerator Lamp automatic off function warks normally and can be demonstrated) 4. It reset if you do again as clause.

9-2 PCB FUNCTION

9-2-1 Power Circuit



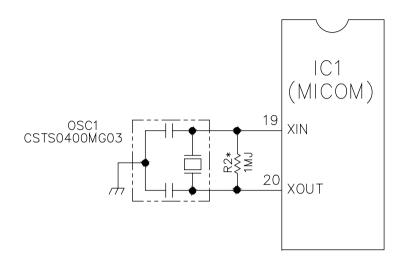
The secondary part of the TRANSFORMER is composed of the power supply for the display, the BLDC FAN Motor drive (15.5 V), the relay drive (12 Vdc) and the MICOM and IC (5 Vdc).

The voltage for each part is as follows:

P RT	XX 1	CE 2	CE 1	CE 4
VOLTAGE	115 Vac	12 Vdc	15.5 Vdc	5 V

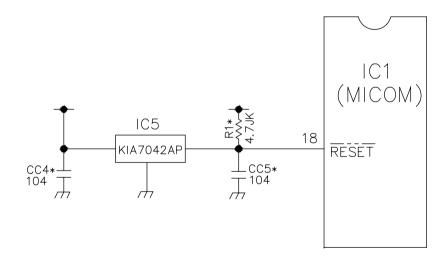
VA1 is a part for preventing over voltage and noise. When 385V or higher power is applied, the inside elements are shortcircuited and broken, resulting in blowout of the fuse in order to protect the elements of the secondary part of the TRANSFORMER.

9-2-2 Oscillation Circuit



This circuit generates the base clock for calculating time and the synchro clock for transmitting data from and to the inside logic elements of the IC1 (MICOM). Be sure to use specific replacement parts, since calculating time by the IC1 may be changed. If changed, the OSC1 SPEC will not work.

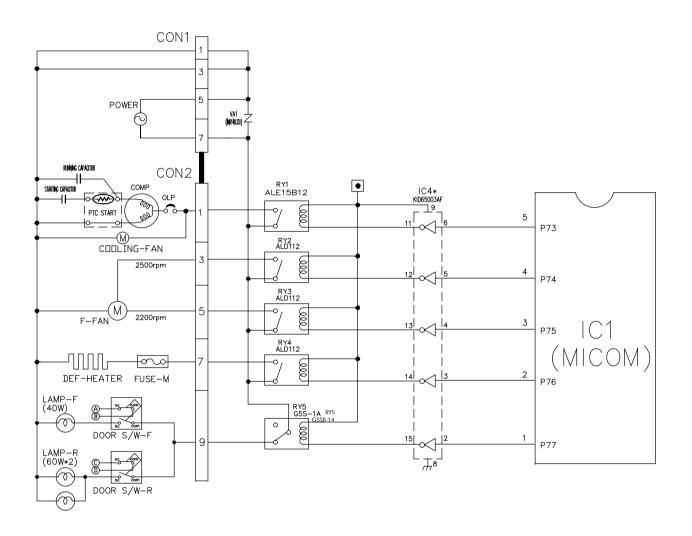
9-2-3 Reset Circuit



The RESET circuit allows all the functions to start at the initial conditions by initializing various parts, including the RAM inside the MICOM (IC1) when the power is initially supplied or the power supply to the MICOM is restored after a momentary power failure. For the initial 10ms of power supply, LOW voltage is applied to the MICOM RESET terminal. During a normal operation, 5V is applied to the RESET terminal. (If a malfunction occurs in the RESET IC, the MICOM will not operate.)

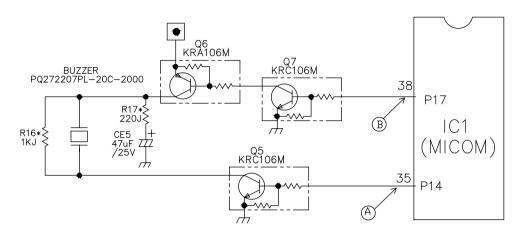
9-2-4 Load / Buzzer Drive & Open Door Detection Circuit

1. Load Drive Condition Check



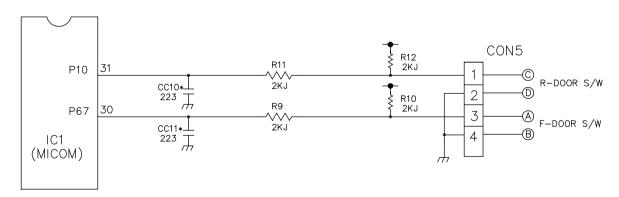
LOAD TY	/PE	COMP	DEFROSTING HEATER	LAMP	FREEZER FAN MOTOR (HIG RPM)	FREEZER FAN MOTOR (LOW RPM)
Measurement Location (IC4)		NO.11	NO.14	NO.15	NO.12	NO.13
Condition	ON			1V or below		
Condition	OFF			12V		

2. Buzzer Drive Condition Check



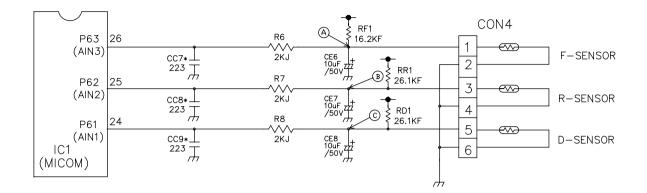
Condition Measure- ment Location	Tone (Ding~Dong~) when the button on the display is pushed.	Alarm for open door (beep-beep-beep)	OFF
IC1 ((À)	5 V 0 V	5 V 0 V	0 V
IC1 (B)	5 V 0 V2.63 kz (Ding~)2.21 kz (Dong~)	5 V 0 V2.63 kz(Beep-) _ OFF /	0 V

