S/M No. : R63RA0S001

Service Manual

Microwave Oven

Model: KOR-63RA

DAEWOO ELECTRONICS CO., LTD.

http : //svc.dwe.co.kr Jul. 2002

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

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.

IMPORTANT

The wire in this mains lead coloured in accordance with the following code.

Green-and-yellow	: Each
Blue	: Neutral
Brown	: Live

As the colours of the wires in the manins lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked with the letter ‘E’, earth symbol or coloured green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter ‘N’ or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter ‘L’ or coloured red.

NOTE

This oven is designed for counter-top use only.

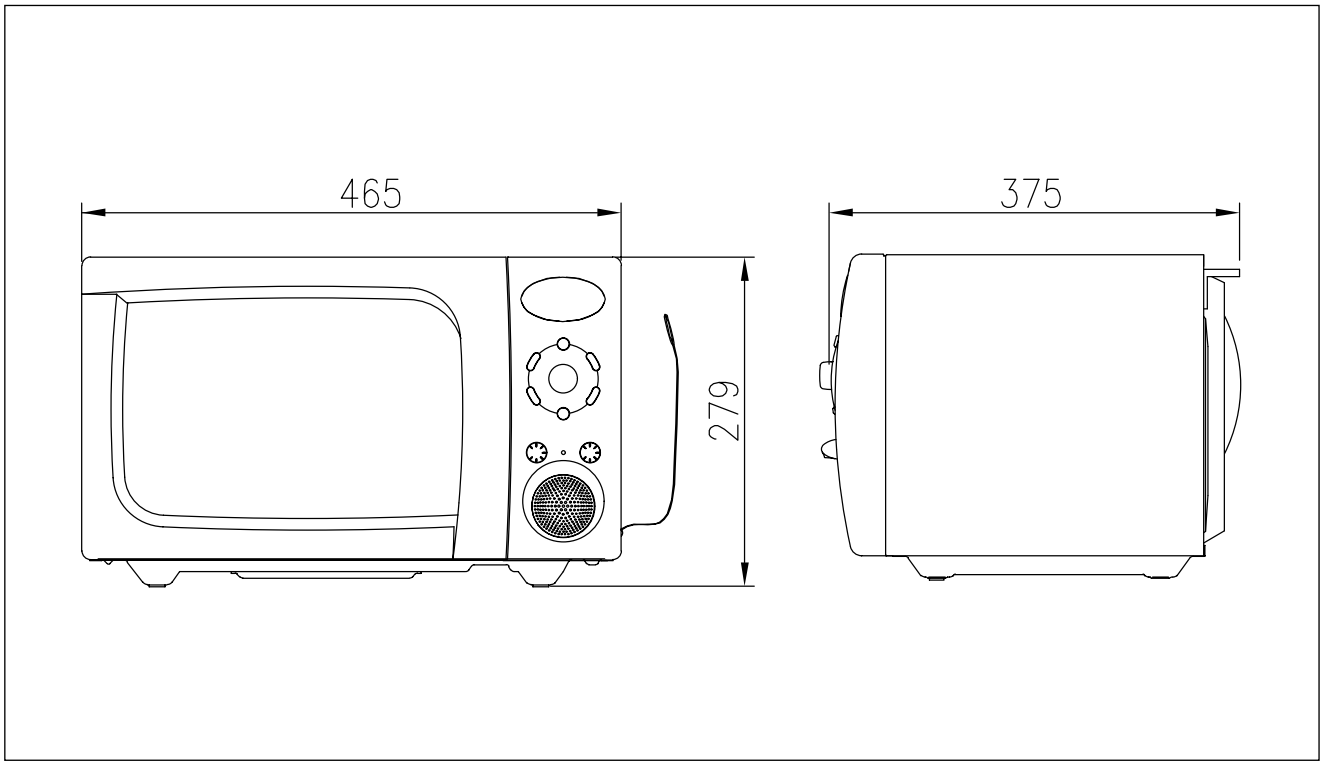
SPECIFICATIONS

MODEL		**KOR-63RA**
POWER SUPPLY		230V~50Hz, SINGLE PHASE WITH EARTHING
POWER CONSUMPTION	MICROWAVE	1,200W
	GRILL	
	COMBINATION	
MICROWAVE ENERGY OUTPUT		800W
MICROWAVE FREQUENCY		2450MHz
FM RADIO	FREQUENCY RANGE	87.5Mhz ~ 108Mhz
	SPEAKER	4ohm, 0.5W
OUTSIDE DIMENSIONS (W x H x D)		465 x 279 x 375 mm (18.3 x 11.0 x 14.2 in)
CAVITY DIMENSIONS (W x H x D)		290 x 220 x 306 mm (11.4 x 8.7 x 12.0 in)
NET WEIGHT		APPROX. 12.3kg (27.2 lbs.)
TIMER		59 MIN. 00 sec.
FUNCTION SELECTIONS		MICROWAVE
POWER SELECTIONS		5 LEVELS
CAVITY VOLUME		0.7 Cu. Ft.

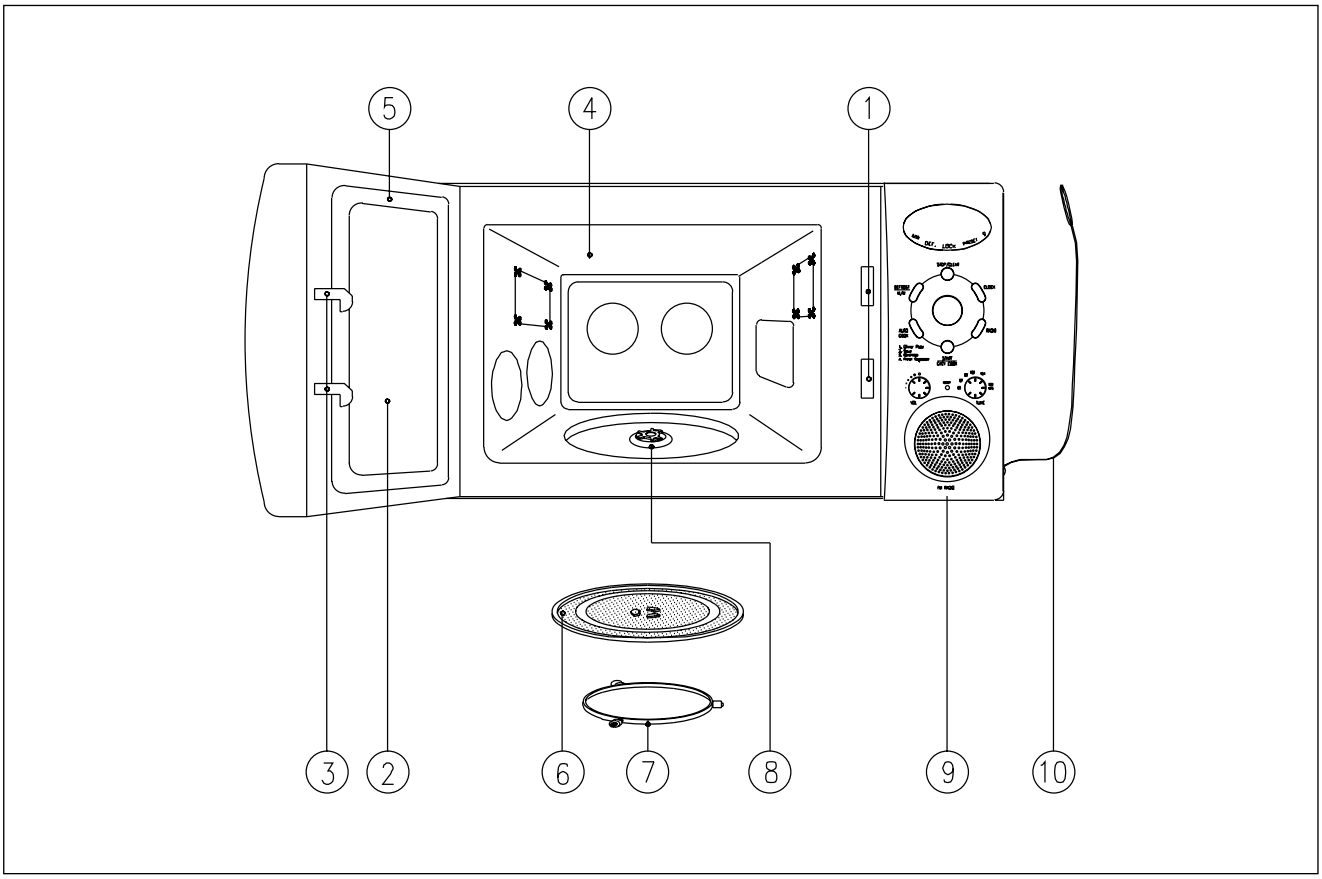
** SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.*

EXTERNAL VIEW

1. OUTER DIMENSION



2. FEATURE DIAGRAM



① **SAFETY INTERLOCK SYSTEM**

② **DOOR SCREEN**
Allows viewing of food. The screen is transparent to light, but prevents microwaves escaping.

