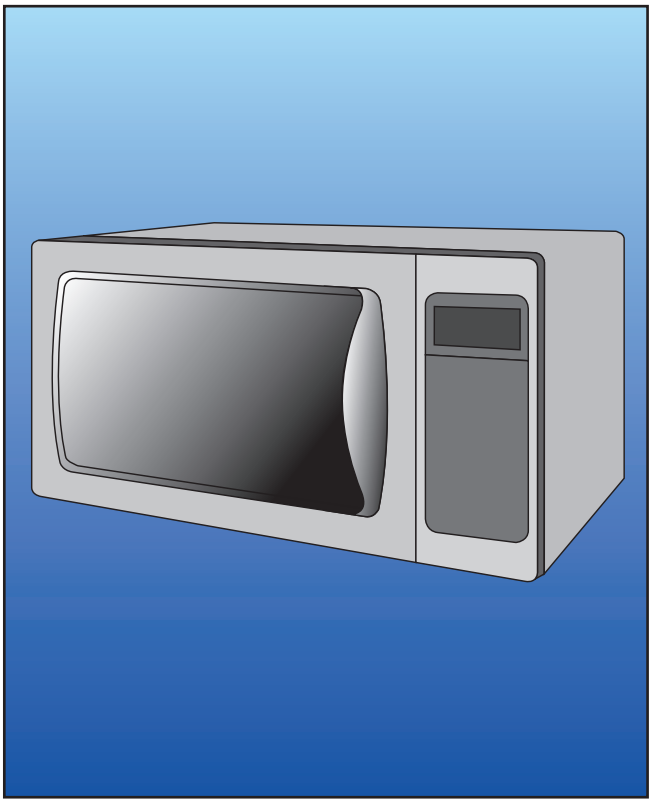
MICROWAVE OVEN

BASIC: GR87
MODEL: G2739NR
MODEL CODE: G2739NR-D/BWT
G2739NR-SD/BWT

SERVICE Manual

MICROWAVE OVEN



FEATURES

1. Competitive cost .
2. Great cooking performance.

Refer to the service manual in http://itself.sec.samsung.co.kr for more information.

Printed in Korea
Code No. : DE68-04055A

Contents

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not operate or allow the oven to be operated with the door open.

(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:
(1) Interlock operation,
(2) proper door closing,
(3) seal and sealing surfaces (arcing, wear, and other damage),
(4) damage to or loosening of hinges and latches,
(5) evidence of dropping or abuse.

(c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.

(d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

(e) A Microwave leakage check to verify compliance with the Federal performance standard should be performed on each oven prior to release to the owner.

1. Precaution

Follow these special safety precautions. Although the microwave oven is completely safe during ordinary use, repair work can be extremely hazardous due to possible exposure to microwave radiation, as well as potentially lethal high voltages and currents.

1-1 Safety precautions (⚠)

1. All repairs should be done in accordance with the procedures described in this manual. This product complies with Federal Performance Standard 21 CFR
2. Microwave emission check should be performed to prior to servicing if the oven is operative.
3. If the oven operates with the door open :Instruct the user not to operate the oven and contact the manufacturer and the center for devices and radiological health immediately.
4. Notify the Central Service Center if the microwave leakage exceeds 5 mW/cm2.
5. Check all grounds.
6. Do not power the MWO from a “2-prong” AC cord. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.
7. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including: nonmetallic control knobs and compartment covers.
8. Make sure that there are no cabinet openings through which people --particularly children--might insert objects and contact dangerous voltages. Examples: Lamp hole,ventilation slots.
9. Inform the manufacturer of any oven foundto have emission in excess of 5 mW/cm2 ,Make repairs to bring the unit into compliance at no cost to owner and try to determine cause. Instruct owner not to use oven until it has been brought into compliance.

   CENTRAL SERVICE CENTER
10. Service technicians should remove their watches while repairing an MWO.
11. To avoid any possible radiation hazard,replace parts in accordance with the wiring diagram. Also, use only the exact replacements for the following parts: Primary and secondary interlock switches, interlock monitor switch.
12. If the fuse is blown by the Interlock Monitor Switch: Replace all of the following at the same time: Primary, door sensing switch and power relay, as well as the Interlock Monitor Switch. The correct adjustment of these switches is described elsewhere in this manual. Make sure that the fuse has the correct rating for the particular model being repaired.
13. Design Alteration Warning: Use exact replacement parts only, i.e.,only those that are specified in thedrawings and parts lists of this manual. This is especially important for the Interlock switches, described above. Never alter or add to the mechanical or electrical design of the MWO. Any design changes or additions will void the manufacturer’s warranty. Always unplug the unit’s AC power cord from the AC power source before attempting to remove or reinstall any component or assembly.
14. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
15. Some semiconductor (“solid state”) devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs). Examples include integrated circuits and field-effect transistors. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground.
16. Always connect a test instrument’s ground lead to the instrument chassis ground before connecting the positive lead; always remove the instrument’s ground lead last.
17. When checking the continuity of the witches or transformer, always make sure that the power is OFF, and one of the lead wires is disconnected.
18. Components that are critical for safety are indicated in the circuit diagram by shading, ⚠ or ⚠ .
19. Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

    NOTE : Connect the oven to a 20A. When connecting the oven to a 15A,make sure that circuit breaker can operate.

1-2 Special High Voltage Precautions

1. High Voltage Warning Do not attempt to measure any of the high voltages --this includes the filament voltage of the magnetron. High voltage is present during any cook cycle. Before touching any components or wiring, always unplug the oven and discharge the high voltage capacitor (See Figure 1-1)
2. The high-voltage capacitor remains charged about 30 seconds after disconnection. Short the negative terminal of the high-voltage capacitor to to the oven chassis. (Use a screwdriver.)
3. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

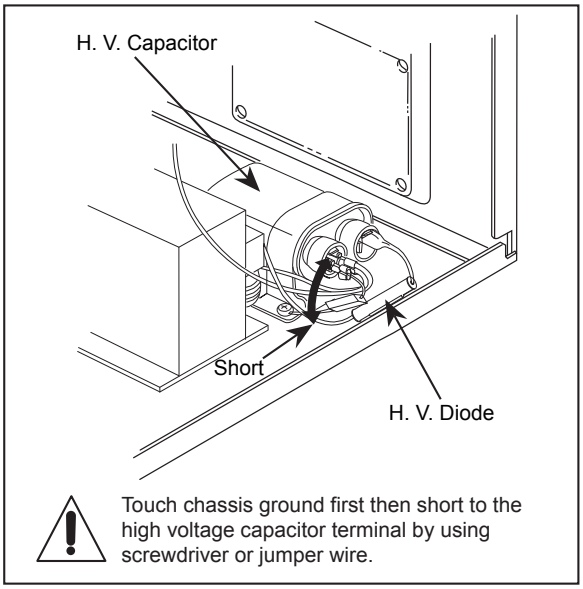


Fig. 1-1 Discharging High Voltage Capacitor

PRECAUTION

There exists HIGH VOLTAGE ELECTRICITY with high current capabilities in the circuits of the HIGH VOLTAGE TRANSFORMER secondary and filament terminals. It is extremely dangerous to work on or near these circuits with the oven energized.

DO NOT measure the voltage in the high voltage circuit including filament voltage of magnetron.

PRECAUTION

Never touch any circuit wiring with your hand nor with uninsulated tool during operation.

PRECAUTION

Servicemen should remove their watches whenever working close to or replacing the magnetron.

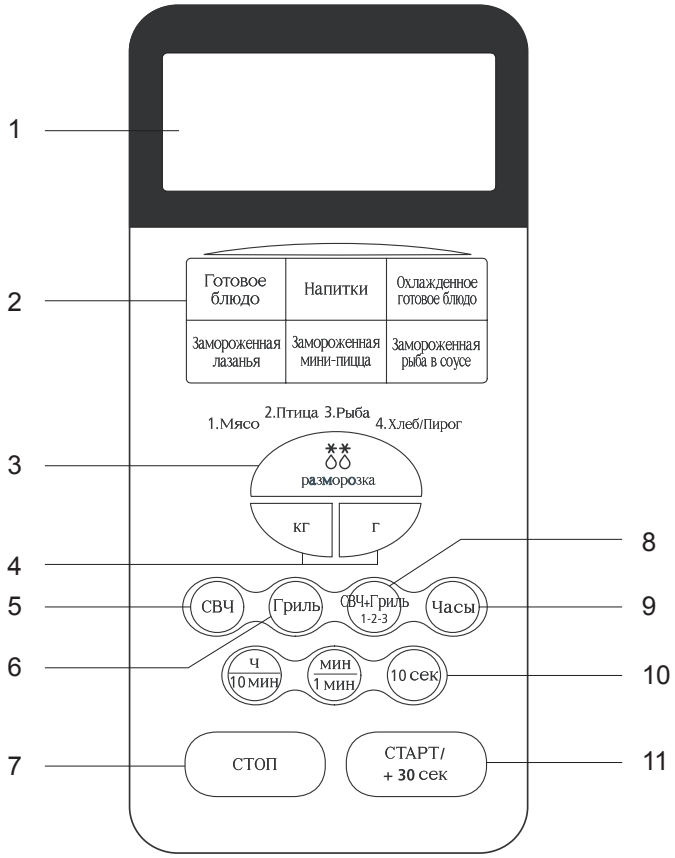
2. Specifications

2-1 Table of Specifications

ITEMS	New Model	Baselc Model
	G2739NR	GR87
Capacity	0.7 Cu. ft (20Liter)	0.7 Cu. ft (20Liter)
Cavity Dim. (WxHxD)	330 x 187 x 320	329 x 199 x 329
Outside Dim. (WxHxD)	489 x 275 x 396	421.5 x 319.5 x 436.7
M/W Distribution	Turntable	Turntable
Door open Method	Handle	Handle
Oven Tray	Glass, 288 mm	Glass, 318 mm
Oven Material	Epoxy	Epoxy
Control Method	Membrane	Tact
Display	LCD	LED-Bar
Power Levels	4 levels	6 levels
Weight (Net)	15 kg	14.5 kg
Weight (Gross)	16.5 kg	16 kg
Loading Q'ty (40ft)	755 (Sets) / 40ft	576(Sets) / 40ft
Power Source	230V / 50Hz	230V / 50Hz
Input Power	1100 W	1200 W
Output Power	750 W	800 W
Heater Power	950 W	800 W
Cooking Time	99min 90sec	99min
Auto Reheat & Cook	6	6
Auto Defrost	4	4
Baby Bottle	No	Yes

