S/M No. : OM9P2CBS001

Service Manual

Microwave Oven

Model: KOM-9P2CBS

✔ **Caution**

: In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List) in Service Information Center (http://svc.dwe.co.kr).

DAEWOO ELECTRONICS

May. 2012

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 power to the microwave oven 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.

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SAFETY AND PRECAUTIONS

CAUTION

This device is to be Serviced only by Properly Qualified Service Personel. Consult the Service Manual for Proper Service Procedures to Assure Continued Safety Operation and for Precautions to be Taken to Avoid Possible Exposure to Excessive Microwave Energy.

1. FOR SAFE OPERATION

Damage that allows the microwave energy (that cooks or heats the food) to escape will result in poor cooking and may cause serious bodily injury to the operator.
IF ANY OF THE FOLLOWING CONDITIONS EXIST, OPERATOR MUST NOT USE THE APPLIANCE.
(Only a trained service personnel should make repairs.)

(1) A broken door hinge.
(2) A broken door viewing screen.
(3) A broken front panel, oven cavity.
(4) A loosened door lock.
(5) A broken door lock.

The door gasket plate and oven cavity surface should be kept clean.
No grease, soil or spatter should be allowed to build up on these surfaces or inside the oven.
DO NOT ATTEMPT TO OPERATE THIS APPLIANCE WITH THE DOOR OPEN.
The microwave oven has concealed switches to make sure the power is turned off when the door is opened.
Do not attempt to defeat them.
DO NOT ATTEMPT TO SERVICE THIS APPLIANCE UNTIL YOU HAVE READ THIS SERVICE MANUAL.

2. FOR SAFE SERVICE PROCEDURES

1. If the oven is operative prior to servicing, a microwave emission check should be performed prior to servicing the oven.
2. If any certified oven unit is found to servicing, a microwave emission check should be performed prior to servicing the oven.
   (a) inform the manufacturer, importer or assembler,
   (b) repair the unit at no cost to the owner,
   (c) attempt to ascertain the cause of the excessive leakage,
   (d) tell the owner of the unit not to use the unit until the oven has been brought into compliance.
3. If the oven operates with the door open, the service person should tell the user not to operate the oven and contact the manufacturer and CDRH immediately.

CAUTION

MICROWAVE RADIATION

PERSONNEL SHOULD NOT BE EXPOSED TO THE MICROWAVE ENERGY WHICH MAY RADIATE FROM THE MAGNETRON OR OTHER MICROWAVE GENERATING DEVICE IF IT IS IMPROPERLY USED OR CONNECTED. ALL INPUT AND OUTPUT MICROWAVE CONNECTIONS. WAVEGUIDE FLANGES AND PASKETS MUST BE SECURE. NEVER OPERATE THE DEVICE WITHOUT A MICROWAVE ENERGY ABSORBING LOAD ATTACHED. NEVER LOOK INTO AN OPEN SAVEGUIDE OR ANTENNA WHILE THE DEVICE IS ENERGIZED.

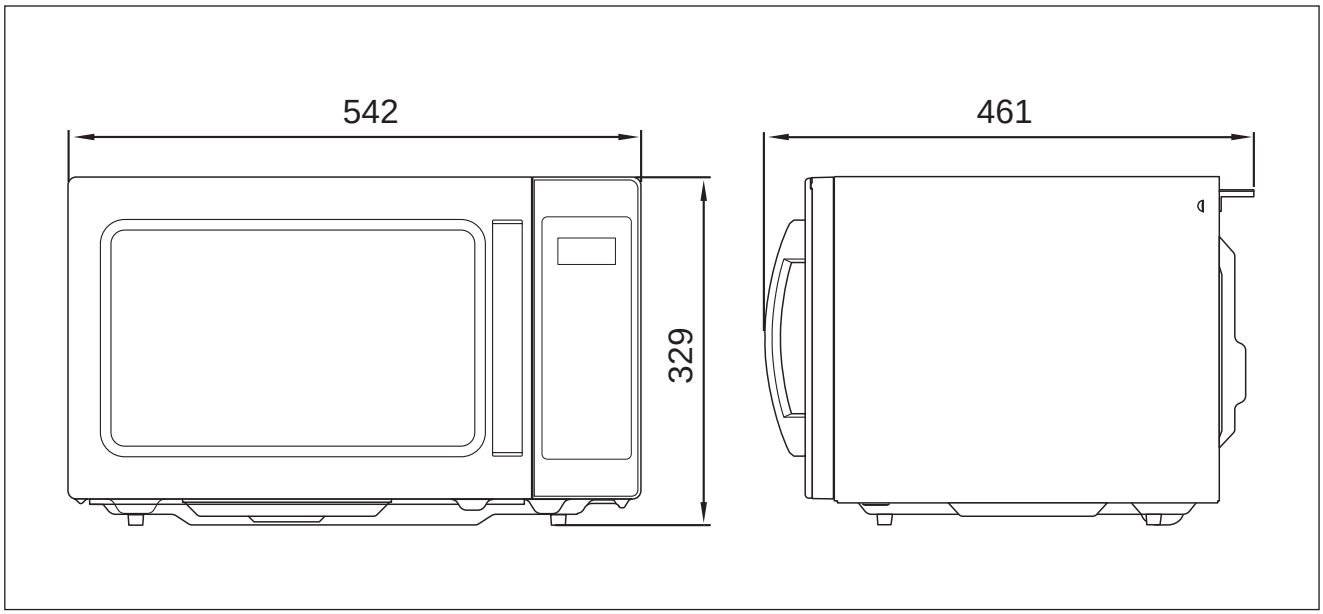
SPECIFICATIONS

POWER SUPPLY		240V AC, 50Hz SINGLE PHASE WITH GROUNDING
MICROWAVE	INPUT POWER	1600 W
	ENERGY OUTPUT	1100 W
	FREQUENCY	2,450MHz
OUTSIDE DIMENSIONS (W x H x D)		542 x 329 x 461 mm
CAVITY DIMENSIONS (W x H x D)		350 x 230 x 357 mm
CAVITY VOLUME		29 L
NET WEIGHT		APPROX. 18 Kg
TIMER		60 min.
POWER SELECTIONS		5 Levels

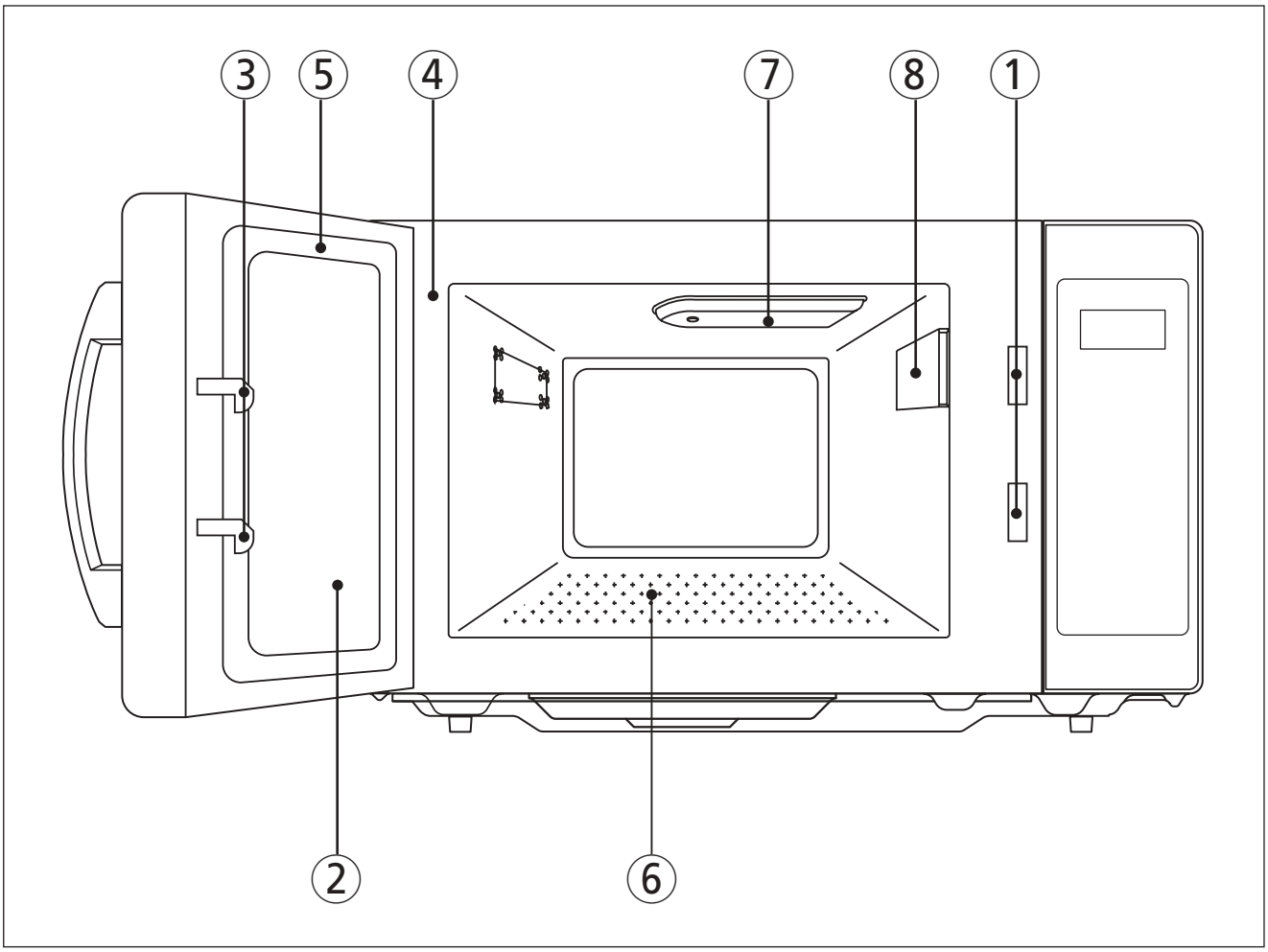
** Specifications are subject to change without notice.*

EXTERNAL VIEW

1. OUTER DIMENSION



2. FEATURES DIAGRAM



① **Safety Interlock System.**

② **Door Viewing Screen -** Allows viewing of food. The screen is designed so that light can pass through, but not the microwave.

③ **Door Hook -** When door is closed, it will automatically shut off. If the door is opened while the oven is operating, magnetron will immediately stop operating.

④ **Oven Cavity.**

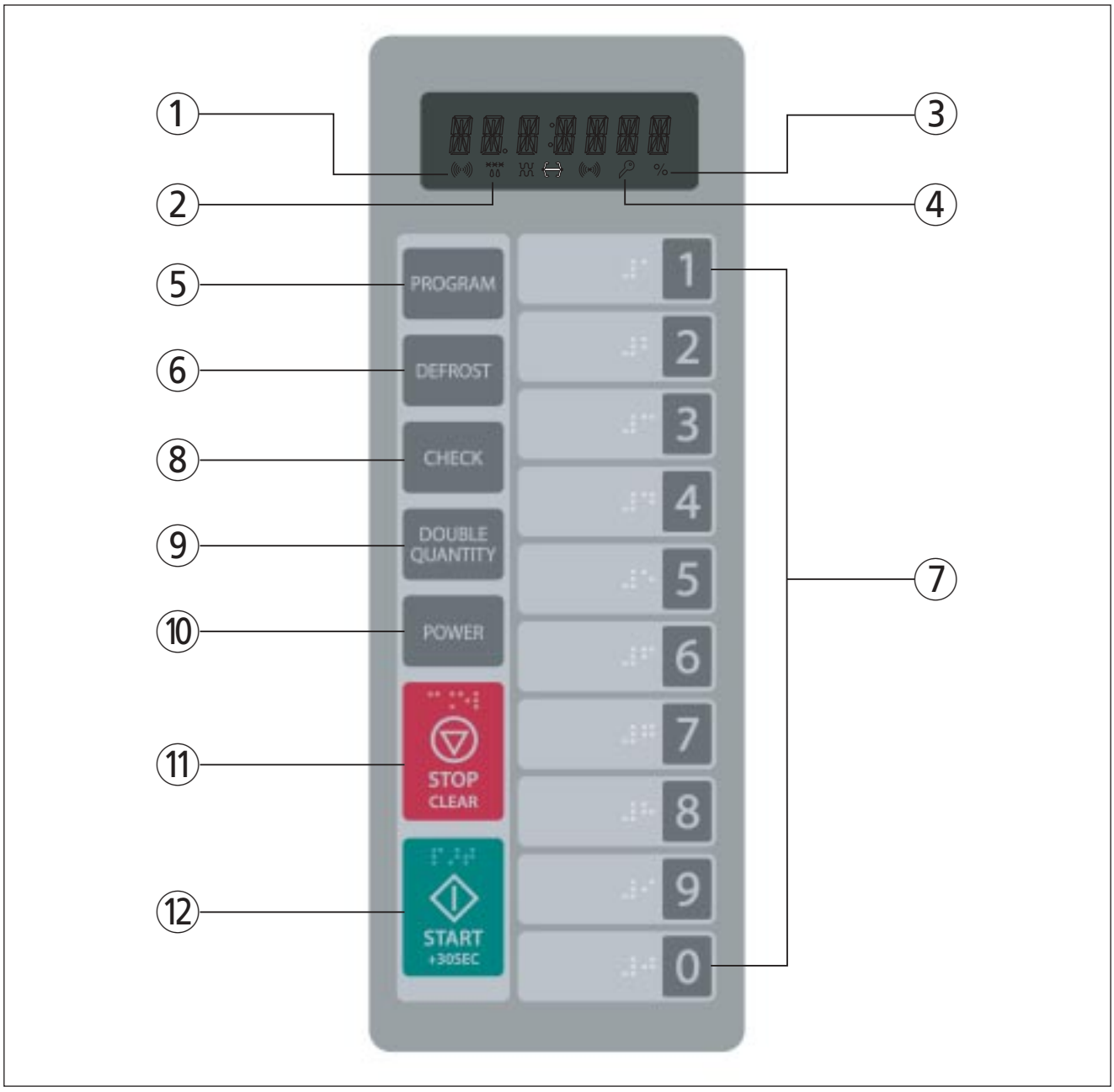
⑤ **Door Seal -** Door seal maintains the microwave energy within the oven cavity and prevents microwave leakage.