③ **DOOR LATCH**
When the door is closed, it will automatically shut off. If the door is opened while the oven operating, the magnetron tube will immediately stop operating.

④ **OVEN CAVITY**

⑤ **DOOR SEAL**
Door seal surfaces prevent microwave escaping from the oven cavity.

⑥ **GLASS COOKING TRAY**
Made of special heat resistant glass. The tray can be easily removed for cleaning. Make sure it is correctly positioned(indentation) before operating. Place food in a suitable container(dish) on the tray.

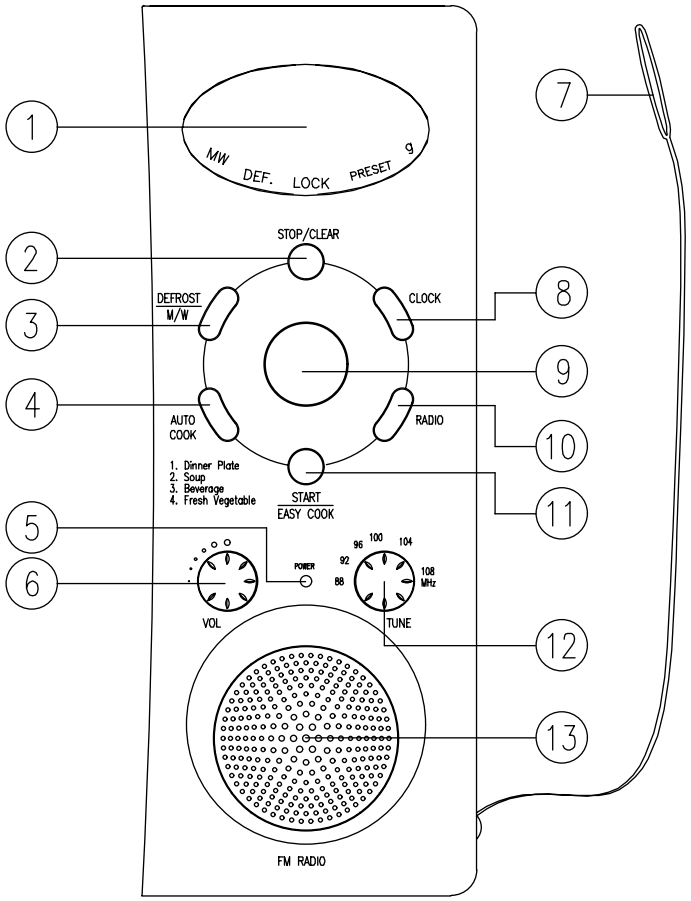
⑦ **ROLLER GUIDE**
Supports the glass cooking tray.

⑧ **COUPLER**
This fits over the shaft in the center of the ovens cavity floor. This is to remain in the oven for all cooking.

⑨ **CONTROL PANEL**

⑩ **FM ANTENNA**

3. CONTROL PANEL



① **DISPLAY**
Cooking time, power level, indicators and present time are displayed.

② **STOP/CLEAR**
Used to stop the oven operation or to erase all entries.

③ **DEFROST/ M/W**
Used to set power level and to defrost foods by weight or time.

④ **AUTO COOK**
Used to cook using a program or to reheat.

⑤ **POWER LED**
If RADIO mode is selected, this lamp will be turned on.

⑥ **VOLUME KNOB**
Used to turn the sound of the speaker up or down.

⑦ **FM ANTENNA**

⑧ **CLOCK**
Used to set the clock.

⑨ **DIAL KNOB**
Used to set the time and weight.

⑩ **RADIO**
Used to listen to FM radio broadcasts.

⑪ **START/EASY COOK**
Used to start the oven operation and also increase the reheat time by 30 seconds.

⑫ **TUNING KNOB**
Used to tune stations.

⑬ **SPEAKER**

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 or 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 6 amperes, 230 Volts, 50 Hz.
- Power supply cord is about 0.8 meters long.
- The voltage used 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 serviceman 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 plut, 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 main 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. When the oven door is opened, the light turns off.
5. The oven door can be opened at any time during operation.

   The oven will automatically shut off. To restart the oven, close the door and then press START button.
6. Each time a button is pressed, a BEEP will sound to acknowledge the touch.
7. The oven automatically cook on full power unless set to a lower power level.
8. The display will show ": 0" when the oven is plugged in.
9. Time clock returns to the present time when the cooking time ends.
10. When the STOP/CLEAR buttion is pressed during the oven operation, the oven stops cooking and all information retained.
    To erase all information (except the present time), press the STOP/CLEAR button once more. If the oven door is opened during the oven operation, all information is retained.
11. If the START buttion is pressed and the oven does not operate, check the area between the door and door seal for obstructions and make sure the door is closed securely. The oven will not start cooking under the door is completely closed or the program has been reset.
12. When using the RADIO mode:
    - RADIO function does not work during cooking or defrosting. And RADIO function works again after it is over.
    - FM broadcasts with too much noise could be adjusted by moving the FM antenna slowly for better reception.

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

Wattage output chart

The power level is set by pressing the POWER/DEFROST button. The chart shows the display, the power level and the percentage of power.

Press POWER/DEFROST	Power level(Display)	Approximate Percentage of Power
Once	P-HI	100%
Twice	P-80	80%
3 times	P-60	60%
4 times	P-40	40%
5 times	P-20	20%

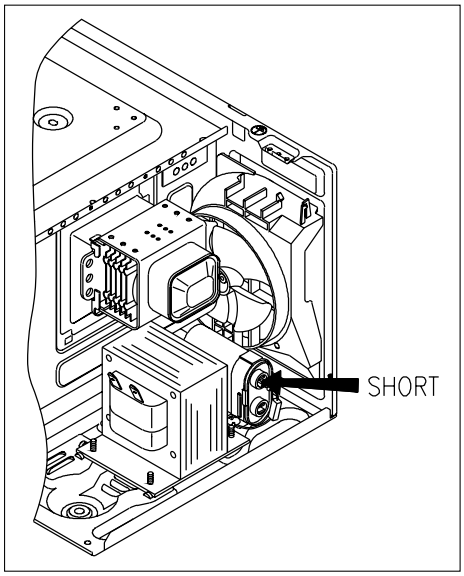
DISASSEMBLY AND ASSEMBLY

Cautions to be observed when trouble shooting.

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 with 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.



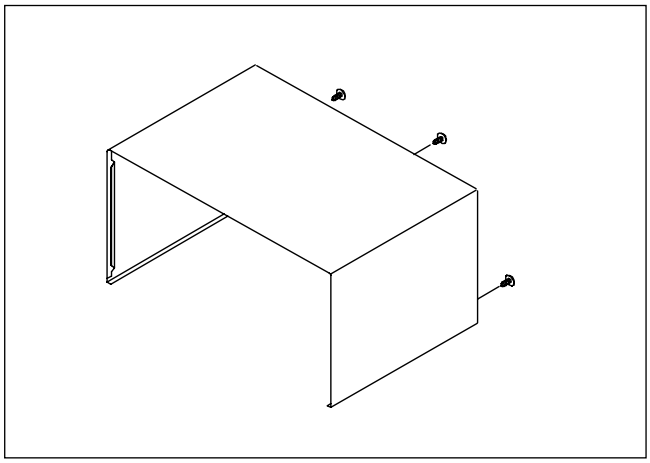
4. When the 12A fuse is blown out due to the operation of the monitor switch; replace primary interlock switch, secondary interlock switch and interlock monitor switch.
5. After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.
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.

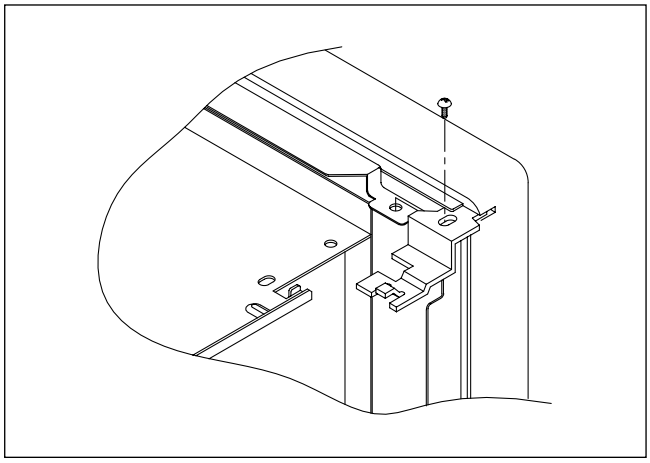
1. To remove cabinet

1) Remove three screws on cabinet back.
2) Push the cabinet backward.



