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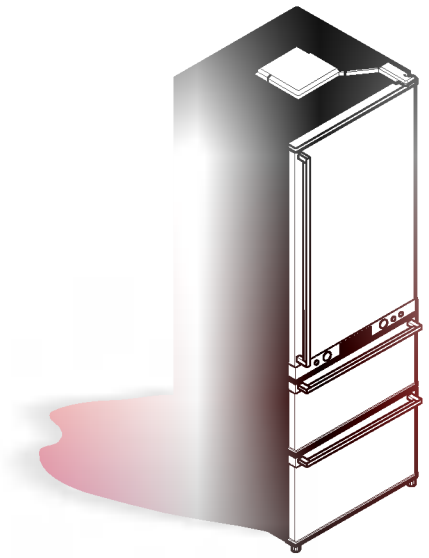
REFRIGERATOR

SERVICE MANUAL

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



MODEL: GR-J323 GR-J403 GR-J408
GR-J213 GR-J303

SAFETY INSTRUCTIONS

1. Firstly check that there is electrical leakage in the main body of the product.

2. Perform work always after removing the power plugs in handling with the part where electricity conducts through.

3. Wear a rubber gloves(insulation gloves) for preventing electrical shock accident in case of testing with power on.

4. Always check rated current, voltage and capacity in using the instruments.

5. Exercise care so that water does not enter into electrical parts around the machine room.

6. Take care so that things should not fall down by removing them cleanly on the product when leaning the product forward or backward. Especially, take care of thin things (glass panels, books).

7. Ensure to consult the repair and maintenance center shop when the cold storage cycle is damaged (to prevent that gas inside of the cycle gets a room dirty).

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1. PRODUCT SPECIFICATIONS

1-1. GR-J323 / GR-J403 / GR-J408

ITEMS		SPEC		
Rating		220 V / 50	220 V / 60	127 V / 60
Capacity	Net Capacity	297 L		
	Top Compartment	155 L		
	Middle/Bottom Compartment	142 L		
Dimensions (mm)		664(W) X 666(D) 1764(H)		
Net Weight		112 Kg (Standard:100 Kg)		
Motor Power Consumption		120 W		
Cooling Method		Indirect Cooling System		
Defrosting System	Method	Force		
	Start	Automation		
	End	Automation		
	Evaporation	Force		
Insulation		Light Polyurethane Foam		
Evaporation Dish		1 EA (Behind)		
Basket		2 EA		
Storage Container		14 EA		
Drawer		3 EA		
Shelf		1 EA		
Flap Door		1 EA		
Low temperature Catalyst Deodorization		2 EA		
Cooling Cycle	Compressor	LX72LBEG	LX67LABM	LX67LAFM
	Evaporator of Top Compartment	Fin Tube Type		
	Evaporator of Middle Compartment	Fin Tube Type		
	Condenser 2 EA	Wire Condenser, Back Plate Condenser		
	Refirgerant	R134a (160 g)		
	Refrigerant Oil	Freol@15G (310 cc)		
Defrosting Device		Heater, Sheath		

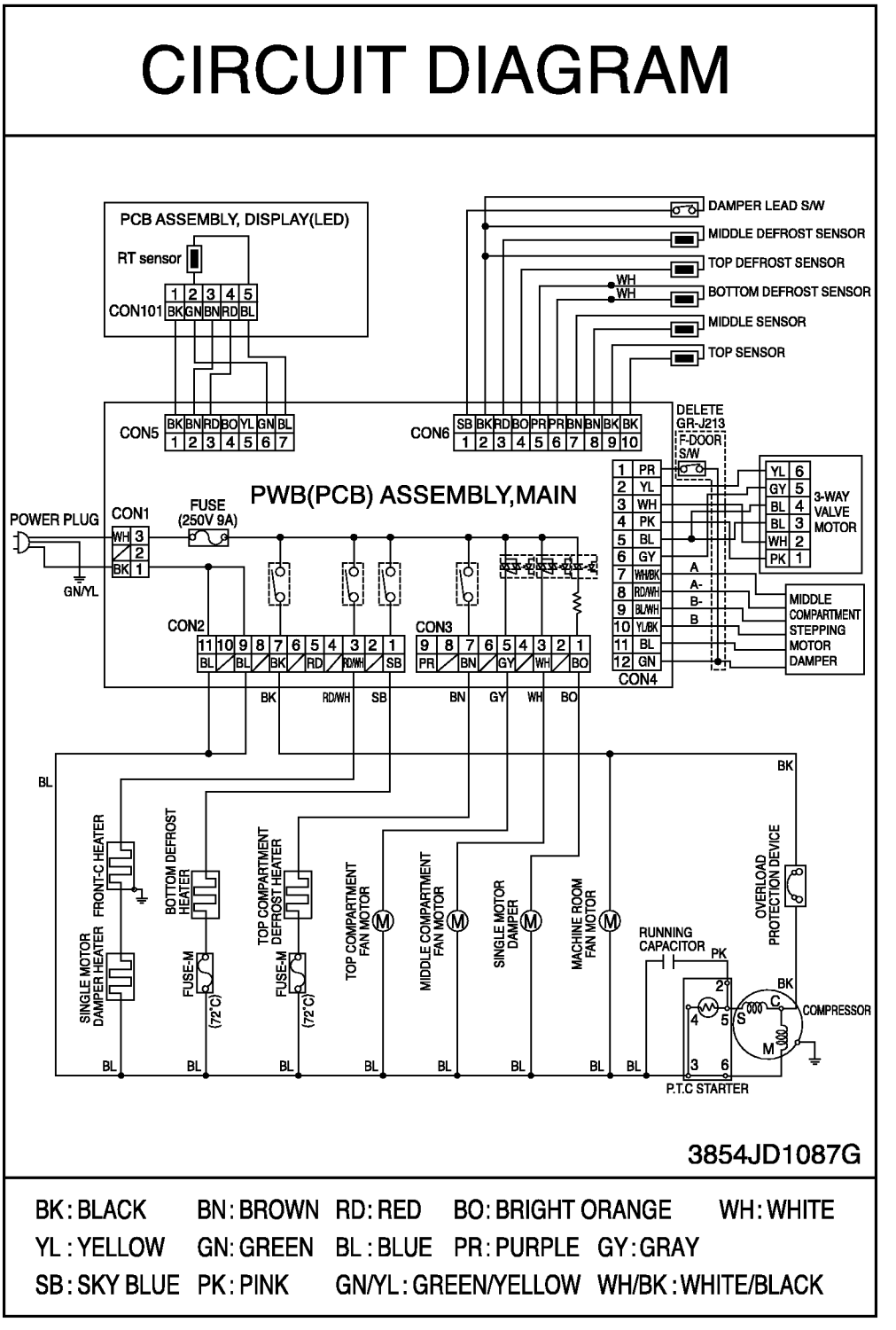
ITEMS			SPEC		
Electrical System Rating	P.T.C		P470MC	P470MD	P220MD
	Overload Protector		4TM276TFB	4TM265RFB	4TM412TFB
	Fan Motor(Top)		Ø110 Fan		
	Fan Motor(Middle)		Ø110 Fan		
	Condenser Cooling Fan Motor		Ø110 Fan		
	Defrosting Heater	Top	220 V 180 W		127 V 180 W
		Middle	220 V 180 W(Half wave 90 W)		127 V 180 W(Half wave 90 W)
	Front-C Heater		154 V 7 W		127 V 7 W
	Damper heater		66 V 3 W		35 V 3 W
	Fuse-M(Top)		Cutted at 70 °C		
	Fuse-M(Middle)		Cutted at 70 °C		
	Protection Fuse		250 V 9 A		
	Capacitor, R		-	5㎌ / 400Vac	14㎌ / 250Vac

1-2. GR-J213 / GR-J303

ITEMS		SPEC		
Rating		220 V / 50	220 V / 60	127 V / 60
Capacity	Net Capacity	196 L		
	Top Compartment	54 L		
	Middle/Bottom Compartment	142 L		
Dimensions (mm)		666(W) X 666(D) 1314(H)		
Net Weight		100 Kg		
Motor Power Consumption		120 W		
Cooling Method		Indirect Cooling System		
Defrosting System	Method	Force		
	Start	Automation		
	End	Automation		
	Evaporation	Force		
Insulation		Light Polyurethane Foam		
Evaporation Dish		1 EA (Behind)		
Basket		3 EA		
Storage Container		10 EA		
Drawer		-		
Shelf		-		
Flap Door		-		
Low temperature Catalyst Deodorization		2 EA		
Cooling Cycle	Compressor	MA69LAEG	MA57LADM	MA57LAFM
	Evaporator of Top Compartment	Fin Tube Type		
	Evaporator of Middle Compartment	Fin Tube Type		
	Condenser	Wire Condenser		
	Refirgerant	R134a (130 g)		
	Refrigerant Oil	Freol@15G (220 cc)		
Defrosting Device		Heater, Sheath		

ITEMS			SPEC		
Electrical System Rating	P.T.C		P330MC	P330MD	P6R8MD
	Overload Protector		4TM293RFB	4TM213SFB	4TM412TFB
	Fan Motor(Top)		Ø110 Fan		
	Fan Motor(Middle)		Ø110 Fan		
	Condenser Cooling Fan Motor		Ø110 Fan		
	Defrosting Heater	Top	220 V 180 W		127 V 180 W
		Middle	220 V 180 W(Half wave 90 W)		127 V 180 W(Half wave 90 W)
	Front-C Heater		154 V 7 W		127 V 7 W
	Damper heater		66 V 3 W		35 V 3 W
	Fuse-M(Top)		Cutted at 70 °C		
	Fuse-M(Middle)		Cutted at 70 °C		
	Protection Fuse		250 V 9 A		
	Capacitor		-	5㎌ / 400Vac	12㎌ / 250Vac

2. CIRCUIT DIAGRAM



BK : BLACK	BN : BROWN	RD : RED	BO : BRIGHT ORANGE	WH : WHITE
YL : YELLOW	GN : GREEN	BL : BLUE	PR : PURPLE	GY : GRAY
SB : SKY BLUE	PK : PINK	GN/YL : GREEN/YELLOW	WH/BK : WHITE/BLACK	

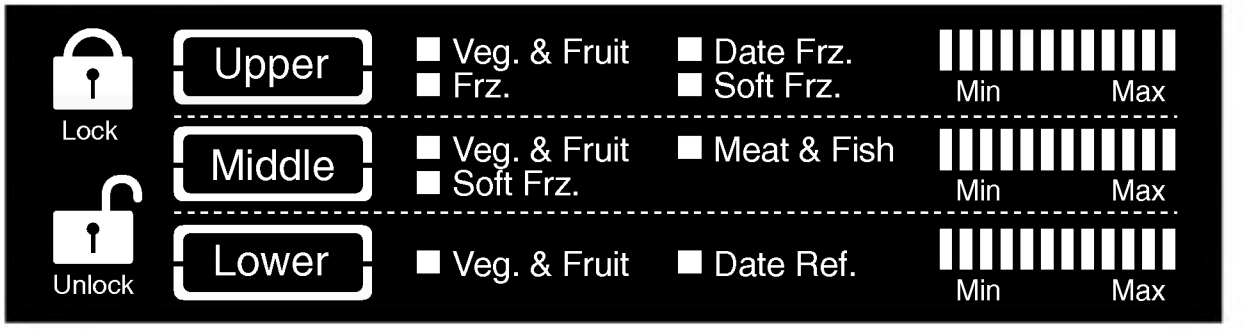
3. MICOM FUNCTION AND EXPLANATIONS OF CIRCUITS

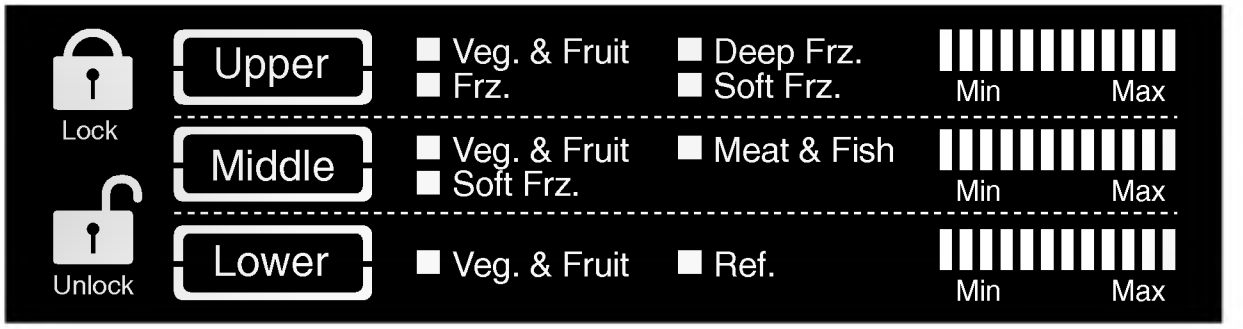
3-1. EXPLANATION OF FUNCTION

3-1-1. DISPLAY PART

(1) GR-J323 / GR-J403 / GR-J408

NOTCH	Date Frz./ Deep Frz.	Frz.			Meat & Fish			Soft Frz.	Veg. & Fruit			Date Ref./ Ref.		
		Min	Mid	Max	Min	Mid	Max		Min	Mid	Max	Min	Mid	Max
Temperature setting	-25°C	-15°C	-18°C	-21°C	-1.0°C	-2.5°C	-4.0°C	-7.0°C	4.5°C	3.5°C	2.5°C	5°C	3°C	1°C

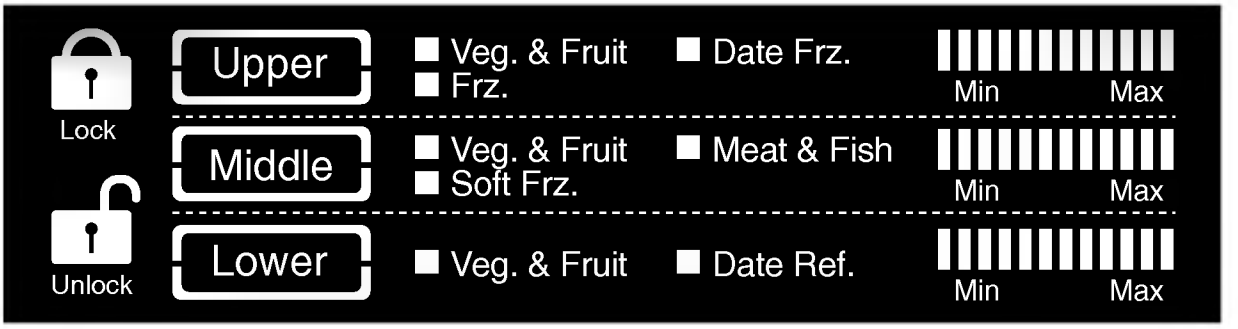


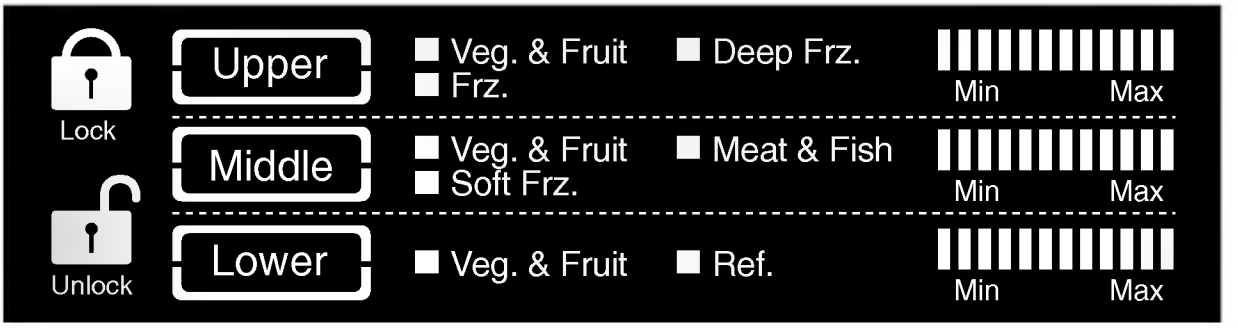


1. MICOM becomes "Lock" status in initial application of power, and the upper room is indicated as "Frz." "Mid", the middle room as "Veg. & Fruit" "Mid", and the lower room as "Veg. & Fruit" "Mid".
2. MICOM maintains the previous display status in power failure and re-application of power.
3. Buzzer sound neither ring ever pressing the button in "Lock" status, nor performs function.

(2) GR-J213 / GR-J303

NOTCH	Date Frz./ Deep Frz.	Frz.			Meat & Fish			Soft Frz.	Veg. & Fruit			Date Ref./ Ref.		
		Min	Mid	Max	Min	Mid	Max		Min	Mid	Max	Min	Mid	Max
Temperature setting	-22℃	-17℃	-18℃	-19℃	-1.0℃	-2.5℃	-4.0℃	-7.0℃	4.5℃	3.5℃	2.5℃	5℃	3℃	1℃





1. MICOM becomes “Lock” status in initial application of power, and the upper room is indicated as “Frz.” “Mid”, the middle room as “Veg. & Fruit” “Mid”, and the lower room as “Veg. & Fruit” “Mid”.
2. MICOM maintains the previous display status in power failure and re-application of power.
3. Buzzer sound neither ring ever pressing the button in “Lock” status, nor performs function.

3-1-2. TYPE OF FOOD/SELECTION OF KEEPING TEMPERATURE

(1) Keeping food per compartment

GR-J323 / GR-J403 / GR-J408

Function (GR-J323)	Upper Compartment	Middle Compartment	Lower Compartment
Date Frz. / Deep Frz.	●		
Frz.	●		
Soft Frz.	●	●	
Meat & Fish.		●	
Veg & Fruit	●	●	●
Date Ref / Ref.			●

GR-J213 / GR-J303

Function (GR-J213)	Upper Compartment	Middle Compartment	Lower Compartment
Date Frz. / Deep Frz.	●		
Frz.	●		
Soft Frz.		●	
Meat & Fish.		●	
Veg & Fruit	●	●	●
Date Ref / Ref.			●

(2) In selecting type of food

1. Set the Micom to “Unlock” status by pressing the “Lock/Unlock” button for more than 2 seconds.
2. Set the Micom to Select of Food Type by pressing the “FOOD” button at the right side of display.
3. Select food to keep by turning the “Select” dial at the right side of display.
4. Complete selection of food keeping by pressing the “Lock/Unlock” button. In this case, the Micom automatically becomes as lock status and selection of food type is completed if a minute has passed without pressing the “Lock/Unlock” button.

(3) In selecting keeping temperature

1. Set the Micom to “Unlock” status by pressing the “Lock/Unlock” button for more than 2 seconds.
2. Set the Micom to Select of Keeping Temperature by pressing the “TEMP” button at the right side of display.
3. Select NOTCH to keep by turning the “Select” dial at the right side of display.
4. Complete selection of food keeping by pressing the “Lock/Unlock” button. In this case, the Micom automatically becomes as lock status and selection of food type is completed if a minute has passed without pressing the “Lock/Unlock” button.

3-1-3. TEMPERATURE CONTROL AT UPPER, MIDDLE AND LOWER COMPARTMENT

(1) Temperature control at upper compartment

1. Turn COMP, upper compartment fan motor depending on temperature of the upper compartment sensor and cool them by opening the 3-way valve to the upper compartment.
2. However, cooling of the upper compartment starts after cooling of the Middle/lower compartment is completed while the middle/lower compartment is cooling (Max 25 min).

(2) Temperature control at middle/lower compartment

1. Turn COMP, middle compartment fan motor depending on temperature of the middle/lower compartment sensor and cool them by opening the 3-way valve to the middle/lower compartment ,and opening the middle/lower damper.
2. However, cooling of the middle/lower compartment starts after cooling of the upper compartment is completed while the upper compartment is cooling (Max 35 min).

(3) Operation conditions of COMP

1. COMP turns on by the upper compartment sensor and lower compartment sensor.
2. COMP turns off by the upper compartment sensor, middle compartment sensor and lower compartment sensor.

(4) Operation conditions of 3-way valve

1. Open the upper, middle and lower compartment valve by the upper, middle or lower compartment sensor .
2. Perform operation for minimum 25 minutes (for 35 minutes at middle, lower compartment) upon request of "open" (unsatisfactory temperature) at the other side while COMP operates with the valve opened in one side, and then cutoff the valve to other side. In this case, immediately cutoff the valve if temperature is met even if 25 minutes (35 minutes for middle, lower compartment) have not passed.
3. In input of initial power, cool from the upper compartment where the upper compartment is Data Frz. (Deep Frz), Frz. when all upper/middle/lower compartment is not satisfactory, and firstly cool from the middle, lower compartment for the other case.

3-1-4. LOCK FUNCTION (DISPLAY BUTTON LOCK/UNLOCK)

1. The "Lock" LED is turned on in the Lock status in application of refrigerator power.
2. Turn the "Unlock" LED by pressing the Lock/Unlock button for 2 seconds or more to allow operation of the display button.
3. Buzzer sound neither rings ever by pressing any button other than the Lock/Unlock button, nor performs function with the "Lock" LED turned on.
4. The "Lock" LED automatically turns on and becomes lock status unless operating the display button for more than a minute with the "Unlock" LED turned on.

3-1-5. FRONT-C HEATER CONTROL

1. A heater for prevention of dewing is installed on the FRONT-C part between the middle compartment and the lower compartment, and turns on at the time of COMP ON and for 20 minutes after COMP OFF.
2. It turns off in the test mode (turn on after power off for normal operation).

3-1-6. BUZZER RINGING

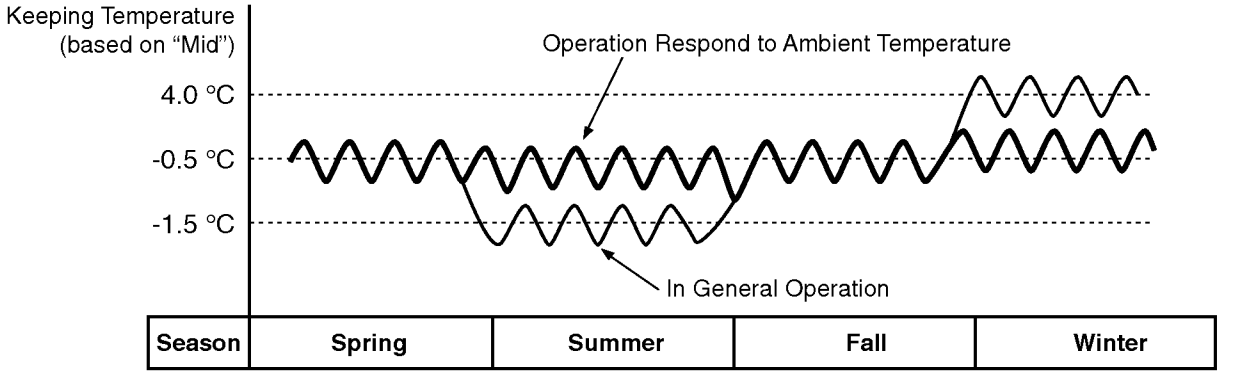
1. "Ding~Dong~" sound rings when pressing the front display button.
2. No buzzer rings if pressing the button not according to the operation order.

3-1-7. POWER FAILURE COMPENSATION FUNCTION

1. Previous operation is performs even applying power again after power failure. However, error status or test mode status is excluded.

3-1-8. OPERATION RESPOND TO AMBIENT TEMPERATURE

1. This is function of maintaining keeping temperature constantly irrespective of season by compensating for the in-refrigerator temperature through ambient temperature of the refrigerator to prevent that the in-refrigerator temperature changes according to ambient temperature (weak cold in winter, excess cold in summer).

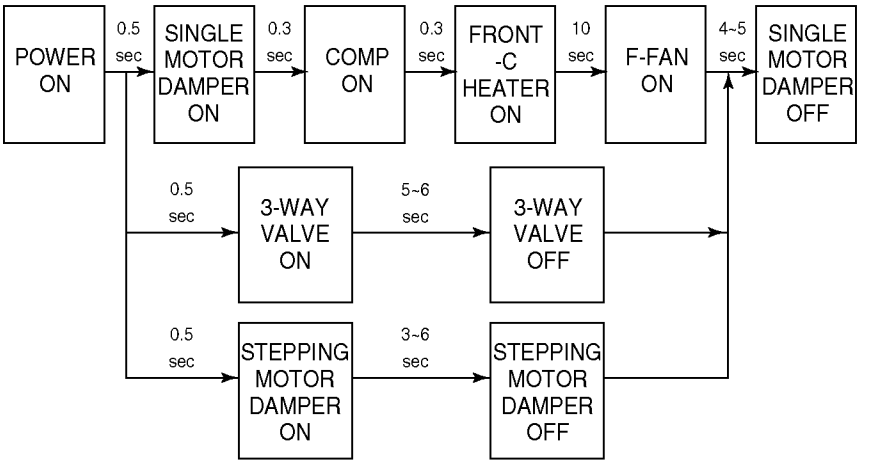
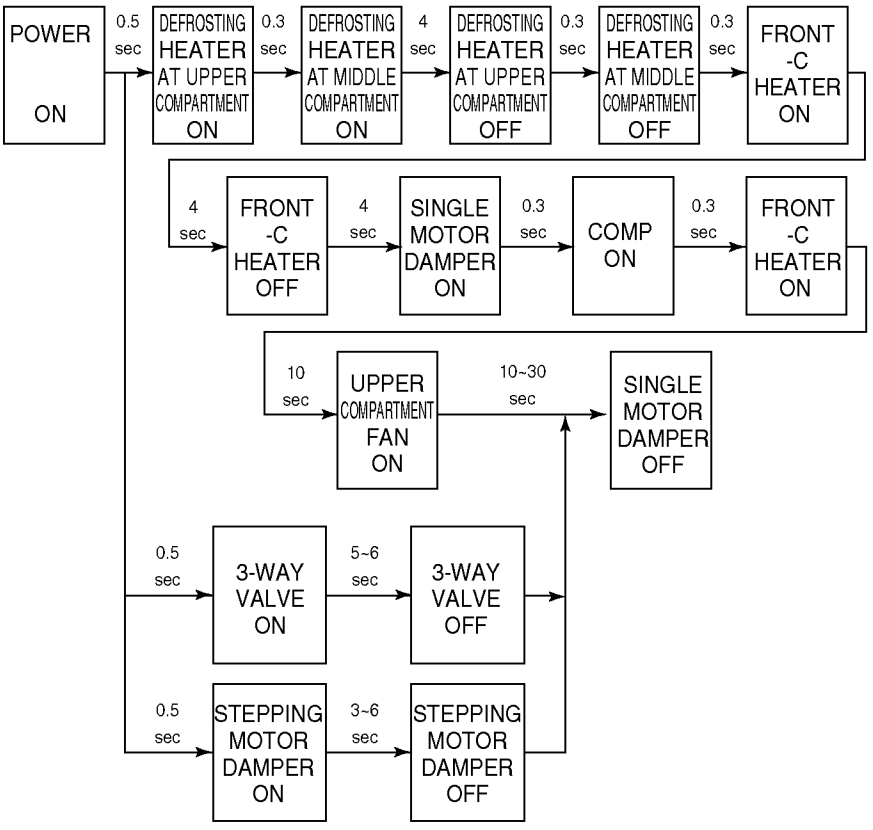


3-1-9. DEFROSTING (REMOVAL OF FROST)

1. Defrosting is simultaneously performed by using the defrosting heater at the upper compartment and the middle compartment whenever sum of compressor operation time reaches to 6 hours.
2. Defrosting is started if sum of compressor operation time reaches to 4 hours in input of initial power (or in returning from power failure).
3. Complete defrosting function where defrosting sensor temperature of each room reaches to 7°C (16°C for GR-J213) for the upper compartment, 16°C for the middle compartment respectively, after starting defrost work.
   However, poor defrost is indicated if not reaching to 7°C (16°C for GR-J213) for the upper compartment, 16°C for the middle compartment respectively 2 hours after starting defrost (See 3-1-11 Failure Diagnosis Function).
4. Poor defrost is indicated if the defrosting sensor is poor, and defrosting of the relevant room is not done.