3. Open Door Detection Circuit Check



Measurement Freezer/Location Refrigerator Door	(PIN NO.31 & PIN NO.30)
Closed	5 V
Open	0 V

F2perature Sensor Circuit

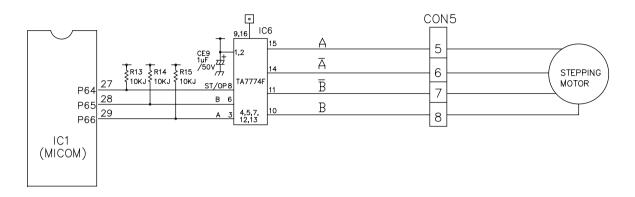


The upper CIRCUIT reads REFRIGERATOR temperature, FREEZER Temperature, and DEFROST-SENSOR temperature for defrosting and the indoor temperature for compensating for the surrounding temperature into MICOM. OPENING or SHORT state of each TEMPERATURE SENSOR are as follows:

SENSOR	CHECK POINT	NORMAL (-30¡C ~ 50¡C)	SHORT-CIRCUITED	OPEN
Freezer Sensor	POINT (A) Voltage			
Refrigerator Sensor	POINT B Voltage	0.5 V ~ 4.5 V	0 V	5 V
Defrosting Sensor	POINT © Voltage			

9-2-6 Refrigeration Compartment Stepping Motor Damper Circuit

* The circuit shown below is the damper circuit to regulate the refrigerator temperature.



€r2perature Compensation & Overcooling/Undercooling Compensation Circuit

1. Refrigerator Temperature Compensation

Refrige	erator			
Resistance	Temperature	Remark		
(RCR)	Compensation			
180 K°	+2.5C	Compensation by		
56 K°	+2.QC	raising the temperature		
33 K°	+1.5C			
18 K°	+1.QC	1 1		
12 K°	+0.5C			
10 K°	0 _i C	Standard Temperature		
8.2 K°	-0.5¡C	Compensation by		
5.6 K°	-1.0¡C	lowering the temperature		
3.3 K°	-1.5¡C			
2 K°	-2.0jC] L		
470 °	-2.5¡C	▼		

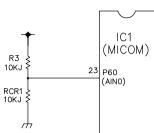


Table of Temperature Compensation by adjusting the resistance (difference from the current temperature) e.g., If the refrigerator compensation resistance (RCR) is changed from 10K (the current resistance) to 18K (the adjustment resistance), the temperature of the refrigerator rises $33.8_{i}F(+1_{i}C)$.

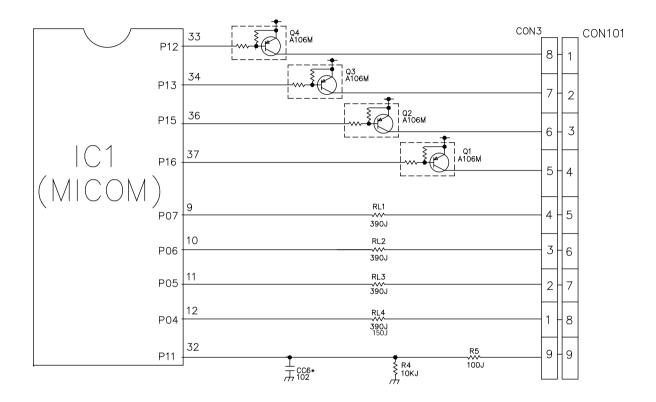
2 The temperature c	ompensation fo	r refrigerator c	omnartment is i	n the following table:
z. me temperature e	ompensation to	n reingerator e	ompartment is i	in the following table.

	Revised resistance Present resistance	470°	2k°	3.3k°	5.6k°	8.2k°	10k°	12k°	18k°	33k°	56k°	180k°
	470°	No change	0.5 _i C Up	1 _i C Up	1.5 ₁ C Up	2 _i C Up	2.5 ₁ C Up	3 _i C Up	3.5 ₁ C Up	4 _i C Up	4.5 ₁ C Up	5 _i C Up
	2k°	0.5 _i C Down	No Change	0.5 ₁ C Up	1 _i C Up	1.5 _i C Up	2 _i C Up	2.5 ₁ C Up	3 _i C Up	3.5 ₁ C Up	4 _i C Up	4.5 _i C Up
	3.3k°	1 _i C Down	0.5 ¡C Down	No Change	0.5 ₁ C Up	1 _i C Up	1.5 ₁ C Up	2 _i C Up	2.5 ₁ C Up	3 _i C Up	3.5 ₁ C Up	4 _i C Up
	5.6k°	1.5 _i C Down	1 _i C Down	0.5 jC Down	No Change	0.5 ₁ C Up	1 _i C Up	1.5 ₁ C Up	2 _i C Up	2.5 ₁ C Up	3 _i C Up	3.5 jC Up
	8.2k°	2 _i C Down	1.5 ₁ C Down	1 _i C Down	0.5 ₁ Down	No Change	0.5 _i C Up	1 _i C Up	1.5 ₁ C Up	2 _i C Up	2.5 ₁ C Up	3 _i C Up
Refrigerator (RCR)	10k°	2.5 ₁ C Down	2 _i C Down	1.5 ₁ C Down	1 _i C Down	0.5 _i C Down	No Change	0.5 ₁ C Up	1 _i C Up	1.5 ₁ C Up	2 _i C Up	2.5 _i C Up
	12k°	3 _i C Down	2.5 ₁ C Down	2 _i C Down	1.5 ₁ C Down	1 _i C Down	0.5 jC Down	No Change	0.5 ₁ C Up	1 _i C Up	1.5 ₁ C Up	2 _i C Up
	18k°	3.5 _i C Down	3 _i C Down	2.5 ₁ C Down	2 _i C Down	1.5 _i C Down	1 _i C Down	0.5 _i C Down	No Change	0.5 ₁ C Up	1 _i C Up	1.5 _i C Up
	33k°	4 _i C Down	3.5 ₁ C Down	3 _i C Down	2.5 ₁ C Down	2 _i C Down	1.5 ₁ C Down	1 _i C Down	0.5 jC Down	No Change	0.5 ₁ C Up	1 _i C Up
	56k°	4.5 _i C Down	4 _i C Down	3.5 ₁ C Down	3 _i C Down	2.5 ₁ C Down	2 _i C Down	1.5 ₁ C Down	1 _i C Down	0.5 ¡C Down	No Change	0.5 _i C
	180k°	5 _i C Down	4.5 _i C Down	4 _i C Down	3.5 ₁ C Down	3 _i C Down	2.5 _i C Down	2 _i C Down	1.5 _i C Down	1 _i C Down	0.5 _i C Down	No Change

