EPE

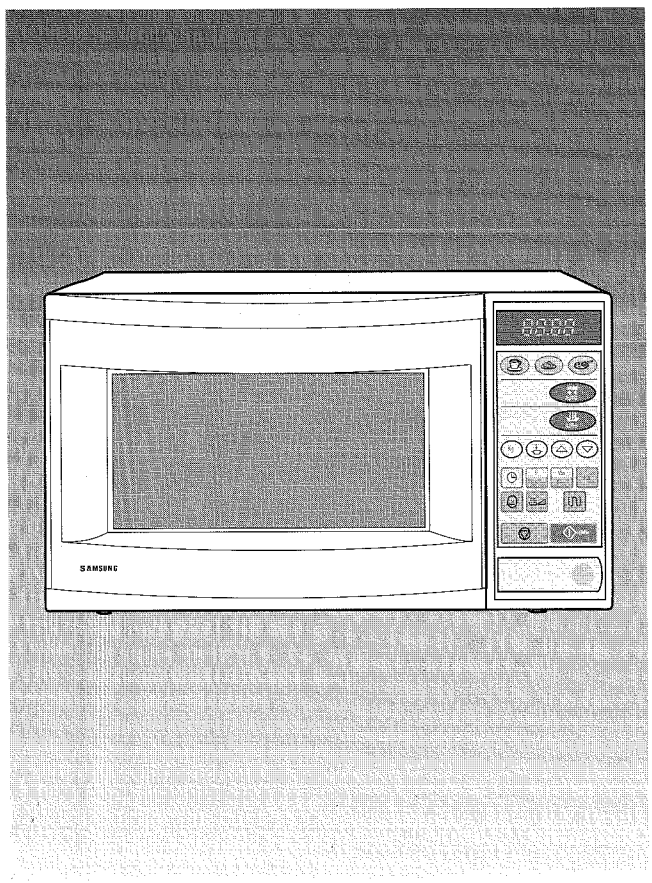
SAMSUNG

MICROWAVE OVEN

M6Q45

SERVICE Manual

MICROWAVE OVEN



CONTENTS

SECOSA

1. Precaution

1-1. Safety Precaution (⚠)

1) Pacemaker wearers must consult their physician before attempting to service or repair a microwave oven.
   For additional advice on this subject, write to the manufacturer of your pacemaker.
2) The product should be serviced only by qualified personnel.
3) Though the product has been manufactured in compliance with the Federal performance Standard 21 CFR Subchapter J(DHHS), it is very important when servicing to avoid being exposed to excessive microwave radiation. All the repairs should be performed in accordance with the procedures described in this manual.
4) Use only the identical parts as listed in the parts list of this manual in order to comply with the Federal performance Standard 21 CFR Subchapter J(DHHS).
5) In the event of suspected microwave energy leakage in excess of 5mW/cm2, please notify;
   SAMSUNG ELECTRONIC COMERCIAL
   IBERICA,S.A
   VIA AUGUSTA,PARCELA 103
   08184 PALAU DE PLEGAMANS
   BARCELONA,ESPANA
6) Repair microwave oven at no charge to the owner for excessive microwave emission level.
7) Ascertain the cause of the excessive leakage and instruct the owner not to use the unit until the oven has been brought into compliance.
8) If the oven is operated with the door open, please advise the owner not to use the oven and contact the manufacturer and CDRH immediately.
9) There are special components used in the microwave oven which are important for safety. These parts are marked with a on the replacement parts list. It is essential that these critical parts should be replaced only with the manufacturer's specified parts to prevent microwave leakage, shock, fire, or other hazards. Do not modify the original design.

1-2. Servicing Precaution (☞)

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

1. Do not operate or allow the oven to be operated with the door open.
2. Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and then make repairs as necessary:
   (A) Interlock operation
   (B) proper door closing
   (C) seal and sealing surfaces (arcing, wear, and other damage)
   (D) damage to or loosening of hinges and latches
   (E) evidence of dropping or abuse.
3. 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.
4. 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 g the oven to the owner.
5. A Microwave leakage check compliance with the Federal performance standard should be performed on each oven prior to release to the owner.