3-1-10. SEQUENTIAL OPERATION OF ELECTRICAL PARTS

Electrical parts such as COMP, defrosting heater at the upper & middle compartment, fan motor at the upper & middle compartment, single motor damper and FRONT-C heater sequentially operate as followers for preventing noise and damage of parts occurred by that various parts operate at the same time in input of initial power on and after test closing (including temporary power failure, either):

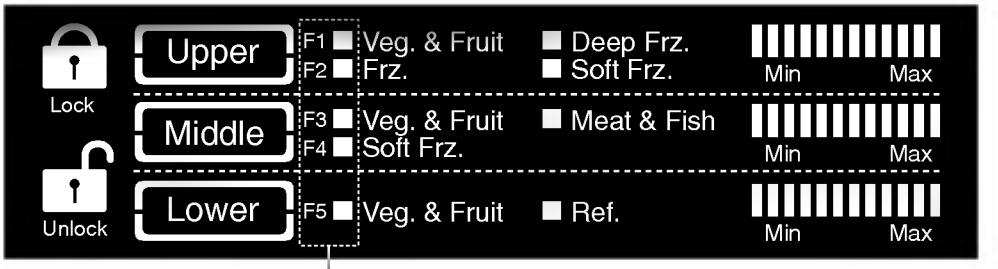
Function		Operation Sequence	Remarks
In initial power on	When defrosting sensor temperature at the upper compartment is more than 45°C (In purchasing, movement)		No initial operation is done if error occurs during operation.
	When defrosting sensor temperature at the upper compartment is less than 45°C (In power failure, service)		

3-1-11. FAILURE DIAGNOSIS FUNCTION

(1) Failure Mode

1) GR-J323 / GR-J403 / GR-J408

1. Failure diagnosis function is intended in order that service is easily done when failure to affect performance of the product during use occurs.
2. Function is neither done, nor buzzer sound rings even when pressing the button in occurrence of failure.
3. The product returns to normal operation if failure is released during display of failure code in occurrence of failure (RESET).
4. LEDs other than failure code turn off in occurrence of failure.

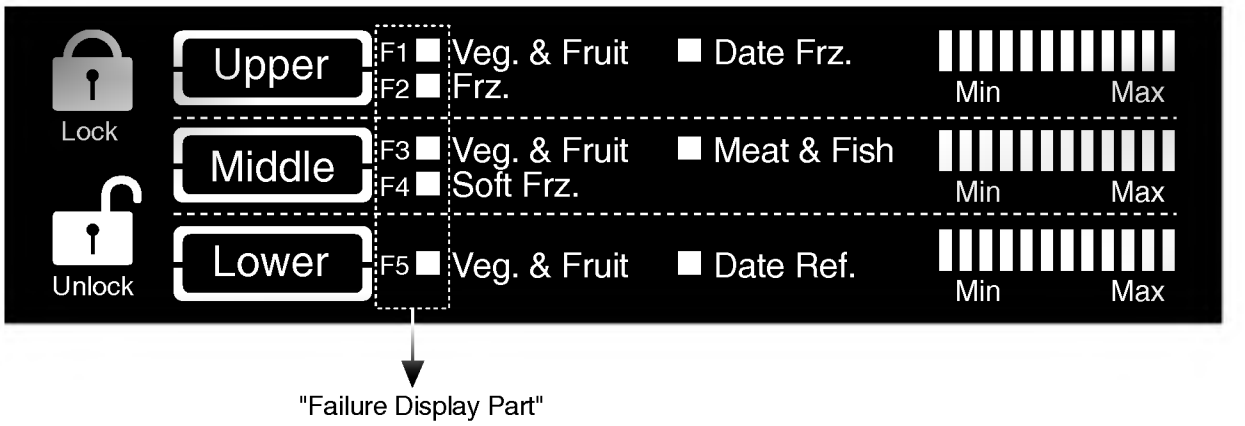


◎: ON ●: OFF

NO	Item	Failure Display (Food LED) F1 F2 F3 F4 F5	Failures	Remarks
1	Failure of upper compartment (K1) sensor	◎ ● ● ● ●	Upper compartment sensor is disconnected or shorted	* Check wiring of respective relevant sensor.
2	Failure of middle compartment (K2) sensor	● ◎ ● ● ●	Middle compartment sensor is disconnected or shorted	
3	Failure of lower compartment (K3) sensor	● ● ◎ ● ●	Lower compartment sensor is disconnected or shorted	
4	Failure of upper compartment defrosting sensor	● ● ● ◎ ●	Upper compartment defrosting sensor is disconnected or shorted	
5	Failure of middle compartment defrosting sensor	● ● ● ● ◎	Middle compartment defrosting sensor is disconnected or shorted	
6	sensor Failure of ambient temperature sensor	Note 1)	Ambient temperature sensor is disconnected or shorted	
7	Failure of single motor damper	◎ ◎ ● ● ●	When ON/OFF of the reed-S/W is not dectected even when driving the single motor damper for 2 minutes	Damper motor damaged, frozen, coil damaged, driving IC(photo coupler) failure
8	Poor defrosting at upper compartment	◎ ◎ ◎ ◎ ●	When defrosting sensor at the upper compartment does not reach to more than 7°C even when two hours have passed after starting defrost	Short of temperature fuse, short of heater, clogging of drain, poor heater driving relay
9	Poor defrosting at middle compartment	● ◎ ◎ ◎ ◎	When defrost sensor at the middle compartment does not reach to more than 16°C even when two hours have passed after starting defrost	Short of temperature fuse, short of heater, clogging of drain, poor heater driving relay
10	Poor communication	◎ ◎ ◎ ◎ ◎	When no communication is consecutively done for 30 seconds	Taking out of connector, Poor TR on communication part

Note 1) All LEDs except for failure display LED (F1, F2, F3, F4, F5) turn on if simultaneously pressing both "FOOD" button and "TEMP" button for a second where poor ambient temperature sensor exists.

2) GR-J213 / GR-J303



◎: ON ●: OFF

NO	Item	Failure Display (Food LED) F1 F2 F3 F4 F5	Failures	Remarks
1	Failure of upper compartment (K1) sensor	◎ ● ● ● ●	Upper compartment sensor is disconnected or shorted	* Check wiring of respective relevant sensor.
2	Failure of middle compartment (K2) sensor	● ◎ ● ● ●	Middle compartment sensor is disconnected or shorted	
3	Failure of lower compartment (K3) sensor	● ● ◎ ● ●	Lower compartment sensor is disconnected or shorted	
4	Failure of upper compartment defrosting sensor	● ● ● ◎ ●	Upper compartment defrosting sensor is disconnected or shorted	
5	Failure of middle compartment defrosting sensor	● ● ● ● ◎	Middle compartment defrosting sensor is disconnected or shorted	
6	Failure of ambient Temperature sensor	Note 1)	Ambient temperature sensor is disconnected or shorted	
7	Failure of single motor damper	◎ ◎ ● ● ●	When ON/OFF of the reed-S/W is not dectected even when driving the single motor damper for 2 minutes	Damper motor damaged, frozen, coil damaged, driving IC(photo coupler) failure
8	Poor defrosting at upper compartment	◎ ◎ ◎ ◎ ●	When defrosting sensor at the upper compartment does not reach to more than 7°C even when two hours have passed after starting defrost	Short of temperature fuse, short of heater, clogging of drain, poor heater driving relay
9	Poor defrosting at middle compartment	● ◎ ◎ ◎ ◎	When defrost sensor at the middle compartment does not reach to more than 16°C even when two hours have passed after starting defrost	Short of temperature fuse, short of heater, clogging of drain, poor heater driving relay
10	Poor communication	◎ ◎ ◎ ◎ ◎	When no communication is consecutively done for 30 seconds	Taking out of connector, Poor TR on communication part

(2) Load Operation in Failure

NO	ITEM	Classification								
		COMP	UPPER COMPARTMENT FAN	MIDDLE COMPARTMENT FAN	DEFROSTING HEATER OF UPPER COMPARTMENT	DEFROSTING HEATER OF MIDDLE COMPARTMENT	STEPPING MOTOR DAMPER	SINGLE MOTOR DAMPER	3-WAY VALVE	FRONT-C HEATER
1	Normal	O	O	O	O	O	O	O	O	O (Linked with COMP. However, FRONT-C heater turns off for 15 minutes and turn on again if the heater turn on time continues for more than 40 minutes)
2	Failure of Upper compartment (K1) sensor	15 min ON/ 15 min OFF	O	O	O	O	O	O		
3	Failure of Middle compartment (K1) sensor	O	O	O	O	O	15 min OPEN/ 15 min CLOSE	O		
4	Failure of Upper compartment (K1) sensor	O	O	O	O	O	O	10 min OPEN/ 15 min CLOSE		
5	Failure of Upper compartment defrosting sensor	O	O	O	Don't defrost (immediately return)	O	O	O		
6	Failure of Middle compartment defrosting sensor	O	O	O	O	Don't defrost (immediately return)	O	O		
7	Failure of ambient Temperature sensor	O	O	O	O	O	(No compensation of ambient temperature)	(No compensation of ambient temperature)		
8	Poor defrosting at upper compartment	O	O	O	O	O	O	O		
9	Poor defrosting at middle compartment	O	O	O	O	O	O	O		
10	Failure of single motor damper	O	O	O	O	O	O	Perform normal initialization by checking operation in the cycle of 1 hour		
11	Poor communication	O	O	O	O	O	O	O		

3-1-12. TEST FUNCTION

1. Test function is intended to check function of PCB and the product and find a failure part with failure status.
2. The test S/W exists on the main PCB, and ends the test mode after 2 hours irrespective of the test mode, and then returns to normal status.
3. Function button is neither detected, nor button recognition sound comes out during the test mode.
4. Ensure to take the power cords out in completion of the test mode so that normal status will be arrived.
5. Release the test mode and display the failure mode if failure such as sensor failure during the test mode.
6. No test mode is performed even when pressing the test button during display of failure code.

MODE	OPERATION	DETAILS	REMARKS
TEST1	Press the test S/W once	1. COMP (* Fan motor at machine room) ON 2. Defrost heater OFF at upper, middle compartment. 3. FRONT-C heater OFF 4. Fan motor at upper/middle compartment, damper at middle/lower compartment and 3-way valve operates to cool the upper/middle/lower compartment at the same time for approximately 180 minutes, and alternatively cool the upper/middle&lower compartment in interval of 16/24 minute. 5. For display, the only "Min" LED of the upper room turns on.	Returns to normal status when maximum 2 hours have passed.
TEST2	Press the test S/W once in the test mode 1	1. COMP (* Fan motor at machine room) OFF 2. Fan motor OFF at upper, middle compartment 3. Defrost heater ON at upper, middle compartment 4. FRONT-C heater ON 5. All dampers at middle, lower compartment are closed. 6. 3-way valve maintains previous status. 7. For display, the only "MIN" LED of the upper room turns on.	Defrost sensor at the upper compartment performs initialization at more than 7 °C, and middle defrost sensor at more than 16 °C (COMP delay for 7 minutes)
Normal status	Press the test S/W 3 times in the test mode 2	Returns to initial status	COMP operates after delay for 7 minutes

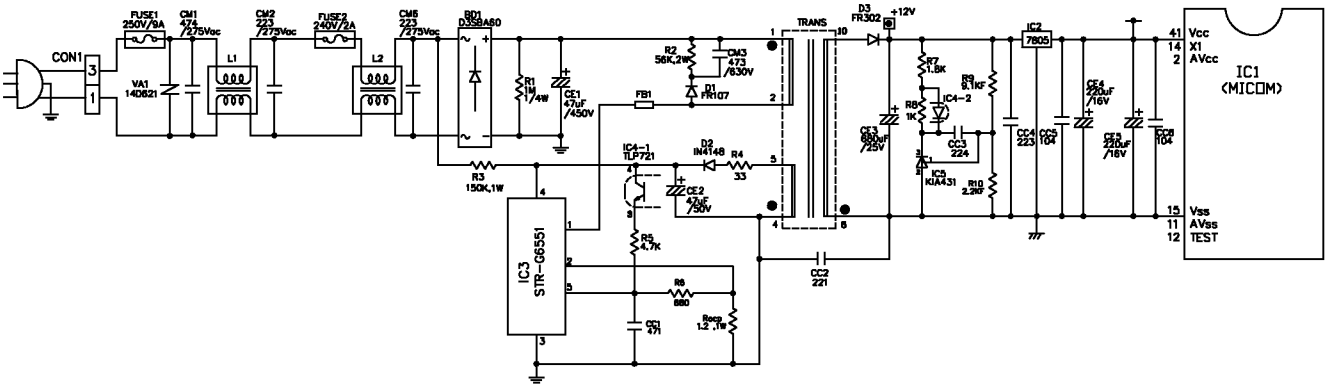
• LED check function
All LEDs turn on if pressing both "FOOD" button and "TEMP" button at the same time for 1 second or more, and display the previous status if releasing the button.

• FRONT-C Heater touching inspection mode
The FRONT-C heater consecutively turns on for 5 minutes and is then released if pressing both "LOCK/UNLOCK" button and "TEMP" button for 5 seconds or more. It is released if pressing them again for 5 senconds or more.
- Release check: LED on the temperature adjusting part turns on with pressing for 5 seconds or more.
- Input check: LED on the compartment selection part turns on with pressing for 5 seconds or more.

3-2. EXPLANATION OF CIRCUITS

3-2-1. POWER CIRCUIT

Power circuits consist of SMPS (Switching Mode Power Supply) power, and the SMPS consists of the rectification part (BD1, CE1) to convert AC voltage to DC voltage, the switching part (IC3) to switch the converted DC voltage, a transformer to transfer energy of the primary side on the switching terminal, secondary side power to supply power to the MICOM and IC and the feed back part (IC4, IC5) to feedback the secondary side voltage to the primary side of transformer in order to maintain it uniformly.



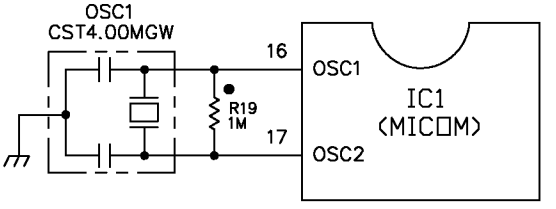
Caution.: Take a measure after more than 3 minutes have passed after removing the power cords in abnormal operation of circuits since high voltage (DC310V) is maintained at the power terminal. Otherwise, it may cause electric shock.

Voltage of each part is as follows:

Part	Both ends of VA1	Both ends of CE1	Both ends of CE2	Both ends of CE3	Both ends of CE4
Voltage	220 Vac	310 Vdc	16 Vdc	12.5 Vdc	5 Vdc

3-2-2. OSCILLATION CIRCUIT

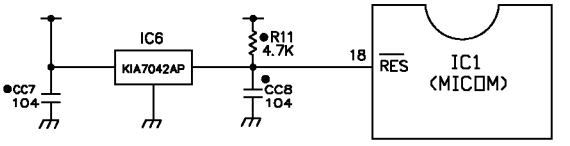
Oscillation circuits are intended to generate clock for synchronization for information transmission/receipt of logic elements inside of the IC1 (MICOM) and generate basic time for time calculation. Rated parts must be used since the OSC1 does not operate or time calculated at the IC1 changes where SPEC changes.



3-2-3. RESET CIRCUIT

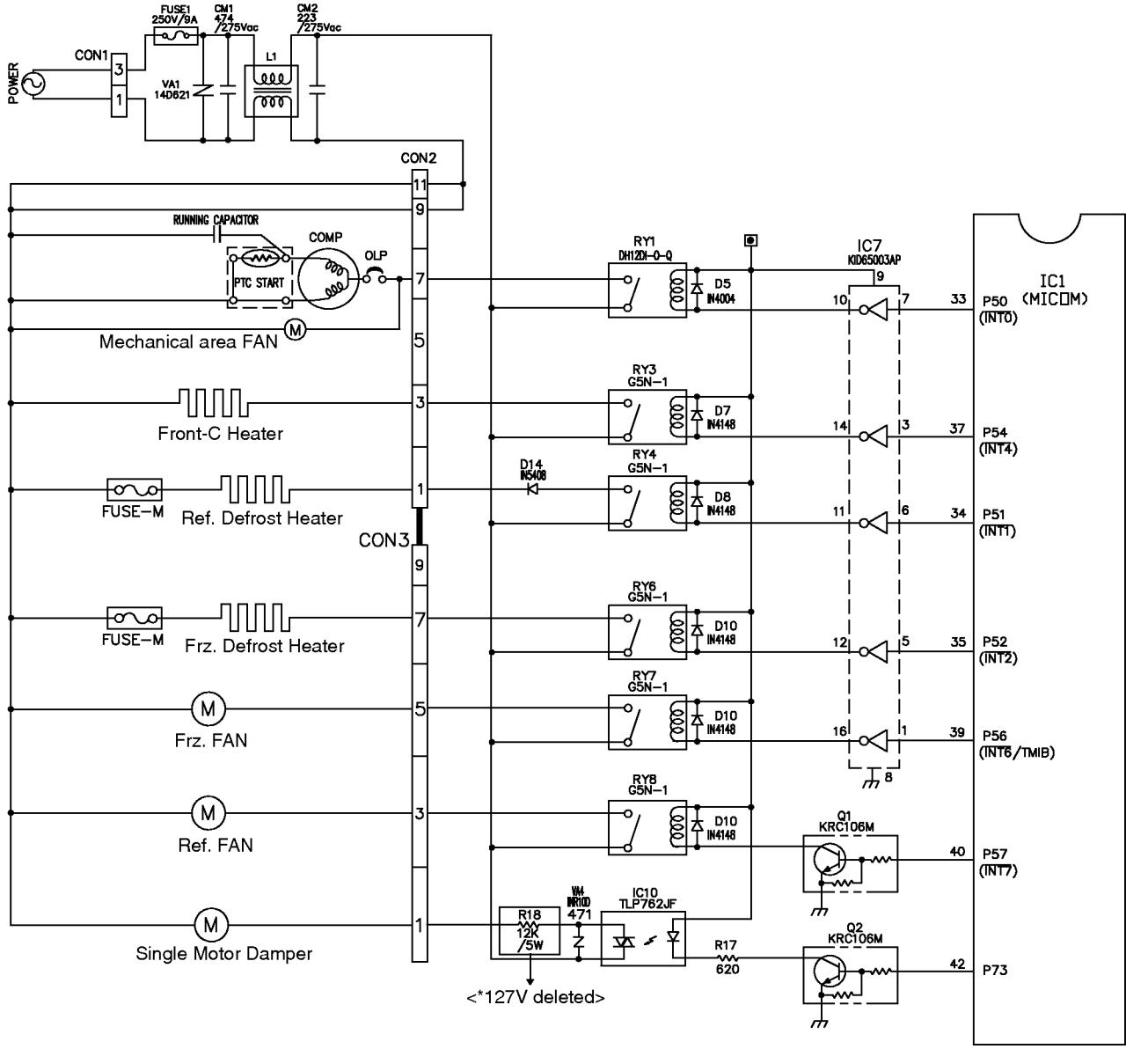
The reset circuits are intended so that the whole of function is started at the initial status by initializing various parts such as ram inside of the MICOM (IC1) when power is applied to MICOM again in input of initial power or by temporary power failure. "LOW" voltage is applied to the reset terminal of MICOM for the fixed time (10ms) at the start of power input.

During general operation, the reset terminal is at 5V (No MICOM operates in case of poor reset IC).



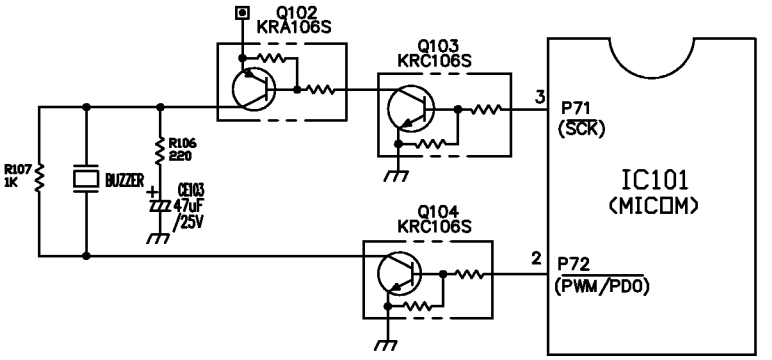
3-2-4. LOAD/BUZZER DRIVE CRICUIT

(1) Load Drive Circuit

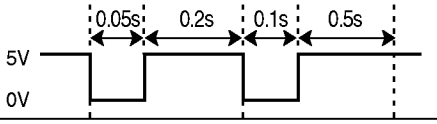
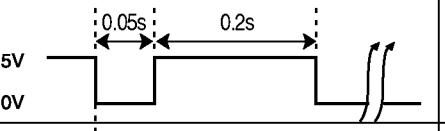
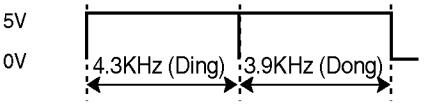
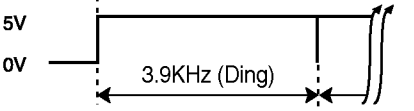


Type of Load		COMP, Mechanical Area FAN	UPPER FAN MOTOR	UPPER DEFROST HEATER	MIDDLE FAN MOTOR	MIDDLE DEFROST HEATER	SINGLE MOTOR DAMPER	FRONT-C HEATER
Measuring Point(IC7)		No.10	No.16	No.12	Q1 Collector	No.11	Q2 Colletor	No.14
Status	ON	Within 1V						
	OFF	11 ~ 13 V						

(2) Buzzer Drive Circuit ※ **Located at Display PCB**

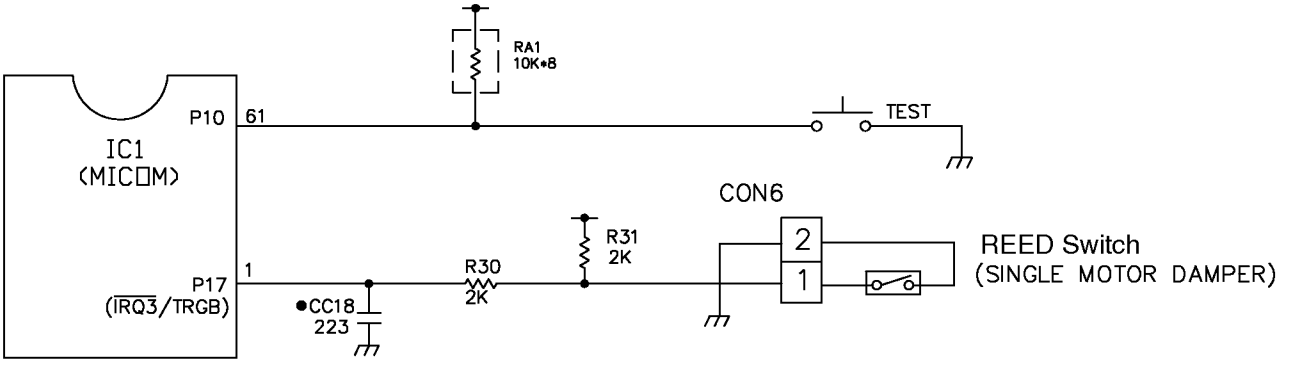


[LED MODULE]

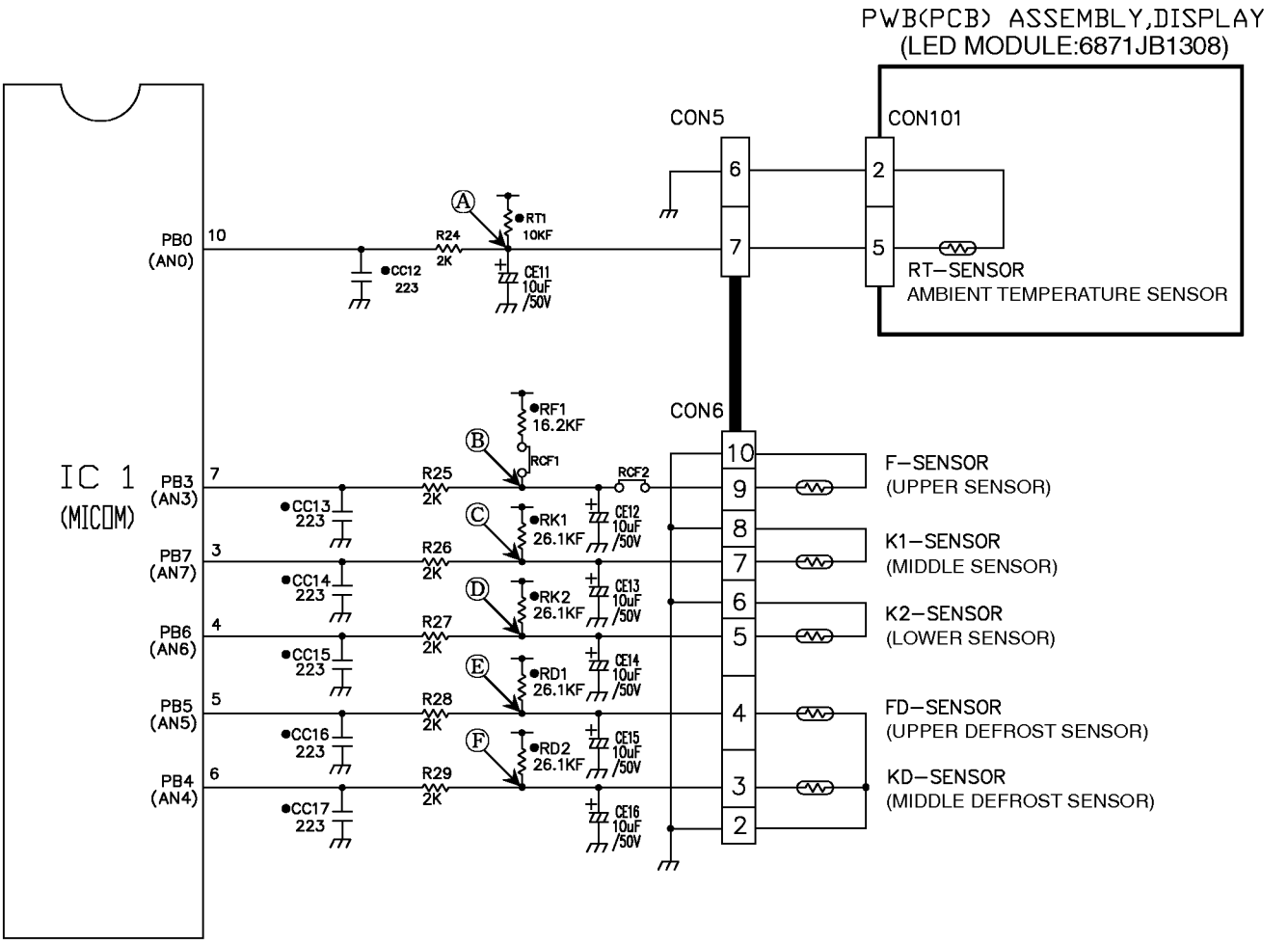
Status / Measuring part	Ding-Dong sounds when a display button is pressed	Ding sounds when an incorrect button is pressed	OFF
IC101 (No.61 pin)			5V
IC101 (No.62 pin)			0V

3-2-5. SWITCH INPUT CIRCUIT

Following circuits are input circuits for detecting signal of the test switch for checking refrigerator or the reed switch of the single motor damper.