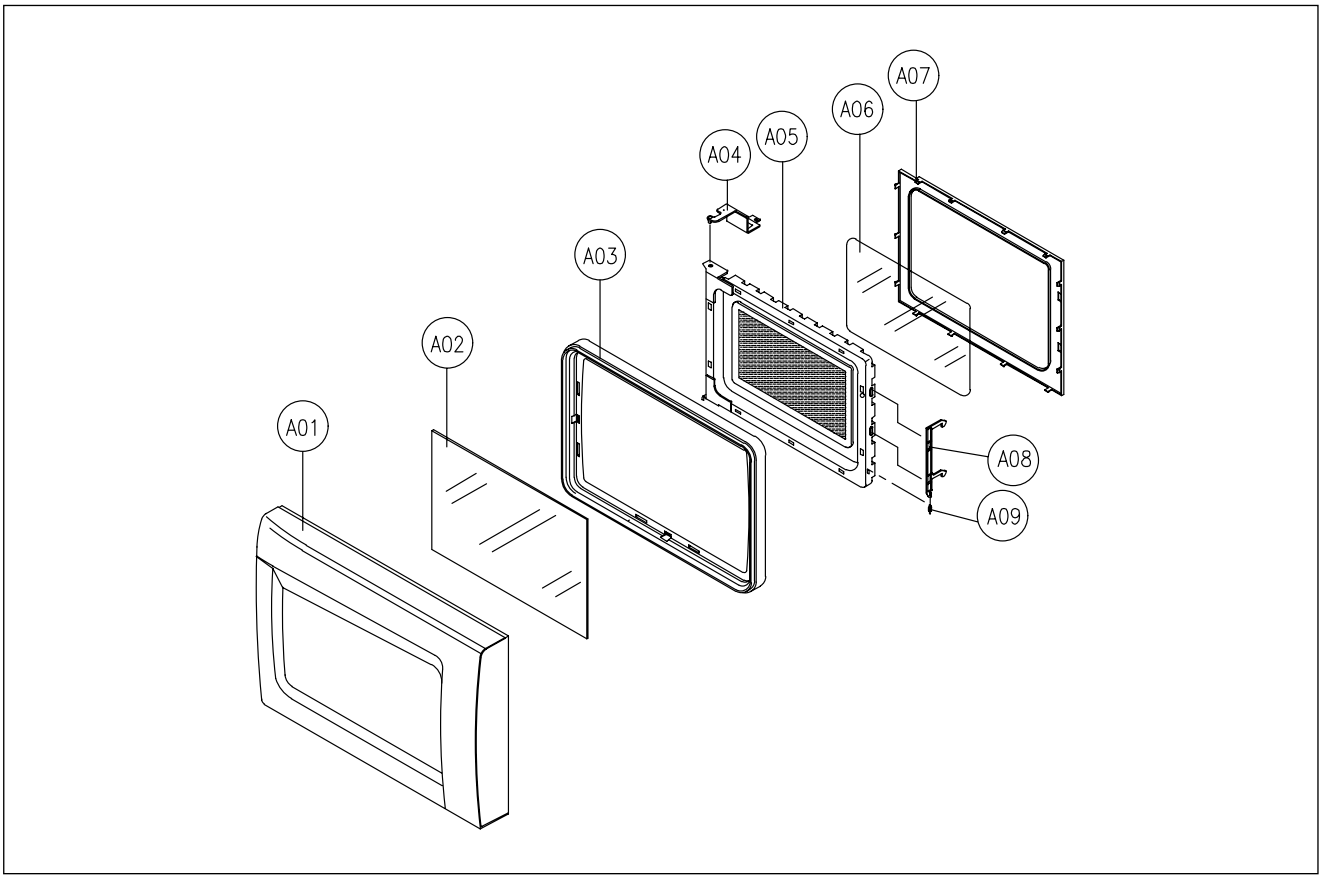
2. To remove door assembly

1) Remove a screw 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.

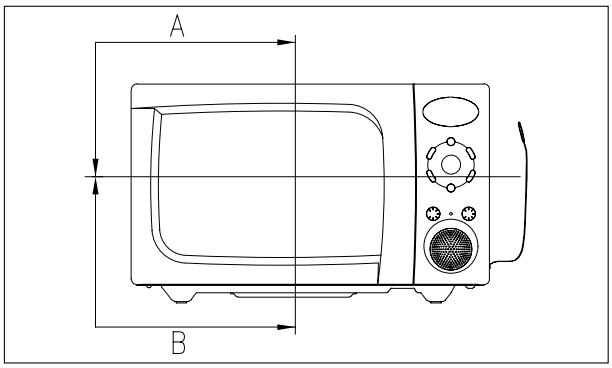


REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A01	3512205280	FRAME DOOR	ABS SG-175 SG-0760D	1	
A02	3517007330	BARRIER SCREEN *O	SAN T1.5	1	
A03	3515306510	SUPPORTER BARRIER SCREEN *O	PP	1	
A04	3515204100	STOPPER HINGE *T AS	KOR-63150S	1	
A05	3511706120	DOOR PAINTING AS	KOR-634R0S	1	
A06	3517002800	BARRIER SCREEN *I	PET 0.1	1	
A07	3512300210	GASKET DOOR	PP	1	
A08	3513100730	HOOK	POM BLACK	1	
A09	3515101320	SPRING HOOK	HSW-3	1	

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

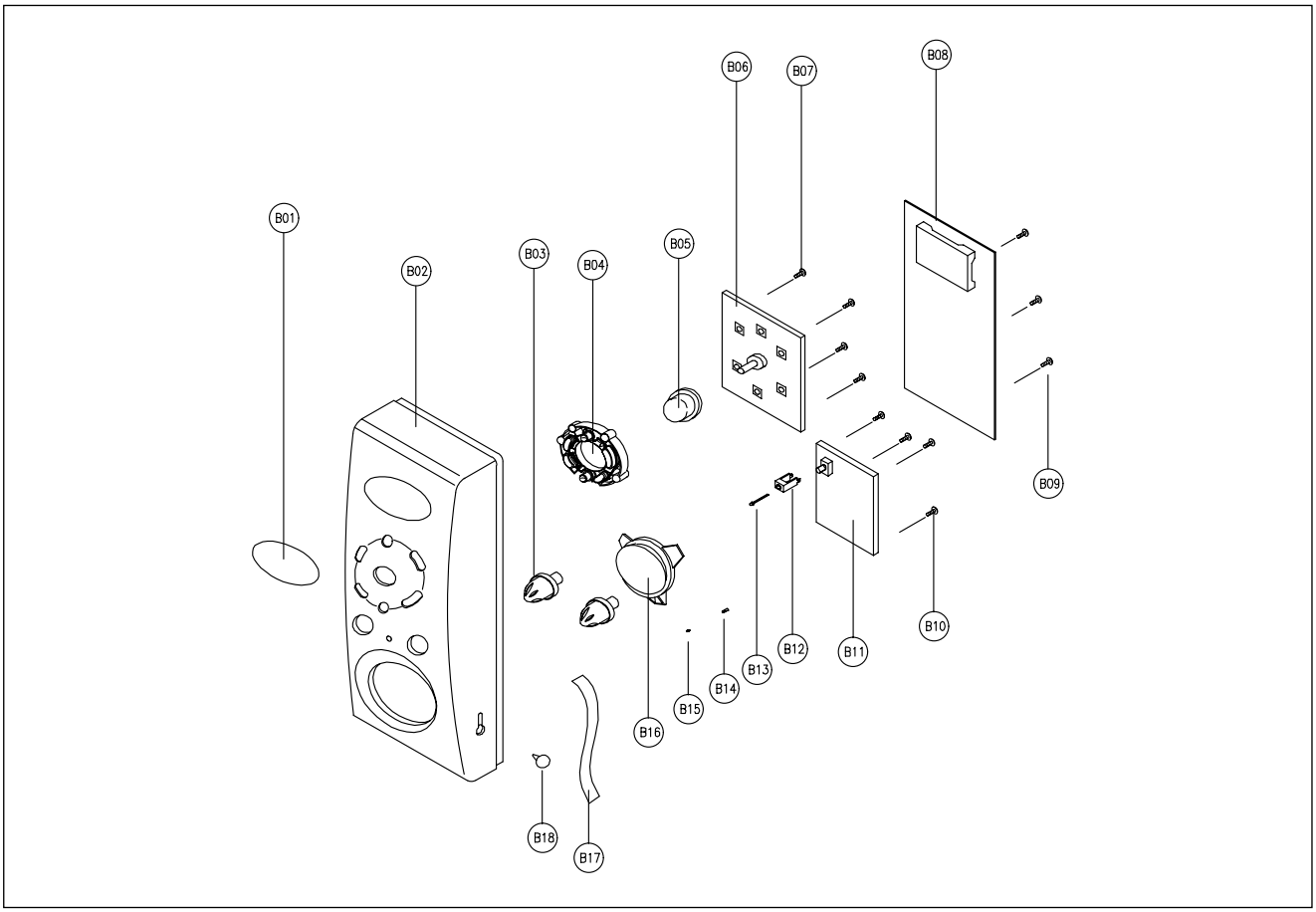
(1) To reduce gap located on part 'A'
Loosen a screws on stopper hinge top, and then push the door to contact the door seal to oven front surface.
Tighten two screws.