NOTE: This circuit is designed to input the necessary temperature compensation values into the MICOM. This adjusts the refrigerator temperature, which is different in each model.

9-2-8 Key Button Input & Display Light-On Circuit

The circuit shown above determines whether a function control key on the operation display is pushed. It also turns on the corresponding function indication LED DISPLAY. The drive type is the scan type.



RADORESHSSENSOR

TEMPERATURE DETECTED BY SENSOR	RESISTANCE OF FREEZER SENSOR	RESISTANCE OF REFRIGERATOR & DEFROST SENSOR & ROOM SENSOR
- 20 ứC	22.3 K?	77 K?
- 15 ứC	16.9 K?	60 K?
- 10 ứC	13.0 K?	47.3 K?
- 5 ứC	10.1 K?	38.4 K?
Di 0	7.8 K?	30 K?
+ 5ứC	6.2 K?	24.1 K?
+ 10úC	4.9 K?	19.5 K?
+ 15ứC	3.9 K?	15.9 K?
+ 20úC	3.1 K?	13 K?
+ 25ứC	2.5 K?	11 K?
+ 30úC	2.0 K?	8.9 K?
+ 40úC	1.4 K?	6.2 K?
+ 50ữ	0.8 K?	4.3 K?

 \pm The resistance of the SENSOR has a \pm 5% common difference. \pm Measure the resistance of the SENSOR after leaving it for over 3 minutes in the measuring temperature.

This delay is necessary due to sensor response speed.

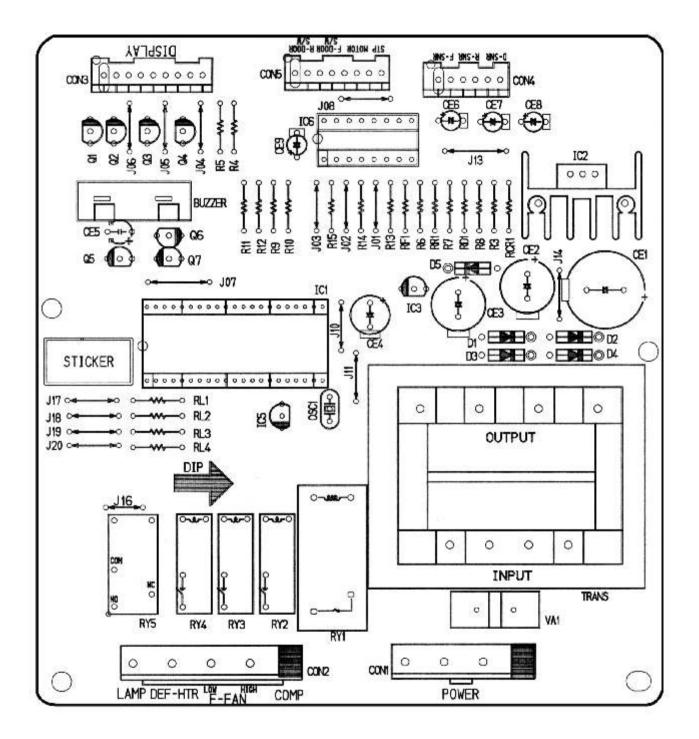
								COOLING is poor.				POWER SOURCE is poor.	PROBLEM
			incorrect	FREEZER TEMPERATURE is				NO COOLING.	abnormally	SEVEN SEGMENT DISPLAY operates	2. DISPLAY LED/	1. The whole DISPLAY LED/SEVEN SEGMENT DISPLAY is off.	INDICATED BY
4. Door Line contact.	3. If SENSOR is normal.	2. If DEFROSTING is normal.	-	1. If FAN MOTOR operates.	2. If refrigerant is leaking.			1. If the COMPRESSOR operate.	CONNECTOR.	3. The connection of the MAIN PWB	2. If LAMP is dim.	1. FREEZER/ REFRIGERATOR.	СНЕСК
Check the seal when the door is closed.	Check the resistance of the Refrigerator SENSOR.	Check the amount of frost sticking on the EVAPORATOR .		USE TEST MODE1 (forced COOLING).	Measure the amount of frost sticking on EVAPORATOR and the surface temperature of the condenser pipe.	wait.	If less than 7 minutes pass after compressor shuts off, donÖt press the KEY and	USE TEST MODE1 (forced COOLING).		Check connection of CONNECTOR.	Check visually.	Check if FREEZER/ REFRIGERATOR DOOR IS OPEN and check display.	CHECKING METHOD
Door liner damaged.	SENSOR RESISTANCE is poor.	DEFROSTING is poor.	CONNECTING WIRE is poor.	FAN MOTOR is poor.	Refrigerant leakage.	THE CONNECTING WIRE is poor.	OLP, PTC is poor. COMPRESSOR RELAY is poor.	COMPRESSOR locked or blocked.	TRANS FUSE is open.	CONNECTOR connection is poor.	Applied voltage error.	POWER SOURCE is poor.	CAUSE
Replace door liner.	Replace SENSOR.	See DEFROSTING is poor .	Certify the MOTOR and the connection of the black wire of the MAIN PWB CONNECTOR (CON2).	Replace the FAN MOTOR.	Replace the leaking part and replace any lost refrigerant.	Check the connection of the black wire of the MAIN PWB CONNECTOR (CON2).	Replace OLP, PTC. Replace MAIN PWB.	Replace COMPRESSOR.	Replace TRANS.	Reconnect CONNECTOR.	Use boosting TRANS.	Check outlet Voltage.	SOLUTION