3-2-6. TEMPERATURE SENSING CIRCUIT



Above circuits consist of the upper sensor, middle sensor, lower sensor for adjusting setup temperature at the upper, middle and lower compartment, the ambient temperature sensor to detect ambient air temperature, the upper defrost sensor and the middle defrost sensor attached to the evaporator at the upper, middle compartment to detect the defrost return temperature. Status in short or open are as follows:

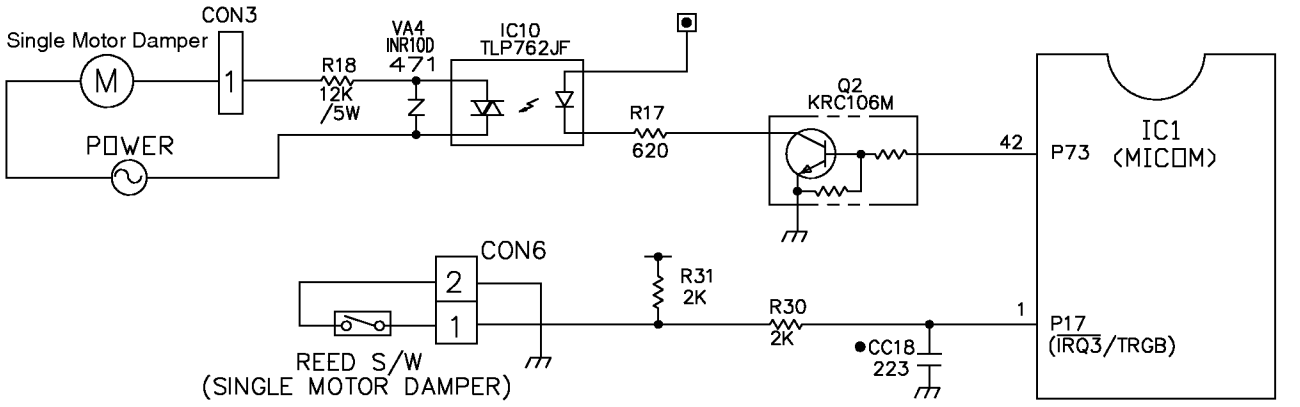
Sensor	Check points	Normal (-30 °C ~ 50 °C)	In Short	In Open
Ambient temp. Sensor	POINT ☐Voltage	0.5V ~ 4.5V	0V	5V
Upper Sensor	POINT ☐Voltage			
Middle Sensor	POINT ☐Voltage			
Lower Sensor	POINT ☐Voltage			
Upper Defrost Sensor	POINT ☐Voltage			
Middle Defrost Sensor	POINT ☐Voltage			

3-2-7. TEMPERATURE SENSING CIRCUIT

1.Temperature adjustment at the lower compartment consists of the circuit part for driving the damper, as electronic single motor damper, to open or close the baffle and the reed switch part to detect open/close status of the damper.

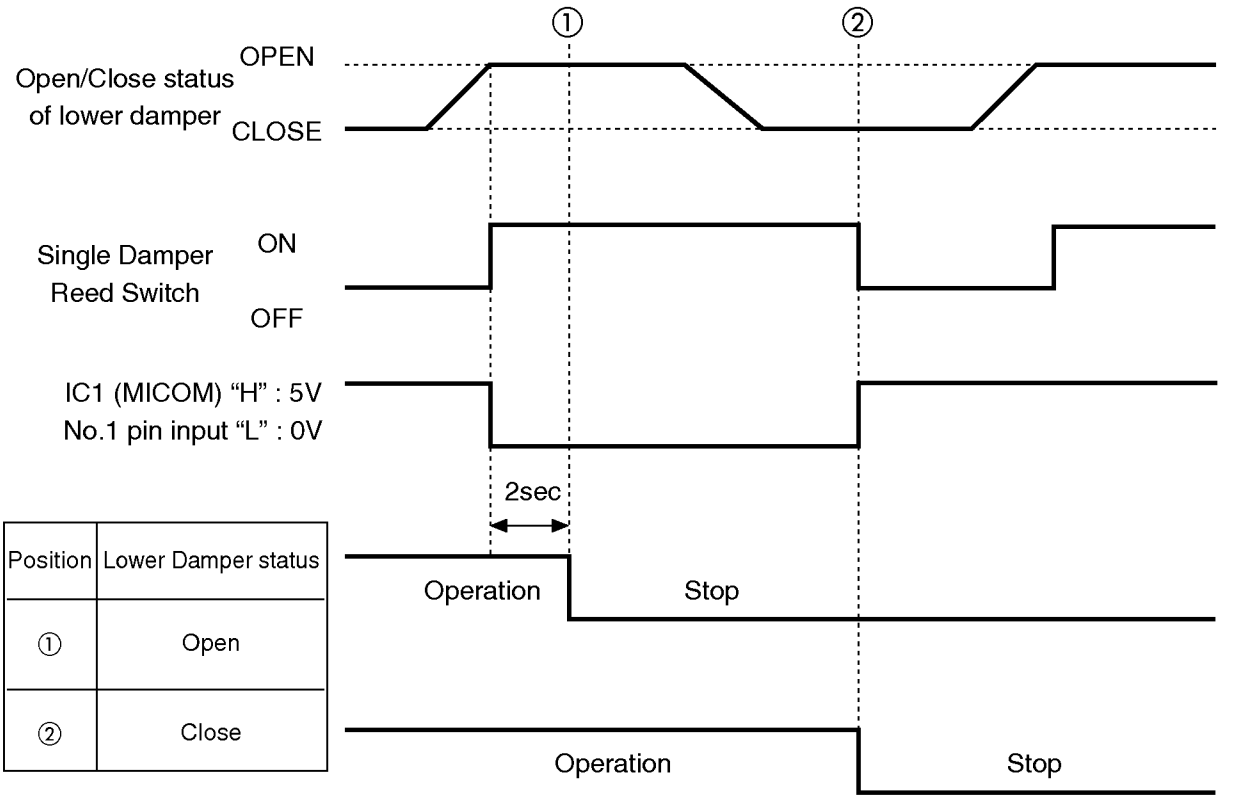
2. Drives the motor, and if there is no status change of the reed switch within 2 minutes, determines it as failure and displays as failure (See 3-1-11. Failure Diagnosis Function).

3. Rotates once for 15 seconds irrespective of temperature to detect damper status in input of initial power (initial drive inspection).



4. Open/Close of the damper, status of the reed switch and No.1 pin input of the IC1 (MICOM) are as follows:

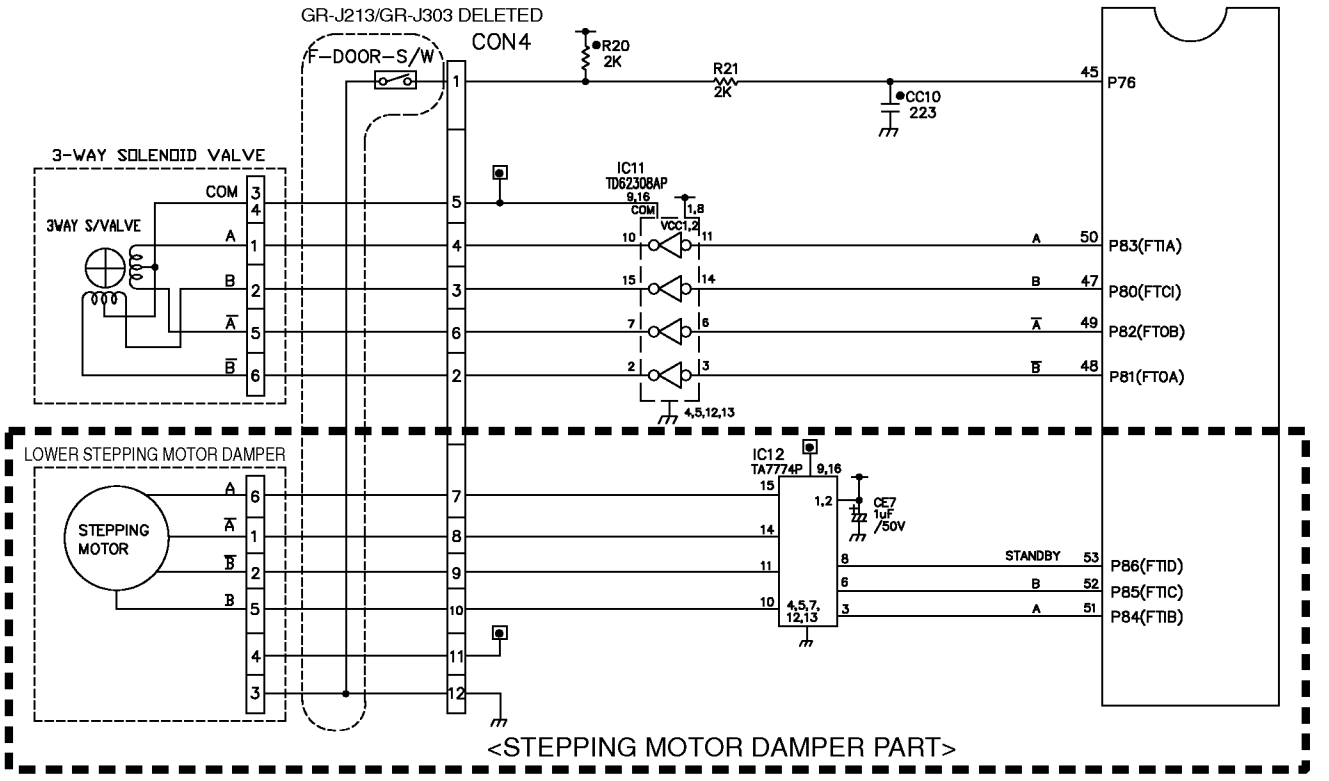
<SINGLE MOTOR DAMPER>



Position	Lower Damper status
①	Open
②	Close

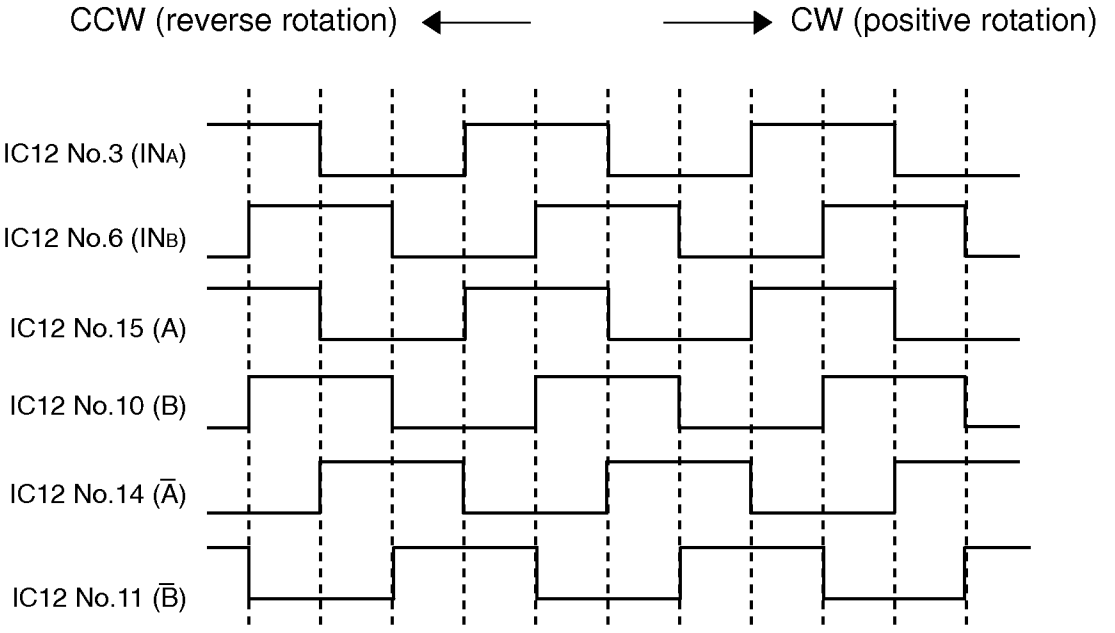
▶ The above time is time until the single motor stops after status change of the reed switch.

3-2-8. STEPPING MOTOR DAMPER DRIVE CIRCUIT (FOR TEMPERATURE CONTROL AT MIDDLE COMPARTMENT)

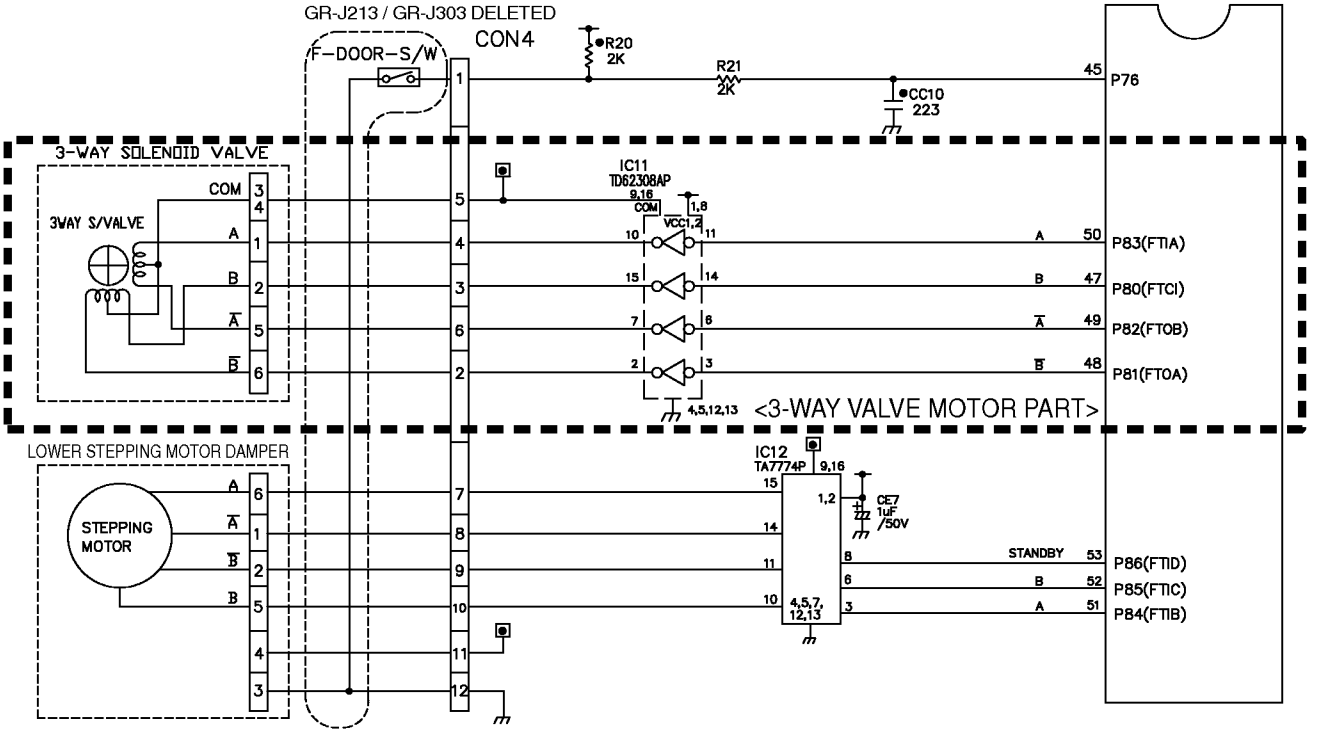


As for motor drive, the motor rotates since rotation magnetic force is formed at coils wound around each phase of the motor and the stator if outputting "High" "Low" signal as much as the fixed step numbers through the MICOM pin 51 and pin 52 after applying "High" signal to the IC 12 (TA777AP) from the MICOM pin 53.

Explanation) For driving method of the motor, send signal in the cycle of 3.33ms by using the terminal of the MICOM PIN53, 52 and 51 as shown in waveform of each part below. This signal is output to the output terminal No.10, 11, 14, 15 via the input terminal No.3, 6, 8 of the IC12 (TA7774P) as IC for motor drive. The motor rotates by which motor coils wound around each phase of the stator forms rotation magnetic field. The stepping motor damper rotates by which motor coils wound around each phase of the stator forms rotation magnetic field if inputting as figure to the input part (No.3 INA, No.6 INB) of the IC12 (TA7774P) for motor drive.

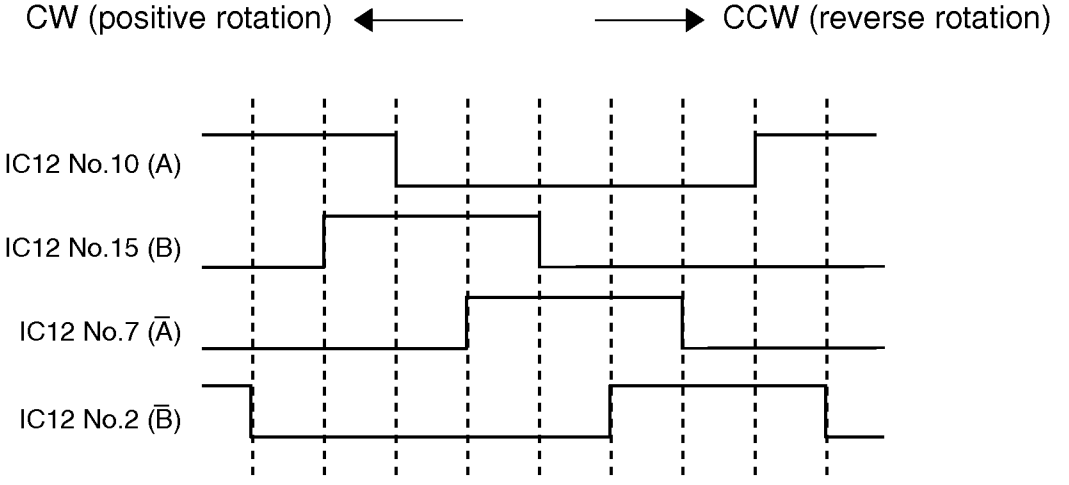


3-2-9. 3-WAY VALVE STEPPING MOTOR DRIVE CIRCUIT (FOR SWITCHING UPPER/MIDDLE/LOWER COMPARTMENT CYCLE)



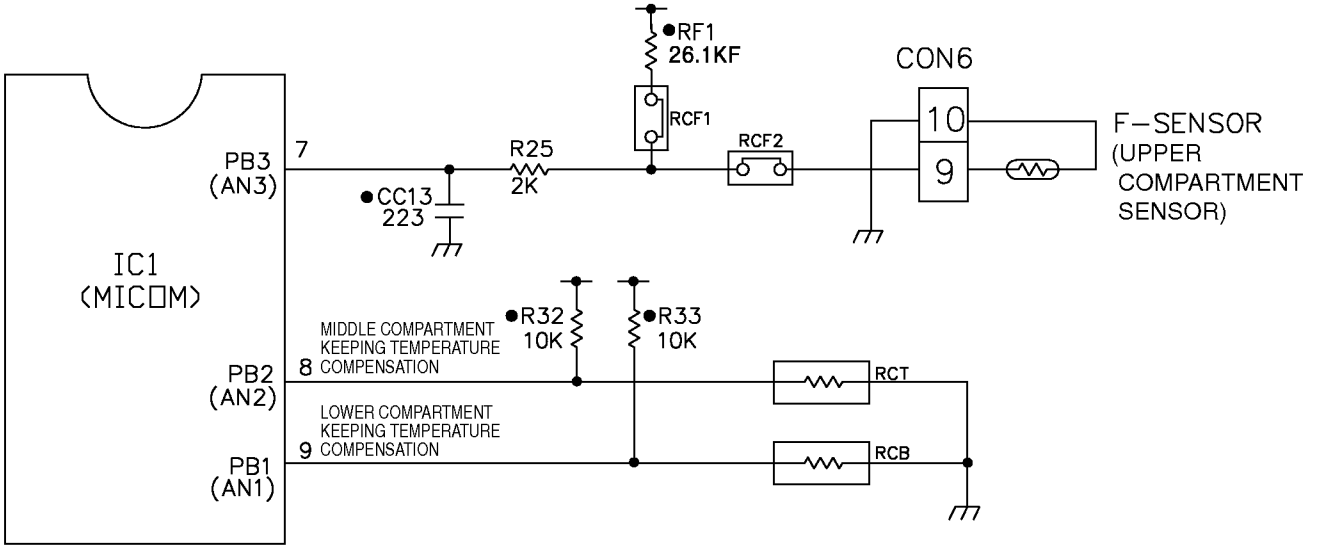
As for motor drive, the motor rotates since rotation magnetic force is formed at coils wound around each phase of the motor and the stator via the IC11 (TD62308AP) as IC for motor drive if outputting "High" "Low" signal as much as the fixed step numbers from the MICOM pin 50, 47 and 48.

Explanation) For driving method of the motor, send signal in the cycle of 30ms by using the terminal of the MICOM PIN 50, 47, 49 and 48 as shown in waveform of each part below. This signal is output to the output terminal No.10, 15, 7, 2 via the input terminal No.11, 14, 6, 3 of the IC11 (TD62308AP) as IC for motor drive. The motor rotates by which motor coils wound around each phase of the stator forms rotation magnetic field.



3-2-10. KEEPING TEMPERATURE COMPENSATION AND TOO COLD/ TOO WARM CUT COMPENSATION CIRCUIT

(1) Keeping Temperature Compensation Circuit



▶ This circuit is used for entering the required level of temperature compensation into MICOM to adjust keeping temperature at the upper, middle and lower compartment.

Upper Compartment			Middle/Lower Compartment			Remarks
Resistance Value		Temperature Compensation	Resistance Value		Temperature Compensation	
RCF1	RCF2		RCT(Middle)	RCB(Lower)		
⌒	6.2 KΩ	+2.5 °C	180 KΩ		+2.5 °C	warmer ↑
⌒	5.1 KΩ	+2.0 °C	56 KΩ		+2.0 °C	
⌒	3 KΩ	+1.5 °C	33 KΩ		+1.5 °C	
⌒	2.4 KΩ	+1.0 °C	18 KΩ		+1.0 °C	
⌒	1.2 KΩ	+0.5 °C	12 KΩ		+0.5 °C	
⌒	⌒	0 °C	10 KΩ		0 °C	Standard temperature
620 Ω	⌒	-0.5 °C	8.2 KΩ		-0.5 °C	↓ Cooler
1.2 KΩ	⌒	-1.0 °C	5.6 KΩ		-1.0 °C	
1.8 KΩ	⌒	-1.5 °C	3.3 KΩ		-1.5 °C	
2.4 KΩ	⌒	-2.0 °C	2 KΩ		-2.0 °C	
3 KΩ	⌒	-2.5 °C	470 Ω		-2.5 °C	

▶ Temperature compensation table by adjustment of resistance value (difference value against current temperature).

Ex) Temperature at the middle compartment increases by +1°C if changing compensation resistance at the middle compartment (RCT) from 10K (current resistance) to 18K (corrected resistance).