2. Specifications

SPECIFICATIONS

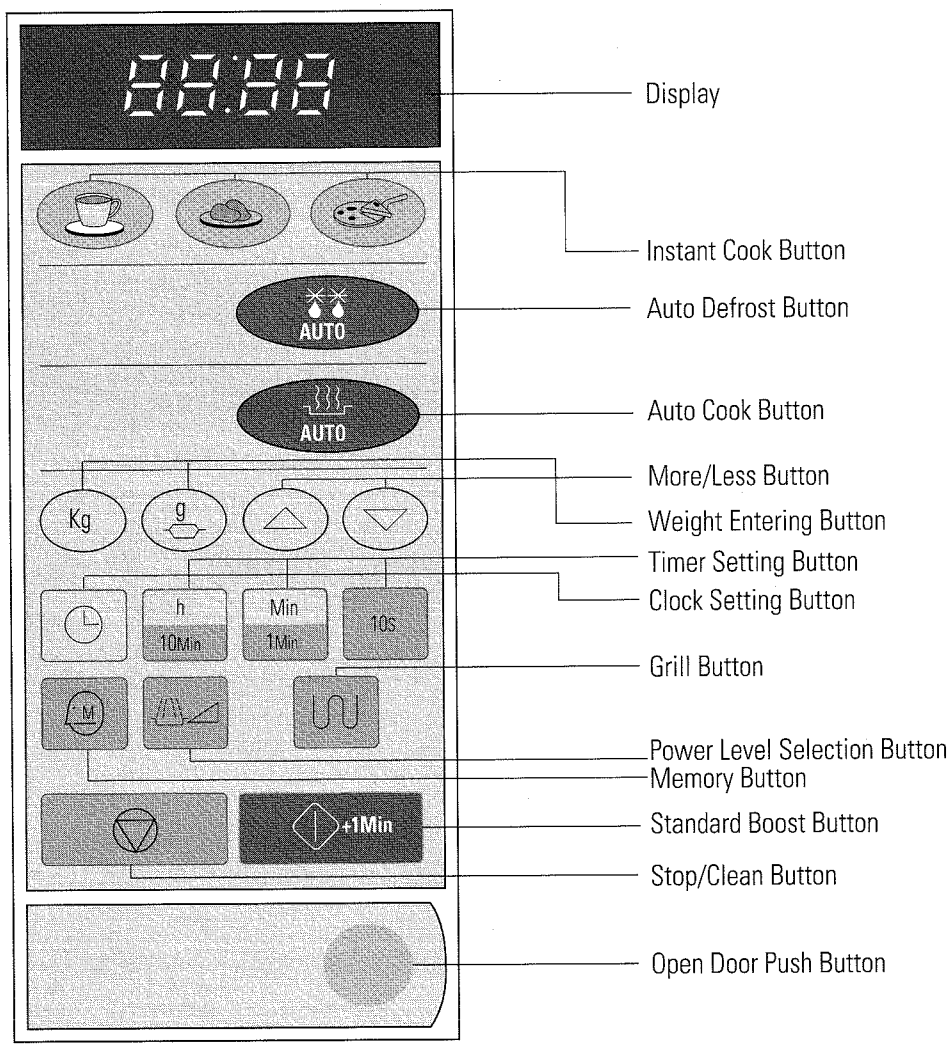
TIMER	99 MINUTES 90 SECONDS
POWER SOURCE	230V 50Hz, AC
POWER CONSUMPTION	MICROWAVE : 1,300W
	GRILL: 1,000W
OUTPUT POWER	FROM 75W TO 750W, FROM 80 TO 800W (10 LEVEL POWER)
	(IEC-705 TEST PROCEDURE) →
OPERATING FREQUENCY	2,450MHz
MAGNETRON	OM75S(31)
COOLING METHOD	COOLING FAN MOTOR
OUTSIDE DIMENSIONS	489(W) x 275(H) x 364(D)