9-4 TROUBLESHOOTING

PROBLEM	INDICATED BY	CHECK CI	CHECKING METHOD	CAUSE	SOLUTION
COOLING is poor.	If REFRIGERATOR	1. If FREEZER TEMPERATURE	Check is FREEZER		Make sure the
	TEMPERATURE	isnormal.	TEMPERATURE is too low.		DOOR isattached.
	is too low.	2. If amount of cool air from	Make sure that the amount	FAN MOTOR is poor.	Replace FAN MOTOR.
		FAN MOTOR is	and speed of cool air are	Passage of cool air	Remove impurities.
		sufficient.	sufficient by touching the	is blocked.	
			check supplied on the	EVA frozen.	See DEFROSTING is poor .
			REFRIGERATOR.		
		3. Door Line contact.	Check door seal when	Door liner damaged.	Replace Door liner.
DEFROSTING is	NO DEFROSTING.	1. If HEATER emits heat.	USE TEST MODE2	HEATER disconnection.	Replace HEATER.
poor.			(forced DEFROSTING).		
				TEMPERATURE FUSE	Replace TEMPERATURE
				Connection is poor.	Check EVAPORATOR
					connection and wire of MAIN
					PWB CONNECTOR.
				DEFROST-SENSOR is poor.	Replace DEFROST-SENSOR.
				HEATER RELAY is poor.	Replace RY3 of MAIN PWB.
		2. If DRAIN PIPE is	Check DRAIN PIPE.	DRAIN PIPE is blocked.	Remove ice and impurities.
		blocked.			Check HEATER PLATE
					resistance.
		3. If ice remains after	Make sure that DEFROST	Connection is poor.	Reassemble the
		DEFROSTING.	SENSOR is connected.		DEFROST-SENSOR.
			Make sure that FREEZER /	DOOR does not close	Reassemble DOOR.
			REFRIGERATOR DOOR is closed.	properly.	Replace GASKET.