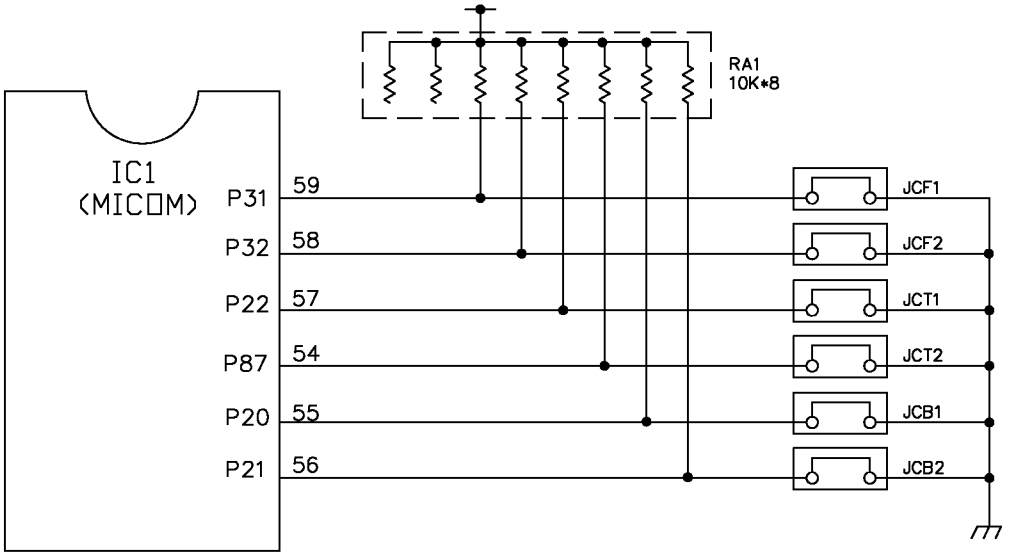
▶ Temperature compensation table at the upper compartment is as follows:

Division	Modification / Current	RCF1:3 KΩ RCF2:	RCF1:2.4 KΩ RCF2:	RCF1:1.8 KΩ RCF2:	RCF1:1.2 KΩ RCF2:	RCF1:620 Ω RCF2:	RCF1: RCF2:	RCF1: RCF2:1.2 KΩ	RCF1: RCF2:2.4 KΩ	RCF1: RCF2:3 KΩ	RCF1: RCF2:5.1 KΩ	RCF1: RCF2:6.2 KΩ
Upper Compartment (RCF1, RCF2)	RCF1:3 KΩ RCF2:	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
	RCF1:2.4 KΩ RCF2:	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
	RCF1:1.8 KΩ RCF2:	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
	RCF1:1.2 KΩ RCF2:	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	2.5 °C up	3 °C up	3.5 °C up
	RCF1:620 Ω RCF2:	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	2.5 °C up	3 °C up
	RCF1: RCF2:	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	2.5 °C up
	RCF1: RCF2:1.2 KΩ	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
	RCF1: RCF2:2.4 KΩ	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
	RCF1: RCF2:3 KΩ	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
	RCF1: RCF2:5.1 KΩ	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
	RCF1: RCF2:6.2 KΩ	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

▶ Temperature compensation table at the middle/ lower compartment is as follows:

Division	Modification / Current	470 Ω	2 KΩ	3.3 KΩ	5.6 KΩ	8.2 KΩ	10 KΩ	12 KΩ	18 KΩ	33 KΩ	56 KΩ	180 KΩ
Middlle Compartment (RCT)	470 Ω	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
	2 KΩ	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
	3.3 KΩ	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
	5.6 KΩ	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	2.5 °C up	3 °C up	3.5 °C up
	8.2 KΩ	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	2.5 °C up	3 °C up
--------	10 KΩ	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	2.5 °C up
Lower Compartment (RCB)	12 KΩ	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
	18 KΩ	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
	33 KΩ	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
	56 KΩ	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
	180 KΩ	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

(2) Too Cold/Too Warm Cut Compensation Circuit.



Upper compartment cut compensation		Upper compartment temperature compensation value		Middle compartment cut compensation		Middle compartment temperature compensation value	Lower compartment cut compensation		Lower compartment temperature compensation value
Too cold compensation	Too warm compensation			Too cold compensation	Too warm compensation		Too cold compensation	Too warm compensation	
JCF1	JCF2	Frozen Food	The others	JCT1	JCT2		JCB1	JCB2	
CUT	⌒	+2 °C	+1 °C	CUT	⌒	+1 °C	CUT	⌒	+1 °C
⌒	CUT	-2 °C	-1 °C	⌒	CUT	-1 °C	⌒	CUT	-1 °C
CUT	CUT	0 °C	0 °C	CUT	CUT	0 °C	CUT	CUT	0 °C
⌒	⌒	0 °C (When shipping from factory)		⌒	⌒	0 °C (When shipping from factory)	⌒	⌒	0 °C (When shipping from factory)

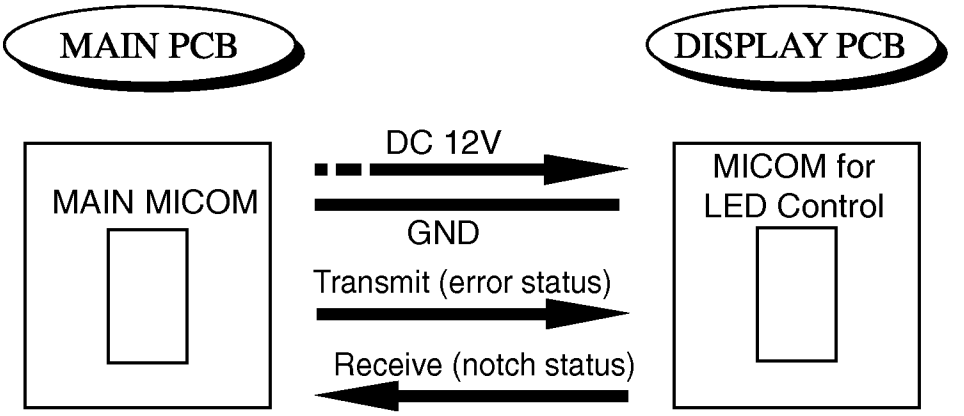
▶ The cut compensation circuit compensates the keeping temperature of the upper/middle/lower compartment by simply cutting it out of service for a brief period.

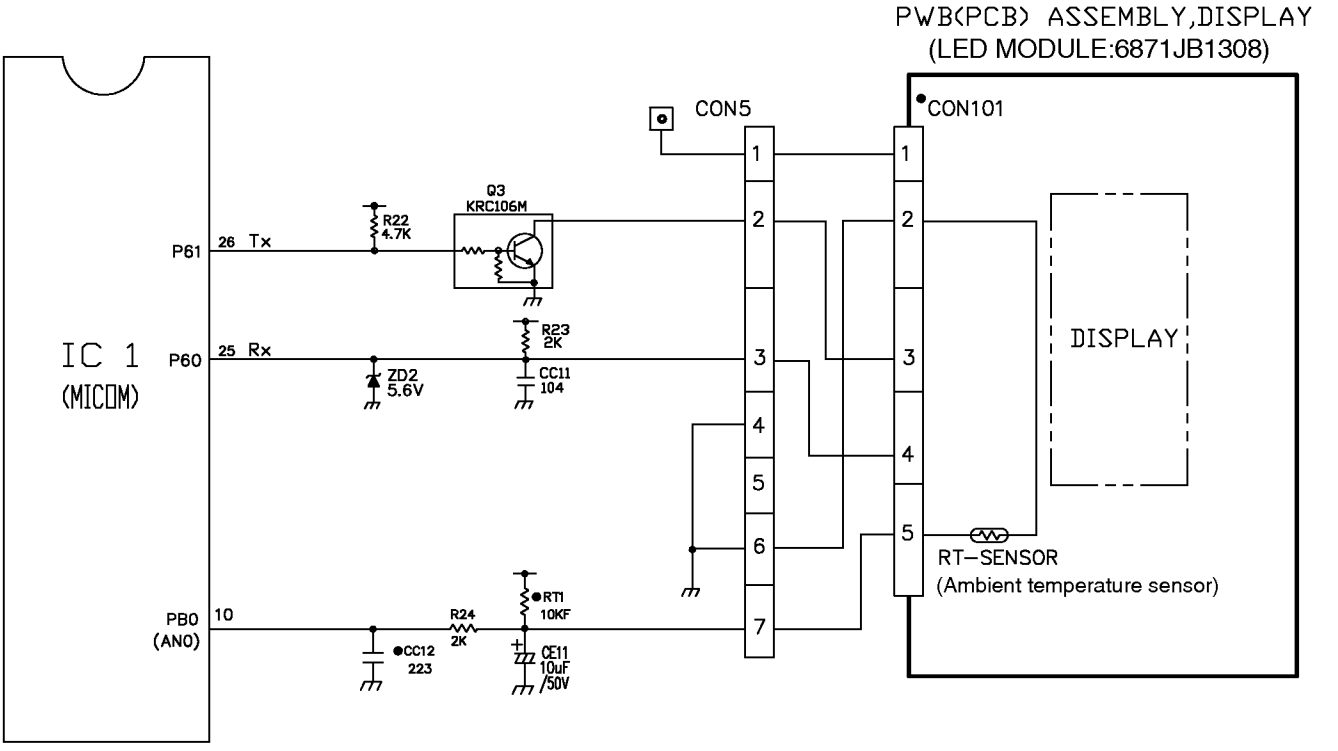
3-2-11. COMMUNICATION CIRCUIT BETWEEN MAIN PCB AND DISPLAY PCB

Following circuits as communication circuits are circuits for changing necessary information between the main MICOM of the main PCB and the MICOM for LED control of the display PCB.

DC12V for driving the display PCB, transmit/receive circuits are required.

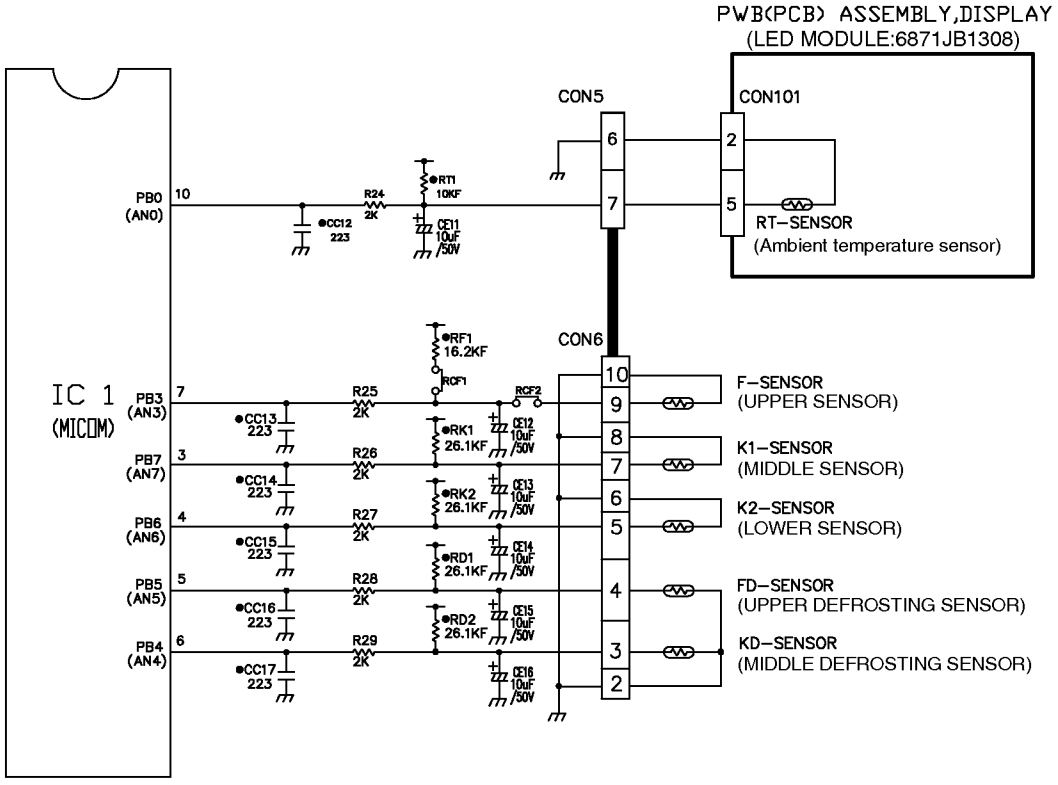
Poor communication occurs where continuing information change between the main MICOM of the main PCB and the MICOM for LED control of the display PCB is not done for more than 30 seconds.





3-3. SENSOR RESISTANCE CHARACTERISTICS TABLE

Measuring Temperature(°C)	Upper/Middle/Lower sensors, RT sensor, Upper/Middle defrosting sensors
-20 °C	77 KΩ
-15 °C	60 KΩ
-10 °C	47.3 KΩ
-5 °C	38.4 KΩ
0 °C	30 KΩ
+5 °C	24.1 KΩ
+10 °C	19.5 KΩ
+15 °C	15.9 KΩ
+20 °C	13 KΩ
+25 °C	11 KΩ
+30 °C	8.9 KΩ
+40 °C	6.2 KΩ
+50 °C	4.3 KΩ



▶ Allowance of sensor resistance is 5%.

▶ Measure resistance value of sensor after leaving it for more than 3 minutes (delay is required due to sensing speed).

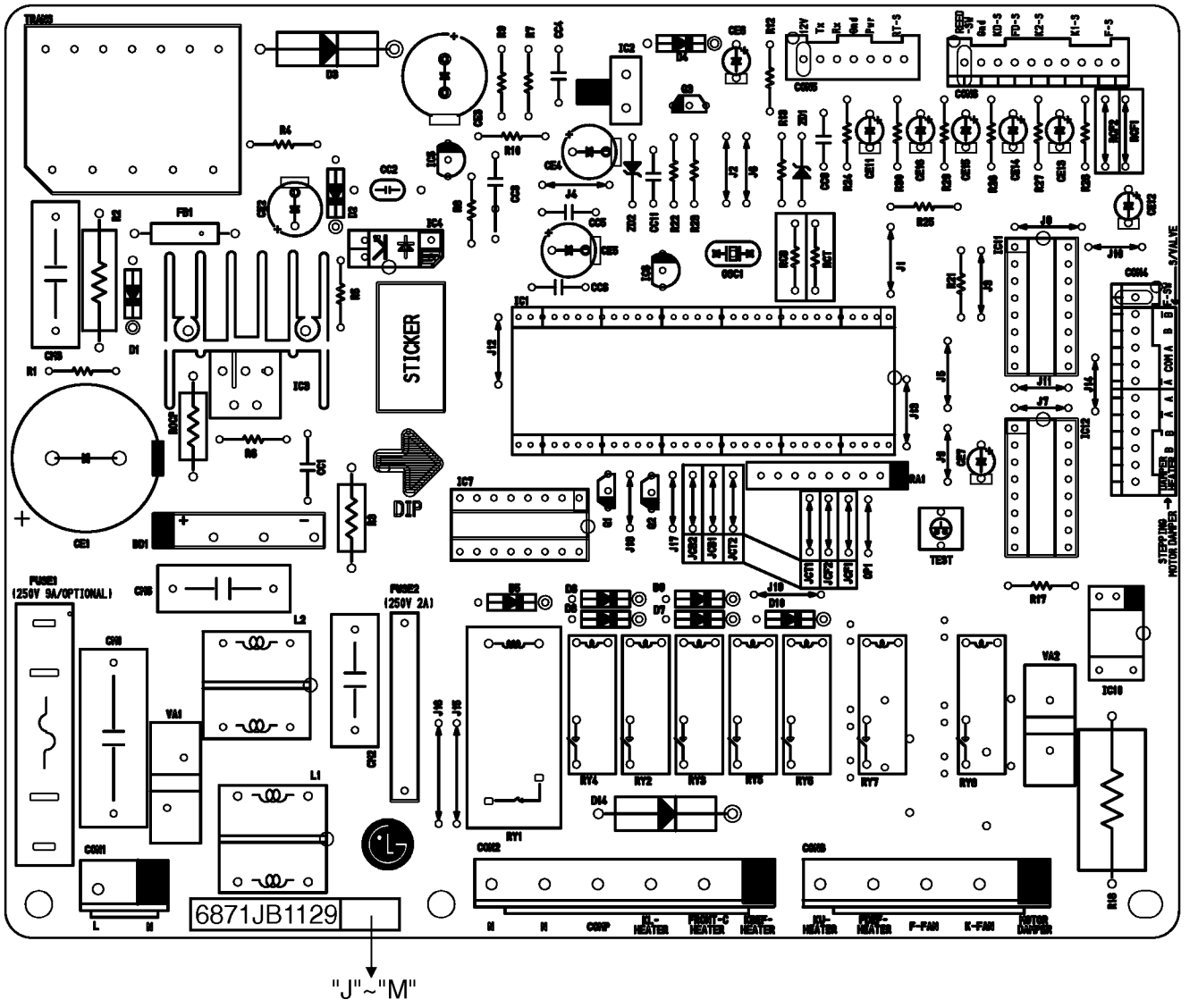
▶ Always use a digital tester! Analog testers have too great a margin of error.

▶ Measure resistance after separating PWB (PCB) assembly, the CON6 on the main part since the upper compartment sensor and the middle compartment sensor have no connector. Measure resistance at both ends of No.6, 7 of the CON5 for the RT-sensor. However, measure resistance at both ends of the sensor after separating barrier assembly between the middle compartment and the lower compartment for the lower compartment sensor.

3-4. PCB PARTS DIAGRAM AND LIST

3-4-1. PWB(PCB) ASSEMBLY, MAIN(LED MODULE TYPE)

(1) Parts diagram



(2) Parts List

M	L	K	J	WORK
SINBARD-PJT GS MD SDUDI 127V/60Hz	SINBARD-PJT HW MD SDUDI 127V/60Hz	SINBARD-PJT GS MD IRAN,UAE,SDUDI 220/50,60Hz	SINBARD-PJT HW MD IRAN,UAE,SDUDI 220/50,60Hz	APPLICATION

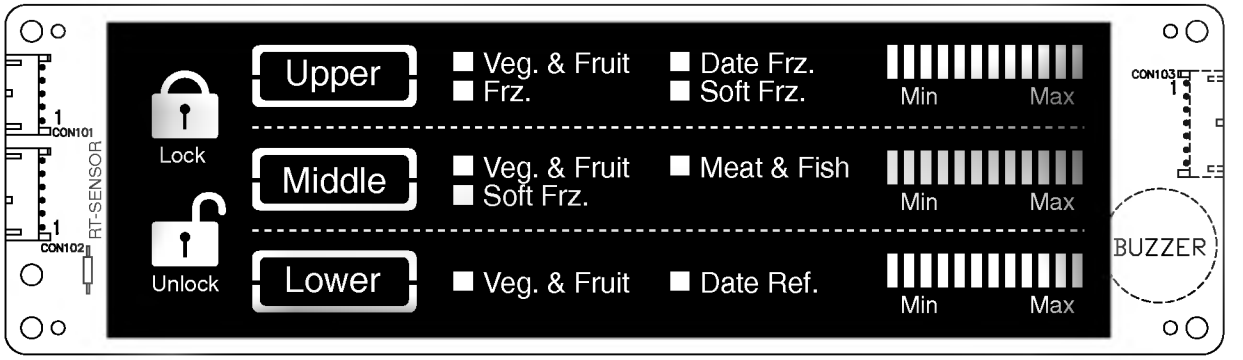
Qty	Qty	Qty	Qty	No	P/NO	DESCRIPTION	SPEC	MAKER	REMARK
-	-	1	1	1	6170JB2010A	TRANSFORMER,SMPS[COIL	A3-PJT 12.5V 1A	한영전자	TRANS
1	1	1	1	2	6870JB8020C	PWB(PCB)	GS-PJT MAIN VER3	DOOSAN	FR1,1.6T
1	1	1	1	3	6630JB8001A	CONNECTOR (CIRC),WAFE	JE202-1T-02(3P-2)	JAE EUN	CON1
1	1	1	1	4	6630JB8001E	CONNECTOR (CIRC),WAFE	JE202-1T-06(11P-2,4,6,	JAE EUN	CON2
1	1	1	1	5	6630JB8001D	CONNECTOR (CIRC),WAFE	JE202- 1T-05 JAE EUN 5	JAE EUN	CON3
1	1	1	1	6	6630JB8007L	CONNECTOR (CIRC),WAFE	917790-1 AMP 12PIN 2.5	AMP	CON4
1	1	1	1	7	6630JB8007F	CONNECTOR (CIRC),WAFE	917785-1 AMP 7PIN 2.5M	AMP	CON5
1	1	1	1	8	6630JB8007J	CONNECTOR (CIRC),WAFE	917788-1 AMP 10PIN 2.5	AMP	CON6
1	1	1	1	9	0IKE780500W	IC,KEC	KIA7805PI - - - -	KEC	IC2
1	1	1	1	10	0IKE704200A	IC,KEC	KIA7042P 3P BK RESET	KEC	IC6
1	1	1	1	11	0IKE650030B	IC,KEC	KID65003AP '18P,SDIP'	KEC	IC7
1	1	1	1	12	0IT0623080C	IC,DRAWING	62308 16PIN,SDIP BK DR	TOSHIBA	IC11
1	1	1	1	13	0IT0777400A	IC,TOSHIBA	TA7774AP 16,SDIP BK DR	TOSHIBA	IC12
1	1	1	1	14	0IKE431000A	IC,KEC-	IC,KEC	KEC	IC5
1	1	1	1	15	0IPMGNE001A	IC,POWER MANAGEMENT	PS2561-1 NEC4P,DIP BK=TL	NEC	IC4
1	1	1	1	16	0IT0762000A	IC,TOSHIBA	TLP762JF 6P,DIP(LF2) B	TOSHIBA	IC10
1	1	1	1	17	6212AQ9002B	RESONATOR,CERAMIC	CST-4.00MGW,MURATA	MURATA	OSC1
-	-	1	1	18	6102JB8001B	VARISTOR	INR14D621 ILJIN 620V 1	IL JIN	VA1
1	1	-	-	19	6102W5V006A	VARISTOR	SVC271D-14A SAMWHA UL/	IL JIN	VA1
1	1	1	1	20	6102AQ9075E	VARISTOR	INR10D471K	IL JIN	VA2
1	1	1	1	21	6920000001A	RELAY	ALE15B12 MATSUSHITA 250V	MATSUSHITA	RY1
3	3	3	3	22	6920JB2003A	RELAY	G5N-1A OMRON (JAPAN)DC	OMRON	RY3,4,6
-	-	1	1	23	0ISK655100A	IC,SANKEN	STR-G6551 5PIN BK SMPS	SANKEN	IC3
3	3	3	3	24	0TR106009AF	TRANSISTOR	KRC 106M KEC	KEC	Q1,2,3
2	2	2	2	25	6920JB2003B	RELAY	ALD112 MATSUSHITA 250V	NAIS	RY7,8
1	1	1	1	25	0DB360000AA	DIODE,BRIDGE	D3SBA60 BK SHINDENGEN	SHINDENKEN	BD1
1	1	1	1	26	0DRDE00024A	DIODE,RECTIFIERS	FR304 DELTA TP52 DO201A-	DELTA	D3
1	1	1	1	26	0DR107009AA	DIODE,RECTIFIER	FR107 TP DELTA DO41 10	DELTA	D1
1	1	1	1	27	0DR154080AA	DIODE,RECTIFIER	1N5408 BK DELTA DO201A	DELTA	D14
1	1	1	1	27	0DD400409AC	DIODE,RECTIFIER	RECT1N4004 TP	DELTA	D5
6	6	6	6	28	0DD414809AD	DIODE	1N4148 PNONEC TP52 DON	ROHM	D2,6,7,8,9,10
1	1	1	1	28	0DZMR00029A	DIODE,ZENERS	1N5232B MOTORORA TP DO	DELTA	ZD2
1	1	-	-	29	0IPMGSK001A	IC,POWER MANAGEMENT	STR-G6351L SANKEN 5PIN	SANKEN	IC3
1	1	1	1	30	0CE476ZV6E0	CAPACITOR,FIXED ELECT	47UF HE 450V 20% BULK	SAM HWA	CE1
1	1	1	1	31	0CE687YH6E0	CAPACITOR,FIXED ELECT	680UF RX 25V 20% BULK	SAM HWA	CE3
2	2	2	2	32	0CE2276F638	CAPACITOR,FIXED ELECT	220UF SMS,SG 16V 20% F	RUBICON,SAMHWA	CE4,5
1	1	-	-	32	0CE226ZK638	CAPACITOR,FIXED ELECT	22UF YXA 50V 20% FM5 TP	RUBICON,SAMHWA	CE2
-	-	1	1	33	0CE4766K638	CAPACITOR,FIXED ELECT	47UF SMS,SG 50V 20% FM	RUBICON,SAMHWA	CE2
1	1	1	1	34	0CE1056K638	CAPACITOR,FIXED ELECT	1UF SMS,SG 50V 20% FM5	RUBICON,SAMHWA	CE7
6	6	6	6	35	0CE106AK638	CAPACITOR,AL.ELECTROL	10UF KM TYPE 50V M FM5	RUBICON,SAMHWA	CE11~16
1	1	1	1	36	0CQ47418670	CAPACITOR,POLYESTER	0.47UF D 275V M M/PP N	PILKO	CM1
1	1	1	1	35	0CQ22418670	CAPACITOR,FIXED FILM	0.22UF D 275V M M/PP N	PILKO	CM2
1	1	1	1	36	0CQ4732Y430	CAPACITOR,POLYESTER	47000PF S 630V J M/PE	SAM HWA	CM3
1	1	1	1	37	0CQ22418670	CAPACITOR,FIXED FILM	0.22UF D 275V M M/PP N	SAM HWA	CM6
8	8	8	8	38	0CK223DK96A	CAPACITOR,FIXED CERAM	22NF 2012 50V 80%,-20%	MURATA	CC10,CC12~18
1	1	1	1	39	0CK22102510	CAPACITOR,CERAMIC (HI	220P 2KV K B S	TAE YANG	CC2
3	3	3	3	40	0CK1040K949	CAPACITOR,FIXED CERAM	0.1UF D 50V 80%,-20% F	TAE YANG	CC5,6,11
1	1	1	1	41	0CK2230H908	CAPACITOR,CERAMIC (HI	22000PF D 25V 80%,-20%	TAE YANG	CC4
2	2	2	2	42	0CK104DK94A	CAPACITOR,FIXED CERAM	100NF 2012 50V 80%,-20	MURATA	CC7,8
1	1	1	1	43	0CK4710K519	CAPACITOR,CERAMIC (HI	470PF 50V K B TA52	TAE YANG	CC1
1	1	1	1	44	6104JB8001B	RESISTOR,DRAWING	RA 1/4W 9A 10K J	-	RA1
1	1	1	1	45	0CK1040K949	CAPACITOR,FIXED CERAM	0.1UF D 50V 80%,-20% F	SAM HWA	CC3
1	1	1	1	46	0RM1202N661	RESISTOR,FIXED CEMENT	12K OHM 5 W 5.00% A -	C.Y.OHM	R18
1	1	-	-	47	0RS3303J609	RESISTOR,FIXED METAL	330K OHM 1 W 5% TA52	SMART	R3
1	1	1	1	48	0RS5602K641	RESISTOR,FIXED METAL	56K OHM 2 W 5.00% F20	SMART	R2
-	-	1	1	49	0RS1503J609	RESISTOR,FIXED METAL	150K OHM 1 W 5.00% TA5	SMART	R3
-	-	-	-	50	-	-	-	-	-
1	1	1	1	51	0RS0121J609	RESISTOR,FIXED METAL	1.2 OHM 1 W 5% TA52	SMART	ROCP
1	1	1	1	52	0RN9101G409	RESISTOR,FIXED METAL	9.1K OHM 1/4 W 1.00% T	SMART	R9
1	1	1	1	53	0RN2201G409	RESISTOR,FIXED METAL	2.2K OHM 1/4 W 1.00% T	SMART	R10
1	1	1	1	54	0RD1002G609	RESISTOR,FIXED CARBON	10K OHM 1/4 W 5.00% TA	SMART	RCT
1	1	1	1	55	0RD1002G609	RESISTOR,FIXED CARBON	10K OHM 1/4 W 5.00% TA	SMART	RCB
1	1	-	-	56	0RD1000G609	RESISTOR,FIXED CARBON	100 OHM 1/4 W 5% TA52	SMART	R4
-	-	1	1	57	0RD0332G609	RESISTOR,FIXED CARBON	33 OHM 1/4 W 5.00% TA5	SMART	R4
1	1	1	1	58	0RD6200G609	RESISTOR,FIXED CARBON	620 OHM 1/4 W 5.00% TA	SMART	R17
1	1	1	1	59	0RD6800G609	RESISTOR,FIXED CARBON	680 OHM 1/4 W 5.00% TA	SMART	R6
-	-	1	1	60	0RD1001G609	RESISTOR,FIXED CARBON	1K OHM 1/4 W 5.00% TA5	SMART	R8