POWER LEVEL		ON TIME	OFF TIME
%	M6Q45		
10%	80W	4 sec	26 sec
20%	160W	7 sec	23 sec
30%	240W	10 sec	20 sec
40%	320W	13 sec	17 sec
50%	400W	16 sec	14 sec
60%	480W	19 sec	11 sec
70%	560W	22 sec	8 sec
80%	640W	25 sec	5 sec
90%	720W	28 sec	2 sec
100%	800W	30 sec	0 sec

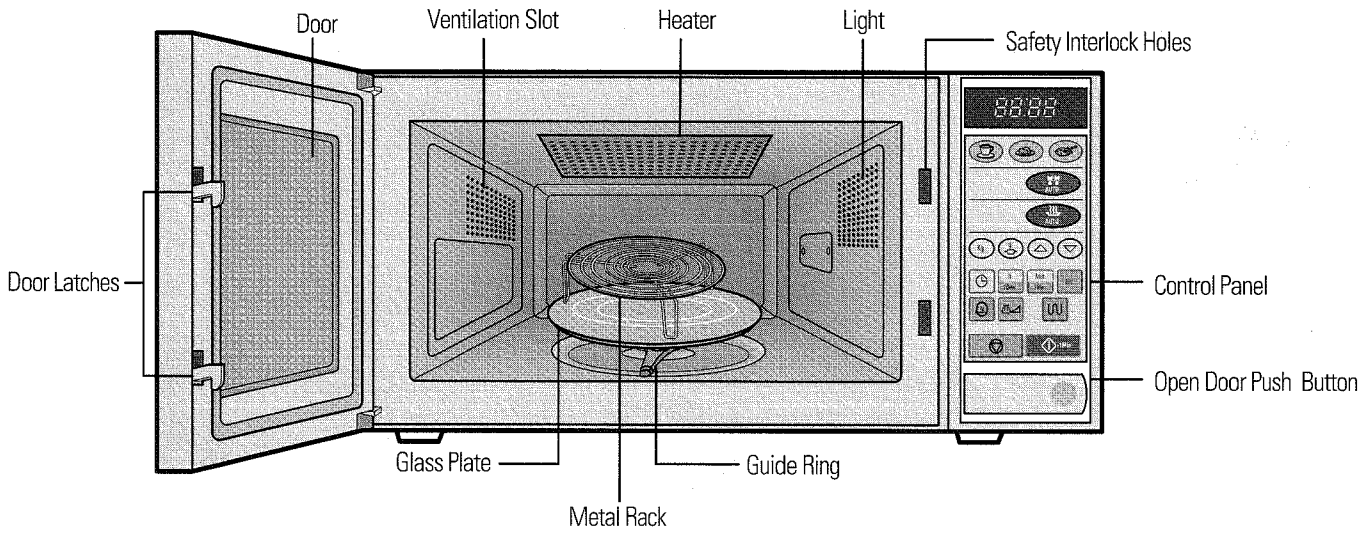
3. Comparing Chart

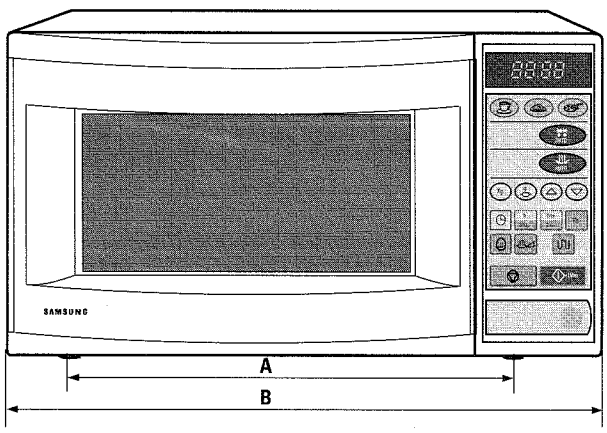
FEATURE \ MODEL	M6Q45
MORE/LESS	○
AUTO COOK/DISH	○
AUTO DEFROST	○
TIME COOK	○
POWER LEVEL	○
INSTANT COOK	○
MEMORY	○
BOOST	○
CHILD LOCK	○
CLOCK	○
GRILL	○
COMBI	–