BARANGALINS PWB ASSEMB

9-5-1 Main PWB Assembly



9-5-2 Replacement Parts List

	7 0 2 Kepi		1		
No	P/N0	DESCRIPTION	SPEC	MAKER	REMARK
	6870JB8089A = 0	PWB(PCB)	KS-PJT GOOD MDL	DOO SAN	T=1.6
2 3	- 6170JB2002H	- TRANSFORMER,LOW VOLTAGE	240V I5V YES GR-MICOM ONE TAB	- TAE SUNG	- TRANS
4	6170JB2002M	TRANSFORMER, LOW VOLTAGE	260V ISV YES GR-MICOM ONE TAB	TAE SUNG	TRANS
5	6170JB2002R	TRANSFORMER, LOW VOLTAGE	140V I5V YES GR-MICOM ONE TAB	TAE SUNG	TRANS
6	6170JB2002W	TRANSFORMER,LOW VOLTAGE	IISV ISV YES GR-MICOM ONE TAB	TAE SUNG	TRANS
8	6630A09106C	CONNECTOR (CIRC), WAFER	YW396-07AV YEONHO 7PIN 3.96MM STRAIGHT SN	YEON HO	CONI
9	6630A09106D	CONNECTOR (CIRC), WAFER	YW396-09AV	YEON HO	CON2
10 11	6630A091068 6630JB8007G	CONNECTOR (CIRC), WAFER CONNECTOR (CIRC), WAFER	YW396-05AV 917786-1 AMP 8PIN 2.5MM STRAIGHT SN	YEON HO	- CON5
12	6630JB8007H	CONNECTOR (CIRC), WAFER	917787-I AMP 9PIN 2.5MM STRAIGHT SN	AMP	CONS
13	6630JB8007E	CONNECTOR (CIRC), WAFER	917784-1 AMP 6PIN 2.5MM STRAIGHT SN	AMP	CON4
14	-			-	-
15 16	0IZZJB2023L 0IZZJB2022	IC, DRAWING	TMP87C846N_42_SDIP_BK_KS-BETTER/GOOD(MASK)	TOSHIBA TOSHIBA	ICI (01ZZJB2022M) ICI (01ZZJB2022)
17	01ZZJB2022	IC, DRAWING	•	TOSHIBA	ICI (0IZZJB2022)
18	-	-		-	
19 20	0IKE78I200B 0IKE78I200M	IC,KEC IC,KEC	KIA78I2PI I2V IA,KEC KIA78I2PI 3DIP BK I2V IA REFORM	KEC KEC	IC2
21	01KE780500A	IC,KEC	KIA78505P, 3PIN, DIP. KEC	KEC	IC3
22	OISTLMIOOIA	IC,STANDARD LOGIC	M54563FP MITSUBISHI 20 R/TP CONVERT	MITSUBISH	-
23 24	0IT0777400A	IC, TOSHIBA	TA7774AP 16 SDIP BK STEPPING MOTOR	TOSHIBA KEC	106
24	0IKE650030C 0IKE704200A	IC,KEC IC,KEC	KID65003AF I650P BK 7CH DRIVER KIA7042P 3P BK RESET	KEC	IC4 IC5
26	0IRH934600D	IC, ROHM	BR93LC46RF-W 8PIN SOP BK EEPROM -	ROHM	-
27	-	•		-	- DVI
28 29	6920000001A 6920WRD010A	RELAY RELAY	ALEI5BIZ MATSUSHITA 250VAC IGA 12VDC IA NO VENTING USII-12S YUYU 250VAC 3A 12VDC IA	NAIS YUYU	RYI -
30	6920JB2003B	RELAY	ALDI12 MATSUSHITA 250VAC 3A 12VDC 1A	OMRON	RY2-RY4
31	6920JB2009A = E	3 RELAY	GSSB-14 250VAC 5A 12VDC IC	OMRON	RY5
32 33	-	-	- -	-	-
34	6212JB8001B	RESONATOR, CERAMIC	CSTS0400 MURATA 4MHZ +/- 0.5% ISPF TP NONE	MURATA	05CI (J570-00012B)
35	6102W5V006A	VARISTOR	INRI4D331 ILJIN UL/CSA/VDE BK	ILJIN	VAL
36 37	6102JB8003A 6102JB8001B	VARISTOR VARISTOR	INRI4D271 ILJIN UL/VDE TP 270V INRI4D621 ILJIN UL/VDE BK 620V	ILJIN ILJIN	VAI
38	0DD400709AA	DIODE, RECTIFIERS	IN4007 TP MOTOROLA IA	DELTA	DI-D5
39		•	•	-	-
40	-			-	-
41	0CE2286J6I0 0CE1086J6I0	CAPACITOR, AL. ELECTROLYTIC CAPACITOR, FIXED ELECTROLYTIC	2200 UF SWS,SG 35V M FL BULK 1000UF SWS,SG 35V 20% FL BULK	SAM HWA SAM HWA	CEI
43	0CE1086H618	CAPACITOR, AL. ELECTROLYTIC	1000 UF SMS, SG 25V M FL TP 5	SAM HWA	CE2
44	0CE4776H6I8	CAPACITOR, FIXED ELECTROLYTIC	470UF SWS,SG 25V 20% FL TP 5	SAM HWA	CE3
45 46	0CE2276F638 0CE1076H638	CAPACITOR, FIXED ELECTROLYTIC CAPACITOR, FIXED ELECTROLYTIC	220/F SW6,56 ISV 20% FW5 TP 5 100/F SW6,56 Z5V 20% FW5 TP 5	SAM HWA SAM HWA	CE4
40	0CE1066K638	CAPACITOR, FIXED ELECTROLITIC	1000 SMS, 50 20% 10% FMS TP 5	SAM HWA	CEG-CE8
48	0CE1056K638	CAPACITOR, FIXED ELECTROLYTIC	IUF SMS,SG 50V 20% FM5 TP 5	SAM HWA	CE9
49 50	0CE476IH638 0C0223IN409	CAPACITOR, FIXED ELECTROLYTIC	47UF SWS,SG 25V 20% FW5 TP 5	SAM HWA	CE5
50	OCK102DK96A	CAPACITOR, POLYESTER CAPACITOR, FIXED CERAMIC (HIGH DIELECTRIC)	0.022 UF D 100V J PE TP INF 2012 50V 80%, -20% R/TP X7R	SAM HWA	- CC6
52	OCK223DK96A	CAPACITOR, FIXED CERAMIC (HIGH DIELECTRIC)	22NF 2012 50V 80%, 20% R/TP X7R	MURATA	CC7-CCII
53	-				-
54 55	OCK104DK94A	CAPACITOR, FIXED CERAMIC (HIGH DIELECTRIC)	100NF 2012 50V R/TP (GRM40X7R104K50PE)	MURATA	-
56	OCK1040K949	CAPACITOR, FIXED CERAMIC(HIGH DIELECTRIC)	0.IUF D 50V 80%, -20% F(Y5V) TA52		-
57	-			MURATA	
58 59	- 0RDI500G609	- RESISTOR, FIXED CARBON FILM	- 150 OHM 1/4W 5.00% TA52	SMART	- RL4
60	0RD3900G609	RESISTOR, FIXED CARBON FILM	390 OHM 1/4 W 5.00% TA52	SMART	RLI-RL3
61	0RD1000G609	RESISTOR, FIXED CARBON FILM	100 OHM 1/4 W 5.00% TA52	SMART	R5
62 63	0RJI00IE672 0RJ200IE672	RESISTOR, METAL GLAZED (CHIP) RESISTOR, METAL GLAZED (CHIP)	IK OHM I/8 W 5% 2012 R/TP 2K OHM I/8 W 5% 2012 R/TP	ROHM	RIG
64	0RD20016609	RESISTOR, FIXED CARBON FILM	2K OHM 1/4 W 5,00% TA52	SMART	R6-RI2
65	0RH2200L622	RESISTOR, METAL GLAZED(CHIP)	220 OHM 1/8 W 2012 5.00% D	ROHM	RI7
66 67	0RJ220IE672 0RJ470IE672	RESISTOR,METAL GLAZED(CHIP) RESISTOR,METAL GLAZED(CHIP)	2.2K OHM I/8 W 5% 2012 R/TP 4.7K OHM I/8 W 5% 2012 R/TP	ROHM	- RI
68	0RJ470IE672	RESISTOR, METAL GLAZED (CHIP)	4.7K OHM 1/8 W 5% 2012 R/TP	ROHM	-
69	0RD4701G609	RESISTOR, FIXED CARBON FILM	4.7K OHM 1/4 W 5.00% TA52	SMART	•
70 71	0RJI002E672 0RJI002E672	RESISTOR, METAL GLAZED (CHIP) RESISTOR, METAL GLAZED (CHIP)	IOK OHM 1/8 W 5% 2012 R/TP IOK OHM 1/8 W 5% 2012 R/TP	ROHM	•
72	0RDI002G609	RESISTOR, METAL GLAZED (CHIP)	IOK OHM 1/8 W 5, 2012 H/1P IOK OHM 1/4 W 5,00% TA52	SMART	- R3,R4,RCRI,RI3-RI5
73	0RJ2702E672	RESISTOR, METAL GLAZED(CHIP)	27K OHM 1/8 W 5% 2012 R/TP	ROHM	-
74 75	0RJI004E672	RESISTOR, METAL GLAZED (CHIP)	IM OHM 1/8 W 5% 2012 R/TP	ROHM	R2
76	0RJ26I2E472 0RJI622E472	RESISTOR, FIXED METAL FILM RESISTOR, FIXED METAL FILM	26.IK OHM 1/4 W 1.00% TA52 16.2K OHM 1/4 W 1.00% TA52	SMART	RRI,RDI RFI
77	-	•	•	•	•
78	-			·	-
79	3J03565D	FUSE, DRAWING	94 2500	SAM JU	- 01-04
80	0TRI06009AC	TRANSISTOR	KRAIO6MIKRA2206) TP KEC	KEC	.06
81	0TRI06009AF	TRANSISTOR	KRC IOGM KEC	KEC	05,07
82 83	0TR3I9809AA 6908JB3002F	TRANSISTOR BUZZER	KTC3198-TP-Y (KTC1815)KEC C6222208P DAE YOUNG PIEZO 2KHZ 750BICHINAI	KEC DAE YOUNG	- BUZZER
84	6600RRT00IZ	SWITCH, TACT	JTP1280A6 JEIL 12V DC 50MA	JEIL	-
85	6854B50001A	JUMP WIRE	0.6MM 52MM TP TAPING SN(8MM)	-	JIG
86 87	6854850001A	JUMP WIRE	0.6MM 52MM TP TAPING SN(10MM) 0.6MM 52MM TP TAPING SN(12.5MM)	-	JI-J6,J8,JI0,JI4,JI7-J20 JI3
87	6854850001A 6854850001A	JUMP WIRE	0.6MM 52MM TP TAPING SN(12.5MM)	-	J07
89	6854B50001A	JUMP WIRE	0.6MM 52MM TP TAPING SN	-	•
90	6854850001A	JUMP WIRE	0.6MM 52MM TP TAPING SN	-	-
91 92	4920JB3003A ISBF0302418	HEAT SINK SCREW TAP TITE(S), BINDING HEAD	30*25*30 IC-12V R-B50,51,52,53,54,55,56 2PIN I-SCREW 3 + D3.0 L8.0 MSWR3/FZY	-	(IC2) (IC2)
93	9VWF0120000	SOLDER (ROSIN WIRE) RSO	DI.20	HEE SUNG	-
1 2 1	49111004	SOLDER, SOLDERING	НбЗА	-	-
94 95	59333105	FLUX	SG;0.825-0.830 KOREA F.H-206	KOKI	