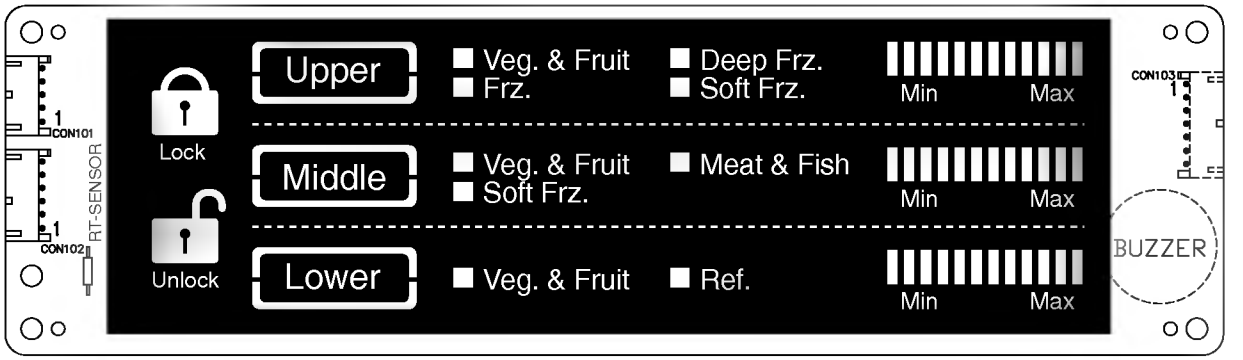
M	L	K	J	WORK					
SINBARD-PJT GS MID SOUDI [127V/60Hz]	SINBARD-PJT HW MID SOUDI [127V/60Hz]	SINBARD-PJT GS MID IRANJAE,SOUDI [220/50,60Hz]	SINBARD-PJT HW MID IRANJAE,SOUDI [220/50,60Hz]	APPLICATION					
-	-	1	1	61	ORD1801G609	RESISTOR,FIXED CARBON	1.8K OHM 1/4 W 5.00% T	SMART	R7
9	9	9	9	62	ORD2001G609	RESISTOR,FIXED CARBON	2K OHM 1/4 W 5.00% TA5	SMART	R21,23~30
1	1	2	2	63	ORD4701G609	RESISTOR,FIXED CARBON	4.7K OHM 1/4 W 5.00% T	SMART	R5,22 (L,M싹업은R5삭제)
1	1	1	1	64	ORD1004G609	RESISTOR,FIXED CARBON	1M OHM 1/4 W 5.00% TA5	SMART	R1
1	1	-	-	65	ORD6801G609	RESISTOR,FIXED CARBON	6.8K OHM 1/4 W 5.00% TA52	SMART	R5
1	1	-	-	66	ORD1501G609	RESISTOR,FIXED CARBON	1.5K OHM 1/4 W 5% TA52	SMART	R7
2	2	2	2	67	ORD2001E672	RESISTOR,FIXED CARBON	2K OHM 1/8 W 5% 2012 R	SMART,ROHM	R20,31
1	1	1	1	68	ORD4701E672	RESISTOR,FIXED CARBON	4.7K OHM 1/8 W 5% 2012	SMART,ROHM	R11
2	2	2	2	69	ORD1002E672	RESISTOR,FIXED CARBON	10K OHM 1/8 W 5% 2012	SMART,ROHM	R32,33
1	1	1	1	70	ORD1004E672	RESISTOR,FIXED CARBON	1M OHM 1/8 W 5% 2012 R	SMART,ROHM	R19
1	1	1	1	71	ORD1002E472	RESISTOR,FIXED CARBON	10K OHM 1/8 W 1% 2012	SMART,ROHM	RT1
4	4	4	4	72	ORD2612E472	RESISTOR,FIXED CARBON	26.1K OHM 1/8 W 1% 201	SMART,ROHM	RK1,2,RD1,2
1	1	1	1	73	ORD2612E472	RESISTOR,FIXED CARBON	26.1K OHM 1/8 W 1% 201	SMART,ROHM	RF1
1	1	-	-	74	ORD1501G609	RESISTOR,FIXED CARBON	1.5K OHM 1/4 W 5% TA52	SMART	R8
1	1	1	1	75	6210JB8001A	CORE (CIRC),BEAD	BFS3510A0 SAMWHA 35X10	SAM HWA	FB1
1	1	1	1	76	6600RRT001W	SWITCH,TACT	THVV502GAA POSTECH 12V	POSTEC	TEST
1	1	1	1	77	6200JB8003A	FILTER(CIRC),NOISE	3A 3MH 250V CV430030 A	TNC	L1
1	1	1	1	78	6200JB8007X	FILTER(CIRC),NOISE	UV11-05320 TNC BK 0.5A 32	TNC	L2
1	1	1	1	79	0FM9001B621	FUSE,NON TIME DELAY 1	9000MA 250 V 6.3X31.8	SAMJU	FUSE1
2	2	2	2	80	6901JB8001A	FUSE ASSY,HOLDER	KORE-PJT N/S	SAMJU	FUSE HOLDER
1	1	1	1	81	0FZZJB3001A	FUSE	250V 2A SLOW-BLOW LIT	SAMJU	FUSE2
1	1	-	-	82	6170JB2010B	TRANSFORMER,SMPS[COIL	A3-PJT 12.5V 1A	한영전자	TRANS
10	10	10	10	83	43607015	WIRE,JUMP	GC10 WHITE T0.6 L10 FO	10MM	J1~6,8,12,13,20
1	1	1	1	84	43607015	WIRE,JUMP	GC10 WHITE T0.6 L10 FO	10MM	RCF1
1	1	1	1	85	43607015	WIRE,JUMP	GC10 WHITE T0.6 L10 FO	10MM	RCF2
7	7	7	7	86	43607015	WIRE,JUMP	GC10 WHITE T0.6 L10 FO	8MM	J7,9,10,11,14,17,18
6	6	6	6	87	43607015	WIRE,JUMP	GC10 WHITE T0.6 L10 FO	8MM	JCF1,2,JCT1,2,JCB1,2
1	1	1	1	88	43607015	WIRE,JUMP	GC10 WHITE T0.6 L10 FO	8MM	OP1
2	2	2	2	89	43607015	WIRE,JUMP	GC10 WHITE T0.6 L10 FO	15MM	J15,16
1	1	-	-	90	43607015	WIRE,JUMP	GC10 WHITE T0.6 L10 FO	25MM	R18
1	1	1	1	91	4920JB3007A	HEAT SINK	23.3*17*25 DRIVE IC ST	TAE SUNG	STR
2	2	2	2	92	1SBF0302418	SCREW TAP TITE(S),BIN	+ D3.0 L8.0 MSWR3/FZY	-	SRT ASSEM
300	300	300	300	93	49111001	SOLDER,SOLDERING	SOLDER(ROSIN WIRE)RSO	HUISUNG,DAEJIN	-
25g	25g	25g	25g	94	49111004	SOLDER,SOLDERING	H63A	-	-
150	150	150	150	95	59333105	FLUX	SG;0.825-0.830 KOREA F	KOKI	-
-	-	-	1	96	0IZZJB2039E	IC,DRAWING	HD6473644P 64P,SIDP BK	HITACHI	IC1
-	-	1	-	97	0IZZJB2039F	IC,DRAWING	HD6473644P 64P,SIDP BK	HITACHI	IC1
-	1	-	-	98	0IZZJB2039G	IC,DRAWING	HD6473644P 64P,SIDP BK	HITACHI	IC1
1	-	-	-	99	0IZZJB2039H	IC,DRAWING	HD6473644P 64P,SIDP BK	HITACHI	IC1

3-4-2. PWB(PCB) ASSEMBLY, DISPLAY [LED MODULE TYPE]

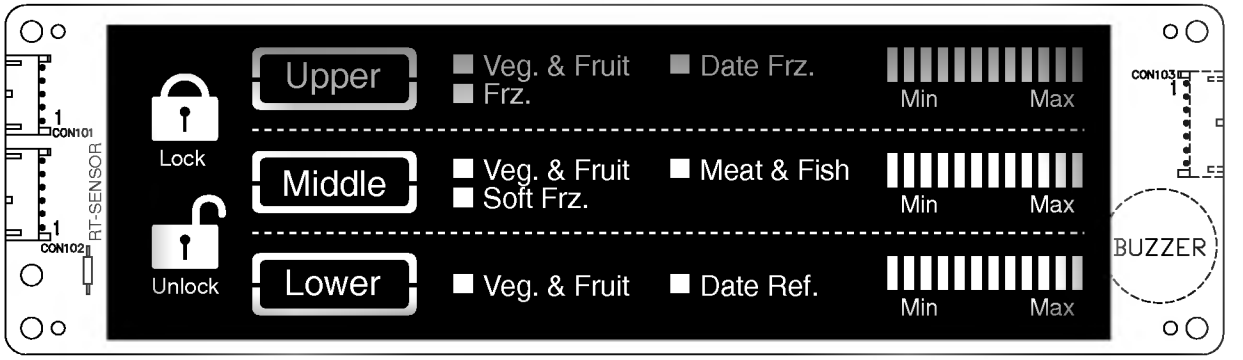
(1) Parts diagram

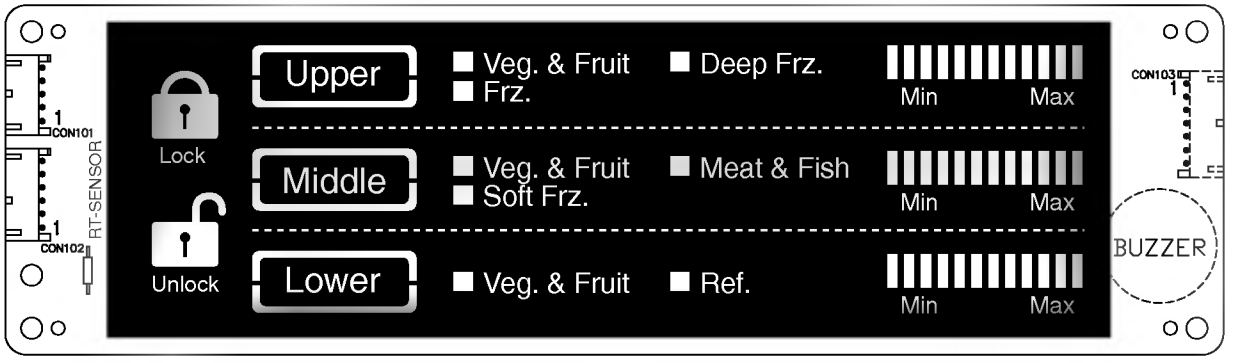
[GR-J323 / GR-J403 / GR-J408]





[GR-J213/ GR-J303]



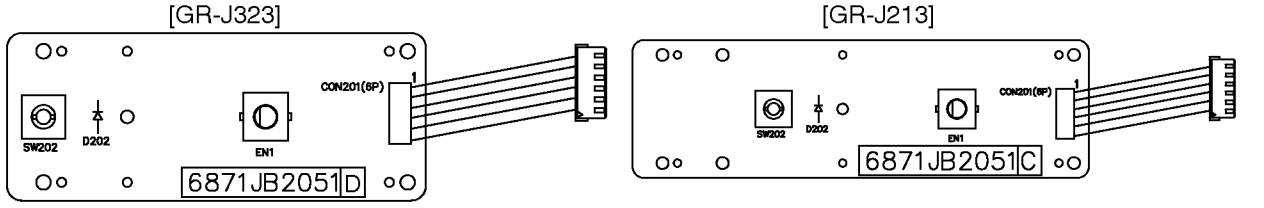


(2) Parts List

D	C	B	A	WORK					
SINBARD-PJT GS UAE/SOUDI STD'	SINBARD-PJT GS IRAN STD'	SINBARD-PJT HW UAE/SOUDI PREM'	SINBARD-PJT HW IRAN PREM'ASTD'	APPLICATION					
Qty	Qty	Qty	Qty	No	P/NO	DESCRIPTION	SPEC	MAKER	REMARK
1	1	1	1	1	6870JB8148A	PWB(PCB)	'04 SINBARD-PJT LED MODULE GR-D208/D308**	DAEDUCK	STH
1	1	1	1	2	----------	SUPPORTER,PWB	MIPS WHITE T2.0 SINBARD-PJT	ILSAN	MIPS(WHITE)
-	-	-	1	3	4140JB1037A	NAME PLATE,P(H)	SINBARD-PJT D308 (IRAN) PREMIUM&STANDARD	ILSAN	TRANSPARENCY 70%
-	-	1	-	4	4140JB1037B	NAME PLATE,P(H)	SINBARD-PJT D308 (UAE) PREMIUM	ILSAN	TRANSPARENCY 70%
-	1	-	-	5	4140JB1037C	NAME PLATE,P(H)	SINBARD-PJT D208 (IRAN) STANDARD	ILSAN	TRANSPARENCY 70%
1	-	-	-	6	4140JB1037D	NAME PLATE,P(H)	SINBARD-PJT D208 (UAE) STANDARD	ILSAN	TRANSPARENCY 70%
1	1	1	1	7	6630A091159D	CONNECTOR (CIRC),WAFER	SMAW250-05G(WH) ANGLE TYPE	YEON HO	CON101(WHITE)
1	1	1	1	8	6630A091159E	CONNECTOR (CIRC),WAFER	SMAW250-05G(RE) ANGLE TYPE	YEON HO	CON102(RED)
1	1	1	1	9	6630A091159G	CONNECTOR (CIRC),WAFER	SMAW250-08G(YL) ANGLE TYPE	YEON HO	CON103(YELLOW)
-	-	1	1	10	0IZZJB204IX	IC,DRAWING	TMP87CH47U 44P,QFP44-P-1010 TRAY IU MD 200 MODULE	TOSHIBA	IC101
1	1	-	-	11	0IZZJB204IY	IC,DRAWING	TMP87CH47U 44P,QFP44-P-1010 TRAY IU MD 200 MODULE	TOSHIBA	IC101
1	1	1	1	12	0ISTLM100IA	IC,STANDARD LOGIC	M54563AF MITSUBISHI 20 R/TP CONVERT	MITSUBISHI	IC105
1	1	1	1	13	0IKE650030C	IC,KEC	KID65003AF 16SOP BK 7CH DRIVER	KEC	IC106
1	1	1	1	14	0ISTLKE002A	IC,STANDARD LOGIC	KIA78L05F KEC SOT-89 TP REGULATOR	KEC	IC102
1	1	1	1	15	0ISTLKE003A	IC,STANDARD LOGIC	KIA7042AF KEC SOT-89 TP RESET IC	KEC	IC103
1	1	1	1	16	0ISG934660D	IC,SGS-THOMSON	M93C46-MN6T 8PIN TP AUTO RESTART	ST	IC104
1	1	1	1	17	0ISTLKE004A	IC,STANDARD LOGIC	KRA106S KEC SOT-23 TP TRANSISTOR	KEC	Q102
3	3	3	3	18	0ISTLKE005A	IC,STANDARD LOGIC	KRC106S KEC SOT-23 TP TRANSISTOR	KEC	Q101,103,104
1	1	1	1	19	6212BB3245A	RESONATOR,CERAMIC	CSTCR4M00G53-R0 MURATA 4.0MHZ +/- 0.5% T/R SMD	MURATA	OSC101
1	1	1	1	20	0CE107VF6DC	CAPACITOR,FIXED ELECTR	100UF MV 16V 20% R/TP(SMD) SMD	SAMHWA, RUBYCON	CE102
1	1	1	1	21	0CE476VF6DC	CAPACITOR,FIXED ELECTR	47UF MV 25V 20% R/TP(SMD) SMD	SAMHWA, RUBYCON	CE103
8	8	8	8	22	0CK104DK94A	CAPACITOR,FIXED CERAMI	100NF 2012 50V 80%,-20% R/TP F(Y5V)	MURATA	CC101-108
1	1	1	1	23	0CK102DK96A	CAPACITOR,FIXED CERAMI	1NF 2012 50V 80%,-20% R/TP X7R	MURATA	CC109
4	4	4	4	24	0CK223DK96A	CAPACITOR,FIXED CERAMI	22NF 2012 50V 80%,-20% R/TP X7R	MURATA	CC110-113
1	1	1	1	25	0RH1000L622	RESISTOR,METAL GLAZED(	100 OHM 1 / 8 W 2012 5.00% D	SMART,ROHM	RI17
1	1	1	1	26	0RD2200E672	RESISTOR,FIXED CARBON	220 OHM 1/8 W 5% 2012 R/TP	SMART,ROHM	RI06
2	2	2	2	27	0RD100IE672	RESISTOR,FIXED CARBON	1K OHM 1/8 W 5% 2012 R/TP	SMART,ROHM	RI02,107
6	6	6	6	28	0RD200IE672	RESISTOR,FIXED CARBON	2K OHM 1/8 W 5% 2012 R/TP	SMART,ROHM	RI01,116,128-131
5	5	5	5	29	0RD470IE672	RESISTOR,FIXED CARBON	4.7K OHM 1/8 W 5% 2012 R/TP	SMART,ROHM	RI03,104,108-110
4	4	4	4	30	0RD4702E672	RESISTOR,FIXED CARBON	47K OHM 1/8 W 5% 2012 R/TP	SMART,ROHM	RI41-144
1	1	1	1	31	0RD1004E672	RESISTOR,FIXED CARBON	1M OHM 1/8 W 5% 2012 R/TP	SMART,ROHM	RI05
2	2	2	2	32	----------	RESISTOR,METAL GLAZED(	180 OHM 1 / 2W 5025 5.00%	SMART,ROHM	RI11,114
1	1	1	1	33	----------	RESISTOR,METAL GLAZED(	240 OHM 1 / 2 W 5025 5.00% D	SMART,ROHM	RI12
1	1	1	1	34	----------	RESISTOR,METAL GLAZED(	120 OHM 1 / 2 W 5025 5.00% D	SMART,ROHM	RI13
1	1	1	1	35	----------	RESISTOR,METAL GLAZED(	68 OHM 1 / 4 W 5025 5.00% D	SMART,ROHM	RI53
1	1	1	1	36	0DZRM00188A	DIODE,ZENERS	RLZ ROHM R/TP LLDS(LL-34) 500MW 5.6V 20MA .PF	DELTA, ROHM	ZD101
-	-	42	42	37	0DLLE0038AA	LED	LEDTECH ELECTRONICS LTB832-UR-191T R/TP AMBER	LEDTECH/SEOUL	LD101-142
41	41	-	-	38	0DLLE0038AA	LED	LEDTECH ELECTRONICS LTB832-UR-191T R/TP AMBER	LEDTECH/SEOUL	LD101-141
1	1	1	1	39	6908JB8003A	BUZZER,PIEZO CERAMIC	BM-208 BUJEON PIEZO 4KHZ 85DB	BUJEON	BUZZER
1	1	1	1	40	6500JB300IA	SENSOR,TEMPERATURE	RT_SENSOR JAMES-TEC COMBI PCB	JAMES TECH	RT-SENSOR
2g	2g	2g	2g	41	49111001	SOLDER,SOLDERING	SOLDER(ROSIN WIRE)RS0	HUISUNG	-
5g	5g	5g	5g	42	49111004	SOLDER,SOLDERING	H63A	HUISUNG	-
0.5a	0.5a	0.5a	0.5a	43	59333105	FLUX	SG;0.825-0.830 KOREA F.H-206	KOKI	-

3-4-3. PWB(PCB) ASSEMBLY, SUB [LEFT]

(1) Parts diagram

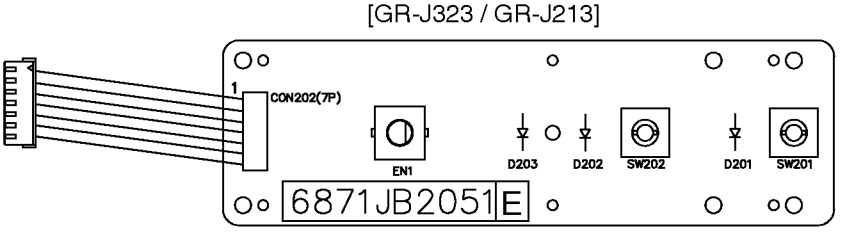


(2) Parts List

D	C						
R-D208 (LEFT)	R-D308 (LEFT)						
Qty	Qty	No	P/NO	DESCRIPTION	SPEC	MAKER	REMARK
-	1B	1	6870JB8104	PWB(PCB)	03 KIMCHI ENCODER SUB PCB	DOOSAN	FR1
1C	-	2	6870JB8104	PWB(PCB)	03 KIMCHI ENCODER SUB PCB	DOOSAN	FR1
1	1	3	6110E00010B	VOLUME,ENCODER	EC12E2420801 ALPS 24CLICK	ALPS	EN1
1	1	4	6600R000008	SWITCH,TACT	JPT1212B JEIL 12VDC 50MA	NAMAE ELECTRONICS	SW202
1	1	5	0DD414809AD	DIODE,RECTIFIERS	1N4148 PYUNG CHANG TP52 DO	PYUNGCHANG TRADE	D202
1	1	6	6877JB2134A	HARNESS,JOINT	GS HK IU CH1-PJT JOINT MIC	SUNGCHANG	CON201(6P)
2g	2g	7	49111001	SOLDER,SOLDERING	SOLDER(ROSIN WIRE)RSO	SEUNGIL MACHINE & ELECTRICITY	-
5g	5g	8	49111004	SOLDER,SOLDERING	NA HEESUNG METAL BAR SN 63	HEESUNG, DAEJIN	-
0.5g	0.5g	9	59333105	FLUX	SG;0.825-0.830 KOREA F.H-2	KOKI	-

3-4-4. PWB(PCB) ASSEMBLY, SUB [RIGHT]