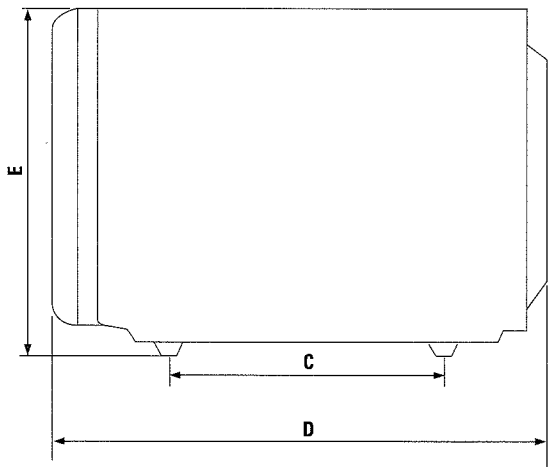
4. Control Panel



5. Features & External Views



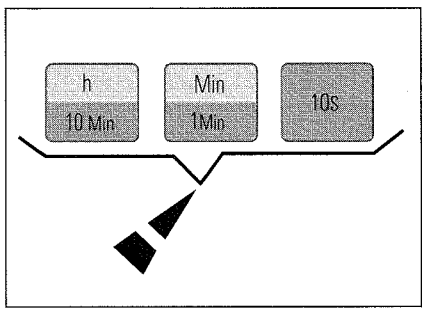




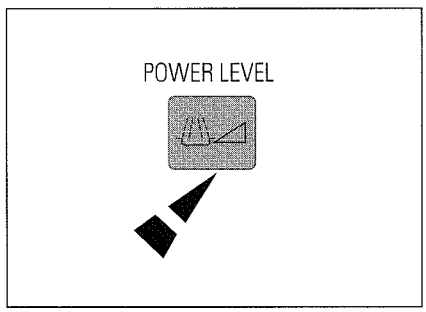
SPEC / MODEL	A	B	C	D	E
M6Q45	356.5mm	489mm	203mm	364mm	275mm

6. Operation Instruction

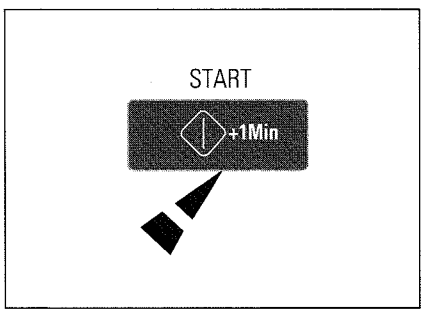
Quick Reference Guide



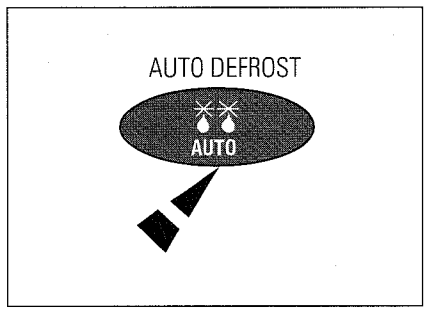
Place the food in the oven. Select the cooking time by pressing the 10 Min., 1 Min. or 10 SEC. button as required.