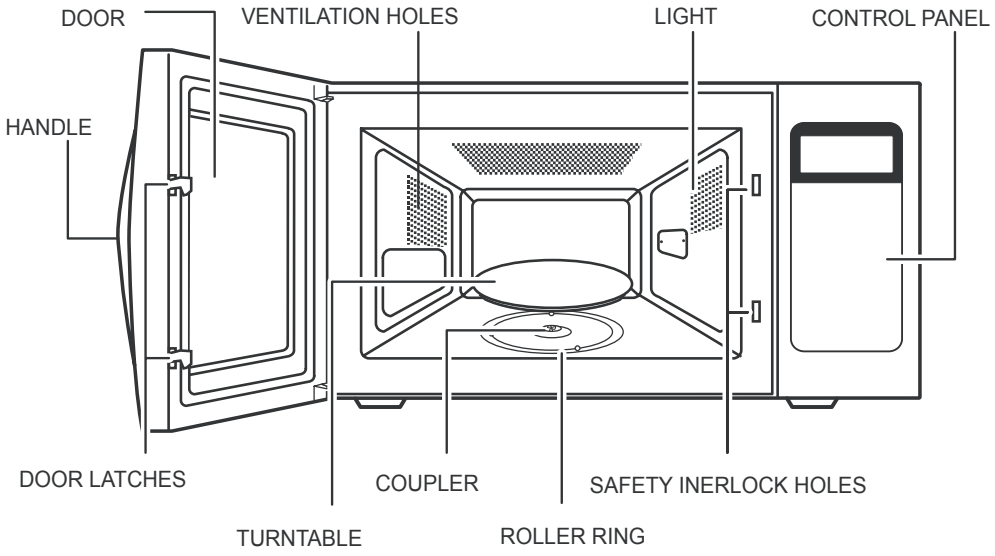
3. Operating Instructions

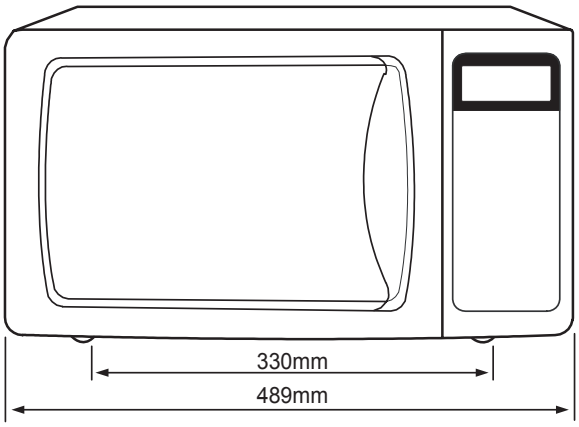
3-1 Control Panel

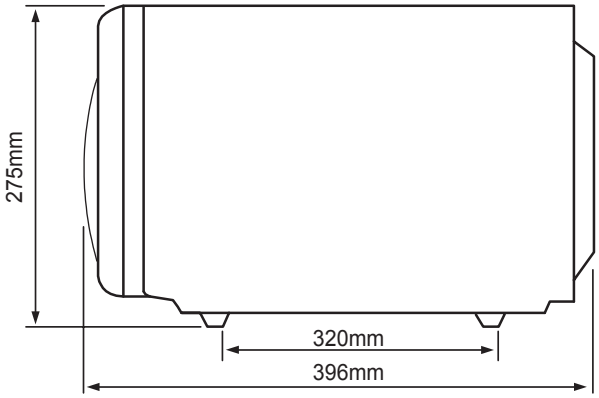


1. DISPLAY
2. INSTANT REHEAT/COOK SELECTION
3. AUTO DEFROST FEATURE SELECTION
4. WEIGHT SELECTION
5. MICROWAVE MODE SELECTION
6. GRILL MODE SELECTION
7. STOP/CANCEL BUTTON
8. COMBI MODE SELECTION
9. CLOCK SETTING
10. TIME SETTING
11. START BUTTON

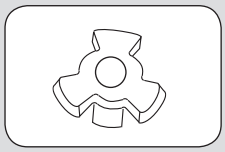
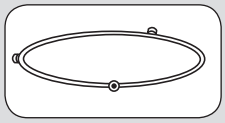
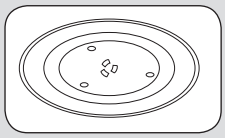
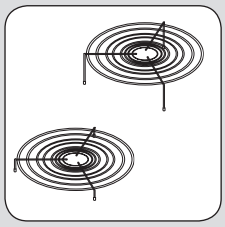
3-2 Features & External Views







3-3 Accessory

Item	Description	Code No.	Q'ty
	Coupler	DE87-00187A	1
	Roller ring	DE92-90189T	1
	Turntable	DE74-20015G	1
	Metal racks (High rack, Low rack)	DE97-00216E	1

4. Disassembly and Reassembly

4-1 Replacement of Magnetron, Motor Assembly and Lamp

Remove the magnetron including the shield case, permanent magnet, choke coils and capacitors (all of which are contained in one assembly).

1. Disconnect all lead wires from the magnetron and lamp.
2. Remove a screw securing air cover.
3. Remove the air cover.
4. Remove screws securing the magnetron to the wave guide.
5. Take out the magnetron very carefully.
6. Remove tow from the back panel of fan motor assembly.
7. Take out the fan motor assembly.
8. Remove the oven lamp by rotating to pull out from hole of air cover.

NOTE1: When removing the magnetron, make sure that its antenna does not hit any adjacent parts, or it may be damaged.

NOTE2: When replacing the magnetron, be sure to remount the magnetron gasket in the correct position and make sure the gasket is in good condition.

4-2 Replacement of High Voltage Transformer

1. Discharge the high voltage capacitor.
2. Disconnect all the leads.
3. Remove the mounting bolts.
4. Reconnect the leads correctly and firmly.

PRECAUTION

Servicemen should remove their watches whenever working close to or replacing the magnetron.

PRECAUTION

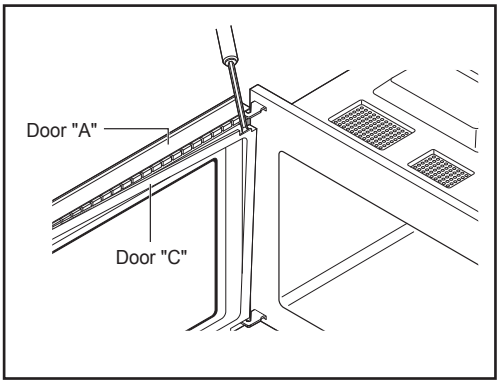
There exists HIGH VOLTAGE ELECTRICITY with high current capabilities in the circuits of the HIGHVOLTAGE TRANSFORMER secondary and filament terminals. It is extremely dangerous to work on or near these circuits with the oven energized.

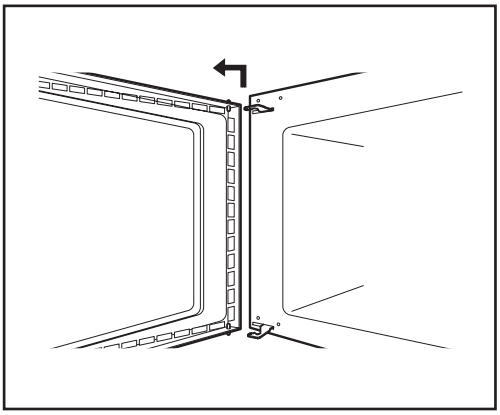
DO NOT measure the voltage in the high voltage circuit including filament voltage of magnetron.

4-3 Replacement of Door Assembly

4-3-1 Removal of Door “C”

Insert flat screwdriver into the gap between Door “A” and Door “C” to remove Door “C”. Be careful when handling Door “C” because it is fragile. Then remove the door assembly.

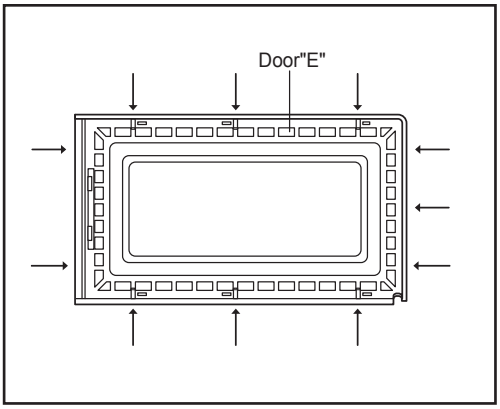




4-3-2 Removal of Door “E”

Following the procedure as shown in the figure, insert and bend a thin metal plate between Door “E” and Door “A” until you hear the ‘tick’ sound.

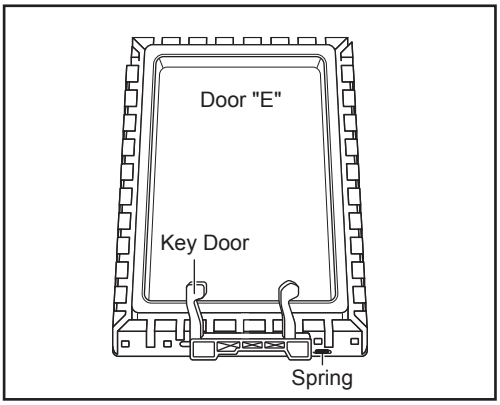
- Insertion depth of the thin metal plate should be 0.5mm or less.



4-3-3 Removal of Key Door & Spring

Remove pin hinge from Door “E”

Detach spring from Door “E” and key door.



4-3 Replacement of Door Assembly (Continued)

4-3-4 Reassembly Test

After replacement of the defective component parts of the door, reassemble it and follow the instructions below for proper installation and adjustment so as to prevent an excessive microwave leakage.

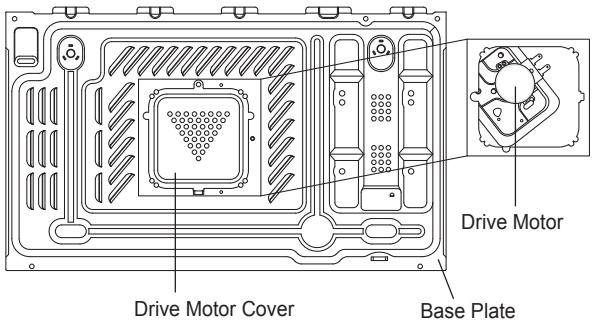
1. When mounting the door to the oven, be sure to adjust the door parallel to the bottom line of the oven face plate by moving the upper hinge and lower hinge in the direction necessary for proper alignment.
2. Adjust so that the door has no play between the inner door surface and oven front surface. If the door assembly is not mounted properly, microwave energy may leak from the space between the door and oven.
3. Do the microwave leakage test.

4-4 Replacement of Fuse

1. Disconnect the oven from the power source.
2. When 12A fuse blows out by the operation of interlock monitor switch failure, replace the primary interlock switch, door sensing switch, monitor switch and power relay.
3. When the above three switches operate properly, check if any other part such as the control circuit board, blower motor or high voltage transformer is defective.

4-5 Replacement of Drive Motor

1. Take out the glass tray, guide roller from oven cavity, disconnect power.
2. Remove turn table motor cover from case bottom.
   CAUTION : Remove sharp edge after cover removal.
3. Disconnect leads from motor.
4. Remove the screws securing motor to bottom of over cavity and lift out the motor.
5. When replacing the motor, be sure to remount it in the correct position.
   NOTE : The shaft of motor should fit tip coupler.
6. Screw the motor to bottom of oven cavity.
7. Connect leads to the drive motor.
8. Screw the drive motor cover to the base plate with a screw driver.
   NOTE : Bring the spare screw from service center.

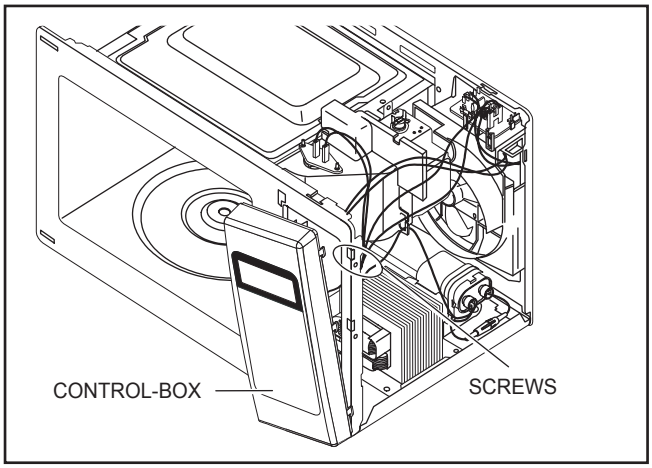


COVER FIXING SCREW : MATCHINE SCREW(6006-001170)

4-6 Replacement of Control Circuit Board

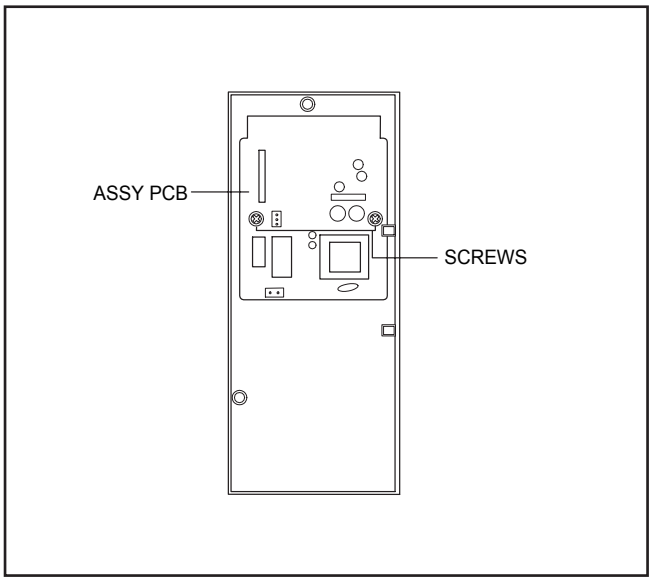
4-6-1 Removal of Control Box

1. Be sure to ground any static electric charge in your body and never touch the control circuit.
2. Disconnect the connectors from the control circuit board.
3. Remove screws securing the control box assembly.
4. Remove the screw securing the ground tail of the keyboard.