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



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

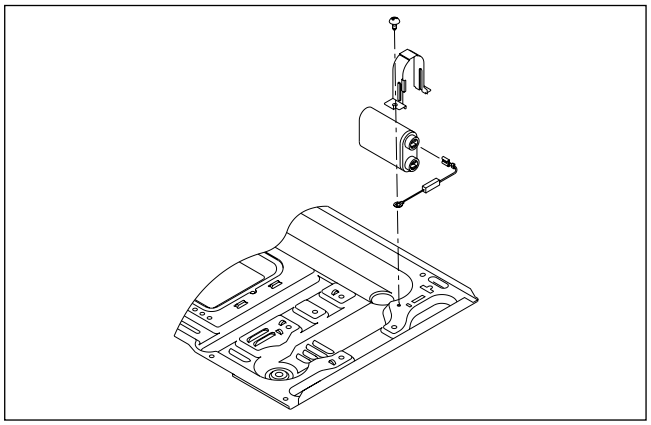
5. To remove control panel parts.



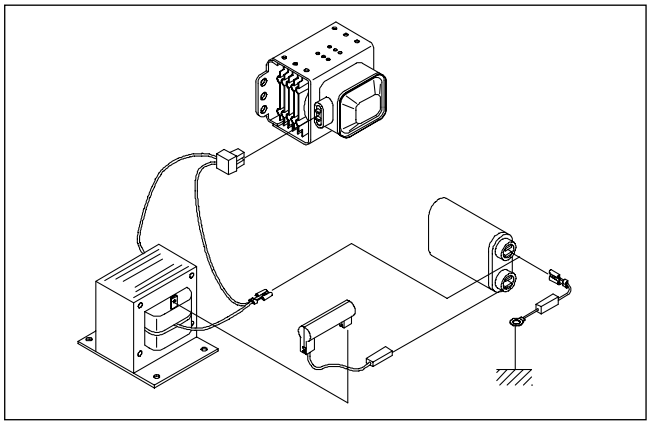
REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B01	3515501580	WINDOW DISPLAY	SAN CR-5381	1	
B02	3516719460	CONTROL-PANEL	ABS SG-175 SG-0760D	1	
B03	3513406710	KNOB TUNER	ABS SG-175 SG-0760D SPRAY	2	
B04	3516909880	BUTTON FUNCTION	ABS SG-175 SG-0760D SPRAY	1	
B05	3513403860	KNOB VOLUME	ABS SG-175 SG-0760D	1	
B06	PKBPMSE500	PCB BUTTON MANYAL AS	KOR-63RA0S	1	
B07	7621301011	SCREW TAPPING	T2 PAN 3X10 MFZN	4	
B08	PKMPMSE500	PCB MAIN MANUAL AS	KOR-63RA0S	1	
B09	7122401211	SCREW TAPPING	T2S TRS 4X12 MFZN	3	
B10	7621301011	SCREW TAPPING	T2 PAN 3X10 MFZN	4	
B11	3514326800	PCB RADIO AS	AR-207	1	
B12	3513004000	HOLDER LED	PP J640A	1	
B13	DDLR302D2-	LED	DLR-302D2	1	
B14	3517402300	COUPLER TIMER	PBT	1	
B15	7S211Z1741	SPECIAL SCREW	M1.7 X 0.35P X 4L	1	
B16	3511409910	COVER SPEAKER	ABS SG-175 SG-0760D SPRAY	1	
B17	3012003400	FIXTURE B-M-F COVER	NYLON	1	
B18	7621301011	SCREW TAPPING	T2 PAN 3X10 MFZN	3	

6. To remove high voltage capacitor.

1) Remove a 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.

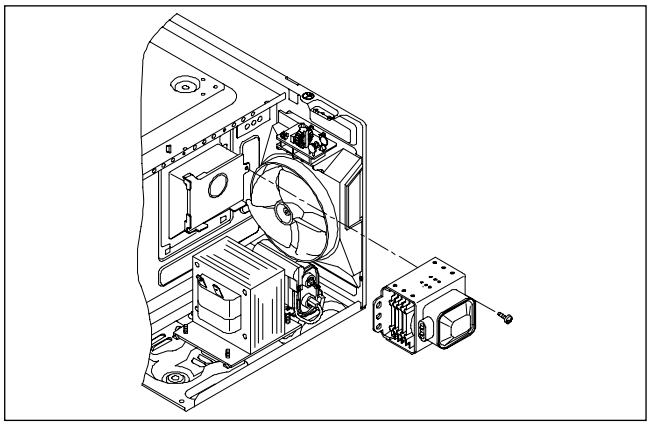


◆ High voltage circuit wiring

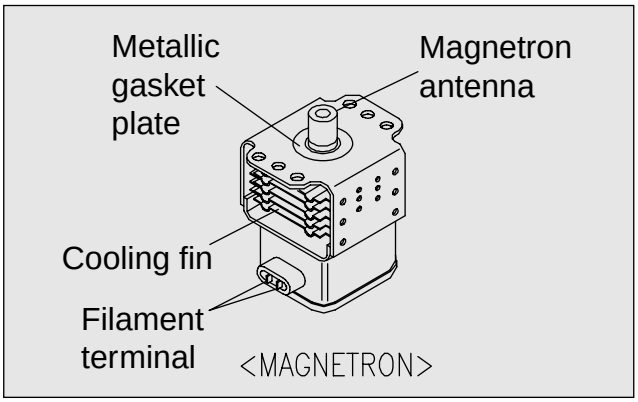


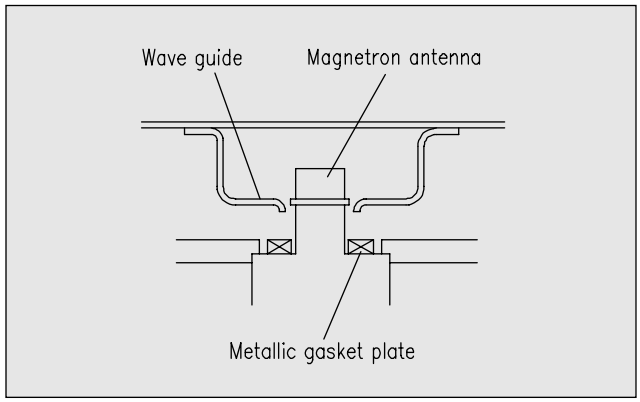
7. To remove magnetron.

1) Remove a screw which secure the magnetron.
2) Remove the magnetron.
3) Reverse the above steps for reassembly.



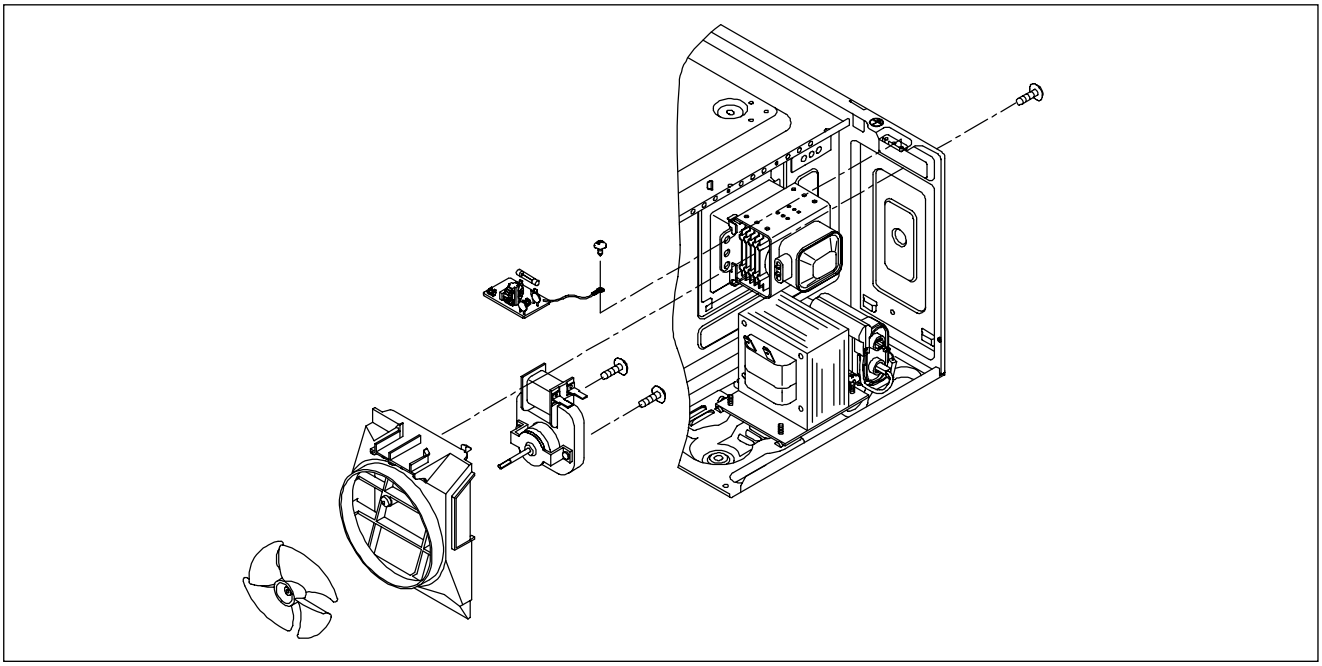
NOTE : Never install the magnetron without the metallic gasket plate which is packed with each magnetron to prevent microwave leakage. Whenever repair work is carried out on magnetron, check the microwave leakage. It shall not exceed 4mW/cm^2 for a fully assembled oven with door normally closed.