(1) Parts diagram

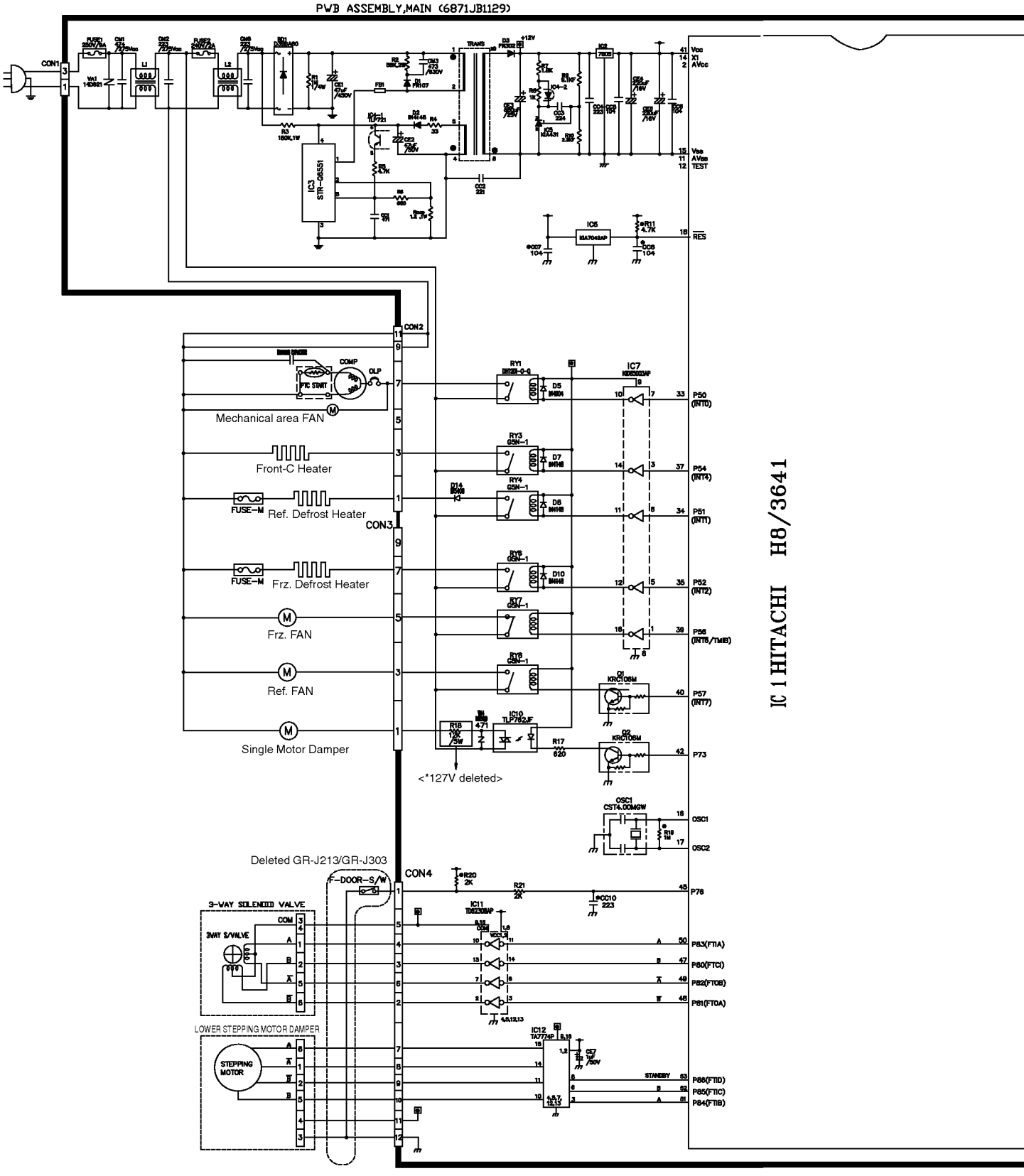


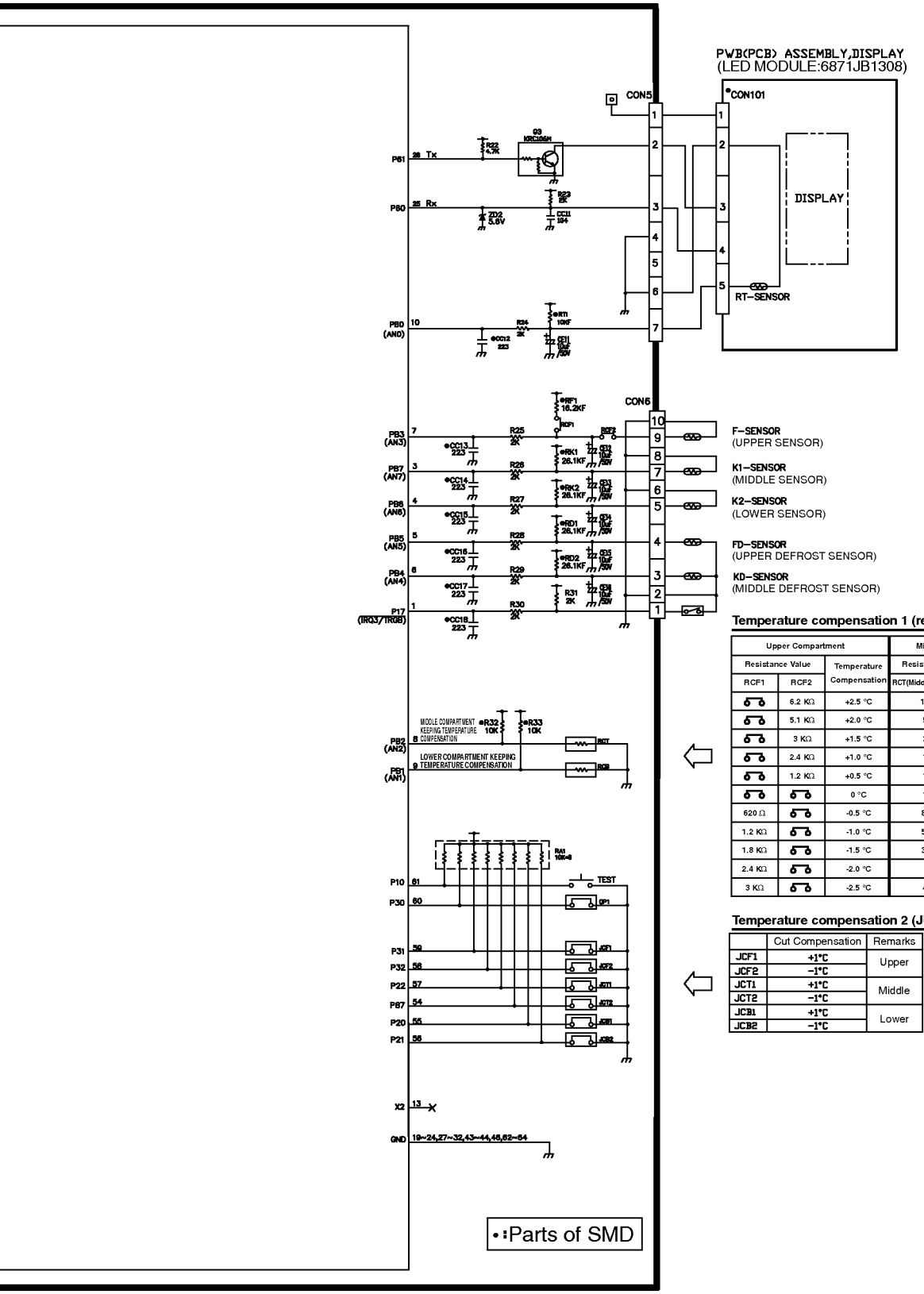
(2) Parts List

E	WORK						
R-D308/208 (RIGHT)	APPLICATION						
Qty	No	P/NO	DESCRIPTION	SPEC	MAKER	REMARK
1C	1	6870JB8104	PWB(PCB)	03 KIMCHI ENCODER SUB PCB	DOOSAN	FR1
1	2	6110E00010B	VOLUME,ENCODER	EC12E2420801 ALPS 24CLICK	ALPS	EN1
1	3	6600R000008	SWITCH,TACT	JPT1212B JEIL 12VDC 50MA	NAMAE ELECTRONICS	SW201
1	4	6600R000008	SWITCH,TACT	JPT1212B JEIL 12VDC 50MA	NAMAE ELECTRONICS	SW202
1	5	0DD414809AD	DIODE,RECTIFIERS	1N4148 PYUNG CHANG TP52 DO	PYUNGCHANG TRADE	D201
1	6	0DD414809AD	DIODE,RECTIFIERS	1N4148 PYUNG CHANG TP52 DO	PYUNGCHANG TRADE	D202
1	7	6877JB2134C	HARNESS,JOINT	'04 SINBARD-PJT JOINT RIGHT	DONGIL ELECTRONICS / SEUNGIL MACHINE & ELECTRICITY	CON202(8P)
2g	8	49111001	SOLDER,SOLDERING	SOLDER(ROSIN WIRE)RSO	HEESUNG, DAEJIN	-
5g	9	49111004	SOLDER,SOLDERING	NA HEESUNG METAL BAR SN 63	HEESUNG, DAEJIN	-
0.5g	10	59333105	FLUX	SG;0.825-0.830 KOREA F.H-2	KOKI	-

3-5. PCB CIRCUIT DIAGRAM – PCB CIRCUIT DIAGRAM MAY CHANGE DEPENDING ON SITUATION.

3-5-1. PWB (PCB) ASSEMBLY, MAIN CIRCUIT DIAGRAM (LED MODULE TYPE)





Temperature compensation 1 (replacement of resistance)

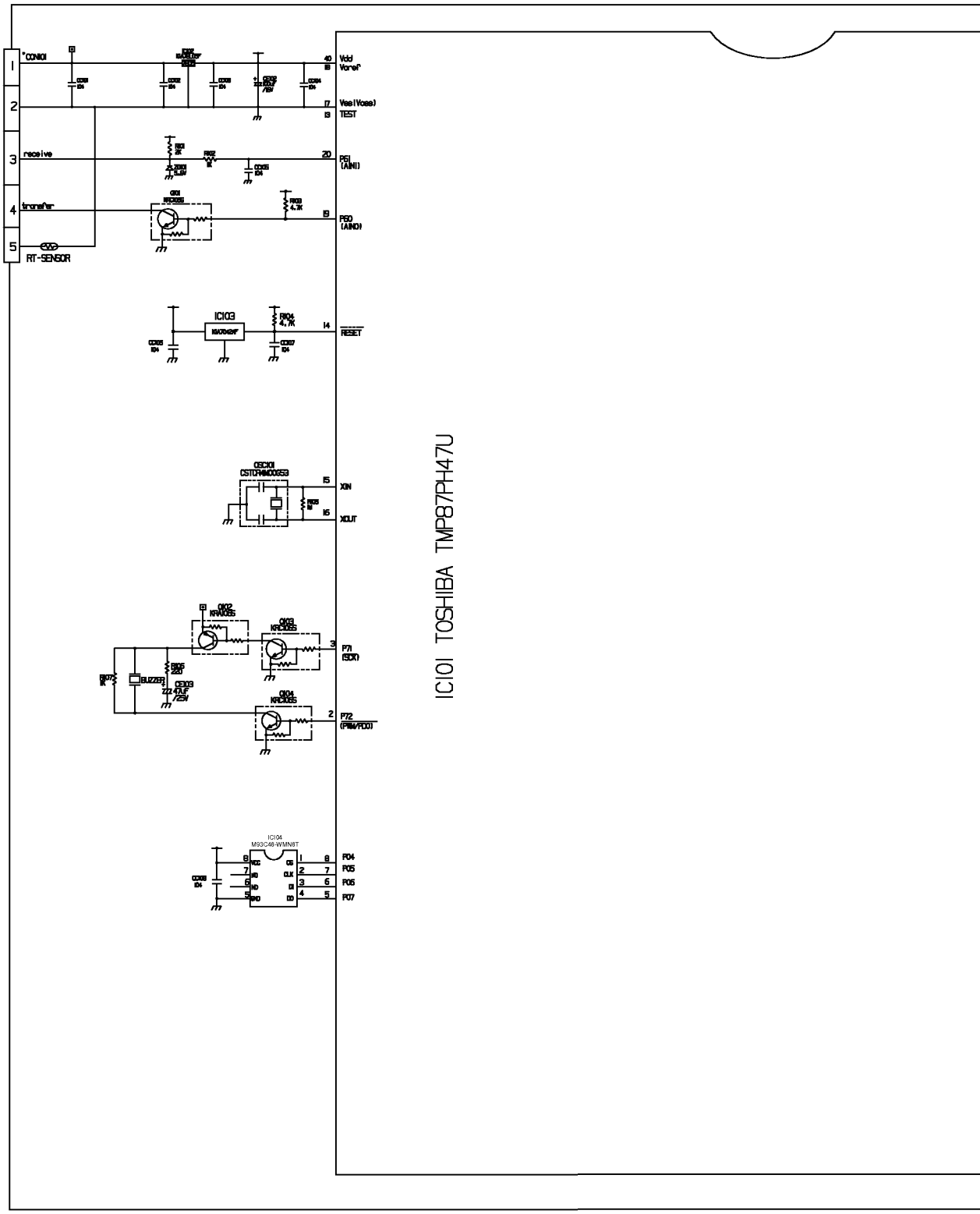
Upper Compartment			Middle/Lower Compartment			Remarks
Resistance Value		Temperature Compensation	Resistance Value		Temperature Compensation	
RCF1	RCF2		RCT(Middle)	RCB(Lower)		
		+2.5 °C	180 KΩ		+2.5 °C	warmer
		+2.0 °C	56 KΩ		+2.0 °C	
		+1.5 °C	33 KΩ		+1.5 °C	
		+1.0 °C	18 KΩ		+1.0 °C	
		+0.5 °C	12 KΩ		+0.5 °C	
		0 °C	10 KΩ		0 °C	Standard temperature
620 Ω		-0.5 °C	8.2 KΩ		-0.5 °C	
1.2 KΩ		-1.0 °C	5.6 KΩ		-1.0 °C	
1.8 KΩ		-1.5 °C	3.3 KΩ		-1.5 °C	
2.4 KΩ		-2.0 °C	2 KΩ		-2.0 °C	
3 KΩ		-2.5 °C	470 Ω		-2.5 °C	Cooler

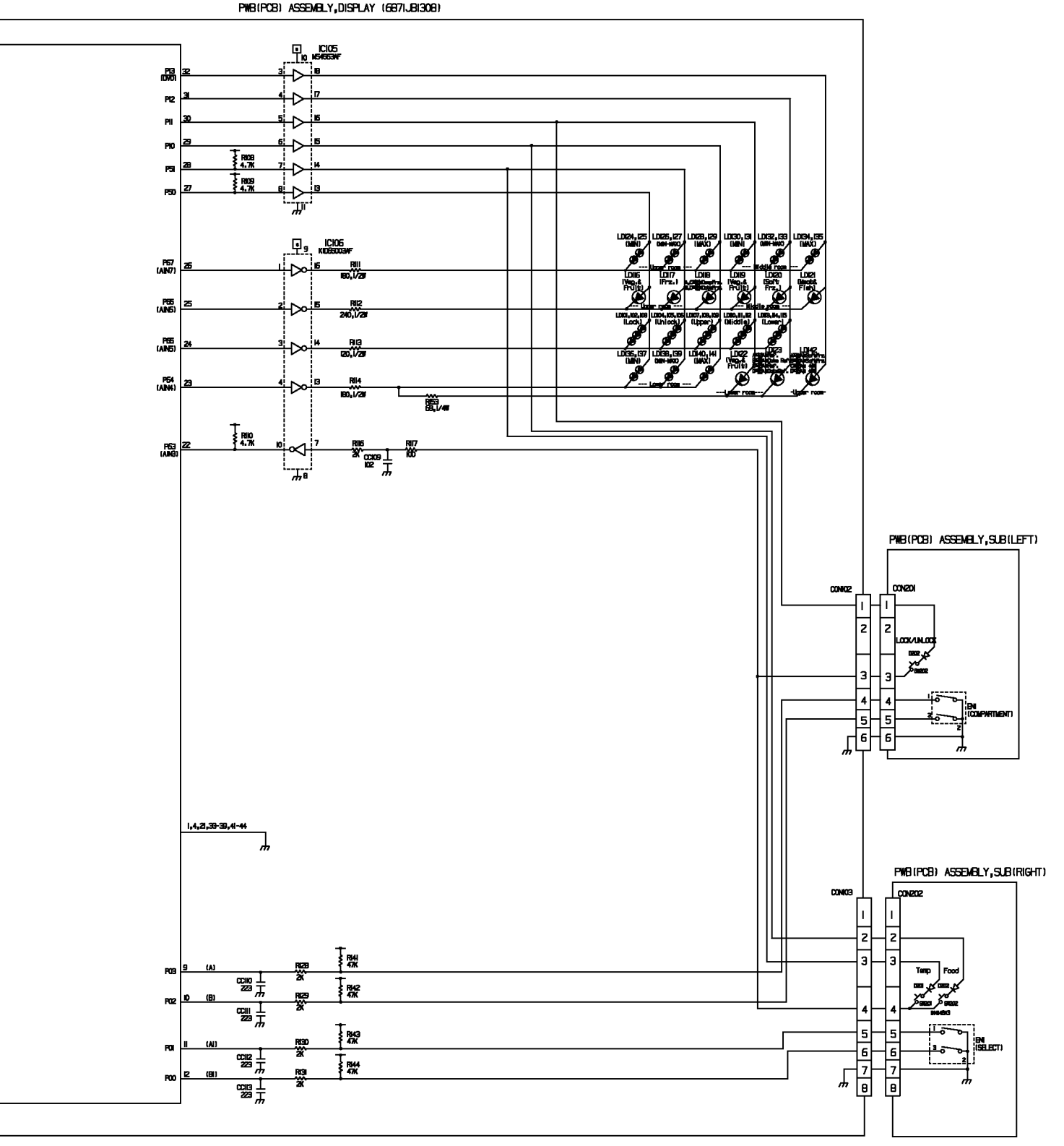
Temperature compensation 2 (JUMP WIRE CUT)

	Cut Compensation	Remarks
JCF1	+1°C	Upper
JCF2	-1°C	
JCT1	+1°C	Middle
JCT2	-1°C	
JCB1	+1°C	Lower
JCB2	-1°C	

3-5-2. PWB (PCB) ASSEMBLY, DISPLAY CIRCUIT DIAGRAM (GR-J323 / GRJ403 / GR-J213 / GR-J303 COMMON)

(1) LED Module ❊ Including PWB (PCB) Assembly, SUB circuit diagram.

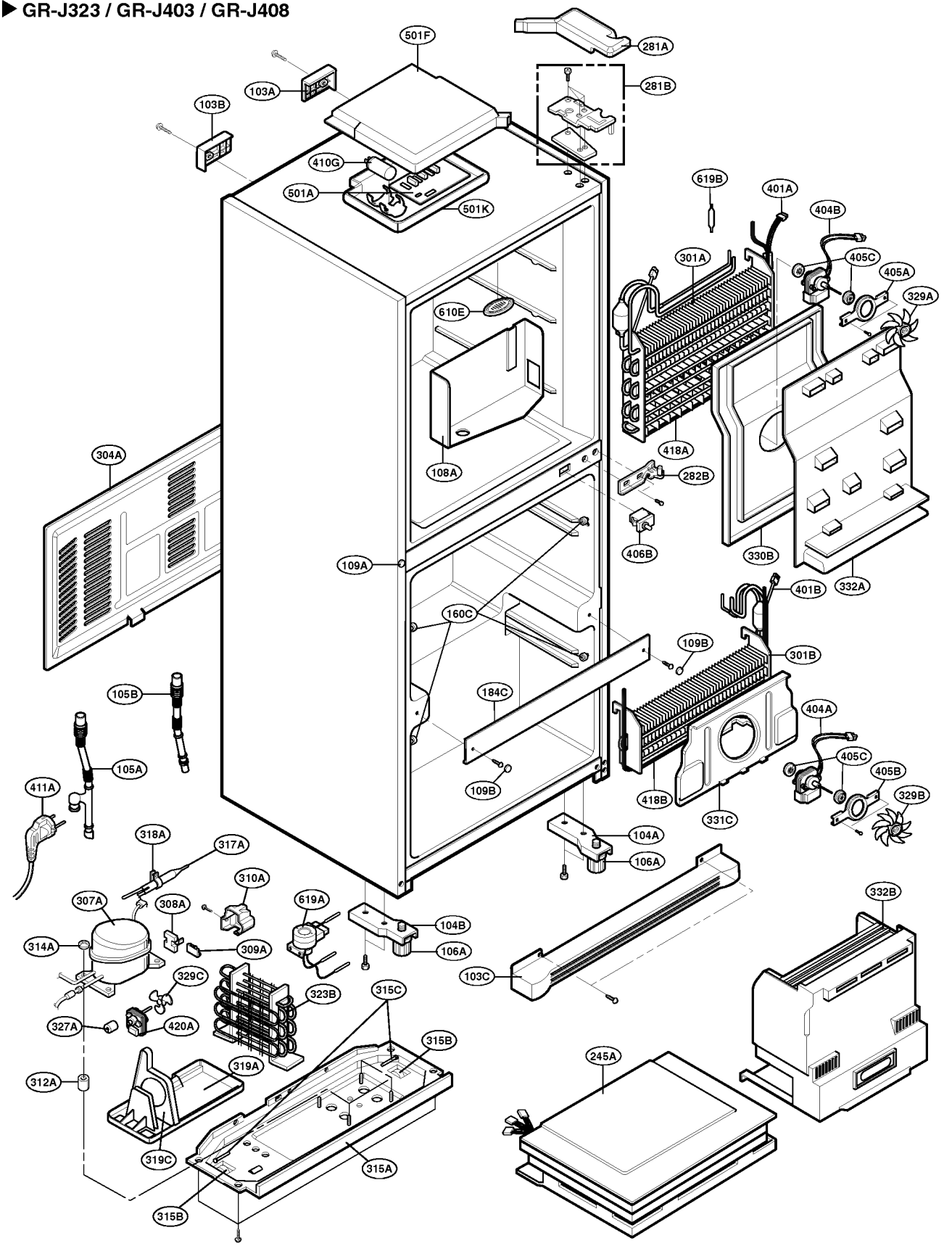



PWB(PCB) ASSEMBLY,DISPLAY (6871JB1308)
IC105
IC106
PWB(PCB) ASSEMBLY,SUB(LEFT)
PWB(PCB) ASSEMBLY,SUB(RIGHT)
CON102
CON201
CON103
CON202
LOCK/UNLOCK
BN1 (COMPARTMENT)
BN1 (SELECT)
Temp
Food
1,4,21,33-39,41-44