⑥ **Plate Tray -** Made of special heat resistant GLASS. Food in a proper receptacle is placed on this plate for cooking.

⑦ **Stirrer Cover -** This is located on the ceiling with the stirrer fan.

⑧ **Inlet cover -** Protect the air hole from splashes of cooking foods.

3. CONTROL PANEL



① **MICROWAVE** indicator, showing microwaving in progress.

② **DEFROST** indicator, showing defrosting in progress.

③ **PERCENTAGE** of power indicator.

④ **CHILD LOCK** indicator.

⑤ **PROGRAM -** Used to save cooking data.

⑥ **DEFROST -** Used to defrost foods for time.

⑦ **TIME SET PAD -** Used to set the cooking time.

⑧ **CHECK -** Used to check cooking data.

⑨ **DOUBLE QUANTITY -** Used to extend programmed cooking time.

⑩ **POWER -** Used to set power level.

⑪ **STOP/CLEAR -** Used to stop the oven operation or to delete the cooking data.

⑫ **START /+30SEC -** Used to start the oven and also used to set a reheat time.

INSTALLATION

1. Steady, flat location

This microwave oven should be set on a steady, flat surface.

This microwave oven is designed for counter top use only.

2. Leave space behind and side

All air vents should be kept a clearance. If all vents are covered during operation, the oven may overheat and, eventually, cause failure.

3. Away from radio, and TV sets

Poor television reception and radio interference may result if the oven is located close to a TV, radio, antenna, or feeder and so on. Position the oven as far from them as possible.

4. Away from heating appliances and water taps

Keep the oven away from hot air, steam and splash when choosing a place to position it, or the insulation might be adversely affected and breakdowns occur.

5. Power supply

- Check your local power source.

  This microwave oven requires a current of approximately 7 amperes, 230-240 Volts, 50 Hz.
- Power supply cord is about 1.0 meters long.
- Used the voltage must be the same as specified on this oven. Using a higher voltage may result in a fire or other accident causing oven damage. Using low voltage will cause slow cooking. We are not responsible for damage resulting from use of this oven with a voltage of ampere fuse other than those specified.
- This appliance is supplied with cable of special type, which, if damaged, must be repaired with cable of same type.

  Such a cable can be purchased from DAEWOO and must be installed by a qualified person.

6. Examine the oven after unpacking for any damage such as:

A misaligned door, broken door or a dent in cavity.

If any of the above are visible, DO NOT INSTALL, and notify dealer immediately.

7. Do not operate the oven if it is colder than room temperature

(This may occur during delivery in cold weather.) Allow the oven to become room temperature before operating.

EARTHING INSTRUCTIONS

This appliance must be earthed. In the event of an electrical short circuit, earthing reduces the risk of the electric shock by providing an escape wire for the electric current. This appliance is equipped with a cord having a earthing plug. The plug must be plugged into an outlet that is properly installed and earthed.

WARNING

Improper use of the earthing plug can result in a risk of electric shock. Consult a qualified electrician or service-man if the earthing instructions are not completely understood, or if doubt exists as to whether the appliance is properly earthed, and either : If it is necessary to use an extension cord, use only a 3-wire extension cord that has a 3-blade earthing plug, and a 3-slot receptacle that will accept the plug on the appliance. The marked rating of the extension cord should be equal to or greater than the electrical rating of the appliance, or DO NOT USE an extension cord.

OPERATIONS AND FUNCTIONS

1. Connect the mains lead to an electrical outlet.
2. After placing the food in a suitable container, open the oven door and put it on the glass tray. The glass tray must always be in place during cooking.
3. Close the door securely.
4. The oven door can be opened at any time during operation by pulling the door handle on the door. The oven will automatically shut off. To restart the oven, close the door and then touch the START pad.
5. Each time a pad is touched. a BEEP will sound to acknowledge the touch.
6. The oven automatically cooks on full power unless set to a lower power level.
7. The display will show ": 0" when the oven is plugged in.
8. Time clock returns to the ": 0" when the cooking time ends.
9. When the STOP/CLEAR pad is touched during the oven operation, the oven stops cooking and all information retained. To erase all information, touch the STOP/CLEAR pad once more. If the oven door is opened during the oven operation, all information is retained.
10. If the START pad is touched and the oven does not operate, check the area between the door and door is closed securely. The oven will not start cooking under the door is completely closed or the program has been reset.

Make sure the oven is properly installed and plugged into the electrical.

Wattage output chart

The power level is set by touching the POWER pad. The chart shows the display, the power level and the percentage of power.

Touch POWER pad.	Power Level (Display)	Approximate Percentage of Power
once	100	100%
twice	80	80%
3 times	60	60%
4 times	40	40%
5 times	20	20%

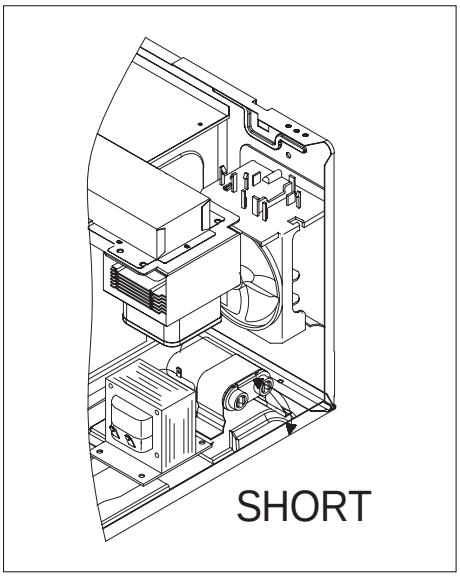
DISASSEMBLY AND ASSEMBLY

Cautions to be observed when troubleshooting.

Unlike many other appliances, the microwave oven is high-voltage, high-current equipment.
It is completely safe during normal operation.
However, carelessness in servicing the oven can result in an electric shock or possible danger from a short circuit.
You are asked to observe the following precautions carefully.

1. Always remove the power plug from the outlet before servicing.
2. Use an insulated screwdriver and ware rubber gloves when servicing the high voltage side.
3. Discharge the high voltage capacitor before touching any oven components or wiring.

   (1) Check the grounding.
   Do not operate on a two-wire extension cord.
   The microwave oven is designed to be used while earthed.
   It is imperative, therefore, to make sure it is earthed
   properly before beginning repair work.
   (2) Warning about the electric charge in the high voltage capacitor.
   For about 30 seconds after the operation stopped and electric charge remains in the high voltage capacitor.
   When replacing or checking parts, short between oven chassis and the negative high terminal of the high voltage capacitor by using a properly insulated screwdriver to discharge.



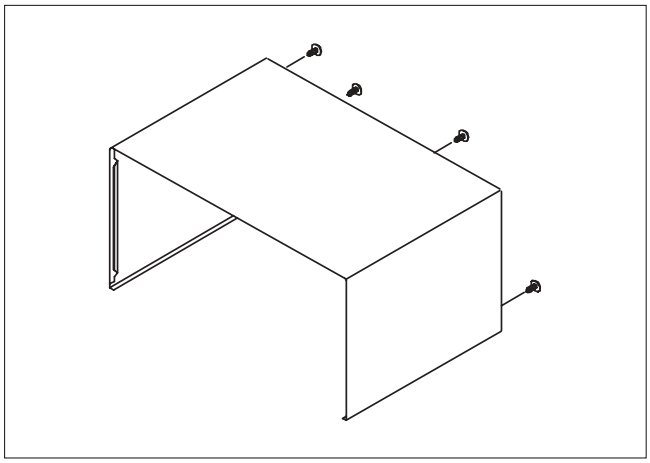
4. When the fuse is blown out due to the operation of the monitor switch; replace primary interlock switch, secondary interlock switch and interlock monitor switch.
5. After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.
6. Do not operate without cabinet.

CAUTION : Service personnel should remove their watches whenever working close to or replacing the magnetron.

WARNING : When servicing the appliance, need a care of touching or replacing high potential parts because of electrical shock or exposing microwave. These parts are as follows - HV Transformer, Magnetron, HV Capacitor, HV Diode, HV fuse.

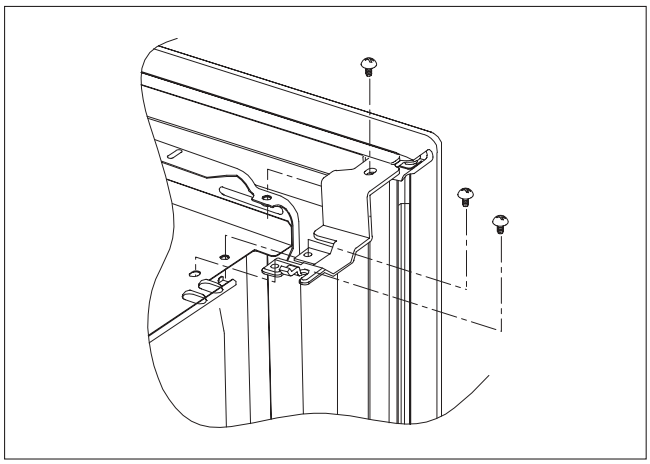
1. To remove cabinet

1) Remove four screws on cabinet back.
2) Pull the cabinet backward.



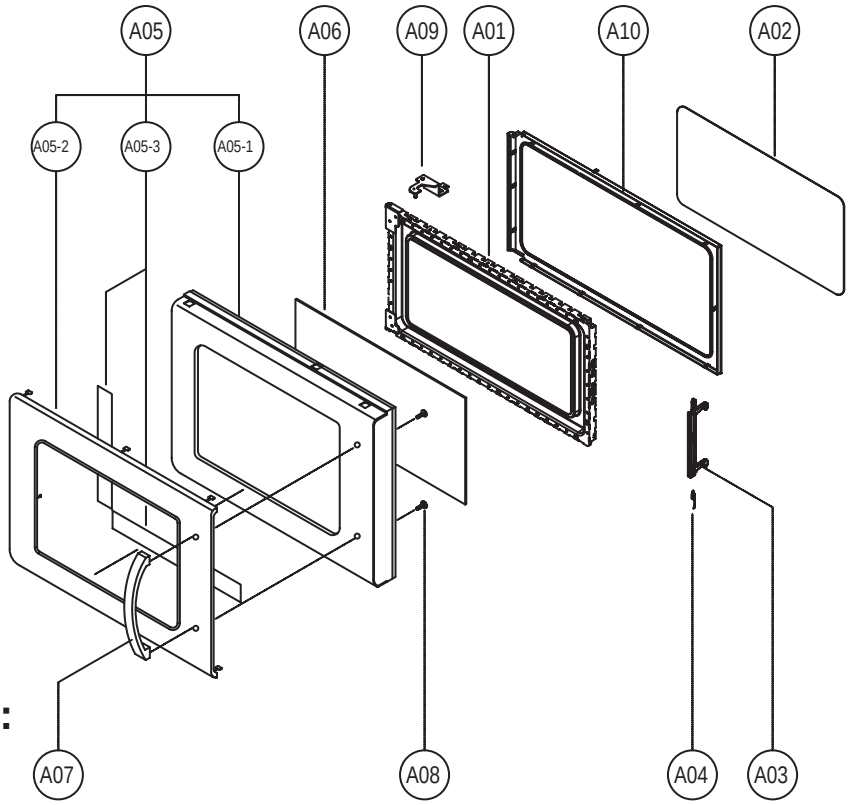
2. To remove door assembly

1) Remove three screws which secure the stopper hinge top.
2) Remove the door assembly from top plate of cavity.
3) Reverse the above for reassembly.