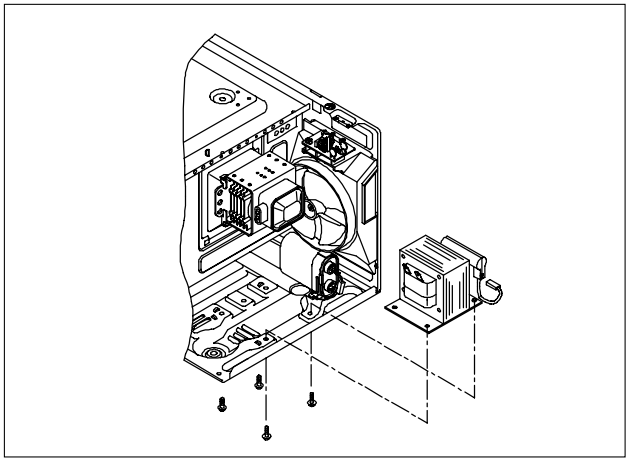
8. To remove wind guide assembly.

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



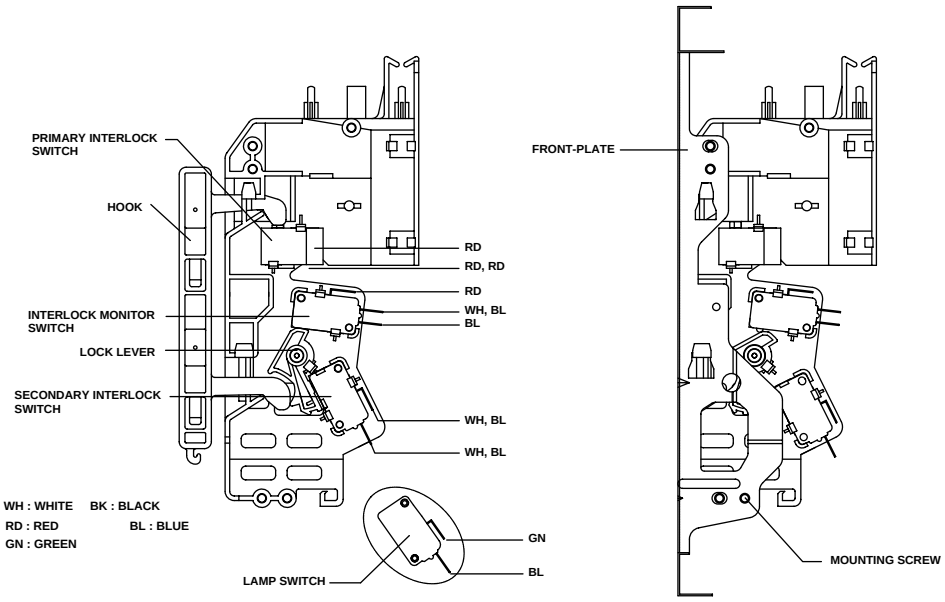
9. To remove H.V.transformer.

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 “OFF” condition and 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 condstion) after other switches are opened.

(3) Adjustment steps

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

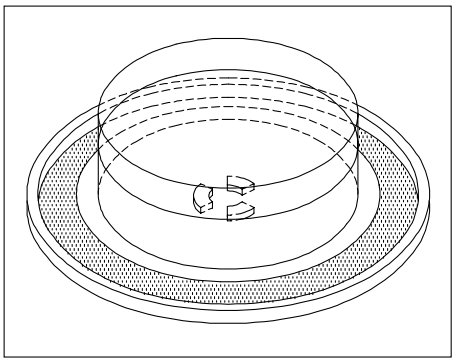
NOTE :
Microwave emission test should be performed after adjusting interlock mechanism. If the microwave emission exceed 4mW/cm^2, readjust interlock mechanism.

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. Microwave power output measurement is made with the microwave oven supplied at rated voltage and operated at its maximum microwave power setting with a load of 1000±5cc of potable water.
2. The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
3. The oven and the empty vessel are at ambient temperature prior to the start of the test.
   The initial temperature of the water is 10±2˚C (50±3.6˚F)
   It is measured immediately before the water is added to the vessel.
   After addition of the water to the vessel, the load is immediately placed on the center of the shelf, which is in the lowest normal position.
4. Microwave power is switched on.
5. Heating time should be exactly A seconds. (Refer to table as following)
   Heating time is measured while the microwave generator is operating at full power.
   The filament heat-up time for magnetron is not included.
6. The initial and final temperature of water is selected so that the maximum difference between the ambient and final water temperature is 5K.
7. The microwave power output P in watts is calculated from the following formula :

   $P=4187 \times \Delta T/t$

   • Δ T is difference between initial and ending temperature.
   • t is the heating time.
   The power measured should be B (Refer to SPECIFICATIONS)W±10.0%.

CAUTION :
1. Water load should be measured exactly to 1 liters.
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:

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

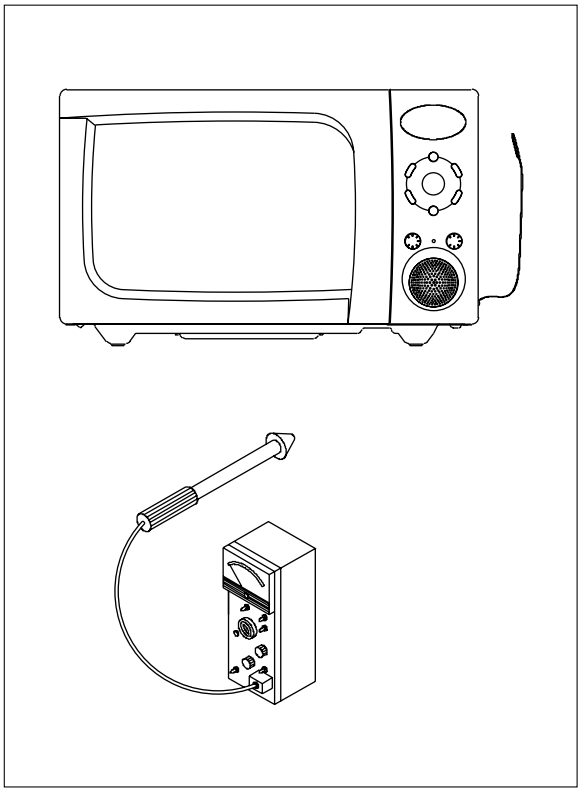
1. Prepare Microwave Energy Survey Meter, 600cc glass beaker, and glass thermometer 100˚C(212˚F).

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 seem 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. 110Ω±10%
Filament winding	Approx. 0Ω
Primary winding	Approx. 1Ω

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 10MΩ once 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 A normal diode's resistance will be infinite in one direction and several hundred KΩ in the other direction.