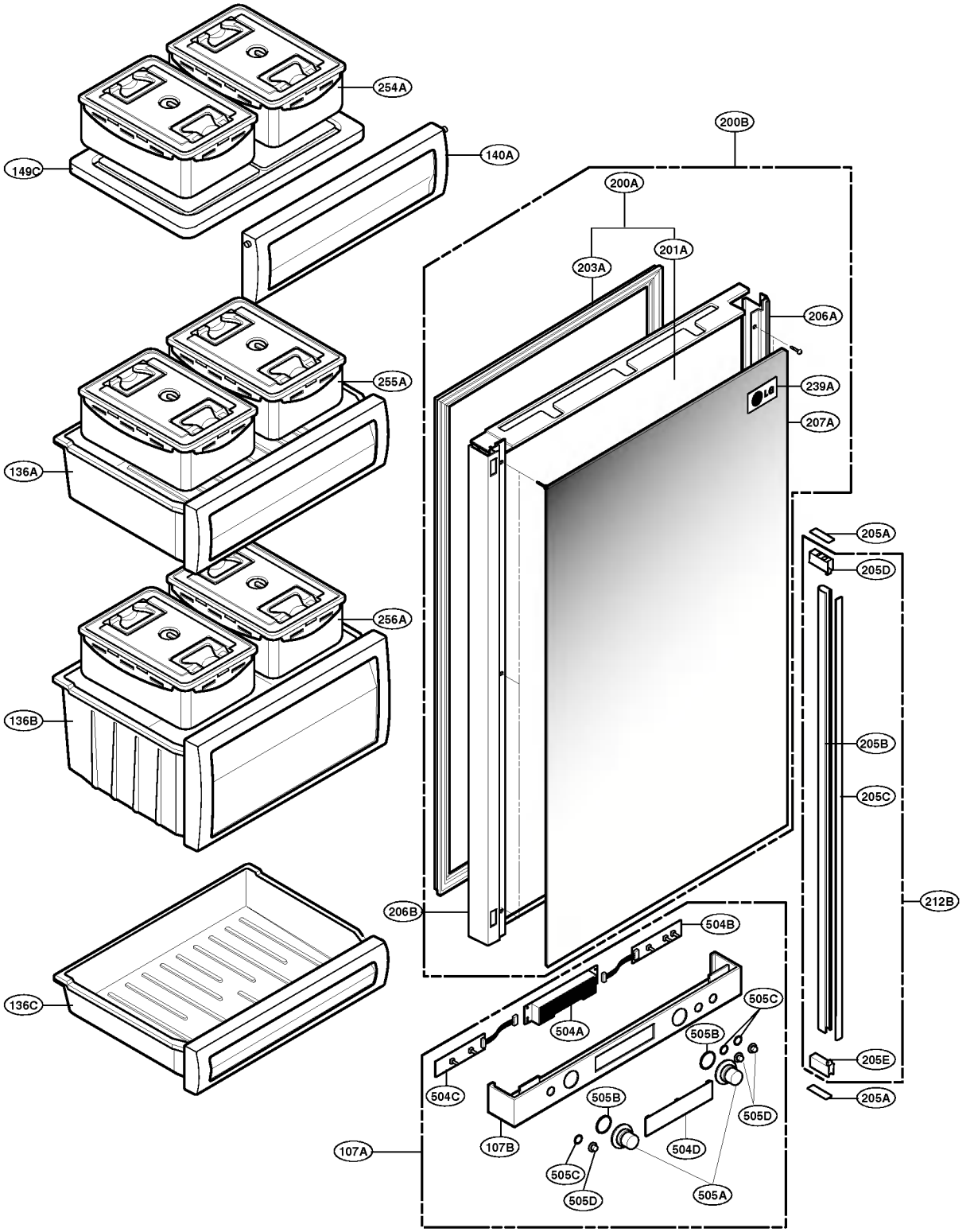
4. EXPLODED VIEW AND SERVICE PARTS LIST

4-1. EXPLODED VIEW

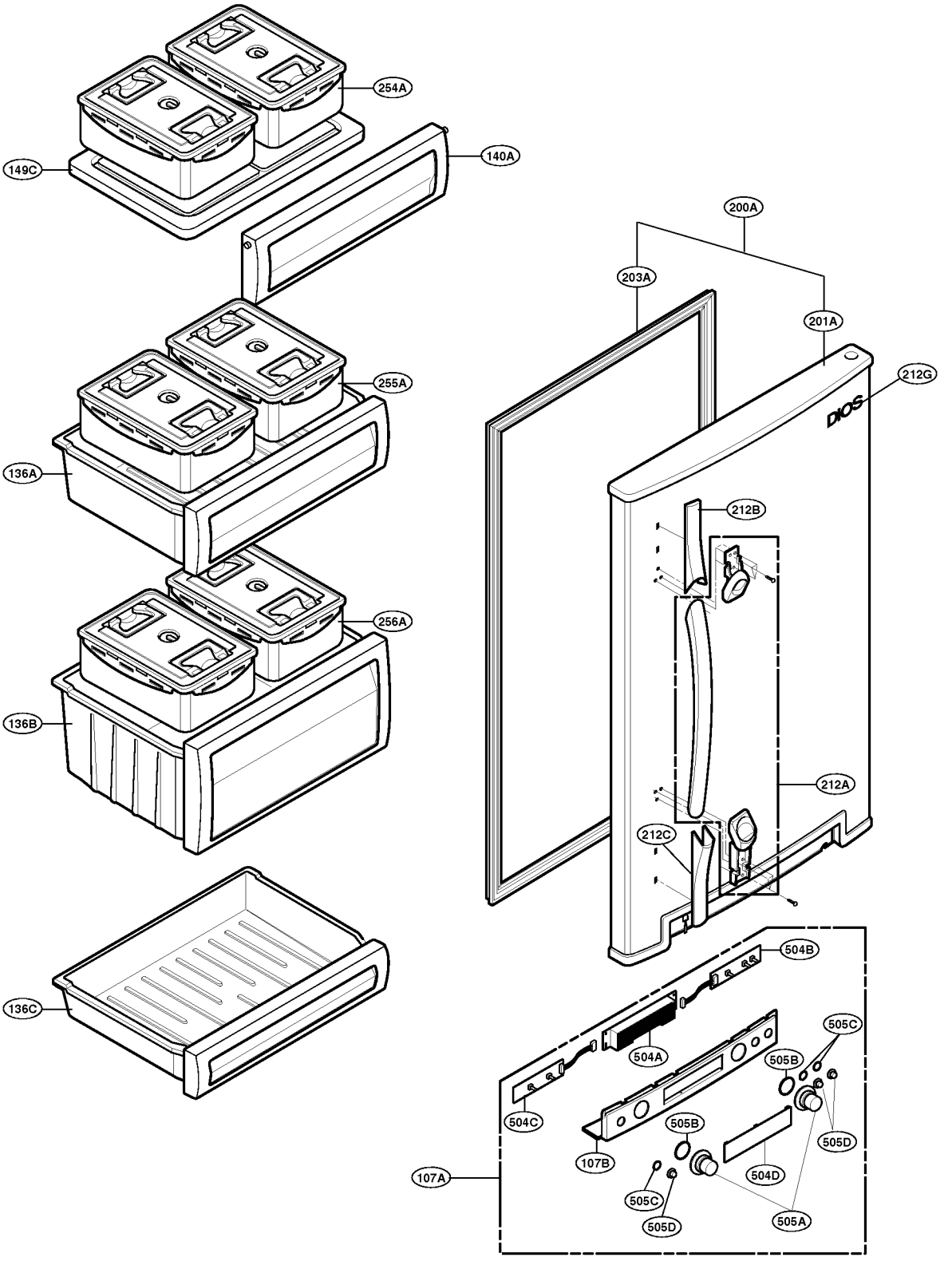
▶ **GR-J323 / GR-J403 / GR-J408**



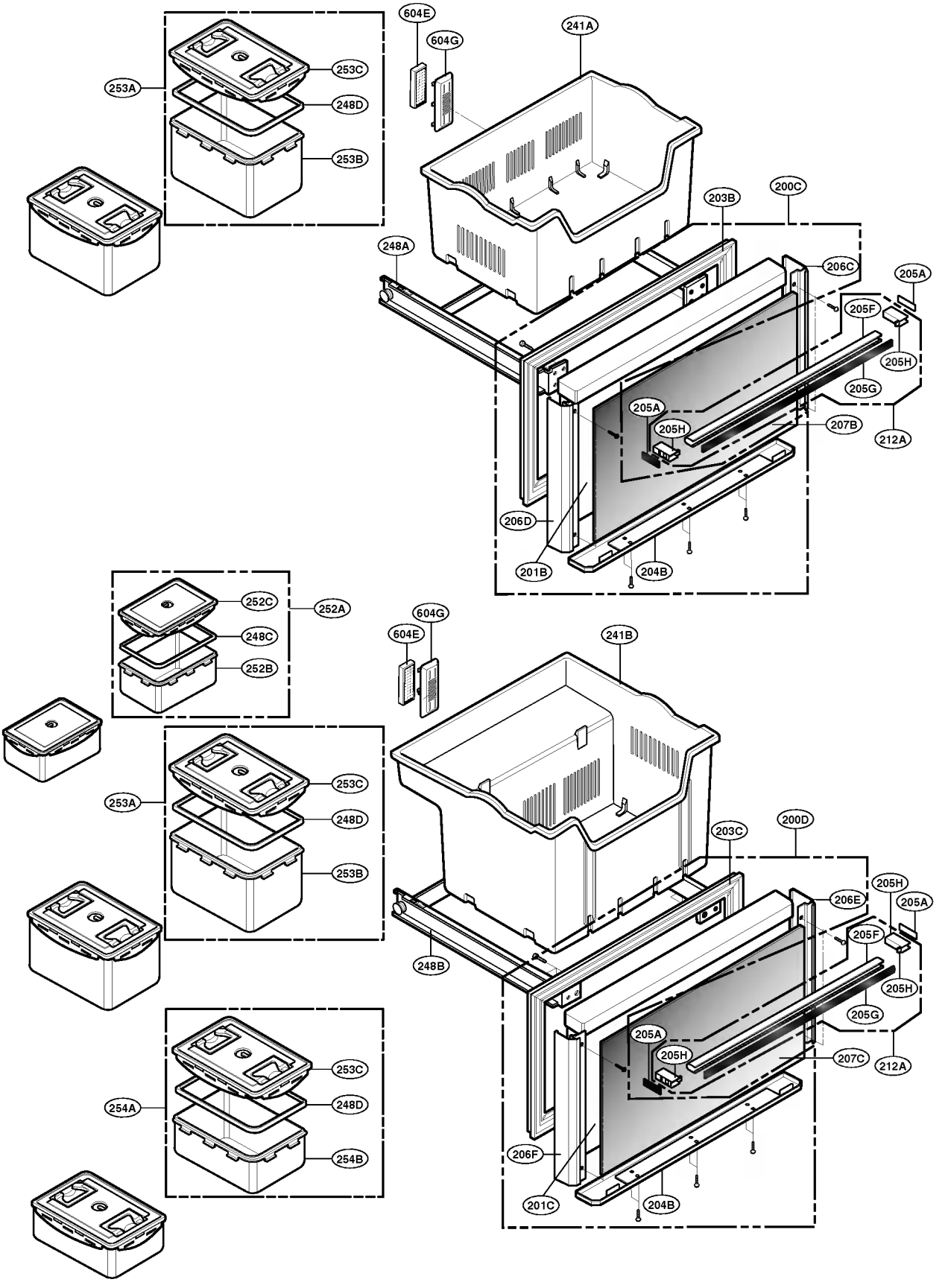
▶ GR-J323BGD


254A
149C
140A
255A
136A
256A
136B
136C
200B
200A
201A
203A
206A
239A
207A
205A
205D
205B
205C
212B
205E
205A
206B
504B
504A
505C
505B
504C
505B
505D
107B
504D
107A
505C
505D
505A

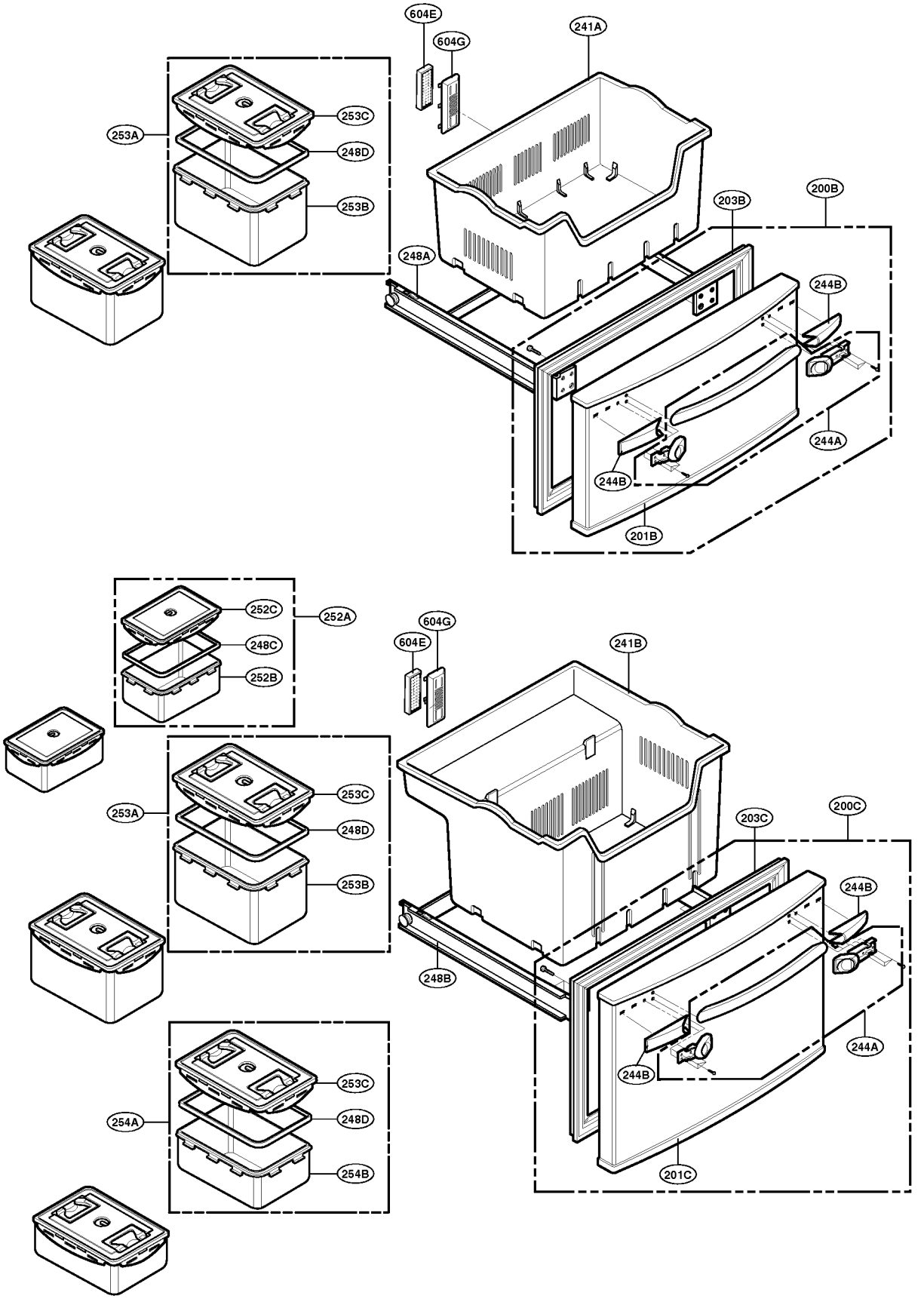
▶ GR-J323BSD / GR-J323BTD



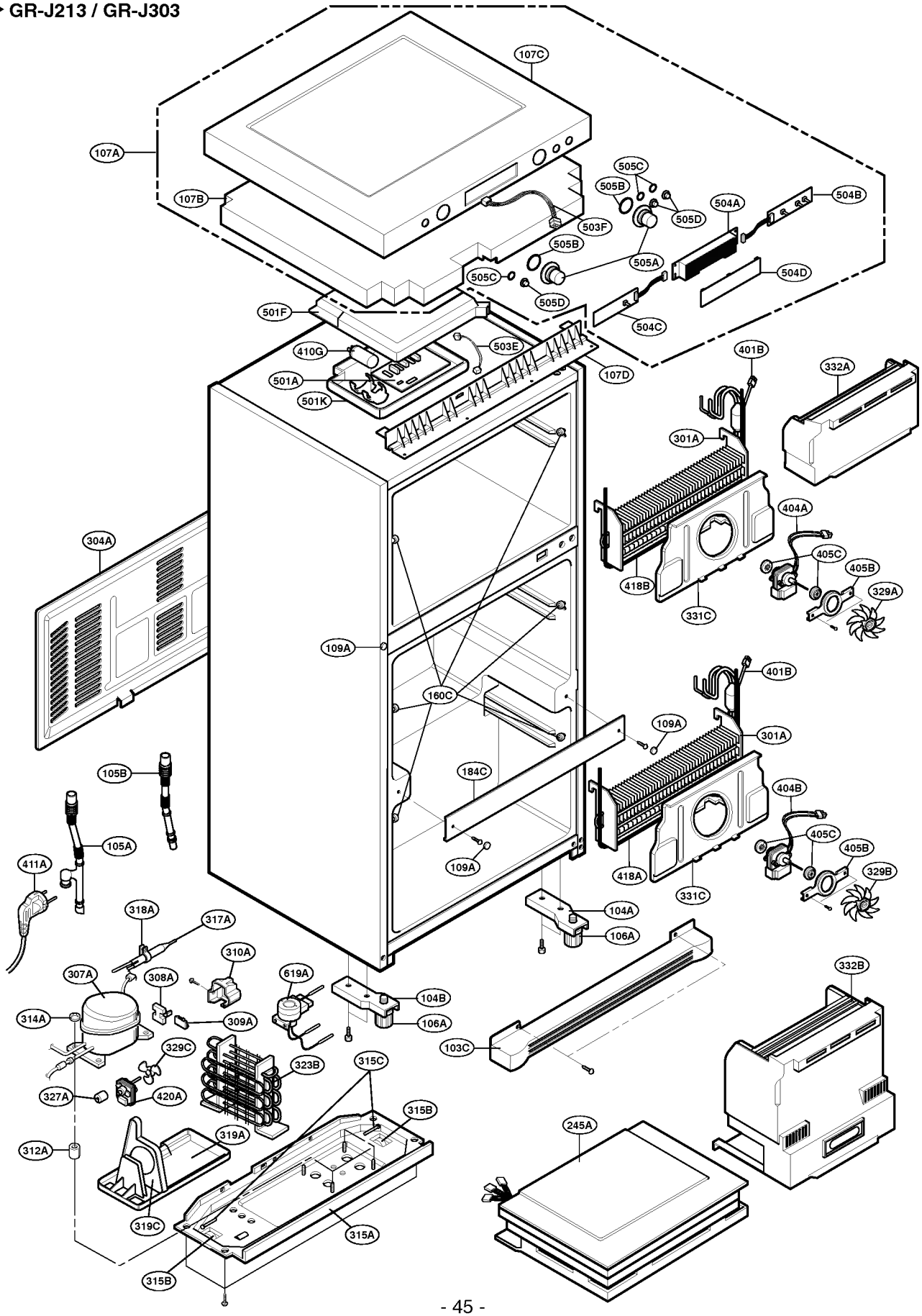
▶ GR-J323BGD


604E
604G
241A
253C
253A
248D
253B
203B
200C
248A
206C
205A
205F
205H
205G
205A
205H
207B
212A
206D
201B
204B
252C
252A
248C
252B
604G
604E
241B
253C
253A
248D
253B
203C
200D
205H
206E
205A
205F
248B
205H
205G
205A
205H
207C
212A
254A
253C
248D
254B
206F
201C
204B

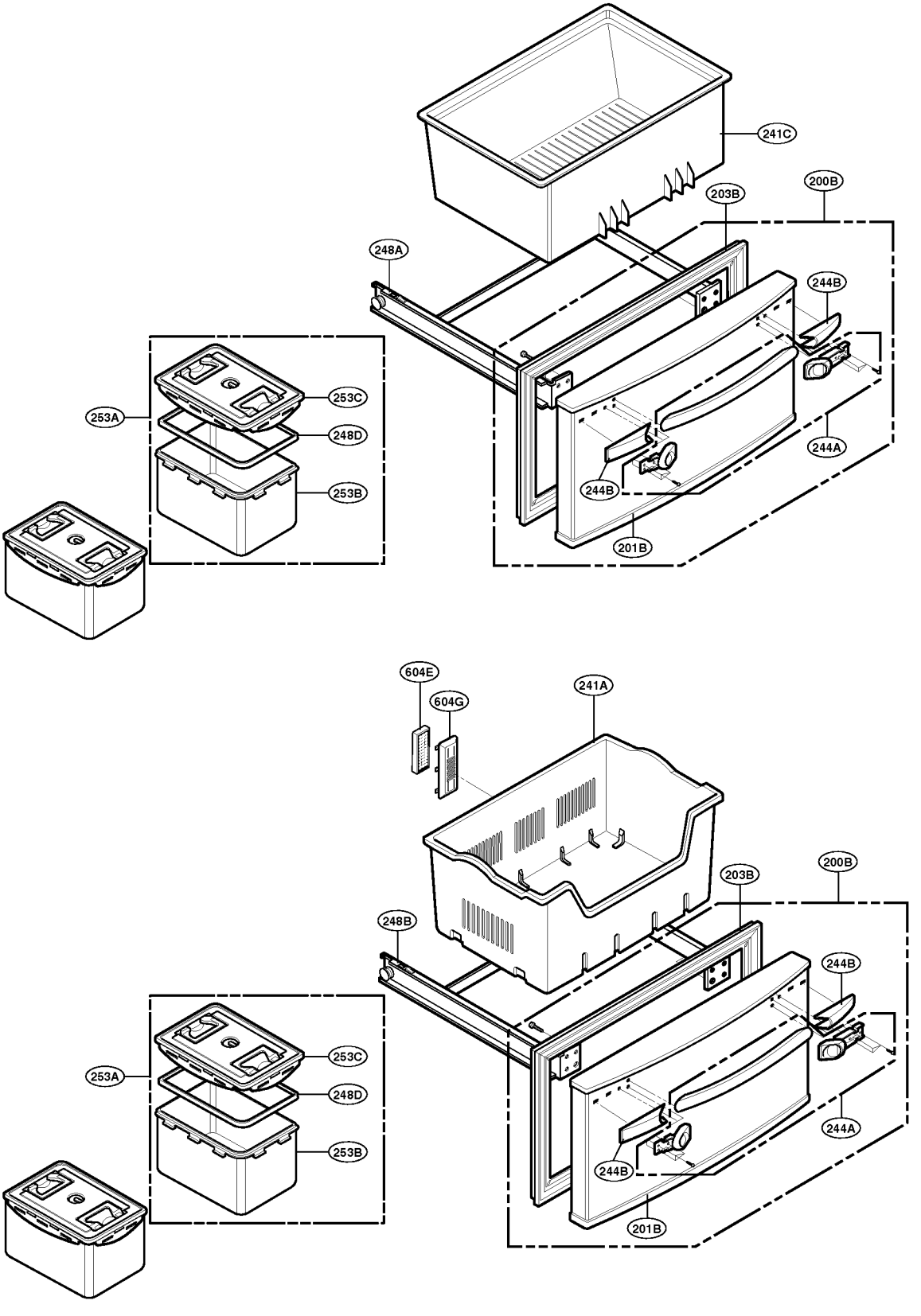
▶ GR-J323BSD / GR-J323BTD



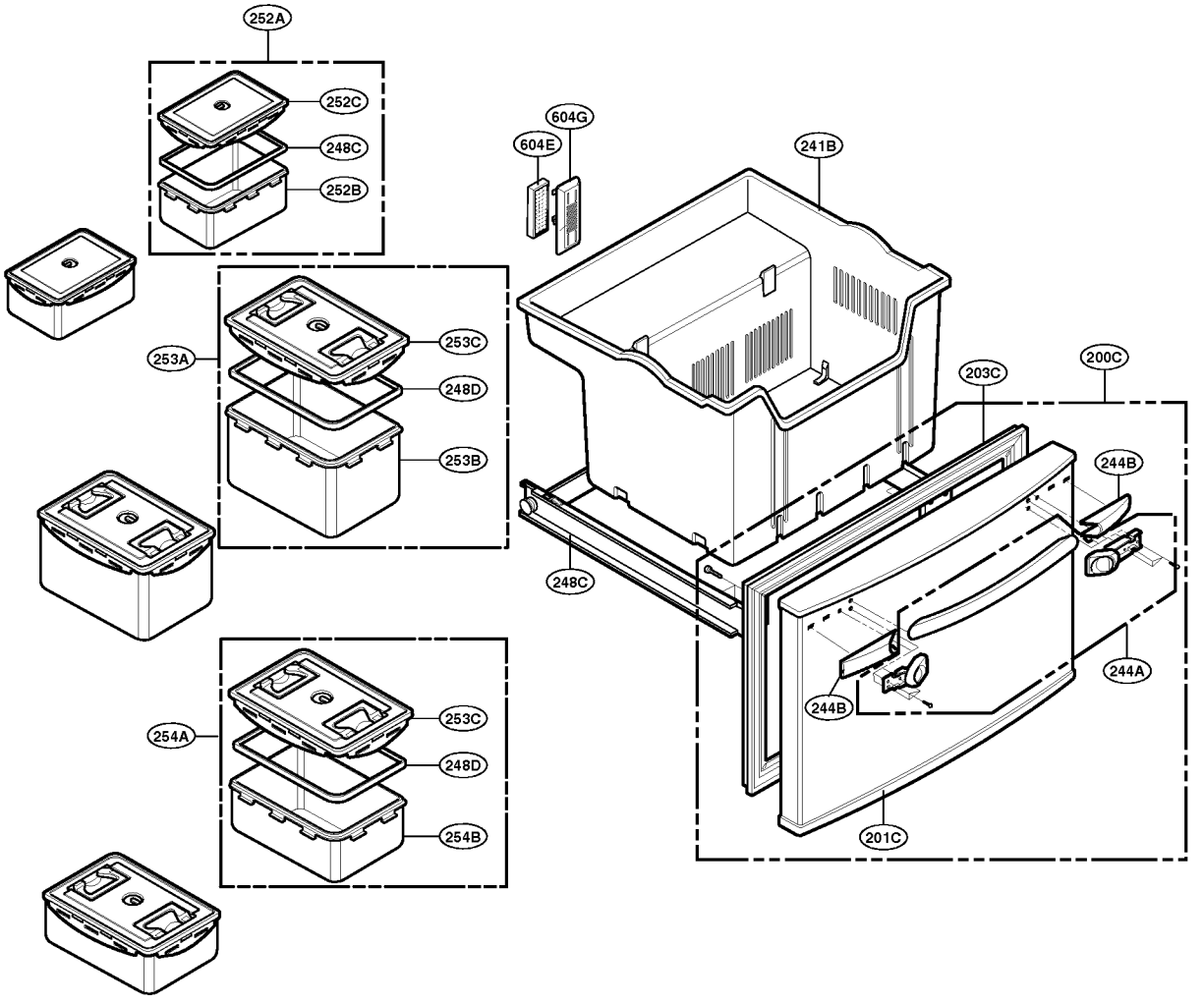
▶ GR-J213 / GR-J303



▶ GR-J213 / GR-J303



▶ GR-J213 / GR-J303



4-2. SERVICE PARTS LIST

▶ GR-J323BGD

Model Name	GR-J40******(Buyer)	J403BM	J403CB	J403BGD	J403BGD	J403CS	J408BGDCS	J408BGDCW	
	GR-J323B**.*******	BGD.ABMPALY	BGD.ACRPALY	BGD.ACSFNGI	BGD.ACSGNGI	BGD.ACSPALY	BGD.ACSPDLM	BGD.ACWPDLM	
103A	HANDLE,BACK	3650JA2061W	←	←	←	←	←	←	1
103B	HANDLE,BACK	3650JA2061X	←	←	←	←	←	←	1
103C	COVER,LOWER	3550JA0042E	←	←	←	←	←	←	1
104A	LEG ASSEMBLY,FRAME	4779JA2012D	←	←	←	←	←	←	1
104B	LEG ASSEMBLY,FRAME	4779JA2012C	←	←	←	←	←	←	1
105A	DRAIN ASSEMBLY,PIPE-Z	5251JA3003D	←	←	←	←	←	←	1
105B	DRAIN ASSEMBLY,PIPE-Z	5251JA2006A	←	←	←	←	←	←	1
106A	LEG ASSEMBLY,ADJUST	4779JA2005A	←	←	←	←	←	←	2
107A	CAP DECO ASSEMBLY,F	5079JA1025D	←	←	←	←	5079JA1025E	←	1
107B	CAP DECO,F	5078JD1022A	←	←	←	←	←	←	1
108A	TRAY ASSEMBLY,DRAIN	3391JA2027A	←	←	←	←	←	←	1
109A	CAP,SCREW	5006JA3017X	←	←	←	←	←	←	1
109B	CAP,SCREW	5006JA3017G	←	←	←	←	←	←	2
136A	TRAY ASSEMBLY,DRAWER	3391JA2045A	←	←	←	←	←	←	1
136B	TRAY ASSEMBLY,DRAWER	3391JA2045B	←	←	←	←	←	←	1
136C	TRAY ASSEMBLY,DRAWER	3391JA2028C	←	←	←	←	←	←	1
140A	DOOR ASSEMBLY,FREEZE ROOM	3581JA2008B	←	←	←	←	←	←	1
149C	SHELF,F	5026JA0015A	←	←	←	←	←	←	1
160C	ROLLER ASSEMBLY	4581JA3003C	←	←	←	←	←	←	4
184C	FRONT PLATE,C	3446JA2048F	←	←	←	←	←	←	1
200B	DOOR ASSEMBLY,F/SEMI	3581JA0050N	3581JA0050M	3581JA0050L	3581JA0050L	3581JA0050L	3581JA0050P	3581JA0050Q	1
200C	DOOR ASSEMBLY,R/SEMI	3581JA1090R	3581JA1090L	3581JA1090G	3581JA1090G	3581JA1090G	3581JA1090G	3581JA1090M	1
200D	DOOR ASSEMBLY,R/SEMI	3581JA1091Q	3581JA1091L	3581JA1091G	3581JA1091G	3581JA1091G	3581JA1091G	3581JA1091M	1
201A	DOOR FOAM ASSEMBLY,F	5433JA0139A	←	←	←	←	←	←	1
201B	DOOR FOAM ASSEMBLY,R	5433JA1108A	←	←	←	←	←	←	1
201C	DOOR FOAM ASSEMBLY,R	5433JA1109A	←	←	←	←	←	←	1
203A	GASKET ASSEMBLY,DOOR	4987JA1024Y	←	←	←	←	←	←	1
203B	GASKET ASSEMBLY,DOOR	4987JA1024L	←	←	←	←	←	←	1
203C	GASKET ASSEMBLY,DOOR	4987JA1024M	←	←	←	←	←	←	1
205A	HANDLE,DECO	3650JA3069A	←	←	←	←	←	←	6
205B	HANDLE,BAR	3650JA1165T	←	←	←	←	←	←	1
205C	HANDLE,BAR	3650JA1165U	←	←	←	←	←	←	1
205D	HOLDER,HANDLE	4930JA2069A	←	←	←	←	←	←	1
205E	HOLDER,HANDLE	4930JA2069B	←	←	←	←	←	←	1
205F	HANDLE,BAR	3650JA1165P	←	←	←	←	←	←	2
205G	HANDLE,BAR	3650JA1165N	←	←	←	←	←	←	2
205H	HOLDER,HANDLE	4930JA2066A	←	←	←	←	←	←	4
206A	DECO,DOOR	3806JA1126A	←	←	←	←	←	←	1