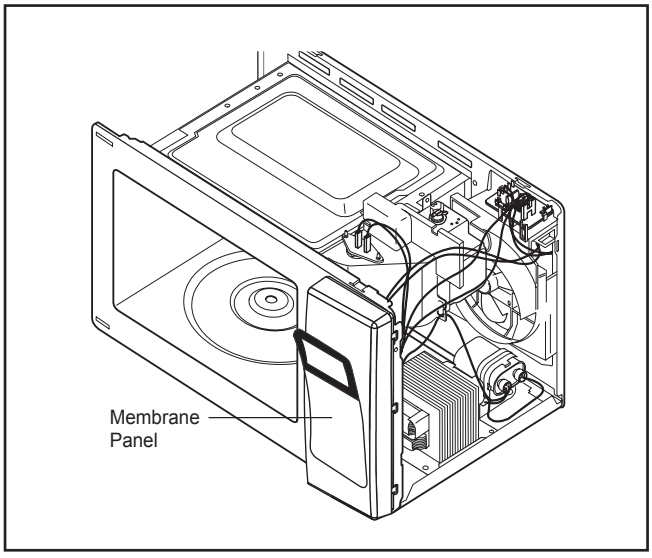
4-6-2 Removal of P.C.B Assembly

1. Pull the lever end of the plastic fastener and remove the Flexible Printed Circuit(FPC) of membrane panel.
2. Remove screws securing the control circuit board.
3. Lift up the control circuit board from the Ass'y control box.
4. When reconnecting the FPC connector, make sure that the holes on the connector are properly engaged with the hooks on the Plastic Fastener.



4-6-3 Removal of Window Display & Membrane Panel

1. Window display should not be disassembled as its mounting tabs will be broken. If repair work is difficult, replace with Ass'y control panel.
2. The membrane key board is attached to the escutcheon base with double faced adhesive tape. Therefore, applying hot air such as using of hair dryer is recommended for smoother removal.
3. When installing new membrane key board, make sure that the surface of escutcheon base is cleaned sufficiently so that any problems (shorted contacts or uneven surface) can be avoided.



5. Alignment and Adjustments

PRECAUTION

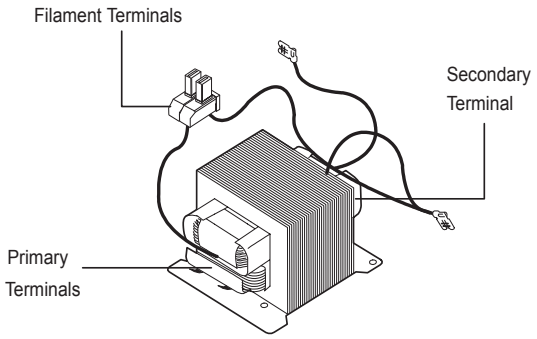
1. High voltage is present at the high voltage terminals during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components or wiring, always unplug the oven from its power source and discharge the high voltage capacitor.

5-1 High Voltage Transformer

1. Remove connectors from the transformer terminals and check continuity.
2. Normal resistance readings are as follows:

Secondary	Approx. 165.0 Ω
Filament	Approx. 0Ω
Primary	Approx. 2.4 Ω

(Room temperature = 20°C)



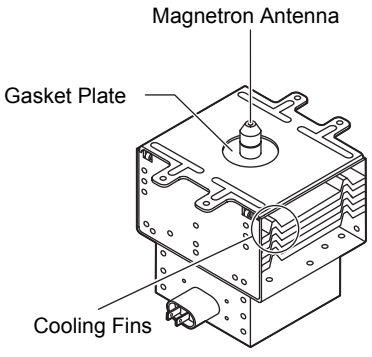
5-2 Low Voltage Transformer

1. The low voltage transformer is located on the control circuit board.
2. Remove the low voltage transformer from the PCB Ass'y and check continuity.
3. Normal resistor reading is shown in the table.

Terminals	Resistance
1~2 (Input)	1250 Ω
3~4 (Output7V)	17.4 Ω
5~6 (Output17V)	3.53Ω

5-3 Magnetron

1. Continuity checks can indicate only an open filament or a shorted magnetron. To diagnose an open filament or shorted magnetron.
2. Isolate the magnetron from the circuit by disconnecting its leads.
3. A continuity check across the magnetron filament terminals should indicate one ohm or less.
4. A continuity check between each filament terminal and magnetron case should read open.



5-4 High Voltage Capacitor

1. Check continuity of the capacitor with the meter set at the highest resistance scale.
2. Once the capacitor is charged, a normal capacitor shows continuity for a short time, and then indicates 9MΩ.
3. A shorted capacitor will show continuous continuity.
4. An open capacitor will show constant 9MΩ.
5. Resistance between each terminal and chassis should read infinite.

5-5 High Voltage Diode

1. Isolate the diode from the circuit by disconnecting its leads.
2. With the ohm-meter set at the highest resistance scale, measure across the diode terminals. Reverse the meter leads and read the resistance. A meter with 6V, 9V or higher voltage batteries should be used to check the front-to back resistance of the diode (otherwise an infinite resistance may be read in both directions). The resistance of a normal diode will be infinite in one direction and several hundred KΩ in the other direction.

5-6 Main Relay and Power Control RelayA

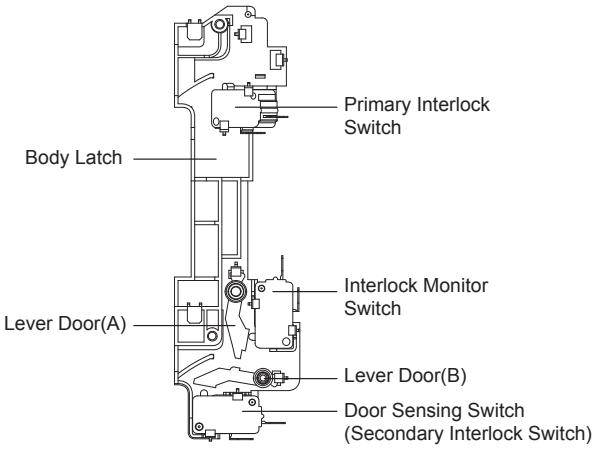
1. The relays are located on the PCB Ass'y. Isolate them from the main circuit by disconnecting the leads.
2. Operate the microwave oven with a water load in the oven. Set the power level set to high.
3. Check continuity between terminals of the relays after the start pad is pressed.

5-7 Adjustment of Primary Switch, Door Sensing Switch and Monitor Switch

PRECAUTION

For continued protection against radiation hazard, replace parts in accordance with the wiring diagram and be sure to use the correct part number for the following switches: Primary and secondary interlock switches, and the interlock monitor switch (replace all together). Then follow the adjustment procedures below. After repair and adjustment, be sure to check the continuity of all interlock switches and the interlock monitor switch.

1. When mounting Primary switch and Interlock Monitor switch to Latch Body, consult the figure.
2. No specific adjustment during installation of Primary switch and Monitor switch to the latch body is necessary.
3. When mounting the Latch Body to the oven assembly, adjust the Latch Body by moving it so that the oven door will not have any play in it. Check for play in the door by pulling the door assembly. Make sure that the latch keys move smoothly after adjustment is completed. Completely tighten the screws holding the Latch Body to the oven assembly.
4. Reconnect to Monitor switch and check the continuity of the monitor circuit and all latch switches again by following the components test procedures.
5. Confirm that the gap between the switch housing and the switch actuator is no more than 0.5mm when door is closed.
6. Interlock Switch Replacement - When replacing faulty switches, be sure switch mounting tabs are not bent, broken or otherwise deficient in their ability to secure the switches in place.



	Door Open	Door Closed
Primary Interlock switch	∞	0
Monitor switch(COM-NC)	0	∞
Monitor switch(COM-NO)	∞	0
Door Sensing S/W (Secondary Interlock S/W)	∞	0

5-8 Output Power of Magnetron

CAUTION

MICROWAVE RADIATION

PERSONNEL SHOULD NOT ALLOW EXPOSURE TO MICROWAVE RADIATION FROM MICROWAVE GENERATOR OR OTHER PARTS CONDUCTING MICROWAVE ENERGY.

The output power of the magnetron can be measured by performing a water temperature rise test.

Equipment needed :

- Two 1-liter cylindrical borosilicate glass vessel (Outside diameter 190 mm)
- One glass thermometer with mercury column

NOTE: Check line voltage under load. Low voltage will lower the magnetron output. Make all temperature and time tests with accurate equipment.

1. Fill the one liter glass vessel with water.
2. Stir water in glass vessel with thermometer, and record glass vessel's temperature ("T1", 10±1°C).
3. After moving the water into another glass vessel, place it in the center of the cooking tray. Set the oven to high power and operate for 58 seconds exactly. (3 seconds included as a holding time of magnetron oscillation:)
4. When heating is finished, stir the water again with the thermometer and measure the temperature ("T2").
5. Subtract T1 from T2. This will give you the water temperature rise. (ΔT)
6. The output power is obtained by the following formula;

$$\text{Output Power} = \frac{4.187 \times 1000 \times \Delta T + 0.55 \times Mc \times (T2 - T1)}{55}$$

58	: Heating Time (sec)
55	: Counting Time (sec)
4.187	: Coefficient for Water
1000	: Water (cc)
ΔT	: Temperature Rise (T2-T1)
To	: Room Temperature
Mc	: Cylindrical borosilicate glass weight

7. Normal temperature rise for this model is 9°C to 11°C at 'HIGH'.

NOTE 1: Variations or errors in the test procedure will cause a variance in the temperature rise. Additional power test should be made if temperature rise is marginal.

NOTE 2: Output power in watts is computed by multiplying the temperature rise (step 5) by a factor of 91 times the of centigrade temperature.

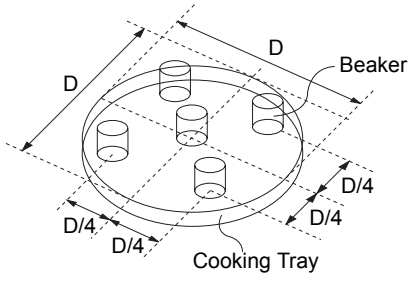
5-9 Microwave Heat Distribution - Heat Evenness

The microwave heat distribution can be checked indirectly by measuring the water temperature rise at certain positions in the oven:

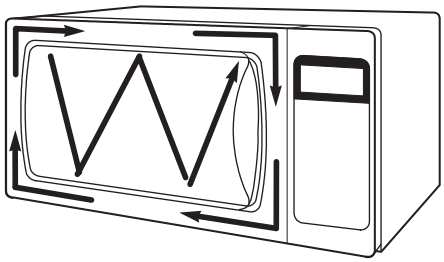
1. Prepare five beakers made of 'Pyrex', having 100 milliliters capacity each.
2. Measure exactly 100milliliters off water load with a measuring cylinder, and pour into each beaker.
3. Measure the temperature of each water load. (Readings shall be taken to the first place of decimals.)
4. Put each beaker in place on the cooking tray as illustrated in figure below. Start heating.
5. After heating for 2 minutes, measure the water temperature in each beaker.
6. Microwave heat distribution rate can be calculated as follows:

$$\text{Heat Distribution} = \frac{\text{Minimum Temperature Rise}}{\text{Minimum Temperature Rise}} \times 100(\%)$$

The result should exceed 65%



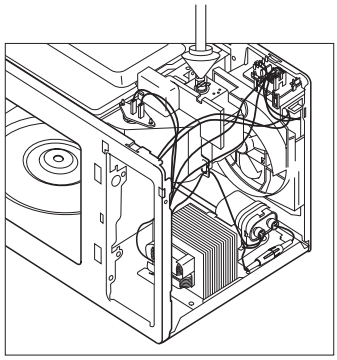
5-10 Procedure for Measurement of Microwave Energy Leakage



1. Pour 275±15cc of 20±5°C(68±9°F) water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.
2. Start to operate the oven and measure the leakage by using a microwave energy survey meter.
3. Set survey meter with dual ranges to 2,450MHz.
4. When measuring the leakage, always use the 2 inch spacer cone with the probe. Hold the probe perpendicular to the cabinet door. Place the spacer cone of the probe on the door and/or cabinet door seam and move along the seam, the door viewing window and the exhaust openings moving the probe in a clockwise direction at a rate of 1 inch/sec. If the leakage testing of the cabinet door seam is taken near a corner of the door, keep the probe perpendicular to the areas making sure that the probe end at the base of the cone does not get closer than 5cm to any metal. If it gets closer than 5cm, erroneous readings may result.
5. Measured leakage must be less than 4mW/cm2 , after repair or adjustment.