9 Birst Patris Aissembl

\bigcap					CON101	
	- s		12 R3 R4 R5 R6 R7			SWIDT
_			-			
Qty	No	P/NO	DESCRIPTION	SPEC	MAKER	REMARK
1	1	6870JB8091A	PWB(PCB)	KS-PJT GOOD/BETTER DISPLAY	DOO SAN	t=1.6
	2					
1	3	6630AQ9159H	WAFER	SMAW250-09	YEON HO	CON101
	4			(
2	5	6600RRT002K	SWITCH,TACT	JTP1230A JEIL 12V DC 50MA	JEIL	SW101,102
		6600JB8005A		KPT-1105A	KYUNG IN	
1	6	-	TACT S/W	KPT-1109G	KYUNG IN	SW103
14	7	ODLLE0019AA	LED	LT1824-81-BCM TP GREEN 2		R1~R7,F1~F7
3	8	0DD414809AA	DIDDE,SWITCHING	1N4148 26MM	PYUNG CHANG	D101,102,103
					DELTA	
12	10	6854B50001A	JUMP WIRE	0.6MM 52MM TP TAPING SN (10MM)	-	J101~J112
	11					
-	12	9VWF0120000	SOLDER(ROSIN WIRE) RSO	D1.20	HEE SUNG	-
0.01	13	49111004	SOLDER, SOLDERING	Н6ЗА	-	-
0.0005	14	59333105	FLUX	SG;0.825-0.830 KOREA F.H-206	KOKI	-