NOTE : After replacing the door assembly, perform a check of correct alignment with the hinge and cavity front plate.

3. To remove door parts.

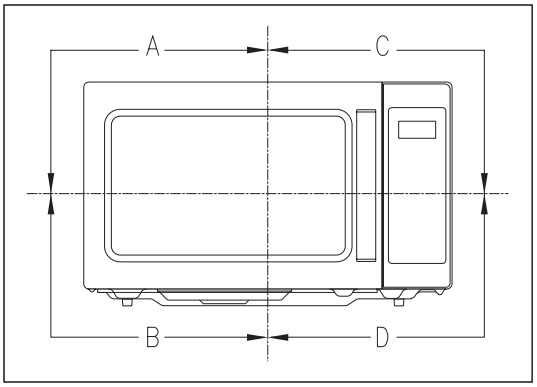


DOOR ASSEMBLY :
3511731000

REF No.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A00	3511731000	DOOR AS	KOM-9P2CBS	1	
A01	3511714800	DOOR PAINTING AS	KOC-910K0S	1	
A02	3511714700	DOOR SEAL AS	KOC-910K0S	1	
A03	3513101200	HOOK	POM	1	
A04	3515102300	SPRING HOOK	PW1	1	
A05	3511731200	DOOR SUB AS	KOM-9P0C9S	1	
A06	3517007120	BARRIER-SCREEN *O	TEMP GLASS T3.2 CLEAR	1	
A07	3512604340	HANDLE DOOR	AL	1	
A08	7001401011	SCREW MACHINE	PAN 4X10 MFZN	2	
A09	3515204900	STOPPER HINGE *T AS	KOC-1B0K0S	1	
A10	3512302410	GASKET DOOR	LUPOL 2300	1	

1) Remove the gasket door from the door painting as.
2) Remove the barrier screen inner from the door painting as.
3) Remove the door sub as from the door painting as.
4) Remove the stopper hinge top as from the door painting as.
5) Remove the spring hook and the hook from the door painting as.
6) Remove the barrier screen outer from the door sub as.
7) Reverse the above steps for reassembly.

4. Method to reduce the gap between the door seal and the oven front surface.



(1) To reduce gap located on part 'A'
- Loosen two screws on the stopper hinge top, and then push the door to contact the door seal to the oven front surface.
- Tighten two screws.

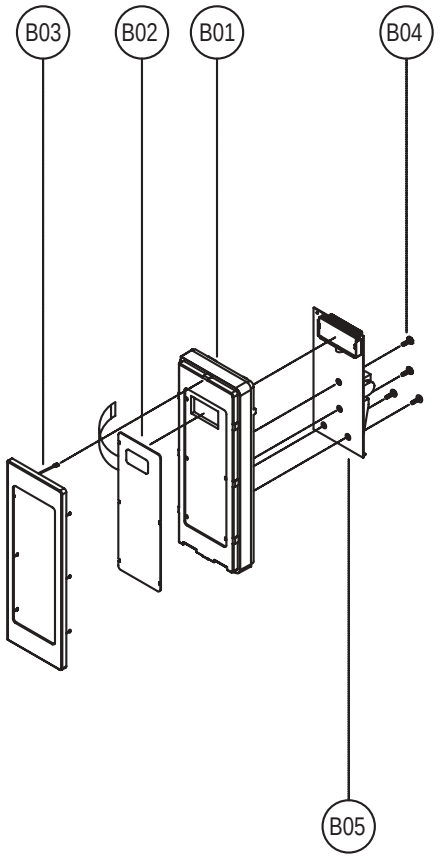
(2) To reduce gap located on part 'B'
- Loosen two screws on the stopper hinge under, and then push the door to contact the door seal to the oven front surface.
- Tighten two screws.

(3) To reduce gap located on part 'C'
- Loosen the screw on the interlock switch assembly located the top of the oven body.
- Draw the interlock switch assembly inward as possible to engage with the hook on the door bottom.
- Tighten a screw.

(4) To reduce gap located on part 'D'
- Loosen the screw on the interlock switch assembly located the bottom of the oven body.

NOTE : A small gap may be acceptable if the microwave leakage does not exceed 4mW/cm^2.

5. To remove control panel parts.

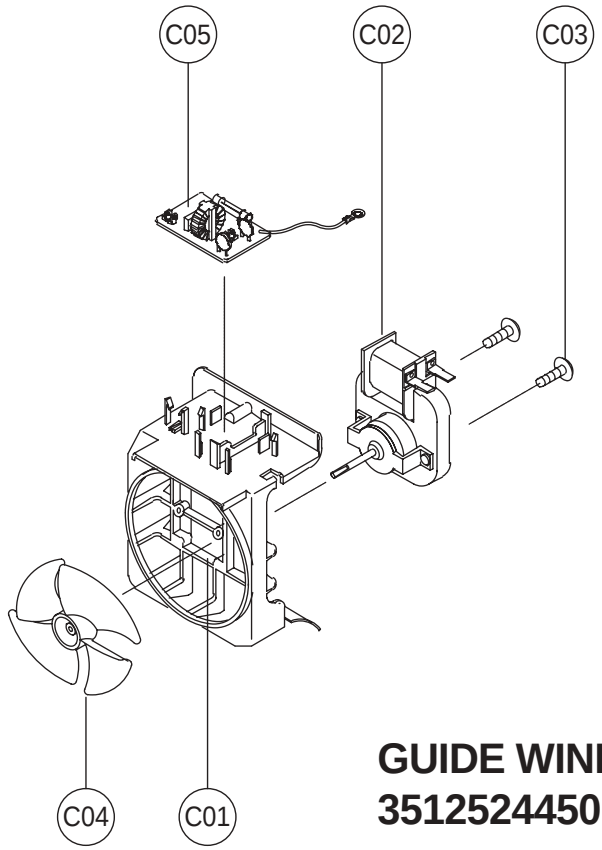


C/PANEL ASSEMBLY :
PKCPSWZZ12

REF No.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B00	PKCPSWZZ12	CONTROL-PANEL AS	KOM-9P2CBS	1	
B01	3516741600	CONTROL-PANEL	ABS SG-175, SG-0760D	1	
B02	3518574220	SWITCH MEMBRANE	KOM-9P2CBS	1	
B03	3511621100	DECORATOR C-PANEL	STS430 T0.5 H/L	1	
B04	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	4	
B05	PKMPMSB710	PCB MAIN MANUAL AS	KOR-1P5C9S	1	

1) Remove the screw which secure the control panel as, push up two snap fits and draw forward the control panel assembly.
2) Remove four screws which secure the PCB assembly to the control panel as.
3) Disconnect membrane tail from the connector of the PCB assembly.
4) Remove the PCB from the control panel sub as.
5) Reverse the above steps for reassembly.

6. To remove guide wind parts.



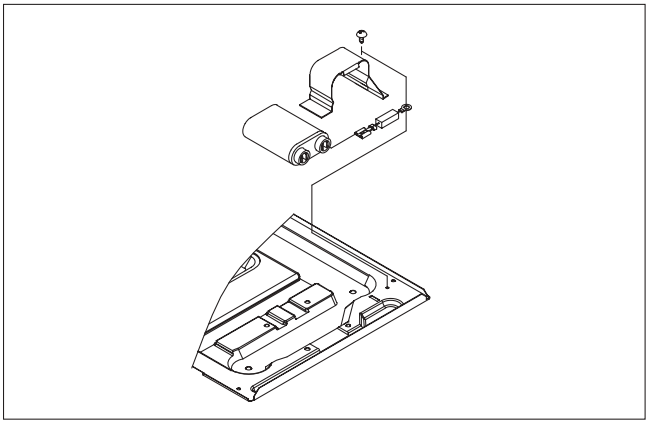
GUIDE WIND ASSEMBLY : 3512524450

REF No.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
C00	3512524450	GUIDE WIND AS	KOR-1P559S AMANA		
C01	3512515300	GUIDE WIND	PP	1	
C02	3963514380	MOTOR SHADED POLE	230V 50Hz OEM-15DWC2-C03	1	
C03	7121403011	SCREW TAPPING	T2S PAN 4X30 MFZN	2	
C04	3511800100	FAN	P.P GF20	1	
C05	3518605500	NOISE-FILTER	DWLF-M07	1	

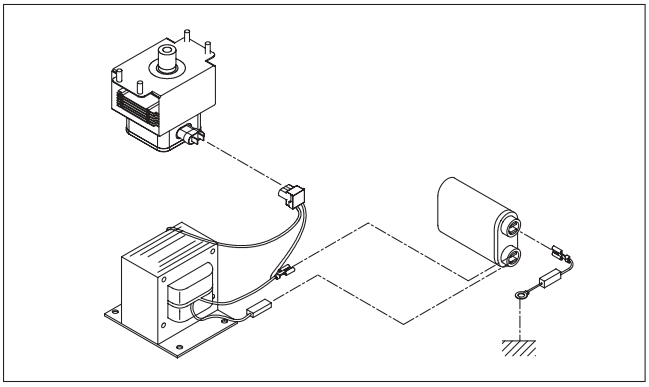
1) Remove two screws for earthing and for fixing to rear-plate.
2) Remove the noise filter from the guide wind.
3) Pull the fan from the motor shaft.
4) Remove two screws which secure the motor shaded pole.
5) Remove the motor shaded pole.
6) Reverse the above steps for reassembly.

7. To remove high voltage capacitor.

1) Remove the screw which secure the grounding ring terminal of the H.V. diode and the capacitor holder.
2) Remove the H.V. diode from the capacitor holder.
3) Reverse the above steps for reassembly.

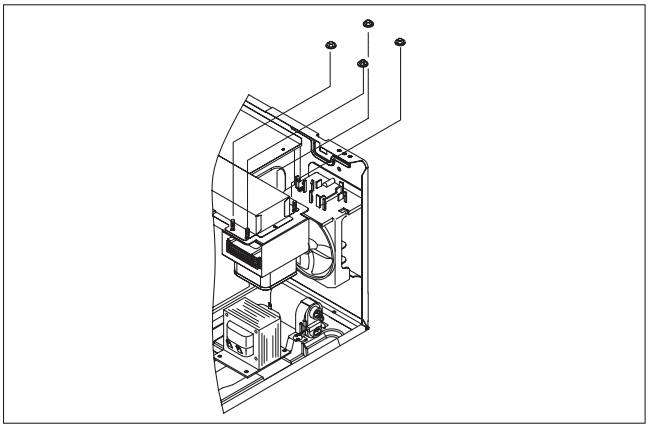


◆ High voltage circuit wiring

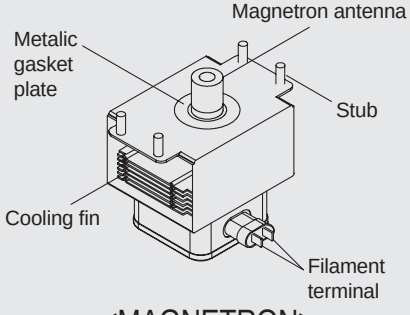


8. To remove magnetron.

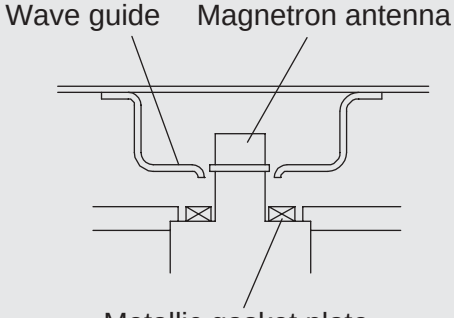
1) Remove three screws which secure the magnetron.
2) Remove the magnetron.
3) Reverse the above steps for reassembly.