Maximum allowable leakage is 5mW/cm2 .
4mW/cm2 is used to allow for measurement and meter accuracy

5-11 Check for Microwave Leakage



1. Remove the outer panel.
2. Pour 275±15cc of 20±5°C(68±9°F) water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.
3. Start the oven at the highest power level.
4. Set survey meter dual ranges to 2,450MHz.
5. Using the survey meter and spacer cone as described above, measure near the opening of magnetron, the surface of the air guide and the surface of the wave guide as shown in the following photo.(but avoid the high voltage components.) The reading should be less than 4mW/cm2 .

5-12 Note on Measurement

1. Do not exceed the limited scale.
2. The test probe must be held on the grip of the handle, otherwise a false reading may result when the operator's hand is between the handle and the probe.
3. When high leakage is suspected, do not move the probe horizontally along the oven surface; this may cause damage to the probe.
4. Follow the recommendation of the manufacturer of the microwave energy survey meter.

5-13 Leakage Measuring Procedure

5-13-1 Record keeping and notification after measurement

1) After adjustment and repair of a radiation preventing device, make a repair record for the measured values, and keep the data.
2) If the radiation leakage is more than 4mW/cm2 after determining that all parts are in good condition, functioning properly and the identical parts are replaced as listed in this manual notify that fact to ;

   CENTRAL SERVICE CENTER

5-13-2 At least once a year have the microwave energy survey meter checked for accuracy by its manufacturer.

6. Troubleshooting

PRECAUTION

1. CHECK GROUNDING BEFORE CHECKING FOR TROUBLE.
2. BE CAREFUL OF THE HIGH VOLTAGE CIRCUIT.
3. DISCHARGE THE HIGH VOLTAGE CAPACITOR.
4. WHEN CHECKING THE CONTINUITY OF THE SWITCHES OR TRANSFORMER, DISCONNECT ONE LEAD WIRE FROM THESE PARTS AND THEN CHECK CONTINUITY WITHOUT THE POWER SOURCE ON. TO DO OTHERWISE MAY RESULT IN A FALSE READING OR DAMAGE TO YOUR METER.
5. DO NOT TOUCH ANY PART OF THE CIRCUIT OR THE CONTROL CIRCUIT BOARD, SINCE STATIC DISCHARGE MAY DAMAGE IT. ALWAYS TOUCH GROUND WHILE WORKING ON IT TO DISCHARGE ANY STATIC CHARGE BUILT UP.

6-1 Electrical Malfunction

SYMPTOM	CAUSE	CORRECTIONS
Oven is dead. Fuse is OK. No display and no operation at all .	1. Open or loose lead wire harness 2. Open thermal cutout (Magnetron) 3. Open low voltage transformer 4. Defective Ass'y PCB	Check fan motor when thermal cutout is defective. Check Ass'y PCB when L.V.T is defective.
No display and no operation at all. Fuse is blown.	1. Shorted lead wire harness 2. Defective primary latch switch (NOTE 1) 3. Defective monitor switch (NOTE 1) 4. Shorted H.V.Capacitor 5. Shorted H.V.Transformer (NOTE 2)	Check adjustment of primary, interlock monitor, power relay, door sensing switch.
	NOTE 1: All of these switches must be replaced at the same time. (refer to adjustment instructions) Check continuity of power relay contacts and if it has continuity, replace power relay also. **NOTE 2:** When H.V.Transformer is replaced, check diode and magnetron also.	
Oven does not accept key input (Program)	1. Key input is not in-Sequence 2. Open or loose connection of membrane key pad to Ass'y PCB 3. Shorted or open membrane panel 4. Defective Ass'y PCB	Refer to operation procedure. Replace PCB main.
Timer starts countdown but no microwave oscillation. (No heat while oven lamp and fan motor turn on.)	1. Off-alignment of latch switches 2. Open or loose connection of high voltage circuit especially magnetron filament circuit **NOTE:** Large contact resistance will bring lower magnetron filament voltage and cause magnetron to lower output and/or intermittent oscillation. 3. Defective high voltage components H.V.Transformer H.V. Capacitor H.V.Diode, H.V.Fuse Magnetron 4. Open or loose wiring of power relay 5. Defective primary latch switch 6. Defective power relay or Ass'y PCB	Adjust door and latch switches. Check high voltage component according to component test procedure and replace if it is defective. Replace PCB main.

6-1 Electrical Malfunction (continued)

SYMPTOM	CAUSE	CORRECTIONS
Oven lamp and fan motor turn on	1. Misadjustment or loose wiring of primary latch switch 2. Defective primary latch switch	Adjust door and latch switches.
Oven can program but timer does not start.	1. Open or loose wiring of secondary i nterlock switch 2. Off-alignment of primary interlock 3. Defective secondary interlock S/W	Adjust door and interlock switches.
Microwave output is low;. Oven takes longer time to cook food.	1. Decrease in power source voltage. 2. Open or loose wiring of magnetron filament circuit. (Intermittent oscillation)) 3. Aging of magnetron	Consult electrician.
Fan motor turns on when plugged in	Loose wiring of door sensing switch	Check wire of door sensing switch.
Oven does not operate and return to the plugged in mode.	Defective Ass'y PCB	Replace PCB main.
Loud buzzing noise can be heard.	1. Loose fan and fan motor 2. Loose screws on H.V.Transformer 3. Shorted H.V.Diode	Tighten screws of fan motor. Tighten screws of H.V.Transformer. Replace H.V.Diode.
Turntable motor does not rotate.	1. Open or loose wiring of turntable motor. 2. Defective turntable motor.	Replace turntable motor.
Oven stops operation during cooking	1. Open or loose wiring of primary interlock switch 2. Operation of thermal cutout (Magnetron)	Adjust door and latch switches.
Sparks	1. Metallic ware or cooking dishes touching on the oven wall. 2. Ceramic ware trimmed with gold or silver powder also causes sparks.	Inform the customer. Do not use any type of cookware with metallic trimming.
Uneven cooking	Uneven intensity of microwave due to its characteristics.	Wrap thinner parts of the food with aluminum foil. Use plastic wrap or cover with a lid. Stir once or twice while cooking foods such as soup, cocoa, or milk.
Noise from the turntable motor when it starts to operate.	Noise may result from the motor.	Replace turntable motor.

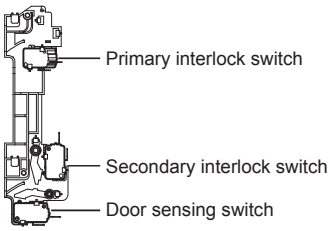
Oven does not operate.

***Inspection method**

Is Fuse OK? — NO

Is Primary interlock switch normal? — NO

Make sure to inspect the power relay after replacing primary interlock switch, secondary interlock switch and door sensing switch.



*Latch switch assembly

YES

YES

Is Power Relay normal?

Replace Relay

Is the magnetron temperature switch normal? — NO

Replace switch — NO

Check a fan motor after replacing switch

YES

Is L.V.T normal? — NO

Replace L.V.T.

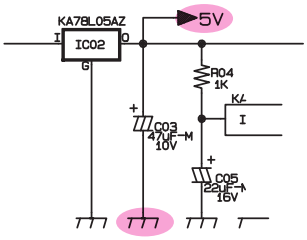
Check PCB after replacing L.V.T.

YES

Is the IC01 output of PCB normal? — NO

Replace PCB.

Power Point Check Point



YES

Checking high voltagecircuits

Is high voltage diode normal? — NO

YES

Is high voltage capacitor normal? — NO

In case any of high voltage parts is damaged, check all parts related to high votlage.

YES

Is magnetron normal? — NO

Caution

1.Be careful of high voltage circuits.

2. Discharge high voltage capacitor.

Buttons of the control panel do not work.

*Inspection method

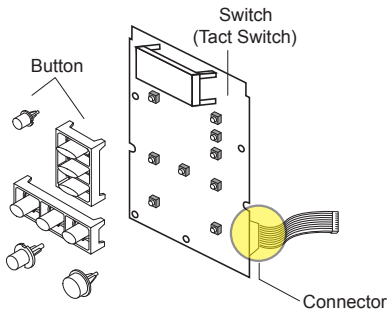
Are buttons pressed in the correct order?

NO → Refer to User Manual

YES

Is the connector of the control panel normal?

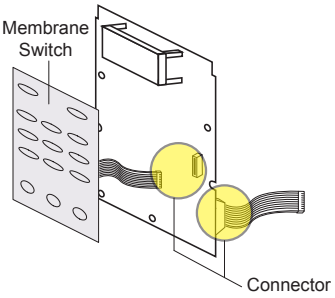
NO → Tact Type



YES

Replace PCB.

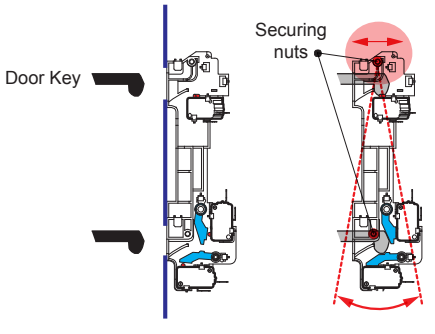
Membrane Type



Food is not heated even though an oven works.

Is the latch switch operating normally?

NO → Method to control latch switch



1. Loosenly tighten the nuts to check whether the primary interlock switch works by slightly moving latches to right and left. Then firmly tighten nuts.
2. Check whether the secondary interlock switch and door sensing switch work by slightly moving latches to right and left, then firmly tighten nuts.

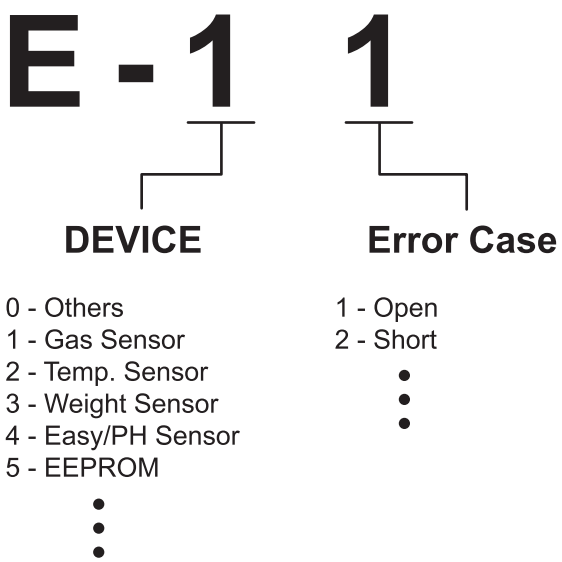
YES

Checking high voltage circuits

Refer to "Checking high voltage circuits" on the previous page.

6-2 Error Code Numbering Rule

1. ERROR CODE NUMBERING RULE is applied to a microwave oven and an oven.(CMO, OTR, Grill, Convection, Commercial etc.)
2. All sensors and devices have their own number. ex) Gas Sensor = 1, Temp. Sensor = 2, ...
3. Of each device, No.1 and No.2 refer to “Open Error” (not sensed) and “Short Error”, respectively.
4. For unusual cases, errors can be indicated in letters after discussion in advance. ex) Key Short Error (-SE-)
5. Error code not mentioned below should be discussed in advance and approved by P/L and numbered, reported to relevant departments.
6. This numbering rule has been applied to models to have been developed since January, 1, 2005. (But, GE or Customize model are excluded.)