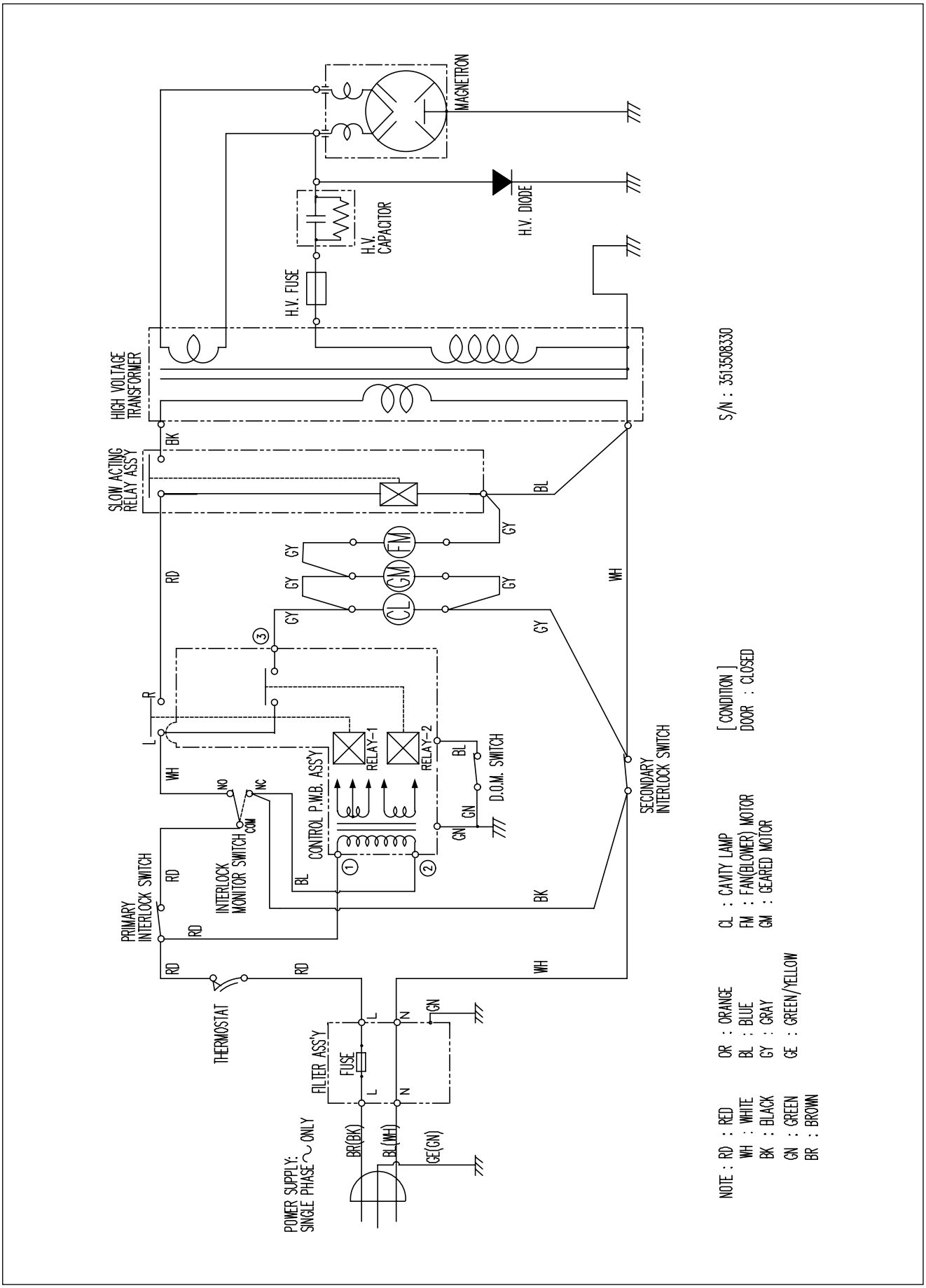
4. Magnetron

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 0.1Ω or 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.

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.

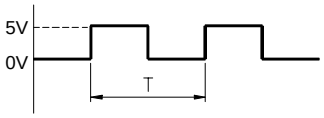
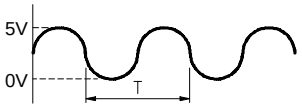
• Measuring condition: input voltage : 230V/Frequency : 50Hz

Terminal Voltage	LOAD	NO LOAD
4-7	AC 12.6 V	AC 14.7 V

NOTE :
1. Refer to Circuit 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

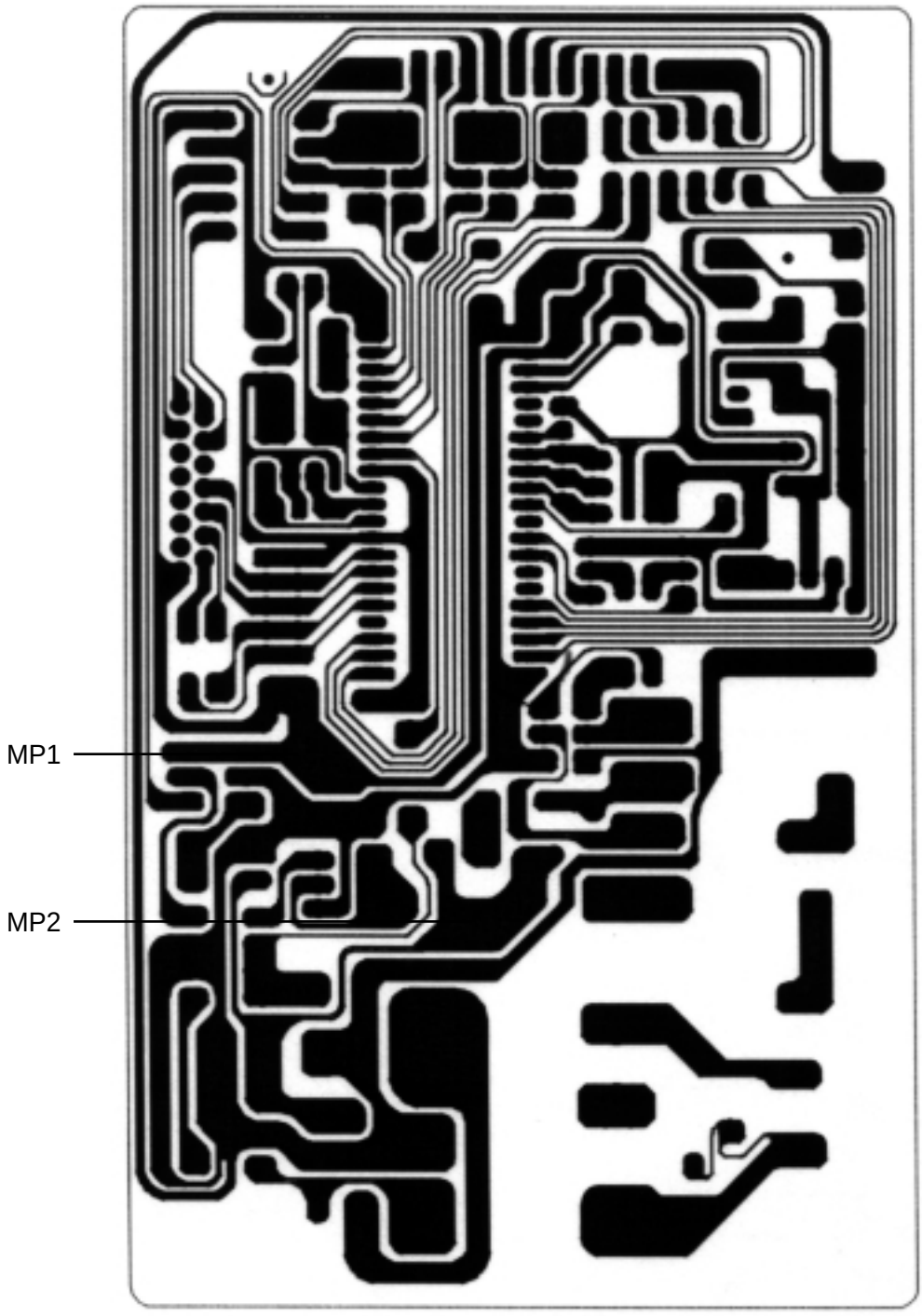
• Key check point

NO	CHECK POINT	REMARK
1	IC 1 PIN 1, 42	5 VDC
2	IC 1 PIN 35	 T: 20ms(50Hz)
3	IC 1 PIN 31 OR 32	 T:250ns(4MHz)