NOTE : Never install the magnetron without the metallic gasket plate which is packed with each magnetron to prevent microwave leakage. Whenever repair work is carried out on magnetron, check the microwave leakage. It shall not exceed 4mW/cm^2 for a fully assembled oven with door normally closed.

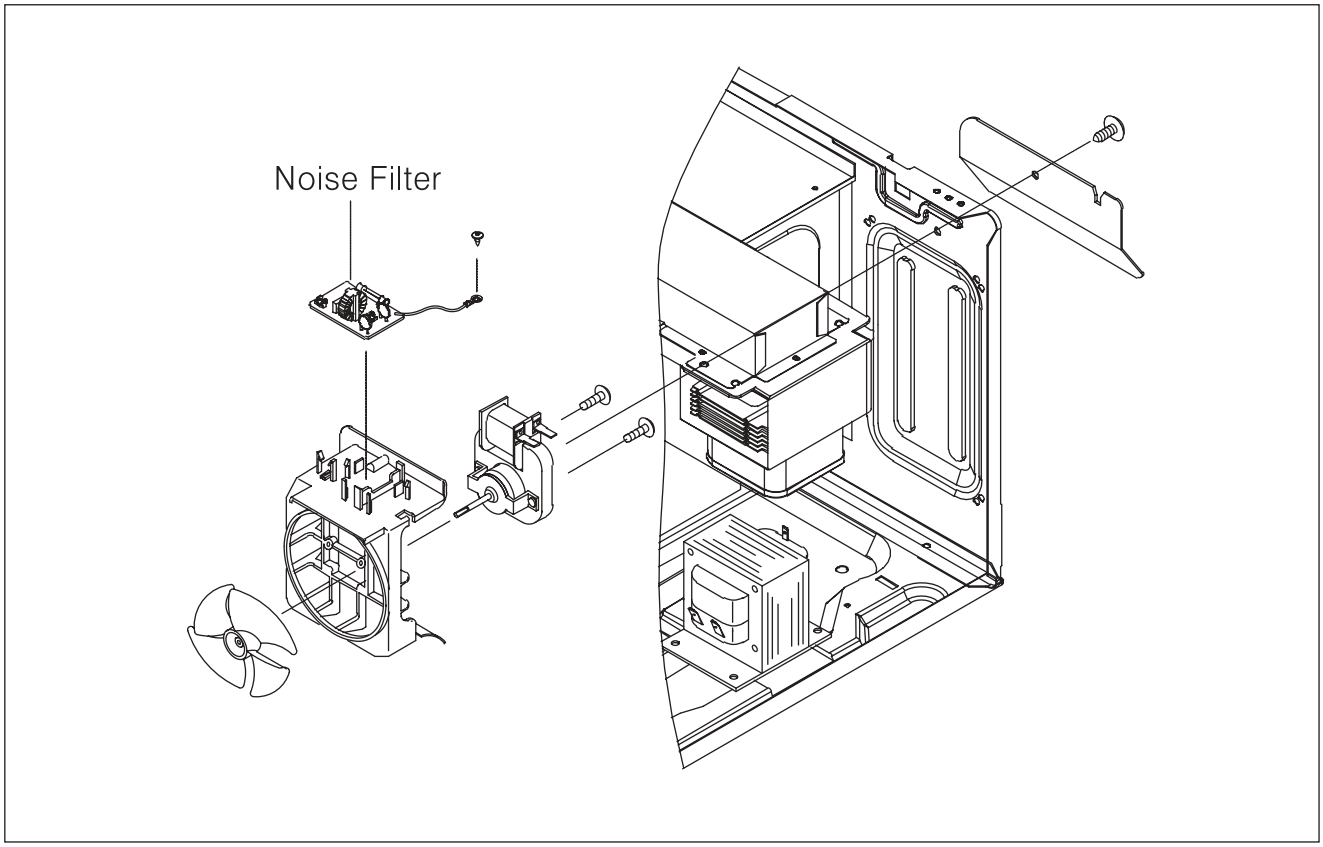


<MAGNETRON>



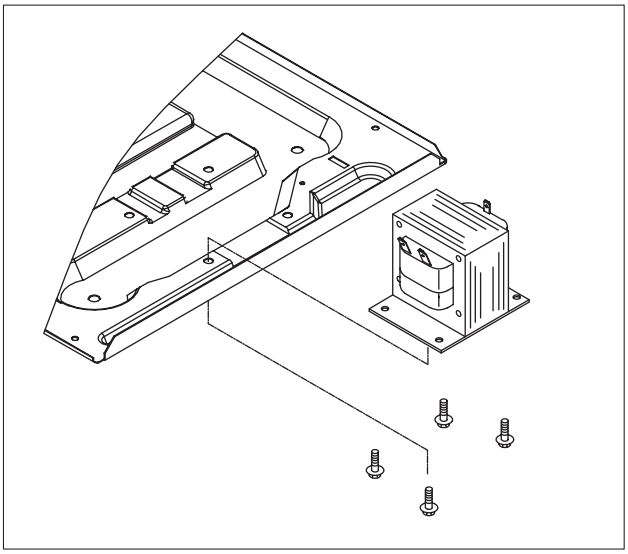
9. To remove wind guide assembly.

1) Remove the screw for earthing.
2) Remove the noise filter from the wind guide.
3) Remove the screw which secure the wind guide assembly.
4) Draw forward the wind guide assembly.
5) Pull the fan from the motor shaft.
6) Remove two screws which secure the motor shaded pole.
7) Remove the motor shaded pole.
8) Reverse the above steps for reassembly.



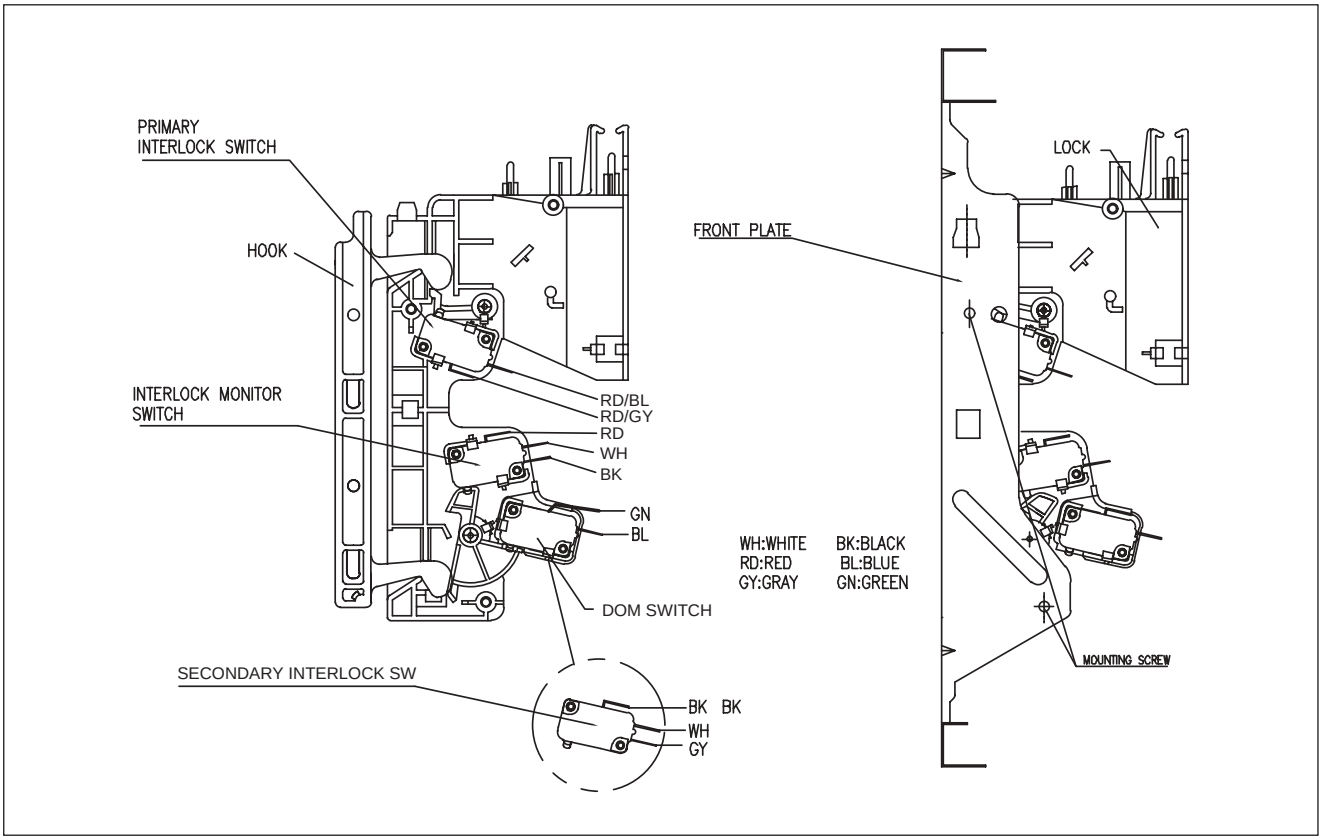
10. To remove H.V.transformer.

1) Remove four screws holding the H.V.transformer.
2) Remove the H.V.transformer.
3) Reverse the above steps for reassembly.



INTERLOCK MECHANISM AND ADJUSTMENT

The door lock mechanism is a device which has been specially designed to completely eliminate microwave radiation when the door is opened during operation, and thus to perfectly prevent the danger resulting from the leakage of microwave.



(1) Primary interlock switch

When the door is closed, the hook locks the oven door. If the door is not closed properly, the oven will not operate.

When the door is closed, the hook pushes the button of the microswitch. Then the button of the primary interlock switch bring it under ON condition.

(2) Secondary interlock switch and interlock monitor switch

When the door is closed, the hook pushes the lock lever downward. The lock lever presses the button of the interlock monitor switch to bring it under NO condition. The lock lever presses the button of the secondary interlock switch to bring it under ON condition.

ADJUSTMENT :

Interlock monitor switch

When the door is closed, the interlock monitor switch should be changed (NO condition) before other switches are closed.
When the door is opened, the interlock monitor switch should be changed (NC condition) after other switches are opened.

(3) Adjustment steps

a) Loosen two mounting screws.
b) Adjust interlock switch assembly position.
c) Make sure that lock lever moves smoothly after adjustment is completed.
d) Tighten completely two mounting screws.

NOTE :

Microwave emission test should be performed after adjusting interlock mechanism.
If the microwave emission exceed 4mW/cm^2, readjust interlock mechanism.