6-2 Error Code Numbering Rule(continued)

Error Code List

Gas Sensor

Error Code	Gas Sensor Error Case (E-1X)
E-11	Open
E-12	Short
E-13	T1 Max Time Error
E-14	Dry Up / No Load

Temp Sensor

Error Code	Temp. Sensor Error Case (E-2X)
E-21	Open
E-22	Short
E-23	T1 Max Time Error (Preheating not completed)
E-24	Over temperature error
E-25	In case abnormal temperature is sensed at Micro Cook
E-26	In case the temperature is not over the fixed AD in first 3 minutes after cooking by heater starts.

Weight Sensor

Error Code	Gas Sensor Error Case (E-1X)
E-31	Open (When value of HEX is above “FF” for 5 seconds)
E-32	Short
E-33	In case the initial value of HEX is under “14” for 30 seconds while a weight sensor in operation.
E-34	In case the initial value of K calculated by a weight sensor is above and under “±28” as value of HEX.
E-35	In case the value of A is “-” as a weight sensor calculates.
E-36	In case the door opens during sensor cooking.

Easy/Ph Sensor

Error Code	Easy/PH Sensor Error Case (E4)
E-41	Open
E-42	Short
E-43	T1 Max Time Error
E-44	Dry Up
E-45	Cooling Error (3minutes)
E-46	Primary Open Error(3minutes)
E-47	The door opens during cooking

6-2 Error Code Numbering Rule(continued)

Error Code List

Eeprom Error

Error Code	EEPROM Error Case (E-5X)
E-51	Open (Sense Failure)
E-53	Read/Write Error
E-54	Zero not to be set

Humidity Sensor

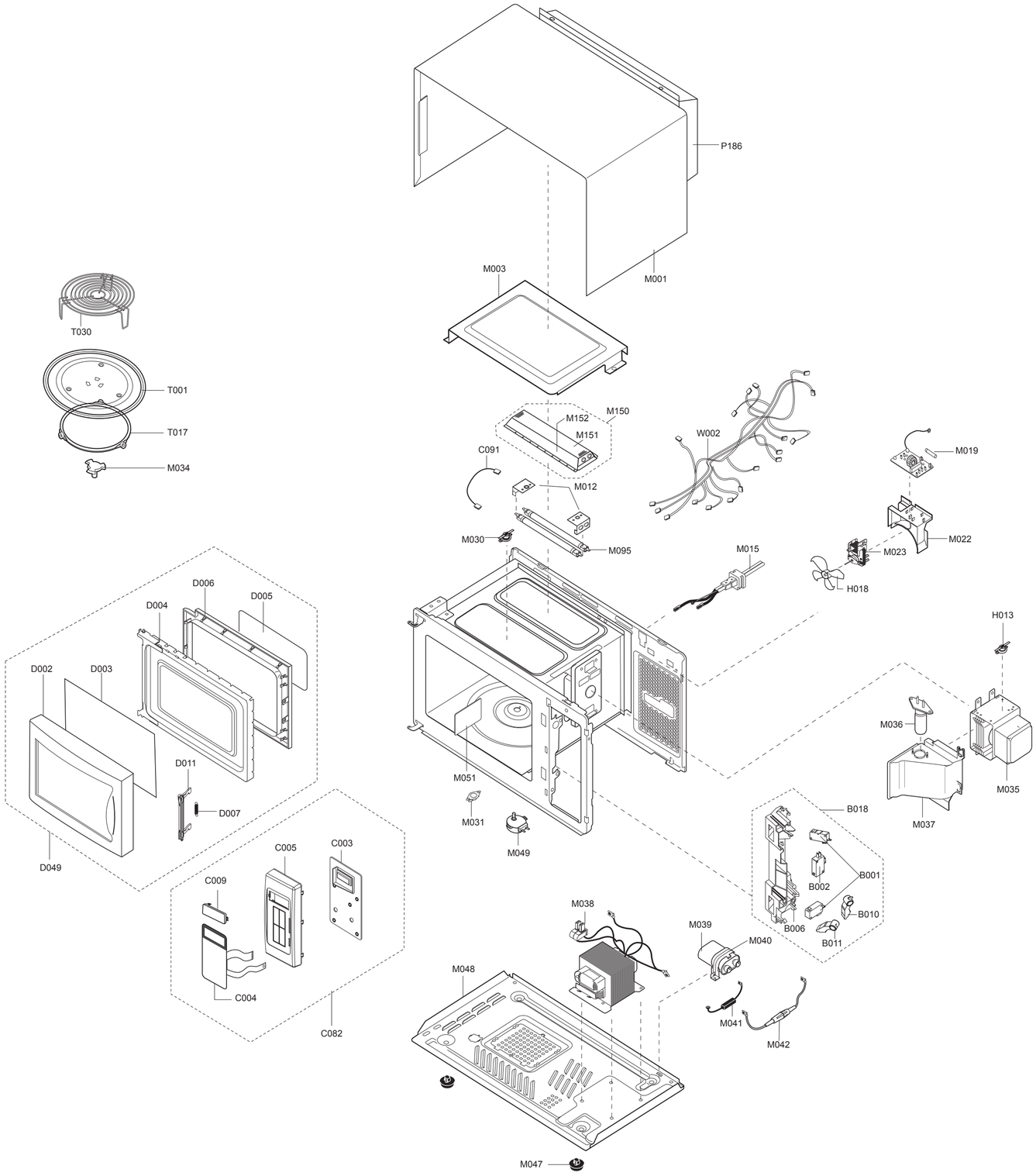
Error Code	Humidity Sensor Error Case (E-6X)
E-61	Open
E-62	Short
E-63	T1 Max Time Error

Others

Error Code	Others (E-0X, Letter)
-SE-	Key Short Error (10 seconds)
E-01	The door opens in case the door should not be opened.
E-02	Cooking Time Setting Over Error (MWO)
E-03	Cooking Time Setting Over Error (Grill)
E-04	Cooking Time Setting Over Error (Convection)
E-05	Cooking Time Setting Over Error (Combination)
E-06	It fails to sense that the swing heater has stopped for 20 seconds during cooking.
E-08	In case function of MWO starts with spit inserted into cavity inside.
E-09	In case the damper is not set to be positioned for 2 minutes.

7. Exploded Views and Parts List

7-1 Exploded Views



7-2 Main Parts List

G2739NR-D

(S.N.A : SERVICE NOT AVAILABLE)

Level	No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
1-1	M041	0402-001554	HVDIODE-RECTIFIER	HV03-12T01,12000V,0.4A	1	SA	PACKING
1-1	M039	2501-001011	C-OIL	910nF,2100V,BK,54x35x75mm,20 mm	1	SA	PACKING
1-1	M019	3601-001019	FUSE-CARTRIDGE	250V,12A,SLOW-BLOW,CERAMI	1	SA	PACKING-N/ FILTER
1-1	M036	4713-001046	LAMP-INCANDESCENT	240V,104mA,25W,ORG,-,-	1	SA	MAIN-CV/AIR
1-1	M038	DE26-00099A	TRANS H.V	SHV-EURO1-1,230V,50HZ,2330V,3.	1	SA	PACKING
1-1	M049	DE31-10154A	MOTOR SYNCHRONOUS	M2HJ49ZR02,ST-16,50/60	1	SA	MAIN
1-1	M023	DE31-10184A	MOTOR-FAN	SMF-3RDEA,230V50Hz,2400rpm, 3rd	1	SA	PACKING
1-1	H018	DE31-90057A	BLADE-FAN	PP,T1.5,-,3RD-W,-,-,-	1	SA	PACKING
1-1	M015	DE39-20058L	ASSY POWER CORD	CE2713/XEF,1.5SQ,230V50H	1	SA	PACKING
1-1	C091	DE39-30097B	LEAD WIRE-G	L100,MBQ45,GRILL,-,-,-,-	1	SA	MAIN
1-1	M031	DE47-00002B	THERMOSTAT	PW2N,-,-,100,110,-,-,-,187H,3	1	SA	MAIN-CAVITY
1-1	M095	DE47-00024A	HEATER	SHQ-E2712A,-,-,490W,-,115V,26OHM,	2	SA	MAIN
1-1	H013	DE47-20009A	THERMOSTAT	PW2N-520PB,160/60,250V/7.5A,H	1	SA	PACKING-MGT
1-1	M030	DE47-20032A	THERMOSTAT	PW-2N,85/75,-,-,-,-,-,-	1	SA	MAIN-GRILL
1-1	M040	DE61-00139A	BRACKET-HVC	NC2000,SECC,T0.8,-,-,-,0.6/0	1	SNA	PACKING
1-1	M003	DE61-00263A	BRACKET-UPPER	N7Q88,SECC,T0.5,-,-,-,QUAR	1	SNA	MAIN
1-1	M012	DE61-00265A	BRACKET-HEATER	N7Q88,ALSTAR,T0.5,W49.5,L	2	SNA	MAIN
1-1	M047	DE61-40066A	FOOT	-,PP,-,BLK,-,-,-	2	SA	MAIN-B/ PLATE
1-1	M034	DE67-00140A	COUPLER	PPS,(ESS840),3G,BRN,NEW	1	SA	MAIN
1-1	M001	DE70-00184A	PANEL-OUTER	SECC T0.5 MW850WA 0.8	1	SA	MAIN
1-2	M150	DE96-00155A	ASSY-HEATER COVER	N7Q88,QUARTZ	1	SNA	
1-3	M151	DE63-00076A	COVER-HEATER(U)	N7Q88,ALSTAR,T0.5,W160,L	1	SNA	
1-3	M152	DE71-60353A	COVER-HEATER(L)	-,STS304,T0.5,160,290,-,	1	SA	
1-1	M022	DE71-00148A	COVER-BLOWER	PP,T1.5NTR MW850WA NC2000	1	SA	MAIN
1-1	M051	DE71-00151A	COVER MGT	PP,T2,W54,L129,GE-WHTMW850WA	1	SA	MAIN
1-1	P186	DE71-60298A	COVER-BACK	-,SECC,T0.6,W273,L633,-,M6Q45	1	SA	MAIN
1-1	M037	DE71-60457C	COVER-AIR	3RD-0.7(BTM),PP(FB53 G30),-,-,	1	SA	MAIN
1-1	T001	DE74-20102B	TRAY-COOKING	GLASS,T5.0,M745,-,-	1	SA	MAIN
1-1	T030	DE74-70071D	RACK-WIRE	MSWR10,PI3,0.7/NC2000,D230,H85	1	SA	MAIN
1-1	M048	DE80-00023A	BASE PLATE	SGCC T0.6 MW850WA NC2000	1	SA	MAIN
1-1	M042	DE91-70061J	ASSY-H.V.FUSE	THV060T-0650-H,5KV0.65A,WL	1	SA	PACKING
1-1	B018	DE96-00120B	ASSY BODY LATCH	M1717N NC2000 (HANDLE)	1	SA	MAIN
1-2	B010	DE66-00093A	LEVER SWITCH (A)	NC2000 PP-TH53 NTR HA	1	SA	
1-2	B011	DE66-00094A	LEVER-SWITCH(B)	NC2000,PP-TH53,-,-,-,-,N	1	SA	
1-2	B006	DE72-00137B	LATCH-BODY	PG113R,NYLON,WHT,-,-,-,-,-	1	SA	
1-2	B002	3405-001032	SWITCH-MICRO	125/250VAC,16A,200GF,SPDT	1	SA	ASSY BODY LATCH
1-2	B001	3405-001034	SWITCH-MICRO	125/250VAC,16A,200GF,SPST-N	2	SA	ASSY BODY LATCH
1-1	W002	DE96-00227A	ASSY-WIRE HARNESS A	G2739N,230V50HZ,EURO	1	SA	MAIN
1-1	T017	DE97-00193B	ASSY-GUIDE ROLLER	NC2000 0.6,T2*P1198(14	1	SA	MAIN
1-1	M035	OM75S(31)ESGN	ASSY-MGT		1	SA	PACKING