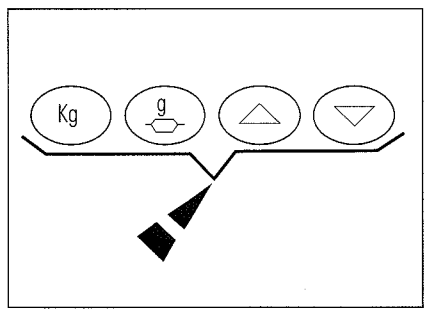
Press the POWER LEVEL button once if you want to change the POWER LEVEL. Press the pad repeatedly until the desired power level is displayed.



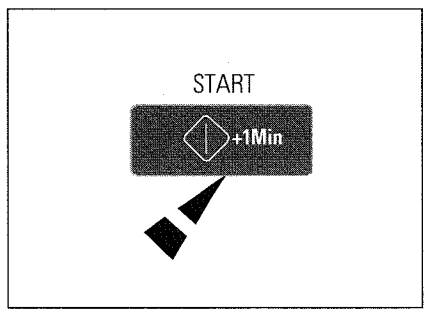
Press START to start cooking (The oven will beep four times when cooking is finished).



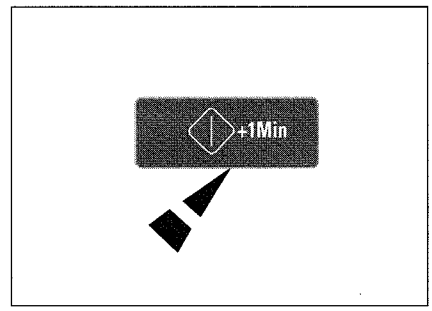
Place the frozen food in the oven and select the food category by pressing the AUTO DEFROST button as required.



Select the weight by pressing the kg, g buttons and may control the defrost condition by pressing the ▲ ,▼ buttons as required

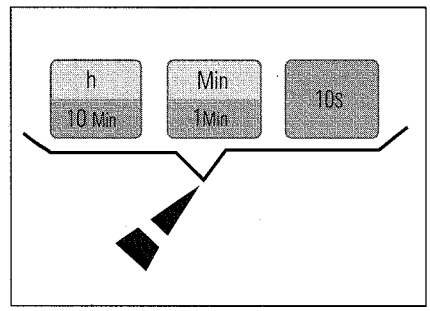


Press START to start defrosting.
The oven beeps ten times at a point during the defrosting period to remind you to turn the food over.
Press START to complete defrosting.

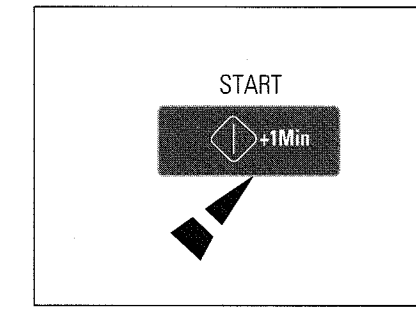


Leave the food in the oven.
Press +1 Min once for each extra minute you wish to add.

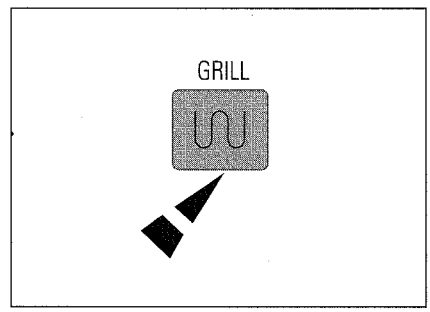
Quick Look-up Guide



Place the food in the oven and set the cooking time by pressing the 10 MIN., 1 MIN. or 10 SEC. buttons as required.



Press START to start cooking and wait until four beeps indicate the end of cooking.



Press the GRILL button for GRILL cooking.

Operation Instruction

Using This Booklet

You have just purchased a SAMSUNG microwave oven.