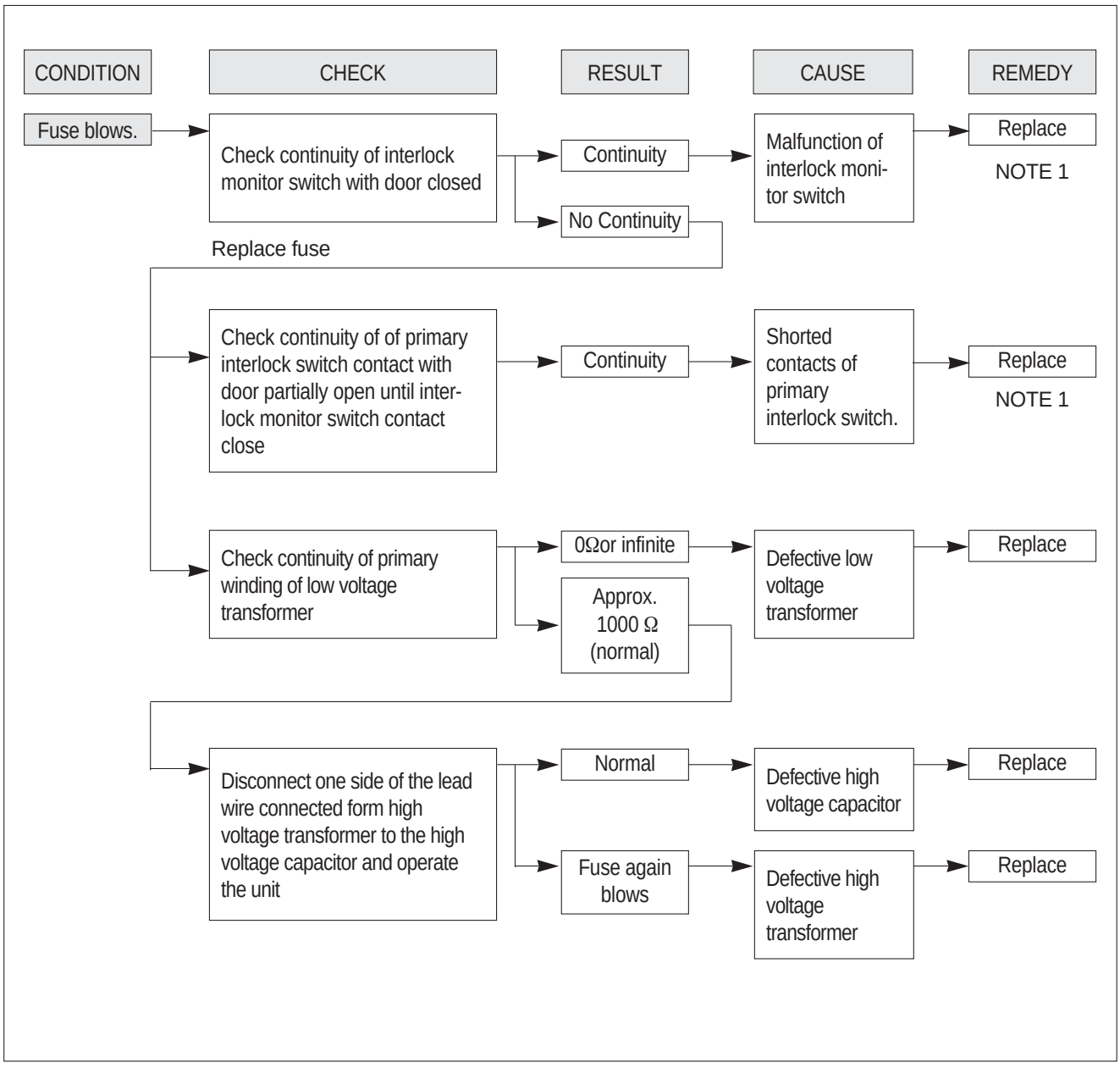
TROUBLESHOOTING GUIDE

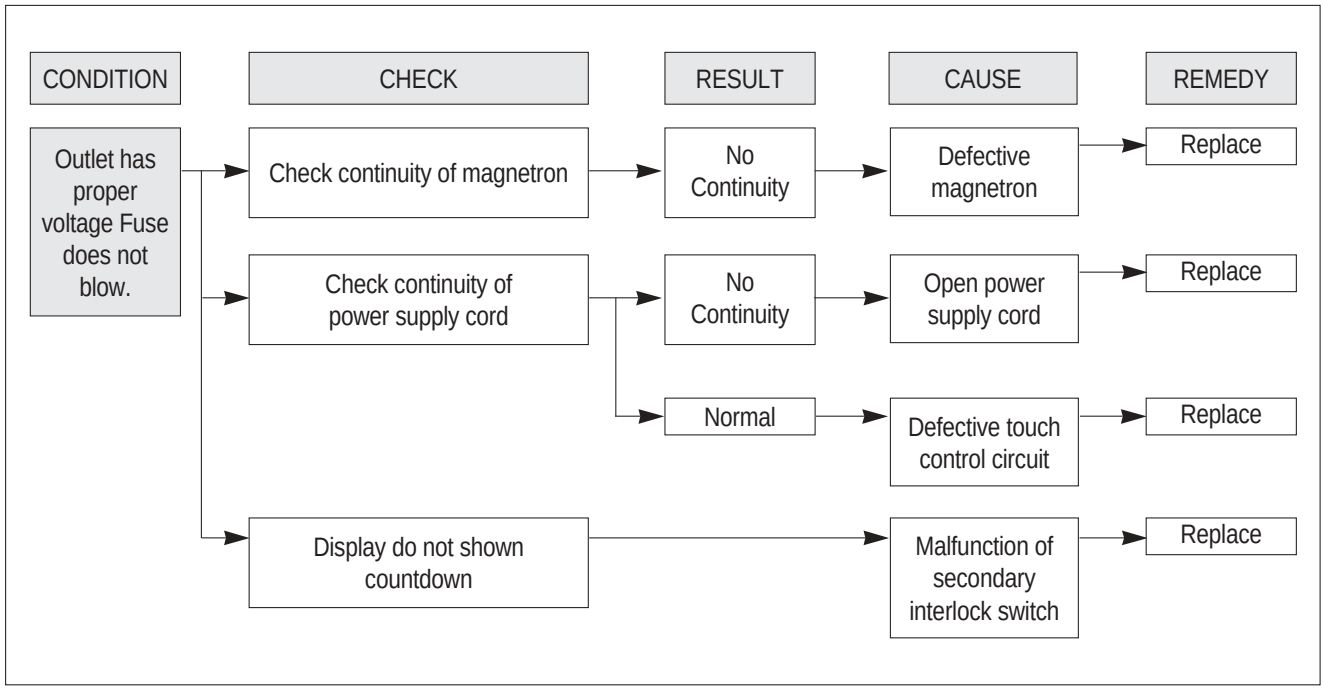
Following the procedure below to check if the oven is defective or not.

1. Check grounding before trouble checking.
2. Be careful of the high voltage circuit.
3. Discharge the high voltage capacitor.
4. When checking the continuity of the switches, fuse or high voltage transformer, disconnect one lead wire from these parts and check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.

NOTE : When electric parts are checked, be sure the power cord is not inserted the wall outlet.
Check wire harness, wiring and connected of the terminals and power cord before check the parts listed below.

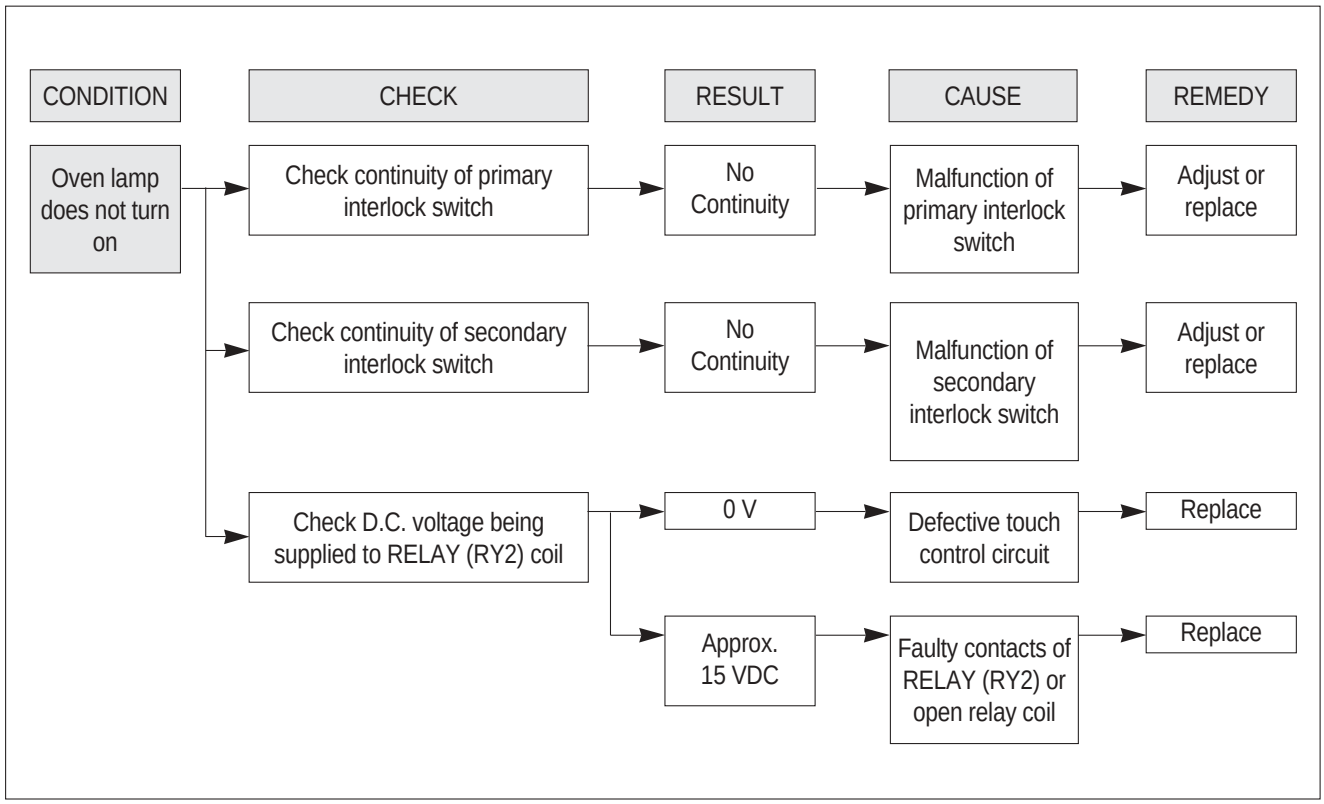
(TROUBLE 1) Oven does not operate at all ; any inputs can not be accepted.



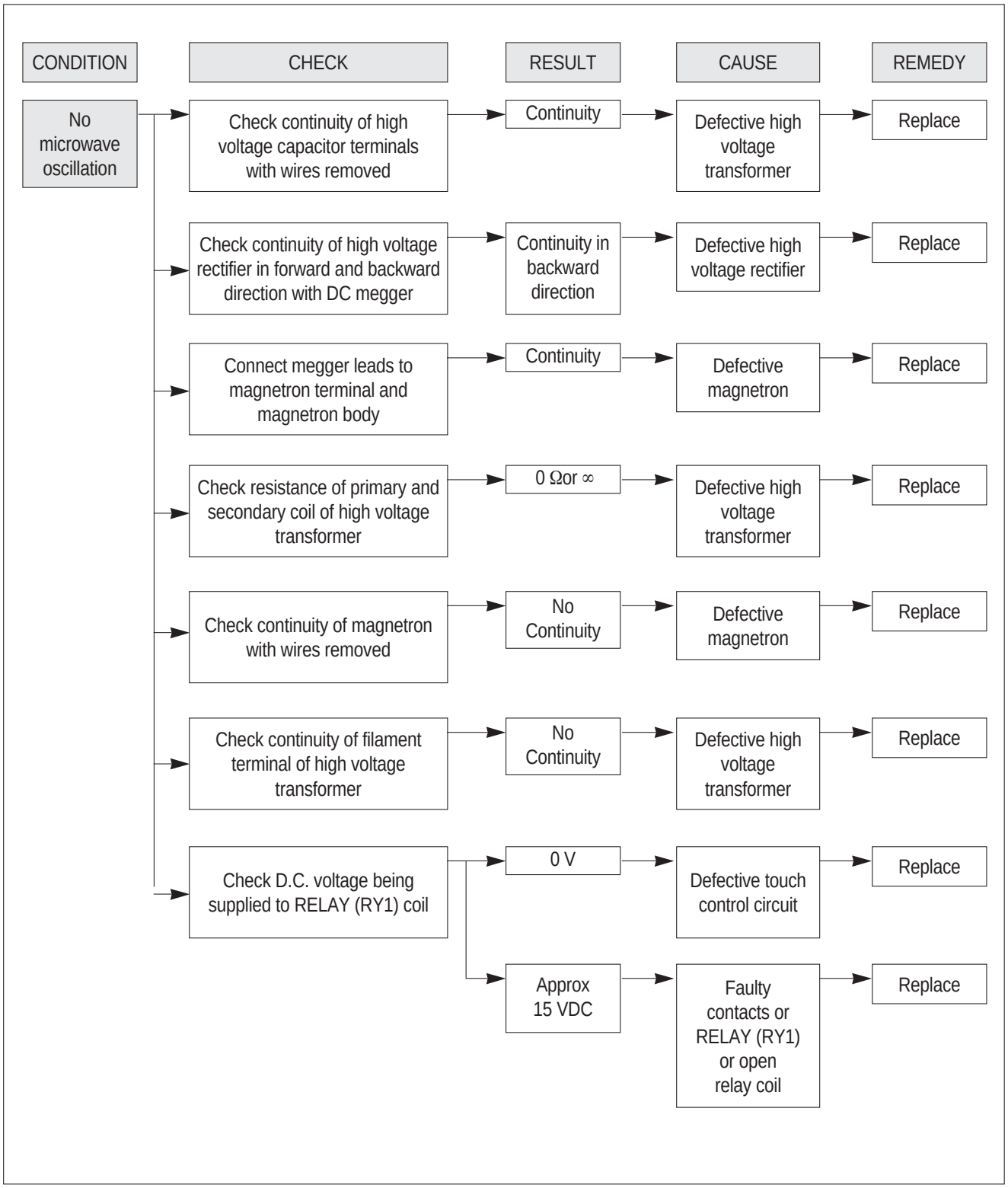


NOTE
All these switches must be replaced at the same time, please refer to “Interlock Mechanism And Adjustment”.