7-2 Main Parts List (Continued)

G2739NR-SD

(S.N.A : SERVICE NOT AVAILABLE)

Level	No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
1-1	M041	0402-001554	HVDIODE-RECTIFIER	HV03-12T01,12000V,0.4A	1	SA	PACKING
1-1	M039	2501-001011	C-OIL	910nF,2100V,BK,54x35x75mm,20 mm	1	SA	PACKING
1-1	M019	3601-001019	FUSE-CARTRIDGE	250V,12A,SLOW-BLOW,CERAMI	1	SA	PACKING-N/ FILTER
1-1	M036	4713-001046	LAMP-INCANDESCENT	240V,104mA,25W,ORG,-,-	1	SA	CV/AIR
1-1	M038	DE26-00099A	TRANS H.V	SHV-EURO1-1,230V,50HZ,2330V,3.	1	SA	PACKING
1-1	M049	DE31-10154A	MOTOR SYNCHRONOUS	M2HJ49ZR02,ST-16,50/60	1	SA	MAIN
1-1	M023	DE31-10184A	MOTOR-FAN	SMF-3RDEA,230V50Hz,2400rpm, 3rd	1	SA	PACKING
1-1	H018	DE31-90057A	BLADE-FAN	PP,T1.5,-,3RD-W,-,-,-	1	SA	PACKING
1-1	M015	DE39-20058L	ASSY POWER CORD	CE2713/XEF,1.5SQ,230V50H	1	SA	PACKING
1-1	C091	DE39-30097B	LEAD WIRE-G	L100,MBQ45,GRILL,-,-,-,-	1	SA	MAIN
1-1	M031	DE47-00002B	THERMOSTAT	PW2N,-,-,100,110,-,-,-,187H,3	1	SA	MAIN-CAVITY
1-1	M095	DE47-00024A	HEATER	SHQ-E2712A,-,-,490W,- ,115V,26OHM,	2	SA	MAIN
1-1	H013	DE47-20009A	THERMOSTAT	PW2N-520PB,160/60,250V/7.5A,H	1	SA	PACKING-MGT
1-1	M030	DE47-20032A	THERMOSTAT	PW-2N,85/75,-,-,-,-,-,-	1	SA	MAIN-GRILL
1-1	M040	DE61-00139A	BRACKET-HVC	NC2000,SECC,T0.8,-,-,-,0.6/0	1	SNA	PACKING
1-1	M003	DE61-00263A	BRACKET-UPPER	N7Q88,SECC,T0.5,-,-,-,QUAR	1	SNA	MAIN
1-1	M012	DE61-00265A	BRACKET-HEATER	N7Q88,ALSTAR,T0.5,W49.5,L	2	SNA	MAIN
1-1	M047	DE61-40066A	FOOT	-,PP,-,BLK,-,-,-	2	SA	MAIN
1-1	M034	DE67-00140A	COUPLER	PPS,(ESS840),3G,BRN,NEW	1	SA	MAIN
1-1	M001	DE70-00184H	PANEL OUTER	NC-2000,SECC,T0.5,SILVER	1	SA	MAIN
1-1	M022	DE71-00148A	COVER-BLOWER	PP,T1.5NTR MW850WA NC2000	1	SA	MAIN
1-1	M051	DE71-00151A	COVER MGT	PP,T2,W54,L129,GE-WHTMW850WA	1	SA	MAIN
1-1	P186	DE71-60298A	COVER-BACK	-,SECC,T0.6,W273,L633,-,M6Q45	1	SA	MAIN
1-1	M037	DE71-60457C	COVER-AIR	3RD-0.7(BTM),PP(FB53 G30),-,-,	1	SA	MAIN
1-1	T001	DE74-20102B	TRAY-COOKING	GLASS,T5.0,M745,-,-	1	SA	MAIN
1-1	T030	DE74-70071D	RACK-WIRE	MSWR10,PI3,0.7/NC2000,D230,H85	1	SA	MAIN
1-1	M048	DE80-00023A	BASE PLATE	SGCC T0.6 MW850WA NC2000	1	SA	MAIN
1-1	M042	DE91-70061J	ASSY-H.V.FUSE	THV060T-0650-H,5KV0.65A,WL	1	SA	PACKING
1-2	M150	DE96-00155A	ASSY-HEATER COVER	N7Q88,QUARTZ	1	SNA	
1-3	M151	DE63-00076A	COVER-HEATER(U)	N7Q88,ALSTAR,T0.5,W160,L	1	SNA	
1-3	M152	DE71-60353A	COVER-HEATER(L)	-,STS304,T0.5,160,290,-,	1	SA	
1-1	B018	DE96-00120B	ASSY BODY LATCH	M1717N NC2000 (HANDLE)	1	SA	MAIN
1-2	B010	DE66-00093A	LEVER SWITCH (A)	NC2000 PP-TH53 NTR HA	1	SA	
1-2	B011	DE66-00094A	LEVER-SWITCH(B)	NC2000,PP-TH53,-,-,-,-,N	1	SA	
1-2	B006	DE72-00137B	LATCH-BODY	PG113R,NYLON,WHT,-,-,-,-,-	1	SA	
1-2	B002	3405-001032	SWITCH-MICRO	125/250VAC,16A,200GF,SPDT	1	SA	ASSY BODY LATCH
1-2	B001	3405-001034	SWITCH-MICRO	125/250VAC,16A,200GF,SPST-N	2	SA	ASSY BODY LATCH
1-1	W002	DE96-00227A	ASSY-WIRE HARNESS A	G2739N,230V50HZ,EURO	1	SA	MAIN
1-1	T017	DE97-00193B	ASSY-GUIDE ROLLER	NC2000 0.6,T2*P1198(14	1	SA	MAIN
1-1	M035	OM75S(31)ESGN	ASSY-MGT		1	SA	PACKING

7-3 Control & Door Parts List

G2739NR-D

(S.N.A : SERVICE NOT AVAILABLE)

Level	No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
1-1	D049	DE94-00552L	ASSY DOOR	M1719NP/WHTSILKTDS+SAM	1	SA	MAIN
1-2	D005	DE01-00112A	FILM-DOOR	-,PET,-,L268,T0.15,W150,NTR,-,	1	SA	
1-2	D007	DE61-00198A	SPRING KEY	M1877,HSWR D6,23 1/4 T0.7	1	SA	
1-2	D003	DE63-00059A	SCREEN-DOOR	M1729N,SAN,-,-,-,SMOG,-,-	1	SA	
1-2	D011	DE64-00264A	DOOR-KEY	3RD-W,NEW,POM,-,BLK,-,-,-,	1	SA	
1-2	D002	DE64-00292L	DOOR-A	M1719N/XEC,ABS,-,-,-,-,PURE-WHT,S	1	SNA	
1-2	D006	DE64-40008B	DOOR-C	-,PP,CE745G,-,-,-,BLK,-	1	SA	
1-2	D004	DE92-50133C	ASSY DOOR-E	MW4593G,-,BLK,3RD-0.7,-,-,-	1	SA	
1-1	C082	DE94-00805G	ASSY CONTROL-BOX	230V49HZ,G2739NR/BWT,PU	1	SNA	MAIN
1-2	C004	DE34-00115F	SWITCH MEMBRANE	NEW G2739NR-S/BWT,-,-,PE	1	SA	
1-2	C005	DE64-00713A	CONTROL-PANEL	G2739N,ABS(HG0760),-,-,-,-	1	SA	
1-2	C009	DE67-40179A	WINDOW-DISPLAY	SAN,T2.0,-,-,SMOG,-,3RD-W	1	SA	
1-2	C003	RCS-N2LED1-39	ASSY PCB PARTS	G2739NR,230V60HZ	1	SA	

G2739NR-SD

(S.N.A : SERVICE NOT AVAILABLE)

Level	No.	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
1-1	D049	DE94-00552K	ASSY DOOR	M1719N-S/XEU,SILVER,SILK(TDS+S	1	SA	MAIN
1-2	D005	DE01-00112A	FILM-DOOR	-,PET,-,L268,T0.15,W150,NTR,-,	1	SA	
1-2	D007	DE61-00198A	SPRING KEY	M1877,HSWR D6,23 1/4 T0.7	1	SA	
1-2	D003	DE63-00059A	SCREEN-DOOR	M1729N,SAN,-,-,-,SMOG,-,-	1	SA	
1-2	D011	DE64-00264A	DOOR-KEY	3RD-W,NEW,POM,-,BLK,-,-,-,	1	SA	
1-2	D002	DE64-00292K	DOOR-A	M1719N-S/XEU,ABS,-,-,-,-,SILVER,S	1	SA	
1-2	D006	DE64-40008B	DOOR-C	-,PP,CE745G,-,-,-,BLK,-	1	SA	
1-2	D004	DE92-50133C	ASSY DOOR-E	MW4593G,-,BLK,3RD-0.7,-,-,-	1	SA	
1-1	C082	DE94-00805F	ASSY CONTROL-BOX	230V49HZ,G2739NR-S/BWT,	1	SA	MAIN
1-2	C004	DE34-00115E	SWITCH MEMBRANE	G2739NR-S/BWT,-,-,PET,-,	1	SA	
1-2	C005	DE64-00713B	CONTROL-PANEL	G2739N-S,ABS(HG0760),-,-,-	1	SA	
1-2	C009	DE67-40179A	WINDOW-DISPLAY	SAN,T2.0,-,-,SMOG,-,3RD-W	1	SA	
1-2	C003	RCS-N2LED1-39	ASSY PCB PARTS	G2739NR,230V60HZ	1	SA	

7-4 Standard Parts List

(S.N.A : SERVICE NOT AVAILABLE)

Level	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
1-1	6002-001320	SCREW-TAPPING	TH,+,2S,M4,L8,PASS	2	SNA	MAIN-O/PANEL
1-1	6002-001325	SCREW-TAPPING	TH,TORX,2S,M4,L12,ZPC(YEL)	1	SNA	MAIN-C-BACK
1-1	6006-001170	SCREW-ASSY TAPP	WS,TH,+,M4,L10,ZPC(YEL)	3	SNA	PACKING-P/C EARTH
1-1	6006-001176	SCREW-ASSY TAPT	WT,PH,+,M4,L8,ZPC(YEL)	3	SNA	PACKING-MGT-TCO
1-1	DE60-10051A	SCREW-TAP PH	-,-,MSWR,-,PH,M4,-,L6,-,-	1	SNA	MAIN-D/MOTOR
1-1	DE60-10080A	SCREW-WASHER	-,-,-,-,M5,L12,-,2S,-,-	2	SA	PACKING-MGT
1-1	DE60-10082I	SCREW-A	-,-,-,-,2S-4X10,FEFZY,-,-,-,-	6	SNA	MAIN-O/PANEL
1-1	DE60-30016A	NUT-FLANGE	M4,MSWR10,-,-,-,-,-,-,-	1	SA	PACKING-F-MOTOR
1-2	6002-000630	SCREW-TAPPING	PH,+,2S,M3,L8,ZPC(YEL),SWR	1	SNA	ASSY-PCB