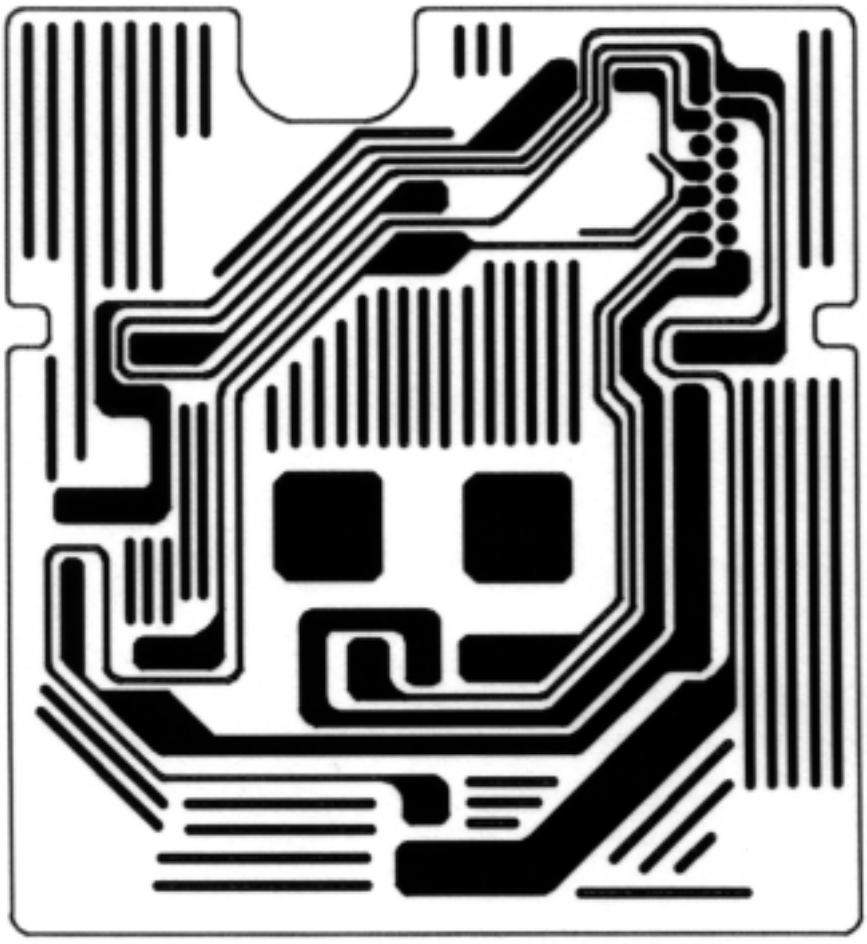
• Check method

NO	MEASURE POINT	WAVE FORM	REMEDY	REMARK
1	MP1	DC 5V±0.25V	Replace VL1, EC1	NO LOAD
2	MP2	DC 12V±2.0V	Replace EC2, D8, 9, 10	NO LOAD

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



Measure Point



3. When there is no microwave oscillation

1) When pressing **START** button, 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	GND	GND
RELAY 2 OFF	5VDC	12VDC

2) When pressing **START** button, 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

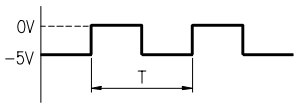
STATE \ POINT	A	B
RELAY 1 ON	GND	GND
RELAY 1 OFF	5VDC	12VDC

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)

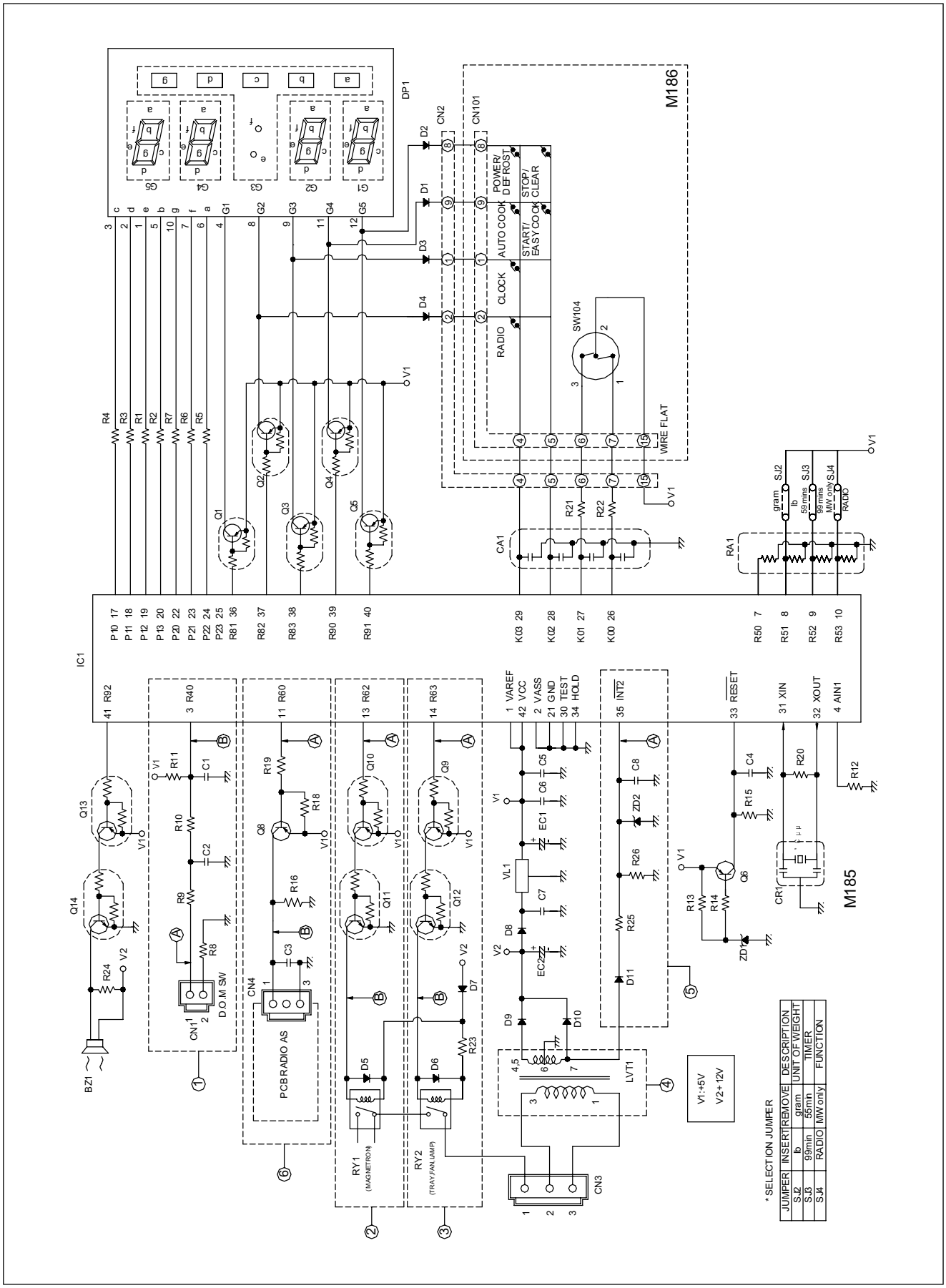
POINT	WAVE FORM
A	 T: 20ms(50Hz)

* If clock does not keep exact time, you must check resistor R25, 26 zener diode ZD2.

6. When pressing RADIO button, RADIO does not work.
* Cause : **PCB RADIO ASS'Y** does not operate. → refer to Circuit Diagram (Point 6)
- Check method