9-6 PWB DIAGRAM

9-6-1 PWB Main Assembly

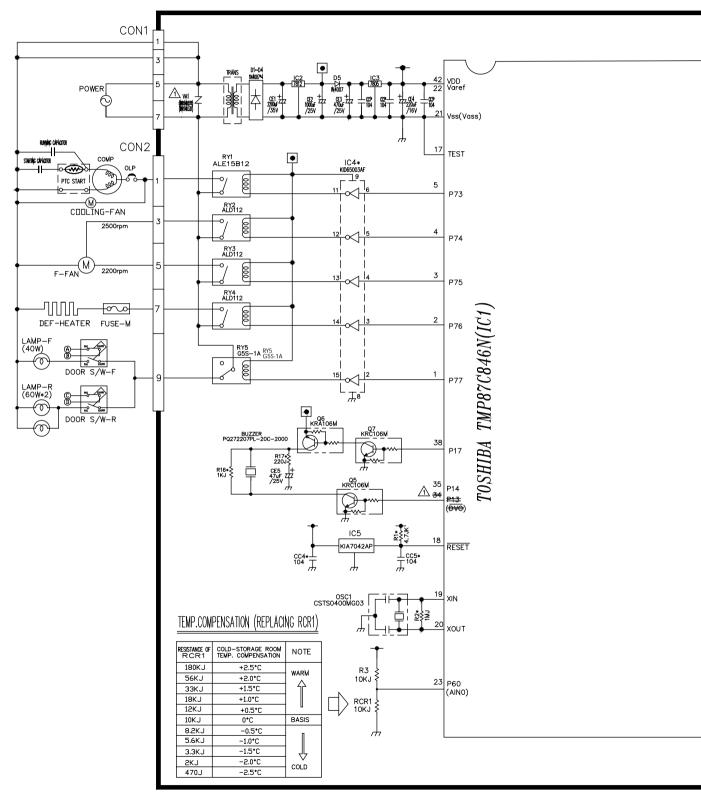
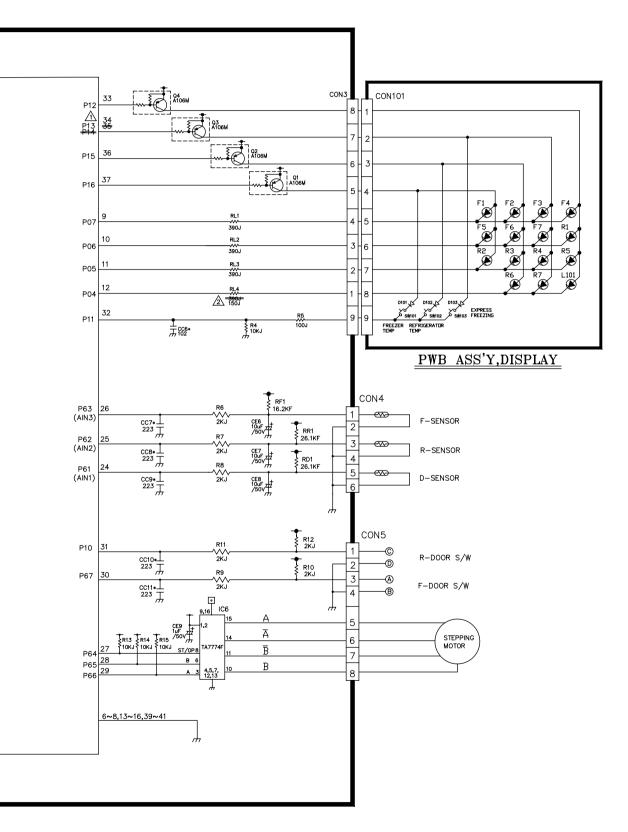
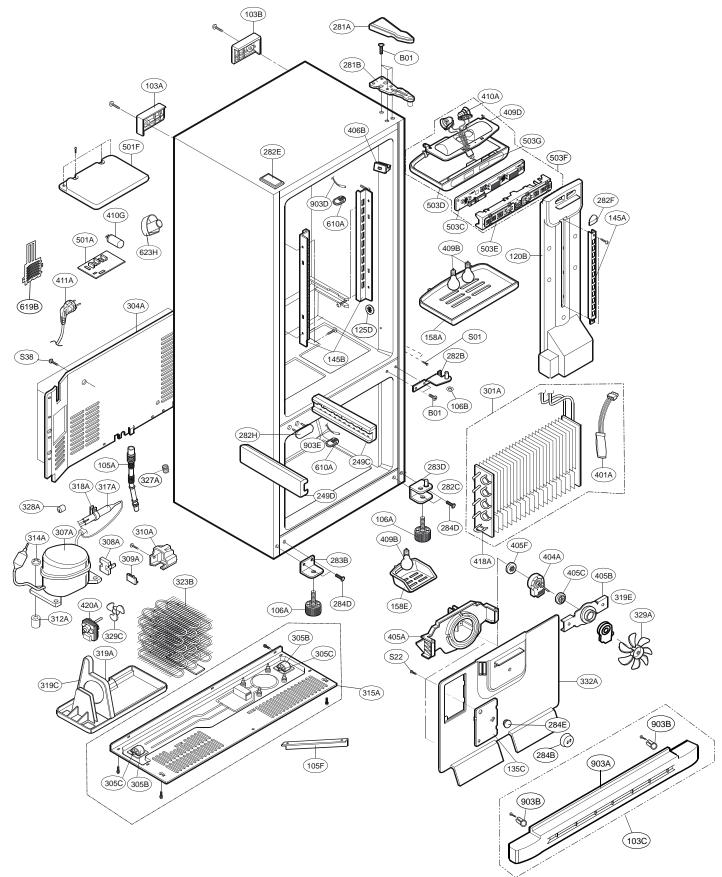