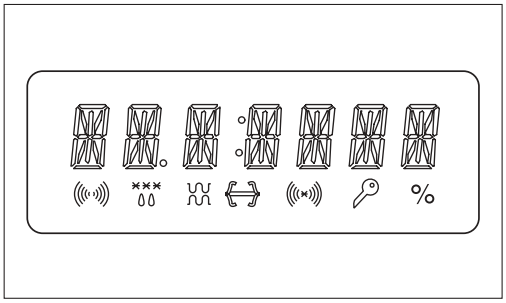
(TROUBLE 2) Display shows all figures selected, but oven does not start cooking, even though desired program and time are set and start pad is tapped.



(TROUBLE 3) No microwave oscillation even though fan motor rotates.



(TROUBLE 4) The following visual conditions indicate a probable defective touch control circuit



1. Incomplete segments,
   1) Segments missing.
   2) Partical segments missing.
   3) Digit flickering other than normal display slight flickering.
   4) " :0" does not display when power is on.

2. A distinct change in the display are not on when they numbers is the display.

3. One or more digits in the display are not on when they should be.

4. Display indicates a number different from one touched.

5. Specific numbers (for example 2 or 3) will not display when the panel is touched.

6. Display does not count down or up with time cooking or clock operation.

7. Oven is programmable and cooks normally but no display shows.

8. Display obviously jumps in time while counting down.

9. Display counts down noticeably too fast while cooking.

10. Display does not show the " :0" when the STOP/CLEAR pad is touched.

11. Oven lamp and turntable motor do not stop although cooking is finished. Check if the RELAY 2 contacts close. If they close, replace P.C.B assembly.

CONDITION	CHECK	RESULT	CAUSE	REMEDY
Display does not show programming at all, even if keyboard is touched.	Check each pad for continuity of the membrane keyboard for the following keyboard check procedure	Normal	Malfunction of the control circuit board	Replace the control circuit board
		Abnormal	Malfunction of the membrane keyboard	Replace the membrane keyboard

NOTE
Before following the particular steps listed above in the troubleshooting guide for the failure of membrane keyboard, please check for the continuity of each wire-harness between the membrane keyboard and P.C.B. assembly.

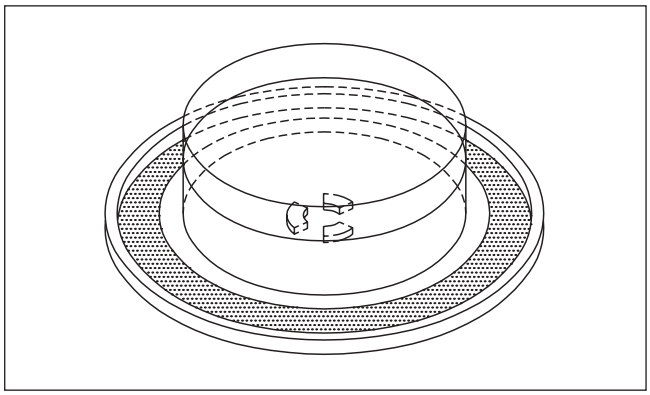
MEASUREMENT AND TEST

1. MEASUREMENT OF THE MICROWAVE POWER OUTPUT

Microwave output power can be checked by indirectly measuring the temperature rise of a certain amount of water exposed to the microwave as directed below.

PROCEDURE

1. A cylindrical container of borosilicate glass is used for the test. It has a maximum thickness of 3mm, an external diameter of approximately 190mm and a height of approximately 90mm.
   The mass of the container is determined.
2. At the start of the test, the oven and the empty container are at ambient temperature. Water having an initial temperature of 10˚C ± 1˚C is used for the test. The water temperature is measured immediately before it is poured into the container.
3. A quantity of 1000g ± 5g of water is added to the container and its actual mass obtained.
   The container is then immediately placed in the centre of the oven shelf, which is in its lowest normal position.
   The oven is operated and the time for the water temperature to attain 20˚C ± 2˚C is measured. The oven is then switched off and the final water temperature is measured within 60s.



   NOTE 1 - The water stirred is before its temperature is measured.
   NOTE 2 - Stirring and measuring devices are to have a low heat capacity.

4. The microwave power output is calculated from the formula

$$P = \{4{,}187 \cdot m_w(T_2-T_1) + 0.55 \cdot m_c (T_2-T_0)\}/t$$

where
P is the microwave power output, in watts ;
m_w is the mass of the water, in grams ;
m_c is the mass of the container, in grams ;
T_0 is ambient temperature, in degrees Celsius ;
T_1 is the initial temperature of the water, in degree Celsius ;
T_2 is the final temperature of the water, in degrees Celsius ;
t is the heating time, in seconds, excluding the magnetron filament heating-up time.

⁎ The microwave power output is stated in watts, rounded off to the nearest 50W

CAUTION
1. Water load should be measured exactly to 1 liter.
2. Input power voltage should be exactly specified voltage (Refer to SPECIFICATIONS).
3. Ambient temperature should be 20 ± 2°C (68 ± 3.6°F)

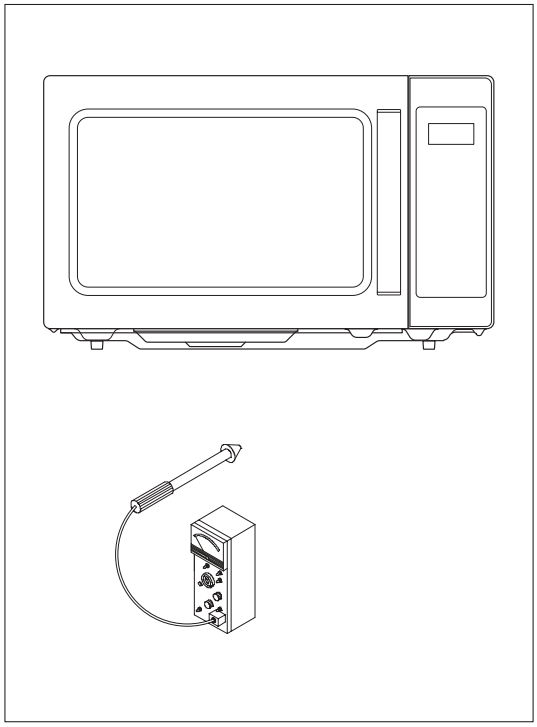
⁎ Heating time for power output: ($T_2 = T_0$)

A (second)	70	64	60	56	52	49	47	44	42	40	38
B (W)	600	650	700	750	800	850	900	950	1000	1050	1100

2. MICROWAVE RADIATION TEST

CAUTION :
1. Make sure to check the microwave leakage before and after repair of adjustment.
2. Always start measuring of an unknown field to assure safety for operating personnel from microwave energy.
3. Do not place your hands into any suspected microwave radiation field unless the safe density level is known.
4. Care should be taken not to place the eyes in direct line with the source of microwave energy.
5. Slowly approach the unit under test until the radiometer reads an appreciable microwave leakage from the unit under the test.

PROCEDURES



1. Prepare Microwave Energy Survey Meter, 600cc glass beaker, and glass thermometer 100˚C(212˚F).
2. Pour 275cc±15cc of tap water initially at 20±5˚C(68±9˚F) in the 600cc glass beaker with an inside diameter of approx. 95mm(3.5in.).
3. Place it at the center of the tray and set it in a cavity.
4. Close the door and operate the oven.
5. Measure the leakage by using Microwave Energy Survey Meter with dual ranges, set to 2450MHz.
   1) Measured radiation leakage must not exceed the value prescribed below. Leakage for a fully assembled oven with door normally closed must be less than 4mW/cm^2.
   2) When measuring the leakage, always use the 5cm(2in.) space cone with probe. Hold the probe perpendicular to the cabinet and door. Place the space cone of the probe on the door, cabinet, door seem, door viewing screen, the exhaust air vents and the suction air vents.
   3) Measuring should be in a counter-clockwise direction at a rate of 1 in./sec. If the leakage of the cabinet door is unknown, move the probe more slowly.
   4) When measuring near a corner of the door, keep the probe perpendicular to the areas making sure the probe end at the base of the cone does not get closer than 2 in. from any metal. If it does not, erroneous reading may result.

3. COMPONENT TEST PROCEDURE

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

1. High voltage transformer

(1) Remove connections from the transformer terminals and check continuity.
(2) Normal readings should be as follows:
Secondary winding.....Approx. 130.5 Ω±10%
Filament winding.....Approx. 0Ω
Primary winding .....Approx. 1.371 Ω

2. High voltage capacitor

(1) Check continuity of capacitor with meter on the highest OHM scale.
(2) A normal capacitor will show continuity for a short time, and then indicate 10MΩonce the capacitor is charged.
(3) A shorted capacitor will show continuous continuity.
(4) An open capacitor will show constant 10MΩ
(5) Resistance between each terminal and chassis should be infinite.

3. High voltage diode

(1) Isolate the diode from the circuit by disconnecting the leads.
(2) With the ohmmeter set on the highest resistance scale measure the resistance across the diode terminals.
Reverse the meter leads and again observe the resistance reading.
Meter with 6V, 9V or higher voltage batteries should be used to check the front-back resistance of the diode, otherwise an infinite resistance may be read in both directions.
A normal diode's resistance will be infinite in one direction and several hundred KΩin the other direction.

4. Magnetron

For complete magnetron diagnosis, refer to "Measurement of the Microwave Power Output".
Continuity checks can only indicate and open filament or a shorted magnetron.
To diagnose for an open filament or a shorted magnetron.
(1) Isolate magnetron from the circuit by disconnecting the leads.
(2) A continuity check across magnetron filament terminals should indicate 0.1Ωor less.
(3) A continuity check between each filament terminal and magnetron case should read open.

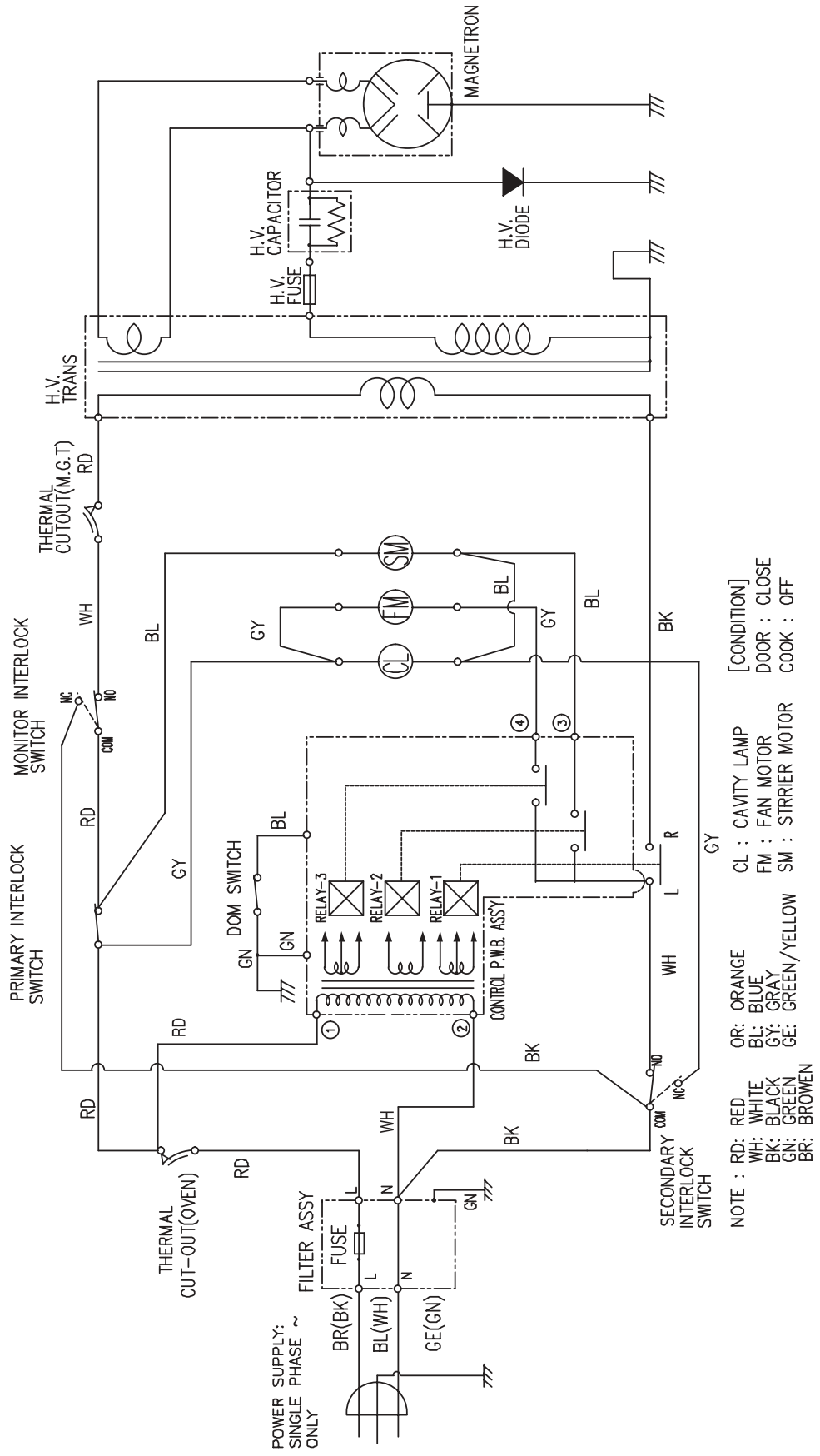
5. Fuse

If the fuse in the primary and monitor switch circuit is blown when the door is opened, check the primary and monitor switch before replacing the blown fuse.
In case the fuse is blown by an improper switch operation, replace the defective switch and fuse at the same time.
Replace just the fuse if the switches operate normally.