Model Name	GR-J40******(Buyer)	J403BM	J403CB	J403BGD	J403BGD	J403CS	J408BGDCS	J408BGDCW	
	GR-J323B**.*******	BGD.ABMPALY	BGD.ACRPALY	BGD.ACSFNGI	BGD.ACSGNGI	BGD.ACSPALY	BGD.ACSPDLM	BGD.ACWPDLM	
206B	DECO,DOOR	3806JA2072A	←	←	←	←	←	←	1
206C	DECO,DOOR	3806JA2077A	←	←	←	←	←	←	1
206D	DECO,DOOR	3806JA2077B	←	←	←	←	←	←	1
206E	DECO,DOOR	3806JA2078A	←	←	←	←	←	←	1
206F	DECO,DOOR	3806JA2078B	←	←	←	←	←	←	1
207A	GLASS,DECO DOOR(PANEL ASSEM,STEEL)	4890JA2005N	4890JA2005K	4890JA1044X	4890JA1044X	4890JA1044X	4890JA1044X	3721JA1014N	1
207B	GLASS,DECO DOOR(PANEL ASSEM,STEEL)	4890JA2005P	4890JA2005L	4890JA1044Y	4890JA1044Y	4890JA1044Y	4890JA1044Y	3721JA1014P	1
207C	GLASS,DECO DOOR(PANEL ASSEM,STEEL)	4890JA2005Q	4890JA2005M	4890JA1044Z	4890JA1044Z	4890JA1044Z	4890JA1044Z	3721JA1014Q	1
212A	HANDLE ASSEMBLY,R	3651JA2246A	←	←	←	←	←	←	2
212B	HANDLE ASSEMBLY,R	3651JA2246B	←	←	←	←	←	←	1
239A	MARK	3846JD1007B	←	←	←	←	←	←	1
241A	BASKET,DOOR	5004JA0007A	←	←	←	←	←	←	1
241B	BASKET,DOOR	5004JA0006A	←	←	←	←	←	←	1
245A	BARRIER ASSEMBLY,INSULATION	4791JA1036D	4791JA1036D	4791JA1036E	4791JA1036D	4791JA1036D	4791JA1036D	4791JA1036D	1
248A	RAIL ASSEMBLY,T/V	5219JA1004D	←	←	←	←	←	←	1
248B	RAIL ASSEMBLY,T/V	5219JA1004E	←	←	←	←	←	←	1
252A	BANK ASSEMBLY,SIDE DISH	5075JA1028C	←	←	←	←	←	←	2
253A	BANK ASSEMBLY,SIDE DISH	5075JA1030C	←	←	←	←	←	←	4
254A	BANK ASSEMBLY,SIDE DISH	5075JA1027C	←	←	←	←	←	←	4
255A	BANK ASSEMBLY,SIDE DISH	5075JA1023C	←	←	←	←	←	←	2
256A	BANK ASSEMBLY,SIDE DISH	5075JA1024C	←	←	←	←	←	←	2
281A	COVER,HINGE	3550JA1251D	←	←	←	←	←	←	1
281B	HINGE ASSEMBLY,U	4775JA2008D	←	←	←	←	←	←	1
282B	HINGE ASSEMBLY,C	4775JA3021A	←	←	←	←	←	←	1
301A	EVAPORATOR ASSEMBLY	5421JA0026B	5421JA0026B	5421JA0026C	5421JA0026B	5421JA0026B	5421JA0026B	5421JA0026B	1
301B	EVAPORATOR ASSEMBLY	5421JA0027B	5421JA0027B	5421JA0027D	5421JA0027B	5421JA0027B	5421JA0027B	5421JA0027B	1
304A	COVER ASSEMBLY,BACK-M/C	3551JA1039A	←	←	←	←	←	←	1
307A	COMPRESSOR,SET ASSEMBLY	2521C-A7242	2521C-A7242	2521C-A6709	2521C-A6708	2521C-A7242	2521C-A7242	2521C-A7242	1
308A	P.T.C ASSEMBLY	6748C-0003B	6748C-0003B	6748C-0004A	6748C-0004B	6748C-0003B	6748C-0003B	6748C-0003B	1
309A	O.L.P	6750C-0004V	6750C-0004V	6750C-0005Q	6750C-0005C	6750C-0004V	6750C-0004V	6750C-0004V	1
310A	COVER,P.T.C	3550JA2042A	←	←	←	←	←	←	1
312A	RUBBER,SEAT	5040JA3071A	←	←	←	←	←	←	4
314A	STOPPER,COMP	4J03277A	←	←	←	←	←	←	4
315A	COMP BASE ASSEMBLY,STD	3103JA0010C	←	←	←	←	←	←	1
315B	ROLLER	3J02312A	←	←	←	←	←	←	2
315C	PIN,DRAWING	4J04238A	←	←	←	←	←	←	2
317A	DRIER ASSEMBLY	5851JA2002T	←	←	←	←	←	←	1
318A	HOLDER,DRIER	4930JA3034A	←	←	←	←	←	←	1

Model Name	GR-J40******(Buyer)	J403BM	J403CB	J403BGD	J403BGD	J403CS	J408BGDCS	J408BGDCW	
	GR-J323B**.*******	BGD.ABMPALY	BGD.ACRPALY	BGD.ACSFNGI	BGD.ACSGNGI	BGD.ACSPALY	BGD.ACSPDLM	BGD.ACWPDLM	
319A	TRAY,DRIP	3390JA0008A	←	←	←	←	←	←	1
319C	GUIDE,FAN	4974JA1036A	←	←	←	←	←	←	1
323B	CONDENSER ASSEMBLY,WIRE	5403JA1044A	←	←	←	←	←	←	1
327A	RUBBER,DAMPING	4J03020A	←	←	←	←	←	←	1
329A	FAN ASSEMBLY	5901JA1014A	←	←	←	←	←	←	1
329B	FAN ASSEMBLY	5901JA1007A	←	←	←	←	←	←	1
329C	FAN ASSEMBLY	5901JA1013A	←	←	←	←	←	←	1
330B	SHROUD ASSEMBLY,F	4999JA1017A	←	←	←	←	←	←	1
331C	SHROUD ASSEMBLY,F	4999JA2021A	←	←	←	←	←	←	1
332A	GRILLE ASSEMBLY,FAN	3531JA1021A	←	←	←	←	←	←	1
332B	GRILLE ASSEMBLY,FAN	3531JA1022A	←	←	←	←	←	←	1
401A	CONTROLLER ASSEMBLY	6615JB2005D	←	←	←	←	←	←	1
401B	CONTROLLER ASSEMBLY	6615JB2005A	←	←	←	←	←	←	1
404A	MOTOR(MECH),FAN	4680JB1036Q	4680JB1036Q	4680JB1036P	4680JB1036Q	4680JB1036Q	4680JB1036Q	4680JB1036Q	1
404B	MOTOR(MECH),FAN	4680JB1036E	4680JB1036E	4680JB1036D	4680JB1036E	4680JB1036E	4680JB1036E	4680JB1036E	1
405B	BRACKET,MOTOR	4810JA3007B	←	←	←	←	←	←	2
405C	RUBBER,MOTOR-N	J756-00008B	←	←	←	←	←	←	4
406B	SWITCH,[PUSH]	6600JB1005D	←	←	←	←	←	←	1
410G	CAPACITOR,DRAWING	X	X	0CZZJB2003H	0CZZJB2003C	X	X	X	1
411A	POWER CORD ASSEMBLY	6411JB1011E	6411JB1011E	6411JB1011B	6411JB1011H	6411JB1011E	6411JB1011A	6411JB1011A	1
418A	HEATER,SHEATH	5300JB1086F	5300JB1086F	5300JB1086G	5300JB1086F	5300JB1086F	5300JB1086F	5300JB1086F	1
418B	HEATER,SHEATH	5300JB1085A	5300JB1085A	5300JB1085C	5300JB1085A	5300JB1085A	5300JB1085A	5300JB1085A	1
420A	MOTOR(MECH),COOLING	4680JB1035G	4680JB1035G	4680JB1035F	4680JB1035G	4680JB1035G	4680JB1035G	4680JB1035G	1
501A	PWB(PCB) ASSEMBLY,MAIN	6871JB1129J	6871JB1129J	6871JB1129L	6871JB1129J	6871JB1129J	6871JB1129J	6871JB1129J	1
501F	COVER,PWB	3550JA1126G	←	←	←	←	←	←	1
501K	CASE,PWB	3110JA1020A	←	←	←	←	←	←	1
504A	PWB(PCB) ASSEMBLY,DISPLAY	6871JB1308B	6871JB1308B	6871JB1308B	6871JB1308B	6871JB1308B	6871JB1308A	6871JB1308A	1
504B	PWB(PCB) ASSEMBLY,SUB	6871JB2051E	←	←	←	←	←	←	1
504C	PWB(PCB) ASSEMBLY,SUB	6871JB2051D	←	←	←	←	←	←	1
504D	COVER,DISPLAY	3550JA2213A	←	←	←	←	←	←	1
505A	KNOB ASSEMBLY,THERMO	4941JA3001A	←	←	←	←	←	←	2
505B	BUTTON,DECO	5020JA3033A	←	←	←	←	←	←	2
505C	BUTTON,DECO	5020JA3034A	←	←	←	←	←	←	3
505D	BUTTON,LINK	5020JA3036D	←	←	←	←	←	←	3
619A	VALVE ASSEMBLY,PIPE	5221JA1008A	←	←	←	←	←	←	1
OM	MANUAL,OWNERS	3828JD8683D	3828JD8683D	3828JD8683F	3828JD8683F	3828JD8683D	3828JD8683B	3828JD8683B	1

▶ GR-J323BSD, GR-J323BTD

Model Name	GR-J40******(Buyer)	J408BSDSV	J408BSDBV	J408BSDWE	J403BTD	J408BTD	J403BSD	J403BSD	
	GR-J323***.*******	BSD.APSPDLM	BSD.ASEPDLM	BSD.ASWPDLM	BTD.ATIPALY	BTD.ATIPDLM	BSD.APSFNGI	BSD.APSGNGI	
103A	HANDLE,BACK	3650JA2061Y	3650JA2061E	3650JA2061A	3650JA2061W	3650JA2061W	3650JA2061Y	3650JA2061Y	1
103B	HANDLE,BACK	3650JA2061Z	3650JA2061F	3650JA2061B	3650JA2061X	3650JA2061X	3650JA2061Z	3650JA2061Z	1
103C	COVER,LOWER	3550JA0042E	3550JA0042K	3550JA0042J	3550JA0042C	3550JA0042C	3550JA0042E	3550JA0042E	1
104A	LEG ASSEMBLY,FRAME	4779JA2012D	←	←	←	←	←	←	1
104B	LEG ASSEMBLY,FRAME	4779JA2012C	←	←	←	←	←	←	1
105A	DRAIN ASSEMBLY,PIPE-Z	5251JA3003D	←	←	←	←	←	←	1
105B	DRAIN ASSEMBLY,PIPE-Z	5251JA2006A	←	←	←	←	←	←	1
106A	LEG ASSEMBLY,ADJUST	4779JA2005A	←	←	←	←	←	←	2
107A	COVER ASSEMBLY,DISPLAY	3551JA1086E	3551JA1086D	3551JA1086C	3551JA1086F	3551JA1086G	3551JA1086H	3551JA1086H	1
107B	COVER,DISPLAY	3550JD1081G	3550JD1081F	3550JD1081C	3550JD1081E	3550JD1081E	3550JD1081G	3550JD1081G	1
108A	TRAY ASSEMBLY,DRAIN	3391JA2027A	←	←	←	←	←	←	1
109A	CAP,SCREW	5006JA3077C	5006JA3017K	5006JA3017G	5006JA3077A	5006JA3077A	5006JA3077C	5006JA3077C	1
109B	CAP,SCREW	5006JA3017G	←	←	←	←	←	←	2
136A	TRAY ASSEMBLY,DRAWER	3391JA2028D	←	←	←	←	←	←	1
136B	TRAY ASSEMBLY,DRAWER	3391JA2028E	←	←	←	←	←	←	1
136C	TRAY ASSEMBLY,DRAWER	3391JA2028C	←	←	←	←	←	←	1
140A	DOOR ASSEMBLY,FREEZE ROOM	3581JA2008B	←	←	←	←	←	←	1
149C	SHELF,F	5026JA0015A	←	←	←	←	←	←	1
160C	ROLLER ASSEMBLY	4581JA3003C	←	←	←	←	←	←	4
184C	FRONT PLATE,C	3446JA2048F	←	←	←	←	←	←	1
200A	DOOR ASSEMBLY,F	3581JA0052E	3581JA0052D	3581JA0052C	3581JA0052F	3581JA0052G	3581JA0052H	3581JA0052H	1
200B	DOOR ASSEMBLY,R/SEMI	3581JA1055R	3581JA1055Q	3581JA1055P	3581JA1055F	3581JA1055F	3581JA1055R	3581JA1055R	1
200C	DOOR ASSEMBLY,R/SEMI	3581JA1056R	3581JA1056Q	3581JA1056P	3581JA1056F	3581JA1056F	3581JA1056R	3581JA1056R	1
201A	DOOR FOAM ASSEMBLY,F	5433JA0138E	5433JA0138D	5433JA0138C	5433JA0138B	5433JA0138B	5433JA0138E	5433JA0138E	1
201B	DOOR FOAM ASSEMBLY,R	5433JA1068Q	5433JA1068P	5433JA1068N	5433JA1068M	5433JA1068M	5433JA1068Q	5433JA1068Q	1
201C	DOOR FOAM ASSEMBLY,R	5433JA1069Q	5433JA1069P	5433JA1069N	5433JA1069M	5433JA1069M	5433JA1069Q	5433JA1069Q	1
203A	GASKET ASSEMBLY,DOOR	4987JA1024Y	←	←	←	←	←	←	1
203B	GASKET ASSEMBLY,DOOR	4987JA1024L	←	←	←	←	←	←	1
203C	GASKET ASSEMBLY,DOOR	4987JA1024M	←	←	←	←	←	←	1
212A	HANDLE ASSEMBLY,F	3651JA1007E	3651JA1007G	3651JA1007E	3651JA1007F	3651JA1007F	3651JA1007E	3651JA1007E	1
212B	HANDLE,DECO	3650JA2108F	3650JA2108E	3650JA2108D	3650JA2108C	3650JA2108C	3650JA2108F	3650JA2108F	1
212C	HANDLE,DECO	3650JA2109F	3650JA2109E	3650JA2109D	3650JA2109C	3650JA2109C	3650JA2109F	3650JA2109F	1
241A	BASKET,DOOR	5004JA0007A	←	←	←	←	←	←	1
241B	BASKET,DOOR	5004JA0006A	←	←	←	←	←	←	1
244A	HANDLE ASSEMBLY,R	3651JA1008E	3651JA1008G	3651JA1008E	3651JA1008F	3651JA1008F	3651JA1008E	3651JA1008E	1
244B	HANDLE,DECO	3650JA2110K	3650JA2110J	3650JA2110H	3650JA2110C	3650JA2110C	3650JA2110K	3650JA2110K	2
245A	BARRIER ASSEMBLY,INSULATI	4791JA1036D	←	←	←	←	4791JA1036E	4791JA1036D	1
248A	RAIL ASSEMBLY,T/V	5219JA1004D	←	←	←	←	←	←	1

Model Name	GR-J40******(Buyer)	J408BSDSV	J408BSDBV	J408BSDWE	J403BTD	J408BTD	J403BSD	J403BSD	
	GR-J323***.*******	BSD.APSPDLM	BSD.ASEPDLM	BSD.ASWPDLM	BTD.ATIPALY	BTD.ATIPDLM	BSD.APSFNGI	BSD.APSGNGI	
248B	RAIL ASSEMBLY,T/V	5219JA1004E	←	←	←	←	←	←	1
252A	BANK ASSEMBLY,SIDE DISH	5075JA1028C	←	←	←	←	←	←	2
253A	BANK ASSEMBLY,SIDE DISH	5075JA1030C	←	←	←	←	←	←	4
254A	BANK ASSEMBLY,SIDE DISH	5075JA1027C	←	←	←	←	←	←	4
255A	BANK ASSEMBLY,SIDE DISH	5075JA1023C	←	←	←	←	←	←	2
256A	BANK ASSEMBLY,SIDE DISH	5075JA1024C	←	←	←	←	←	←	2
281A	COVER,HINGE	3550JA1251D	3550JA1251G	3550JA1251F	3550JA1251C	3550JA1251C	3550JA1251D	3550JA1251D	1
281B	HINGE ASSEMBLY,U	4775JA2008D	←	←	←	←	←	←	1
282B	HINGE ASSEMBLY,C	4775JA3021A	←	←	←	←	←	←	1
301A	EVAPORATOR ASSEMBLY	5421JA0026B	←	←	←	←	5421JA0026C	5421JA0026B	1
301B	EVAPORATOR ASSEMBLY	5421JA0027B	←	←	←	←	5421JA0027D	5421JA0027B	1
304A	COVER ASSEMBLY,BACK-M/C	3551JA1039A	←	←	←	←	←	←	1
307A	COMPRESSOR,SET ASSEMBLY	2521C-A7242	←	←	←	←	2521C-A6709	2521C-A6708	1
308A	P.T.C ASSEMBLY	6748C-0003B	←	←	←	←	6748C-0004A	6748C-0004B	1
309A	O.L.P	6750C-0004V	←	←	←	←	6750C-0005Q	6750C-0005C	1
310A	COVER,P.T.C	3550JA2042A	←	←	←	←	←	←	1
312A	RUBBER,SEAT	5040JA3071A	←	←	←	←	←	←	4
314A	STOPPER,COMP	4J03277A	←	←	←	←	←	←	4
315A	COMP BASE ASSEMBLY,STD	3103JA0010C	←	←	←	←	←	←	1
315B	ROLLER	3J02312A	←	←	←	←	←	←	2
315C	PIN,DRAWING	4J04238A	←	←	←	←	←	←	2
317A	DRIER ASSEMBLY	5851JA2002T	←	←	←	←	←	←	1
318A	HOLDER,DRIER	4930JA3034A	←	←	←	←	←	←	1
319A	TRAY,DRIP	3390JA0008A	←	←	←	←	←	←	1
319C	GUIDE,FAN	4974JA1036A	←	←	←	←	←	←	1
323B	CONDENSER ASSEMBLY,WIRE	5403JA1044A	←	←	←	←	←	←	1
327A	RUBBER,DAMPING	4J03020A	←	←	←	←	←	←	1
329A	FAN ASSEMBLY	5901JA1014A	←	←	←	←	←	←	1
329B	FAN ASSEMBLY	5901JA1007A	←	←	←	←	←	←	1
329C	FAN ASSEMBLY	5901JA1013A	←	←	←	←	←	←	1
330B	SHROUD ASSEMBLY,F	4999JA1017A	←	←	←	←	←	←	1
331C	SHROUD ASSEMBLY,F	4999JA2021A	←	←	←	←	←	←	1
332A	GRILLE ASSEMBLY,FAN	3531JA1021A	←	←	←	←	←	←	1
332B	GRILLE ASSEMBLY,FAN	3531JA1022A	←	←	←	←	←	←	1
401A	CONTROLLER ASSEMBLY	6615JB2005D	←	←	←	←	←	←	1
401B	CONTROLLER ASSEMBLY	6615JB2005A	←	←	←	←	←	←	1
404A	MOTOR(MECH),FAN	4680JB1036Q	←	←	←	←	4680JB1036P	4680JB1036Q	1
404B	MOTOR(MECH),FAN	4680JB1036E	←	←	←	←	4680JB1036D	4680JB1036E	1

Model Name	GR-J40******(Buyer)	J408BSDSV	J408BSDBV	J408BSDWE	J403BTD	J408BTD	J403BSD	J403BSD	
	GR-J323***.*******	BSD.APSPDLM	BSD.ASEPDLM	BSD.ASWPDLM	BTD.ATIPALY	BTD.ATIPDLM	BSD.APSFNGI	BSD.APSGNGI	
405B	BRACKET,MOTOR	4810JA3007B	←	←	←	←	←	←	2
405C	RUBBER,MOTOR-N	J756-00008B	←	←	←	←	←	←	4
406B	SWITCH,[PUSH]	6600JB1005D	←	←	←	←	←	←	1
410G	CAPACITOR,DRAWING	X	X	X	X	X	0CZZJB2003H	0CZZJB2003C	1
411A	POWER CORD ASSEMBLY	6411JB1011A	6411JB1011A	6411JB1011A	6411JB1011E	6411JB1011A	6411JB1011B	6411JB1011H	1
418A	HEATER,SHEATH	5300JB1086F	←	←	←	←	5300JB1086G	5300JB1086F	1
418B	HEATER,SHEATH	5300JB1085A	←	←	←	←	5300JB1085C	5300JB1085A	1
420A	MOTOR(MECH),COOLING	4680JB1035G	←	←	←	←	4680JB1035F	4680JB1035G	1
501A	PWB(PCB) ASSEMBLY,MAIN	6871JB1129J	←	←	←	←	6871JB1129L	6871JB1129J	1
501F	COVER,PWB	3550JA1126G	3550JA1126C	3550JA1126B	3550JA1126G	3550JA1126G	3550JA1126G	3550JA1126G	1
501K	CASE,PWB	3110JA1020A	←	←	←	←	←	←	1
504A	PWB(PCB) ASSEMBLY,DISPLAY	6871JB1308A	6871JB1308A	6871JB1308A	6871JB1308B	6871JB1308A	6871JB1308B	6871JB1308B	1
504B	PWB(PCB) ASSEMBLY,SUB	6871JB2051E	←	←	←	←	←	←	1
504C	PWB(PCB) ASSEMBLY,SUB	6871JB2051D	←	←	←	←	←	←	1
504D	COVER,DISPLAY	3550JA2213A	3550JA2213B	3550JA2213A	3550JA2213A	3550JA2213A	3550JA2213A	3550JA2213A	1
505A	KNOB,THERMO	4940JA3037E	4940JA3037H	4940JA3037G	4941JA3001A	4941JA3001A	4940JA3037E	4940JA3037E	2
505D	BUTTON,LINK	5020JA3036G	5020JA3036P	5020JA3036N	5020JA3036D	5020JA3036D	5020JA3036G	5020JA3036G	3
604E	DEODORIZER	4756JA3001D	←	←	←	←	←	←	2
604G	COVER,DEODORIZER	3550JA2143A	←	←	←	←	←	←	2
610E	COVER,SENSOR	3550JA2035D	←	←	←	←	←	←	1
619A	VALVE ASSEMBLY,PIPE	5221JA1008A	←	←	←	←	←	←	1
OM	MANUAL,OWNERS	3828JD8683B	3828JD8683B	3828JD8683B	3828JD8683D	3828JD8683B	3828JD8683F	3828JD8683F	1

▶ GR-J303BSD

Model Name	GR-J303BSD(Buyer)				
	GR-J213BSD.******	BSD.APSFNGI	BSD.APSGNGI	BSD.ASWPALY	
103C	COVER,LOWER	3550JA0042E	3550JA0042E	3550JA0042J	1
104A	LEG ASSEMBLY,FRAME	4779JA2012D	←	←	1
104B	LEG ASSEMBLY,FRAME	4779JA2012C	←	←	1
105A	DRAIN ASSEMBLY,PIPE-Z	5251JA3003D	←	←	1
105B	DRAIN ASSEMBLY,PIPE-Z	5251JA2006A	←	←	1
106A	LEG ASSEMBLY,ADJUST	4779JA2005A	←	←	2
107A	TOP TABLE ASSEMBLY,MAIN	3125JA1007R	3125JA1007R	3125JA1007S	1
107B	INSULATION,BACK	5410JA1033A	←	←	1
107C	TOP TABLE,MAIN	3124JD1008F	3124JD1008F	3124JD1008D	1
107D	SUPPORTER,TOP TABLE	4980JA1050C	←	←	1
160C	ROLLER ASSEMBLY	4581JA3003C	←	←	6
201B	DOOR FOAM ASSEMBLY,R	5433JA1068Q	5433JA1068Q	5433JA1068N	2
201C	DOOR FOAM ASSEMBLY,R	5433JA1069Q	5433JA1069Q	5433JA1069N	1
203B	GASKET ASSEMBLY,DOOR	4987JA1024L	←	←	2
203C	GASKET ASSEMBLY,DOOR	4987JA1024M	←	←	1
241A	BASKET,DOOR	5004JA0007A	←	←	1
241B	BASKET,DOOR	5004JA0006A	←	←	1
241C	BASKET,DOOR	5004JA0012A	←	←	1
244A	HANDLE ASSEMBLY,R	3651JA1008E	←	←	3
244B	HANDLE,DECO	3650JA2110K	3650JA2110K	3650JA2110H	6
245A	BARRIER ASSEMBLY,INSULATION	4791JA1036E	4791JA1036D	4791JA1036D	1
248A	RAIL ASSEMBLY,T/V	5219JA1004C	←	←	1
248B	RAIL ASSEMBLY,T/V	5219JA1004D	←	←	1
248C	RAIL ASSEMBLY,T/V	5219JA1004E	←	←	1
252A	BANK ASSEMBLY,SIDE DISH	5075JA1028C	←	←	2
253A	BANK ASSEMBLY,SIDE DISH	5075JA1030C	←	←	6
254A	BANK ASSEMBLY,SIDE DISH	5075JA1027C	←	←	2
301A	EVAPORATOR ASSEMBLY	5421JA0027D	5421JA0027B	5421JA0027B	2
304A	COVER ASSEMBLY,BACK-M/C	3551JA1039B	←	←	1
307A	COMPRESSOR,SET ASSEMBLY	2521C-A5728	2521C-0131B	2521C-A6933	1
308A	P.T.C ASSEMBLY	6748C-0004D	6748C-0004C	6748C-0003C	1
309A	O.L.P	6750C-0005Q	6750C-0005M	6750C-0005P	1
310A	COVER,P.T.C	3550JA2042A	←	←	1
312A	RUBBER,SEAT	5040JA3035A	←	←	4
314A	STOPPER,COMP	4J03277A	←	←	4
315A	COMP BASE ASSEMBLY,STD	3103JA0010B	←	←	1
315B	ROLLER	3J02312A	←	←	2
315C	PIN,DRAWING	4J04238A	←	←	2

Model Name	GR-J303BSD(Buyer)				
	GR-J213BSD.******	BSD.APSFNGI	BSD.APSGNGI	BSD.ASWPALY	
317A	DRIER ASSEMBLY	5851JA2005E	←	←	1
318A	HOLDER,DRIER	4930JA3034A	←	←	1
319A	TRAY,DRIP	3390JA0008A	←	←	1
319C	GUIDE,FAN	4974JA1036A	←	←	1
323B	CONDENSER ASSEMBLY,WIRE	5403JA1057A	←	←	1
329A	FAN ASSEMBLY	5901JA1014A	←	←	1
329B	FAN ASSEMBLY	5901JA1007A	←	←	1
329C	FAN ASSEMBLY	5901JA1013A	←	←	1
331C	SHROUD ASSEMBLY,F	4999JA2021B	←	←	2
332A	GRILLE ASSEMBLY,FAN	3531JA1043A	←	←	1
332B	GRILLE ASSEMBLY,FAN	3531JA1022A	←	←	1
401B	CONTROLLER ASSEMBLY	6615JB2005A	←	←	2
404A	MOTOR(MECH),FAN	4680JB1036P	4680JB1036Q	4680JB1036Q	1
404B	MOTOR(MECH),FAN	4680JB1036J	4680JB1036K	4680JB1036K	1
405B	BRACKET,MOTOR	4810JA3007B	←	←	2
405C	RUBBER,MOTOR-N	J756-00008B	←	←	4
410G	CAPACITOR,DRAWING	0CZZJB2003G	0CZZJB2003C	X	1
411A	POWER CORD ASSEMBLY	6411JB1011B	6411JB1011H	6411JB1011E	1
418B	HEATER,SHEATH	5300JB1085C	5300JB1085A	5300JB1085A	2
420A	MOTOR(MECH),COOLING	4680JB1035F	4680JB1035G	4680JB1035G	1
501A	PWB(PCB) ASSEMBLY,MAIN	6871JB1129M	6871JB1129K	6871JB1129K	1
501F	COVER,PWB	3550JA1126B	←	←	1
501K	CASE,PWB	3110JA1020A	←	←	1
504A	PWB(PCB) ASSEMBLY,DISPLAY	6871JB1308D	←	←	1
504B	PWB(PCB) ASSEMBLY,SUB	6871JB2051E	←	←	1
504C	PWB(PCB) ASSEMBLY,SUB	6871JB2051C	←	←	1
504D	FILM G,IN MOLD	4200JD1064A	←	←	1
604E	DEODORIZER	4756JA3001D	←	←	2
604G	COVER,DEODORIZER	3550JA2143A	←	←	2
619A	VALVE ASSEMBLY,PIPE	5221JA1002A	←	←	1

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