8. Schematic Diagrams

8-1 Schematic Diagrams

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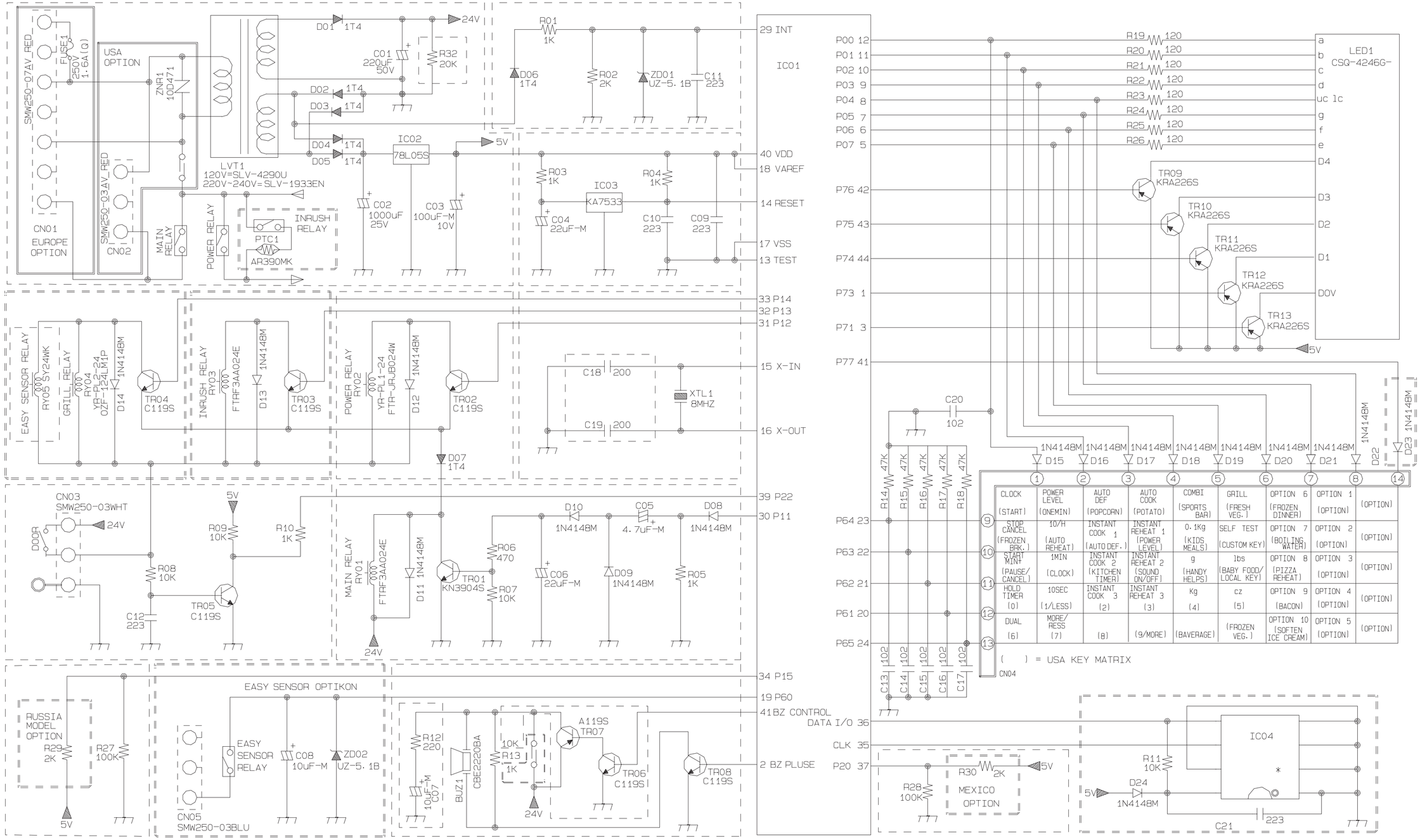

1	2	3	4	5	6	7	8	14	
CLOCK (START)	POWER LEVEL (ONEMIN)	AUTO DEF (POPCORN)	AUTO COOK (POTATO)	COMBI (SPORTS BAR)	GRILL (FRESH VEG.)	OPTION 6 (FROZEN DINNER)	OPTION 1 (OPTION)	(OPTION)	
STOP CANCEL (FROZEN BRK.)	10'/H (AUTO REHEAT)	INSTANT COOK 1 (AUTO DEF.)	INSTANT REHEAT 1 (POWER LEVEL)	0.1Kg (KIDS MEALS)	SELF TEST (CUSTOM KEY)	OPTION 7 (BOILING WATER)	OPTION 2 (OPTION)	(OPTION)	
START MIN+ (PAUSE/ CANCEL)	1MIN (CLOCK)	INSTANT COOK 2 (KITCHEN TIMER)	INSTANT REHEAT 2 (SOUND ON/OFF)	g (HANDY HELPS)	lbs (BABY FOOD/ LOCAL KEY)	OPTION 8 (PIZZA REHEAT)	OPTION 3 (OPTION)	(OPTION)	
HOLD TIMER (0)	10SEC (1/LESS)	INSTANT COOK 3 (2)	INSTANT REHEAT 3 (3)	Kg (4)	cz (5)	OPTION 9 (BACON)	OPTION 4 (OPTION)	(OPTION)	
DUAL (6)	MORE/ RESS (7)	(8)	(9/MORE)	(BAVERAGE)	(FROZEN VEG.)	OPTION 10 (SOFTEN ICE CREAM)	OPTION 5 (OPTION)	(OPTION)	

9. Electrical Parts List

(S.N.A : SERVICE NOT AVAILABLE)

Level	Code No.	Description	Specification	Q'ty	SA/SNA	Remark
1-2	RCS-N2LED1-39	ASSY PCB PARTS	G2739NR,230V60HZ	1	SA	
1-3	3501-001155	RELAY-MINIATURE	24VDC,200MW,3000MA,1FORM	2	SA	RY03
1-3	3601-001126	FUSE-CARTRIDGE	250V,1.6A,FAST-ACTING,CER	1	SA	FUSE1
1-3	3708-001551	CONNECTOR-FPC/FC/PIC	14P,1.25mm,STRAIGHT	1	SNA	CN04
1-3	DE02-00060A	CH-ISOPROPHYL ALCOHO	ALL,MODEL,-,-,-,-,-	5	SNA	
1-3	DE07-00021B	LED DISPLAY	CSQ-4246G-01,-,-,40SEG,5DIGI	1	SA	LED1
1-3	DE26-00034A	TRANS-L.V	SLV-1933EN,230V,50Hz,7.0V/17V,	1	SA	LVT1
1-3	DE30-20016A	BUZZER	CBE2220BA,STICK,-,-,-,-,-,-,-	1	SNA	BUZ1
1-3	DE47-40024A	HOLDER-FUSE	FH-51H,7.5A,-,-,-,-,-	1	SA	FUSE1
1-3	DE92-01586A	ASSY PCB AUTO	-,-,RCS-N2LED1-39,230V50HZ	1	SNA	
1-4	0402-001103	DIODE-RECTIFIER	1T4,400V,1A,TS-1,TP	7	SNA	D07
1-4	0501-000465	TR-SMALL SIGNAL	MMBT3904,NPN,350MW,SOT-2	1	SNA	TR01
1-4	0504-001008	TR-DIGITAL	RN2427,PNP,200MW,2.2K/10K,SOT	5	SNA	TR13
1-4	0504-001080	TR-DIGITAL	KRC-246S	5	SNA	TR08
1-4	1202-000141	IC-VOLTAGE COMP.	7033,SOT-89,3P,-,SINGLE	1	SNA	IC03
1-4	1203-001037	IC-VOLTAGE REGULATOR	78L05,SOT-89,3P,185	1	SNA	IC02
1-4	1404-001194	THERMISTOR-PTC	39ohm,20%,220/240V,270Vac	1	SNA	PTC1
1-4	2007-000033	R-CHIP	0OHM,5%,1/8W,DA,TP,3216	4	SNA	J16
1-4	2007-000282	R-CHIP	100KOHM,5%,1/10W,DA,TP,2012	2	SNA	R28
1-4	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	4	SNA	R13
1-4	2007-000346	R-CHIP	120OHM,5%,1/8W,DA,TP,3216	8	SNA	R26
1-4	2007-000468	R-CHIP	1Kohm,5%,1/8W,TP,2012	5	SNA	R10
1-4	2007-000671	R-CHIP	2Kohm,5%,1/8W,TP,2012	2	SNA	R29
1-4	2007-000931	R-CHIP	470ohm,5%,1/8W,TP,2012	1	SNA	R06
1-4	2007-000941	R-CHIP	47Kohm,5%,1/8W,TP,2012	6	SNA	R32
1-4	2203-000444	C-CER,CHIP	1nF,10%,50V,X7R,TP,2012,-	6	SNA	C20
1-4	2203-000555	C-CER,CHIP	0.02NF,5%,50V,C0G,TP,2012	2	SNA	C19
1-4	2203-001608	C-CERAMIC,CHIP	22nF,+80-20%,50V,Y5V,TP,2	4	SNA	C12
1-4	2401-000151	C-AL	1000uF,20%,25V,GP,TP,10x20,5	1	SNA	C02
1-4	2401-000244	C-AL	100uF,20%,10V,GP,TP,6.3x7,5	1	SNA	C03
1-4	2401-000911	C-AL	22uF,20%,16V,GP,TP,5x7,5	2	SNA	C06
1-4	2401-002075	C-AL	4.7uF,20%,50V,GP,TP,5x11,5	1	SNA	C05
1-4	2401-002598	C-AL	220uF,20%,50V,GP,TP,10x16,5	1	SNA	C01
1-4	2801-003933	CRYSTAL-UNIT	8MHZ,50PPM,28-AAA,12PF,70OH	1	SNA	XTL1
1-4	DE39-60001A	WIRE-SO COPPER	PI0.5,SN,T,52MM,TAPING_WI	9	SNA	J09
1-4	DE41-00178A	PCB-MAIN	RA-N2LED1-**,FR-1,1,-,-,T1.6*W2	1	SNA	
1-4	DE60-60012A	PIN-EYELET	ID2.1,OD2.5,L3.0,SN,BSP,T0.25	2	SNA	
1-4	DE09-00200D	IC MICOM	TMP87CH47U-5DD4,CE2638N,CE2933N	1	SNA	IC01
1-4	0401-000133	DIODE-SWITCHING	RLS4148,75V,150mA,LL-34,	16	SNA	D23
1-4	0403-001064	DIODE-ZENER	RLZ5.1B,4.94-5.2V,500MW,LL-3	1	SNA	ZD01
1-3	3501-001209	RELAY-POWER	24V DC,0.53W,-,1FORMA,9.3MS,	1	SA	RY04
1-3	3501-001188	RELAY-POWER	24V DC,0.53W,-,1FormA,9.3ms,	1	SA	RY02
1-3	DE68-02628A	LABEL-PCB ADHESIVE	-,-,-,-,W10,L30,WHT,-	1	SNA	
1-3	3711-000024	CONNECTOR-HEADER	BOX,3P,1R,2.5mm,STRAIGH	1	SNA	CN03
1-3	3711-004200	CONNECTOR-HEADER	BOX,4P/7P,1R,2.5MM,STRA	1	SNA	CN01