6. Interlock switches

(1) You can test continuity of safety interlock and monitor switch by using ohmmeter.
(2) The switch operation is checked by zero/unlimited. The meter should indicate zero resistance.
(3) The sequence of check is interlock monitor switch, primary and secondary interlock switches check.

WIRING DIAGRAM



PRINTED CIRCUIT BOARD

1. CIRCUIT CHECK PROCEDURE

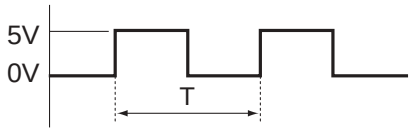
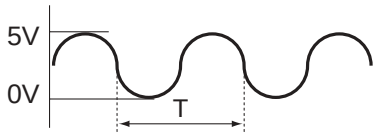
1. Low voltage transformer check

The low voltage transformer is located on the P.C.B.
Measuring condition: Input voltage: 230V / Frequency: 50Hz

Terminal Voltage	LOAD	NO LOAD
6-7, 7-8	DC 12V	AC 26.0V
9-10	AC 3.4V	AC 4.0V

NOTE :
1. Refer to Ciruit Diagram (point 4).
2. Secondary side voltage of the low voltage transformer changes in proportion to fluctuation of power source voltage.
3. The allowable tolerance of the secondary voltage is within 5% of nominal voltage.

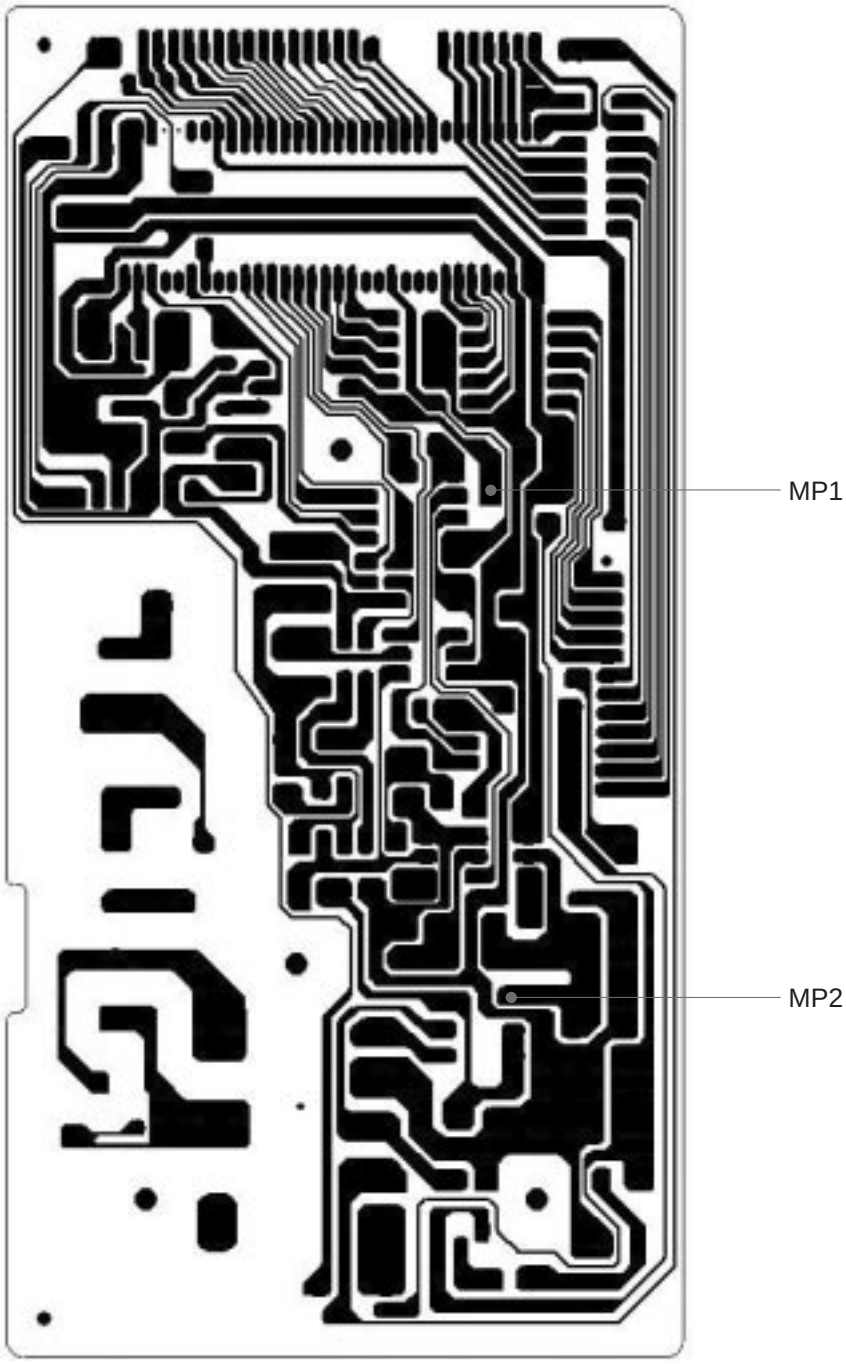
2. Voltage Check

NO	CHECK POINT	REMARK
1	IC1 PIN 63, 64	5VDC
2	IC1 PIN 38	 T:20ms(50Hz)
3	IC1 PIN 33 OR 34	 T:250ns(4MHz)

• Check method

NO	MEASURE POINT	WAVE FORM	REMEDY	REMARK
1	MP1	DC 5V±0.25V	Replace Q9, ZD2, EC2, R21, C3	NO LOAD
2	MP2	DC 12V±2.0V	Replace D12, D13, EC4, EC5, R22,C7	NO LOAD

NOTE :
Each measure point must be measured with GND points.



Measure Point

3. When there is no microwave oscillation

1) When touching **START** pad, oven lamp does not turn on.
Fan motor do not rotate, but cook indicator in display comes on.
* Cause : **RELAY 2** does not operate. → refer to Circuit Diagram (Point 3)
- Check method

STATE \ POINT	A	B
RELAY 2 ON	2.5VDC	GND
RELAY 2 OFF	GND	12VDC

2) When touching **START** pad, oven lamp turns on.
Fan motor and turntable rotate and cook indicator in display comes on.
* Cause : **RELAY 1** does not operate. → refer to Circuit Diagram (Point 2)
- Check method

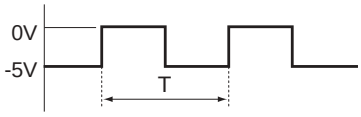
STATE \ POINT	A	B
RELAY 1 ON	5VDC	GND
RELAY 1 OFF	GND	12VDC

4. When the door is opened during operation, the count down timer does not stop.
→ refer to Circuit Diagram (Point 1)
-Check method

STATE \ POINT	A	B
1) DOOR OPEN	OPEN	5VDC
2) DOOR CLOSED	CLOSE	GND

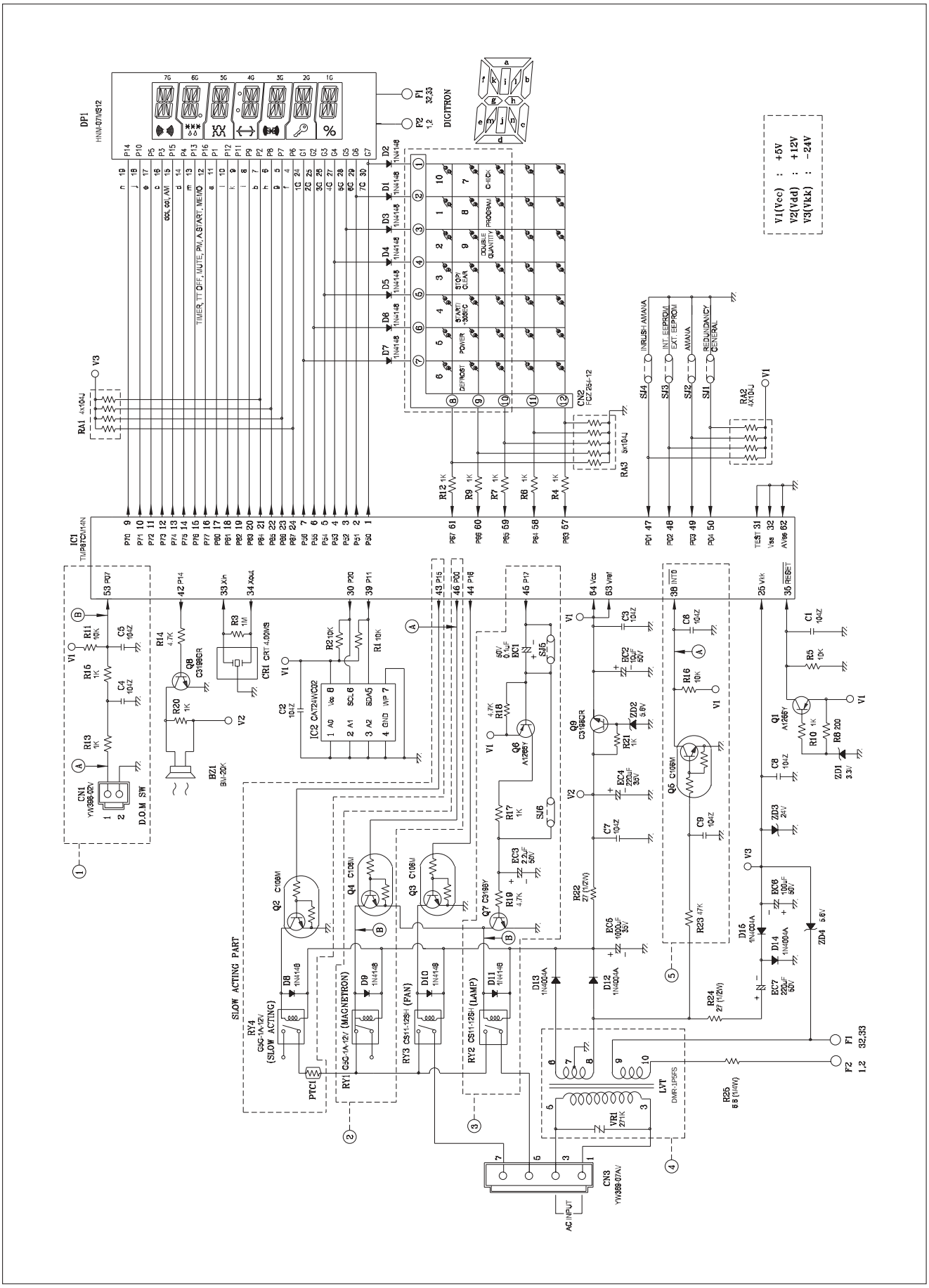
CHECK NO	METHOD	REMEDY
1	Check the stage (ON, OFF) of the door open monitor switch by resistance measurement.	Replace door open monitor switch.