Your Owner's Instructions contain much valuable information on cooking with your microwave oven:

* Safety precautions
* Suitable accessories and cookware
* Useful cooking tips and cooking guide

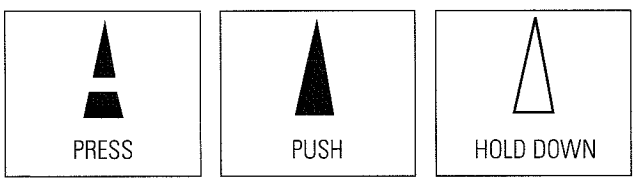
Please take the time to read them as they will help you take full advantage of the microwave oven features.

There is a quick reference guide describing five main cooking functions:

* Cooking/reheating
* Defrosting
* Adding extra cooking time
* Grill

You can consult illustrations of the microwave oven (oven and control panel) to help you find the buttons to be pressed.

The illustrations in the step-by-step procedures use three different symbols



PRECAUTIONS TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

Failure to observe the following safety precautions may result in harmful exposure to microwave energy.

(a) Under no circumstances should any attempt be made to operate the oven with the door open or to tamper with the safety interlocks (door latches) or to insert anything into the safety interlock holes.

(b) Do not place any Ibject between the oven door and front face, or allow food or cleaner residues to accumulate on sealing surfaces.

Ensure that the door and door sealing surfaces are kept clean by wiping after use with first a damp cloth and then a final wipe with a soft dry cloth.

(c) Do not operate the oven if it is damaged until it has been repaired by a qualified microwave service technician trained by the manufacturer.

It is particularly important that the oven door closes properly and that there is no damage to the:

(1) Door, Door seals and sealing surfaces
(2) Door hinges (broken or loose)
(3) Power cable

(d) The oven should not be adjusted or repaired by anyone other than a properly gualified microwave service technician trained by the manufacturer.

Operation Instruction

Setting the Time

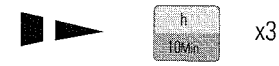
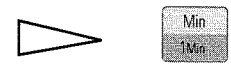
Your microwave oven has a 24-hour and 12-hour clock, you must set the clock:

*** When you first install your microwave oven**

*** After a power failure**

NOTE: Do not forget to reset the clock when you switch from summer to winter time and vice versa.

1) Press CLOCK button once, the display indicates 24H.
   If you press CLOCK button twice, the display indicates 12H.
2) To set the hour, press the HOUR button the appropriate number of times or hold the button down until the correct figure is displayed.
3) To set the minutes, press the MIN. button the appropriate number of time, or hold the button down until the correct figure is displayed.
4) When the right time is displayed, press CLOCK to start the clock.
   Result: The correct time is displayed whenever you are not using the microwave oven.

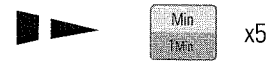
Example: 2:30 p. m. (14h30)	CLOCK 
Press HOUR three times.	HOUR  x3
Press MIN. until the figure 30 is displayed.	MIN 
Press CLOCK.	CLOCK 

Checking that Your Oven is Operating Correctly

The following simple procedure enables you to check that your oven is working correctly at all times. If you are in doubt, refer to the table below.

NOTE: The oven must be plugged into an appropriate wall socket.
The glass plate must be in position in the oven.
If a power level other than the maximum (100%) is used, the water will take longer to boil.

1) Open the oven door by pushing the OPEN DOOR button. Place a glass of water on the glass plate.
   Close the door.
2) Set the time to 4 to 5 minutes by pressing the 1 Min. button.
3) Press the POWER LEVEL button once.
   Result: The oven heats the water for 4 to 5 minutes.
   The water should then be boiling.
   The figure 100(maximum power) is displayed. After 2 seconds, the remaining cooking time will be shown on the display.
4) Press the START button.