STATE \ POINT	A	B
RADIO ON	GND	5VDC
RADIO OFF	5VDC	GND

2. PCB CIRCUIT DIAGRAM



3. P.C.B. LOCATION NO.

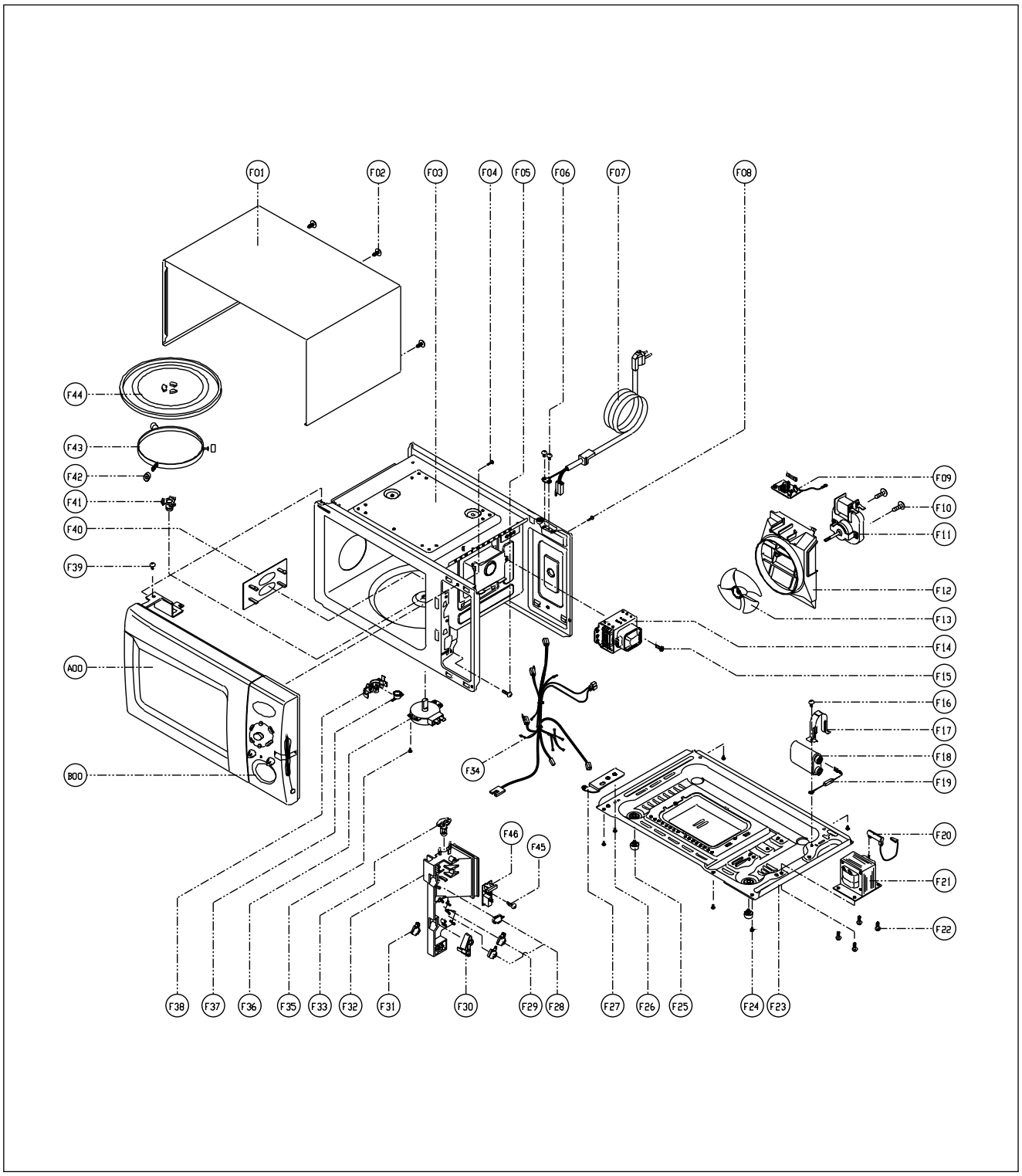
NO.	NAME	SYMBOL	SPECIFICATION	PART CODE	Q'TY
1	BUZZER	BZ1	BM-20K	3515600100	1
2	C ARRAY	CA1	5P(4) 102 M 50V	CN4XB-102M	1
3	C CERA	C5	102 50V K AXIAL	CCZB1H102K	1
4	C CERA	C1~4,6~8	104 50V Z AXIAL	CCZF1H104Z	7
5	C ELECTRO	EC1	16V RSS 100UF	CEXF1C101V	1
6	C ELECTRO	EC2	25V RSS 1000UF	CEXF1E102V	1
7	CONNECTOR WAFER	CN1	YW396-02V	3519150520	1
8	CONNECTOR WAFER	CN2	HLEM15S-1	4CW215SBD0	1
9	CONNECTOR FILM	CN3	YW396-05AV	3519150510	1
10	CONNECTOR WAFER	CN4	MOLEX 35312-0310	30166M5030	1
11	CONNECTOR FILM	CN101	HLEM15R-1	4CW215RBD0	1
12	DIODE	D1~8, D11	1N4148	DZN4148---	9
13	DIODE	D9,D10	1N4004A	DZN4004A--	2
14	DIODE ZENER	ZD1	UZ-3.9BSB	DZUZ3R9BSB	1
15	DIODE ZENER	ZD2	UZ-5.1BSB	DZUZ5R1BSB	1
16	DISPLAY LED	DP1	ELF-496GWB(631H)	DDDG631H--	1
17	IC MICOM	IC1	TMP47C440BN-3U41	13GS63RA00	1
18	IC REGULATOR	VL1	MC7805C	1CPMC7805C	1
19	PCB MAIN	M185	82X136.9	3514324530	1
20	PCB SUB	M186	82X91	3514321240	1
21	R ARRAY	RA1	5P(4) 1/8 100K J	RA-85X104J	1
22	R CARBON FILM	R1~7	1/6W 330 5%	RD-AZ331J-	7
23	R CARBON FILM	R10,12,14,19,21,22,24	1/6W 1K 5%	RD-AZ102J-	7
24	R CARBON FILM	R8,9,18	1/6W 4.7K 5%	RD-AZ472J-	3
25	R CARBON FILM	R11	1/6W 100K 5%	RD-AZ104J-	1
26	R CARBON FILM	R13	1/6W 100 5%	RD-AZ101J-	1
27	R CARBON FILM	R15,16,25,26	1/6W 10K 5%	RD-AZ103J-	4
28	R CARBON FILM	R20	1/6W 1M 5%	RD-AZ105J-	1
29	R CARBON FILM	R23	1/4W 27 5%	RD-4Z270J-	1
30	RESONATOR CERA	CR1	CRT4.00MS	5P4R00MTS-	1
31	SW RELAY	RY1	G5G-1A DC12V	5SC0101121	1
32	SW RELAY	RY2	CS11-12SH 1C 1P	5SC0101128	1
33	SW ROTARY	SW104	SDB161PVB17F	5S10109002	1
34	SW TACT	SW101~103,105~107	KPT-1115AM	5S50101Z93	6
35	TRANSISTOR	Q1~5,9,10,13	KRA-106M	TZRA106M--	8
36	TRANSISTOR	Q11,12,14	KRC-106M	TZRC106M--	3
37	TRANSISTOR	Q6,8	KTA-1266Y	TZTA1266Y-	2
38	TRANS POWER	LVT1	DMR-631FS	5EPV035303	1
39	WIRE COPPER	SJ4	1/0.52 TIN COATING	85801052GY	1
40	WIRE COPPER	J4	1/0.52 TIN COATING	85801052GY	1
41	WIRE COPPER	J3,7~10	1/0.52 TIN COATING	85801052GY	5
42	WIRE COPPER	J1,2,5,6,11,12	1/0.52 TIN COATING	85801052GY	6
43	WIRE COPPER	J101,102	1/0.52 TIN COATING	85801052GY	2
44	WIRE FLAT	WF1	15/90 WH C	WSJ-159007	1

EXPLODED VIEW AND PARTS LIST

1. DOOR ASSEMBLY
Refer to Disassembly and assembly.

2. CONTROL PANEL ASSEMBLY
Refer to Disassembly and assembly.

3. TOTAL ASSEMBLY



NO	PART CODE	PART NAME	DESCRIPTION	Q'TY
A00	3511715240	DOOR AS	KOR-63RA0S	1
B00	3516719690	CONTROL PANEL AS	KOR-63RA0S	1
F01	3510805300	CABINET AS	KOR-61150S	1
F02	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	3
F03	3516109500	CAVITY AS	KOR-63150S	1
F04	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F05	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F06	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	2
F07	35113AFQ0D	CORD POWER AS	3X0.75 70X70 100-RTML	1
F08	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F09	3518606200	NOISE-FILTER	DWLF-M12	1
F10	7121403011	SCREW TAPPING	T2S PAN 4X30 MFZN	2
F11	3963512310	MOTOR SHADED POLE	230V 20W MW10CA-M02	1
F12	3512517000	GUIDE WIND	PP	1
F13	3511800300	FAN	PP +30% GLASS	1
F14	3518002400	MAGNETRON	2M218J(F)	1
F15	3516004000	SPECIAL SCREW	T2 BOLT FLANGE 5X12 DACRO	1
F16	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	1
F17	3513003200	HOLDER HV CAPACITOR	SECC T0.6	1
F18	3518302200	CAPACITOR HV	2100VAC 0.98UF #187	1
F19	3518400400	DIODE HV	HVR-1X-3AR 12KV #187	1
F20	3518701100	FUSE HV	5KV 0.55A HV-41A55-02	1
F21	3518113701	TRANS HV	DY-N80S0-63T	1
F22	3516003700	SPECIAL SCREW	TT3 HEX 4X8 FLG MFZN	4
F23	3510311700	BASE	SBHT T0.7	1
F24	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	5
F25	3512000900	FOOT	PP DASF-130	2
F26	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	1
F27	3515201101	STOPPER HINGE *U	SCP-1 T2.5	1
F28	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	2
F29	4415A66910	SW MICRO	VP-531A-OF/SZM-V16-FA-61	1
F30	3513702620	LEVER LOCK	POM	1
F31	3518571000	SWITCH PUSH	MP101C	1
F32	3513811750	LOCK	PP	1
F33	3513601600	LAMP	BL 240V 25W T25 C7A H187	1
F34	3512715090	HARNESS MAIN	KOR-63RA0S	1
F35	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	1
F36	3966310100	MOTOR SYNCRO	220V 2.5W GM-16-24FD12	1
F37	3518905300	THERMOSTAT	OFF:75 ON:65 H #187 NR	1
F38	3513003400	HOLDER THERMOSTAT	PBT	1
F39	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	1

NO	PART CODE	PART NAME	DESCRIPTION	Q'TY
F40	3511406200	COVER WAVE GUIDE	HEATPROOF PP	1
F41	3517400620	COUPLER	XAREC	1
F42	3514700710	ROLLER	TEFLON	3
F43	3512517300	GUIDE ROLLER	PP 5113MF6 A353B	1
F44	3517203600	TRAY	GLASS	1
F45	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F46	3518570400	SWITCH S/A RELAY	DWSR-1	1