5. When the digital clock does not operate properly.
→ refer to Circuit Diagram (Point 5)

POINT	WAVE FORM
1	 T:20ms(50Hz)

* If clock does not keep exact time, you must check resistor R16, R23, transistor Q5.

2. PCB CIRCUIT DIAGRAM



3. PCB LOCATION NO.

NO	NAME	SYMBOL	SPECIFICATION	PART CODE	Q'TY
1	BUZZER	BZ1	BM-20K (BUJEON)	3515600100	1
2	C CERA	C1~9	HIKF 50V 0.1MF Z AXIAL	CCZF1H104Z	9
3	C ELECTRO	EC1	50V RS 0.1MF (5X11) TP	CEXE1H108A	1
4	C ELECTRO	EC2	50V RS 10MF (5X11) TP	CEXE1H100A	1
5	C ELECTRO	EC3	50V RS 2.2MF (5X11) TP	CEXE1H229A	1
6	C ELECTRO	EC4	35V RSS 220MF (10X12.5)TP	CEXF1V221V	1
7	C ELECTRO	EC5	35V RSS 1000MF (13X25) TP	CEXF1V102V	1
8	C ELECTRO	EC6	50V RSS 100MF (8X11.5) TP	CEXF1H101V	1
9	C ELECTRO	EC7	50V RSS 220MF (10X16) TP	CEXF1H221V	1
10	CONN FILM	CN2	FCZ 254-12	441M367170	1
11	CONN WAFER	CN1	YW396-02V(YEONHO)	3519150520	1
12	CONN WAFER	CN3	YW396-07AV(YEONHO)	3519150540	1
13	DIGITRON	DP1	HNM-07MS12	DHNM07MS12	1
14	DIODE	D1~7,9~11	1N4148 AUTO 52MM	DZN4148---	10
15	DIODE	D12~15	KN4004A AUTO 52MM	DZN4004A--	4
16	DIODE ZENER	ZD1	UZ-3.9BSB(3.92-4.14)	DZUZ3R9BSB	1
17	DIODE ZENER	ZD2,4	UZ-5.6BSB(5.46-5.70V)	DZUZ5R6BSB	2
18	DIODE ZENER	ZD3	UZ-24BSB(22.75-23.73V)	DZUZ24BSB-	1
19	HOLDER VFD	DPH	NYLON 66	3513001400	1
20	IC EEPROM	IC2	CAT24WC02	14HN24WC02	1
21	IC MICOM	IC1	TMP87CM14N-6CG3	13GS1P5C01	1
22	PCB MAIN	BOARD	M318	3514328510	1
23	R ARRAY	RA2	RGLD4X104J (MURATA)	RA-85X104J	1
24	R ARRAY	RA3	6P(5) 1/8 100K OHM J	RA-86X104J	1
25	R CARBON FILM	R1,2,5,11,16	1/6 10K OHM J	RD-AZ103J-	5
26	R CARBON FILM	R14	1/6 4.7K OHM J	RD-AZ472J-	1
27	R CARBON FILM	R17	1/6 100 OHM J	RD-AZ101J-	1
28	R CARBON FILM	R18,23	1/6 47K OHM J	RD-AZ473J-	2
29	R CARBON FILM	R22,24	1/2 27 OHM J SMALL	RD-2Z270JS	2
30	R CARBON FILM	R25	1/4 6.8 OHM J	RD-4Z689J-	1
31	R CARBON FILM	R3	1/6 1M OHM J	RD-AZ105J-	1
32	R CARBON FILM	R4,6,7,9,10,12,13,15,19~21	1/6 1K OHM J	RD-AZ102J-	11
33	R CARBON FILM	R8	1/6 200 OHM J	RD-AZ201J-	1
34	RESONATOR CERA	CR1	CRT 4.00MS	5P4R00MTS-	1
35	SW RELAY	RY1	G5G-1A 1C 1P DC12V	5SC0101121	1
36	SW RELAY	RY2,3	OJ-SS-112LM 1C 1P	5SC0101404	2
37	TR	Q1,6	KTA1266Y- (2SA1980NYATPF)	TZTA1266Y-	2
38	TR	Q3~5	KRC106M(AUTO)	TZRC106M--	3
39	TR	Q7~9	KTC3198GR (1815GR)	TZTC3198GR	3
40	TRANS POWER	LVT1	DMR-1P5FS	5EPV035410	1
41	WIRE COPPER	J1~3,5,8	1/0.52 TIN COATING	85801052GY	5
42	WIRE COPPER	J4	1/0.52 TIN COATING	85801052GY	1
43	WIRE COPPER	J6,7,9~13	1/0.52 TIN COATING	85801052GY	7

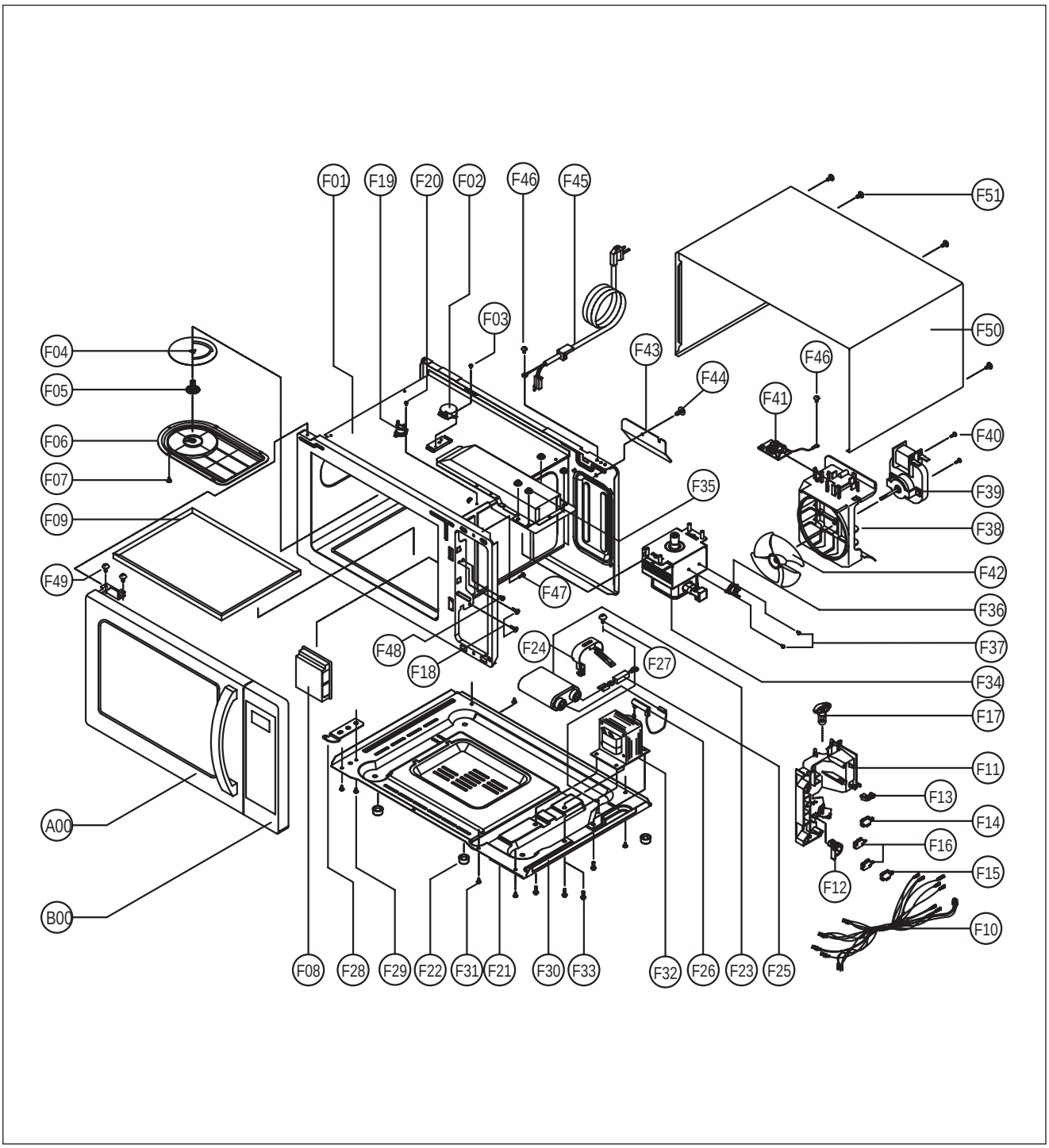
EXPLODED VIEW AND PARTS LIST

1. DOOR ASSEMBLY
Refer to Disassembly and assembly.

2. CONTROL PANEL ASSEMBLY
Refer to Disassembly and assembly.

3. GUIDE WIND ASSEMBLY
Refer to Disassembly and assembly.

4. TOTAL ASSEMBLY



REF. NO	PART CODE	PART NAME	DESCRIPTION	Q'TY
A00	3511731000	DOOR AS	KOM-9P2CBS	1
B00	PKCPSWZZ12	CONTROL-PANEL AS	KOM-9P2CBS	1
F01	3516121900	CAVITY AS	KOM-9P0C9S	1
F02	3966031300	MOTOR SYNCRO	SM16F -HK36T1FY	1
F03	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	1
F04	3517101600	STIRRER BLADE	AL050-H18 T0.7	1
F05	3517402400	COUPLER STIRRER	PPS	1
F06	3511410100	COVER STIRRER	PP	1
F07	4414H50000	FIXTURE AS	KOG-36150S	1
F08	3511410000	COVER HOLE *I	PP	1
F09	3517213100	TRAY AS	KOM-9P0C9S TRAY CEILING	1
F10	3512784900	HARNESS MAIN	KOM-9P0C9S	1
F11	3513816000	LOCK	PP	1
F12	3513700800	LEVER LOCK	POM	1
F13	3513702100	LEVER SW MICRO	POM,KOG-846T0S	1
F14	5S762G10G0	SW MICRO	SZM-V16-FD-63 S (200G)	1
F15	3518571000	SWITCH PUSH	V0303A2 / MP101C	1
F16	4415A66910	SW MICRO	VP-531A-OF/SZM-V16-FA-61	2
F17	3513601600	LAMP	BL 240V 25W T25 C7A H187	1
F18	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	2
F19	3518906510	THERMOSTAT	OFF:85 ON:50 H #187	1
F20	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	1
F21	3510319800	BASE	SBHG T0.8	1
F22	3512101400	FOOT	DASF-310	4
F23	3518303720	CAPACITOR HV	2300V 1.15UF #187 CLASS P 85MM	1
F24	441X304112	HOLDER HV CAPACITOR	SECC 0.8T	1
F25	3518401410	DIODE HV AS	HV03-12 400MA 12000V #187	1
F26	3518701610	FUSE HV	5KV 1A	1
F27	7S432X4081	SPECIAL SCREW	TT3 TRS 4X8 SE MFZN	1
F28	3515202800	STOPPER HINGE *U AS	KOR-121M0A	1
F29	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	1
F30	3517304600	FOAM	CR 6TX220X30	1
F31	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	6
F32	3518121760	TRANS HV	R9S59A DS30	1
F33	3516003700	SPECIAL SCREW	TT3 HEX 4X8 FLG MFZN	4
F34	3518003810	MAGNETRON	2M248H(DW)-B	1
F35	7S627W50X1	NUT HEX	NUT FLANGE M5X0.8P MFZN	4
F36	3518903900	THERMOSTAT	OFF:160 ON:115 H #187	1
F37	7121300611	SCREW TAPPING	T2S PAN 3X6 MFZN	2
F38	3512515300	GUIDE WIND	PP	1
F39	3963514380	MOTOR SHADED POLE	230V 50HZ OEM-15DWC2-C03	1
F40	7121403011	SCREW TAPPING	T2S PAN 4X30 MFZN	2
F41	3518605500	NOISE-FILTER	DWLF-M07	1
F42	3511800100	FAN	P.P GF20	1
F43	3511409500	COVER HOLE *O	SBHG T0.8	1
F44	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F45	3511345QM5	CORD POWER AS	3X1.0 80X80 120-RTML RUBBER(UK)	1
F46	7122401011	SCREW TAPPING	T2S TRS 4*10 MFZN	1
F47	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F48	7122400811	SCREW TAPPING	T2S TRS 4*8 MFZN	1
F49	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	3
F50	3510810620	CABINET	STS 430 NO4 T0.5	1
F51	7S312X40A1	SCREW SPECIAL	T1 TRS 4X10 SE MFZN	4

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