FIG.1 CIRCUIT DIAGRAM

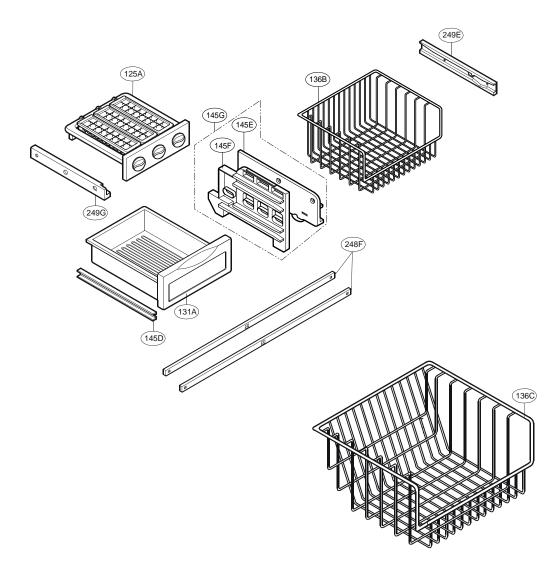


10. EXPLODED VIEW

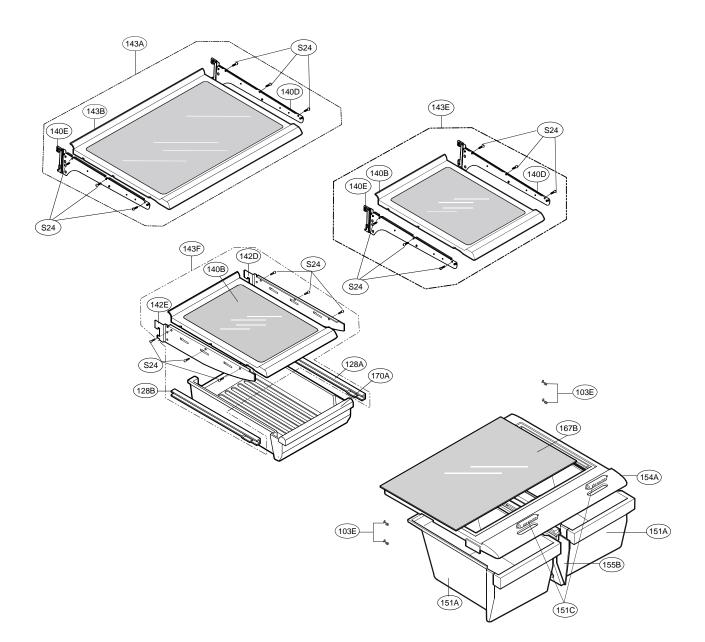
CASE PARTS



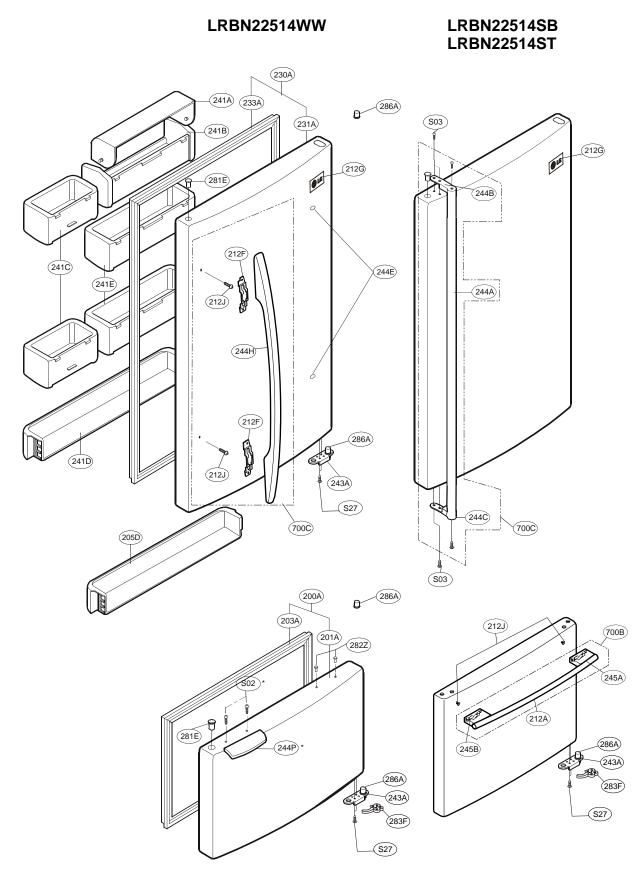
FREEZER PART



REFRIGERATOR PARTS



DOOR PARTS





P/No. 3828JL8071A

MARCH, 2009