10. Wiring Diagrams

10-1 Wiring Diagrams

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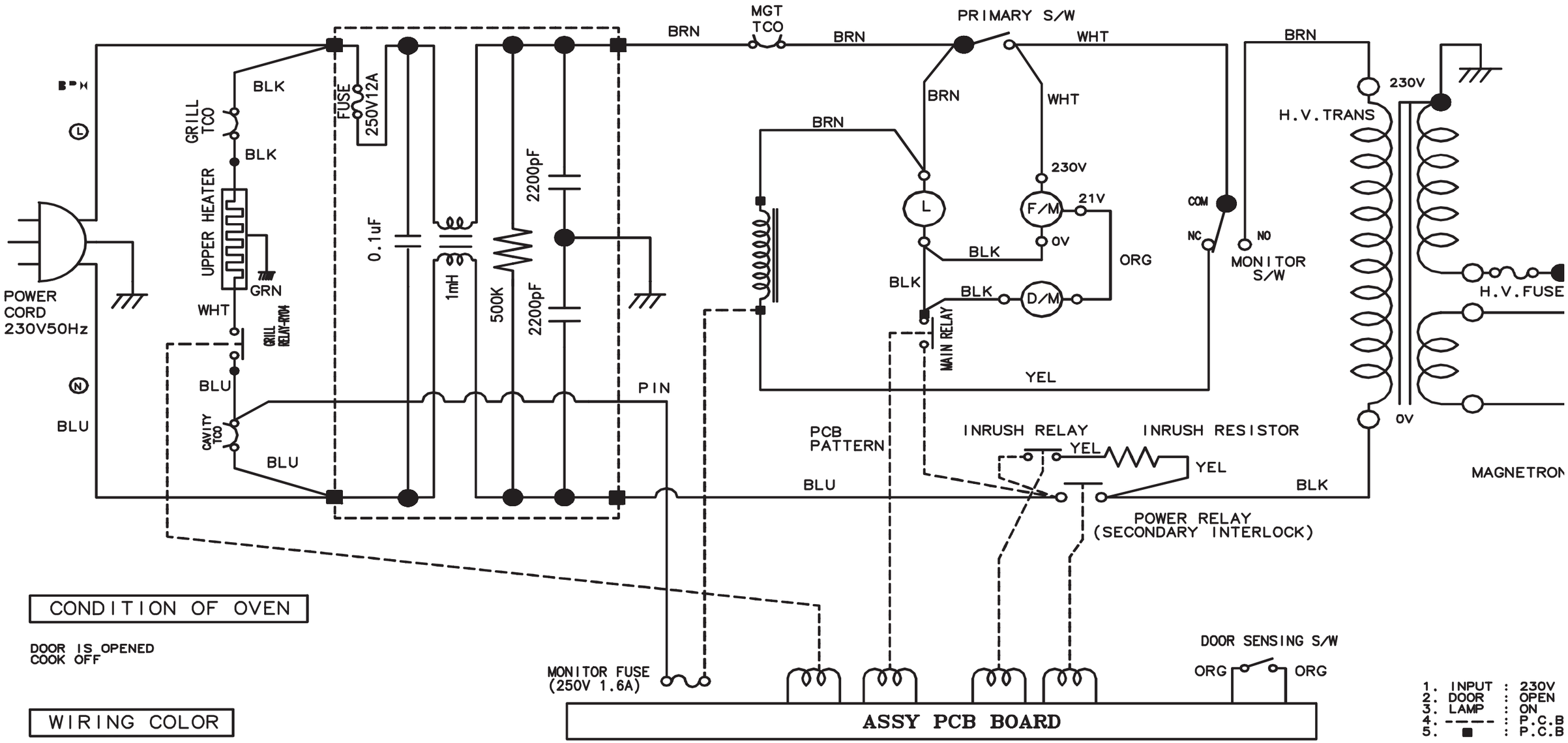


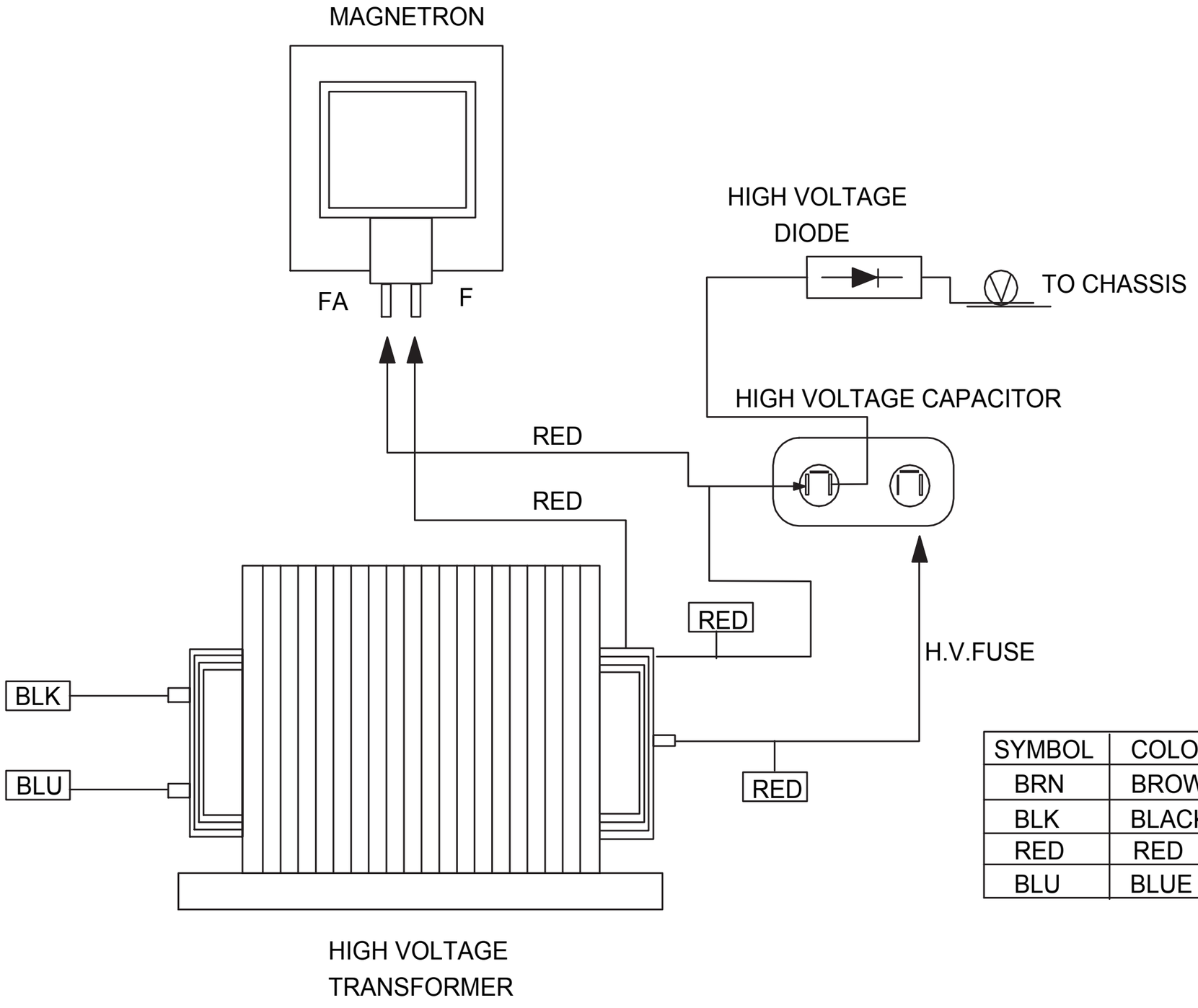
CONDITION OF OVEN

DOOR IS OPENED
COOK OFF

WIRING COLOR

BRN : BROWN
WHT : WHITE
RED : RED
BLK : BLACK
Y/G : YELLOW GREEN
BLU : BLUE
ORG : ORANGE
YEL : YELLOW

1. INPUT : 230V
2. DOOR : OPEN
3. LAMP : ON
4. ---- : P.C.B
5. ■ : P.C.B



SYMBOL	COLOR
BRN	BROWN
BLK	BLACK
RED	RED
BLU	BLUE

11. Reference

11-1 Model name standard

Baoad Classification	Distinguisher	Middle Classfication	Distinguisher	Product Code	Full Nane
USA CMO	M	CMO (Counter-top MWO)	W	MW	USA CMO(EPOXY CAVITY)
		UTC (Under The Cabinet)	U	MU	USA UTC
		Browner, Grill	G	MG	USA GRILL
		Convection	C	MC	USA CONVECTION
		Sensor	S	MS	USA CMO SENSOR
		DC MWO	D	MD	USA DC MWO
		Hospital MWO	H	MH	USA Hospital MWO
		Ceramic Enamel	E	ME	USA CMO(CERAMIC ENAMEL)
USA RV	R	SOLO	M	RM	USA RV SOLO
		CONVECTION	C	RC	USA RV CONVECTION
		BUILT-IN	B	RB	USA RV BUILT-IN
USA Junior	SJ			SJ	USA Junior MWO
USA OTR	SM	SOLO	H	SMH	USA OTR SOLO
		CONVECTION	V	SMV	USA OTR CONVECTION
EUROPE Epoxy Cavity	M	SOLO	1	M1	EUROPE SOLO(EPOXY CAVITY)
		GRILL	2	M2	EUROPE GRILL(EPOXY CAVITY)
EUROPE Ceramic Enamel	CE	SOLO	1	CE1	EUROPE SOLO(CERAMIC ENAMEL)
		GRILL	2	CE2	EUROPE GRILL(CERAMIC ENAMEL)
EUROPE Quartz GRILL	G2			G2	EUROPE Quartz GRILL
EUROPE Power Grill	PG			PG	POWER GRILL
EUROPE Convection	CK			CK	EUROPE CONVECTION
	C			C	EUROPE CONVECTION
EUROPE Fully Built-In	F	SOLO	W	FW	EUROPE SOLO FULLY BUILT-IN
		GRILL	G	FG	EUROPE GRILL FULLY BUILT-IN
		CONVECTION	C	FC	EUROPE CONVECTION FULLY BUILT-IN

11-2 Customer inquiry cases and countermeasures

Symptom	Cause	Countermeasures
Air is evacuated from the oven.	• The vent of the oven is designed to be placed on the bottom of the product, and air is evacuated from the oven.	In the past, the vent was placed on the back panel of the oven. Since the oven was placed near the wall of a kitchen, the wall behind the oven was discolored. Thus, the vent of a new oven is placed on the bottom of the product, and air is evacuated from the oven.
The oven works automatically whenever the power is turned on.	• It may happen due to power failure or abnormal voltage. • It may happen when the door does not close completely.	• Connect the power plug three seconds after disconnecting the power plug. • Close the door completely => Press the Cancel button => Press the Start button.
Heating	• In many cases, it may happen when the power level is incorrectly set. • It may happen when the door does not close completely. • It may happen when the oven is out of order.	• Select HIGH by rotating the Cooking Power Control knob. - KEEP WARM: This function is used to warm the cooked food for a certain time period, not to heat the food. - MEDIUM/LOW: This function is used to cook the food slowly. • Close the door completely. => Press the Cancel button. => Press the Start button. • Contact the nearest Samsung after-sales service center.
Ground	• Ground problem may happen when the oven is placed in a humid area and the over is not grounded. • Ground is not provided by an extended electric outlet.	• If the oven is placed in a humid area, buy an electric wire in a store selling electrical products. (Electric wires for home use are also allowed) Ground the oven through the electric wire. • Buy an electric wire in a store selling electrical products. (Electric wires for home use are also allowed) Ground the oven through the electric wire.
Turn table occasionally rotates in reverse order.	• Turntable has been designed to rotate in either direction since 1994.	• In the past, the gear of the turntable was easily worn by turning it during cleaning. Now, the turntable of the oven is designed to rotate in both directions to prevent damage during cleaning. (Rotation direction is set when the oven initially operates.)
The oven sometimes beeps.	• The oven beeps every minute unless the food is in the oven after the food is cooked completely. • The oven occasionally beeps during cooking.	• Open and close the door again. (Beeping sounds indicate that the food is ready to be removed from the oven after cooking is complete.)

11-2 Customer inquiry cases and countermeasures (Continued)

Symptom	Cause	Countermeasures
Strange popping sounds are produced while fish is cooked.	• Since fish is salty and maintains its moisture, it is cooked while making a series of soft popping sounds. (The liquid may come out of the fish when the fish is cooked.)	• Food with bones such as fish (e.g. mackerel) and pork (e.g. pork chops) is cooked while making a series of soft popping sounds. Wrap the food completely so that food particles or spattered oils do not stick to the oven walls or floor.
Strange smell is produced in the oven.	• It may happen when food particles stuck to oven walls or floor.	• Clean the inside of the oven. => Remove strange smell through the Deodorant button => If the strange smell still remains, place a piece of lemon on the turntable and operate the oven for 5 minutes by pressing the Deodorant button.(However, the smells produced from the food exposed such as herbal remedies are not removed.)
Error	• Errors are classified into the case which is out of order and the case which is not out of order.	• Clean the inside of the oven. => Remove strange smell through the Deodorant button => If the strange smell still remains, place a piece of lemon on the turntable and operate the oven for 5 minutes by pressing the Deodorant button. (However, the smells produced from the food exposed such as herbal remedies are not removed.)
Accessory		• Visit the nearest Samsung Service Center or local dealer to buy accessories. Before visiting, check the model name printed on the lower right side of the front panel of the oven.
Number does not appear on the display screen.	It happens when the power saving function is activated.	• Since the government recommends the reduction of electricity, the power saving function is performed for number display like that power cord is unplugged when the oven is not used. (Numbers are displayed when another button is pressed or when the door opens.)