Example:	
Result: 5:00	MIN.  x5
Result: 100	POWER LEVEL 
Result: The oven is started	START 

Operation Instruction

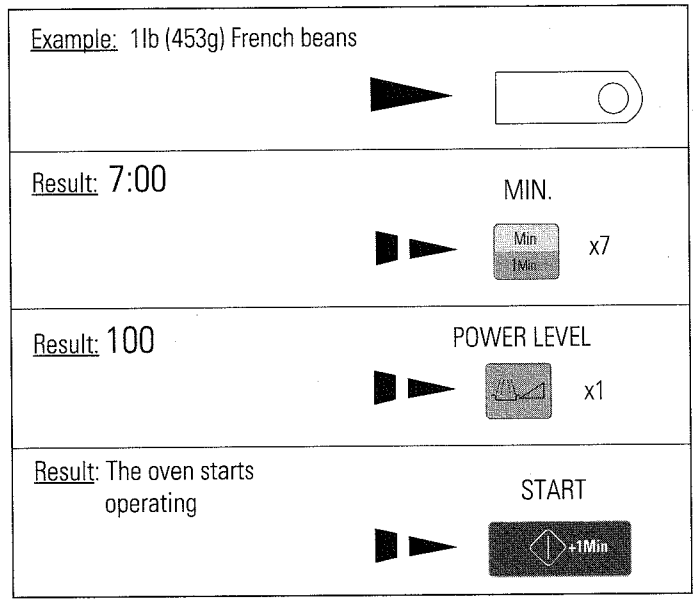
Cooking/Reheating with the Microwave Oven

The following simple procedure explains how to cook or reheat food. For more information on the actual power level and time to be selected, refer to the tables opposite and the cooking guide later in this booklet.

IMPORTANT: ALWAYS check your cooking settings before leaving the oven unattended.

1) Open the door by pushing the OPEN DOOR button. Place the food in the centre of the glass plate. Close the door.
2) Select the cooking time by pressing the 10 Min., 1 Min. or 10 Sec. buttons as required.
3) Select the appropriate power level by pressing the POWER LEVEL button until the corresponding figure is displayed.
4) Press the START button.

Result: Cooking starts and the selected time starts counting down. At the end, you hear four beeps and the current time is displayed again.



Variable Power Cooking Chart

The POWER LEVEL enables you to select the amount of microwave or heater energy used and thus the time required to cook, reheat or defrost your food.

Operation

Press POWER LEVEL GRILL or COMBI button to select the appropriate power level.

POWER LEVEL	%	OUTPUT M6Q45
HIGH	100%	800W
SAUTE	90%	720W
REHEAT	80%	640W
MEDIUM HIGH	70%	560W
SIMMER	60%	480W
MEDIUM	50%	400W
MEDIUM LOW	40%	320W
DEFROST	30%	240W
LOW	20%	160W
WARM	10%	80W

Operation Instruction

Adjusting the Cooking Time During Cooking

Like traditional cooking, you may find that depending on the food's characteristics or your tastes, you have to adjust the cooking times slightly.
You can:

- *** Check how cooking is progressing at any time simply by opening the door or pressing the stop/cancel pad.**
- *** Add extra minutes simply by pressing + 1Min**

Stopping the Cooking

You can stop cooking at any time so that you can:
* Check the food
* Turn the food over or stir it
* Leave it to stand

To stop the cooking....	Press....
Temporarily	OPEN DOOR.OR PRESS THE STOP/CANCEL To resume cooking, close the door and pressSTART.
Completely	CANCEL.

If you want to stop the microwave oven during cooking cycle, press the Stop/Cancel pad once.
Or, if you want to clear all programs during cooking cycle, press Stop/Cancel pad twice.

Adding Extra Time

If you check your food and find that it needs to be cooked a little longer, do not need to repeat all the settings.

Simply press +Min once for each extra minute you wish to add.

Example: To add three minutes, press +Min three times.

Whenever you press +1 Min button, cooking time will increase minute by minute.

Auto Defrosting Food

This feature allows you to defrost meat, poultry or fish.
With the Auto Defrost feature, the oven automatically sets the defrosting time and power levels.
Enter the food weight in kilograms. Use the Auto Defrost Guide.

1) Place the frozen food in the oven and close the door.
2) Press AUTO DEFROST.
   Result: The display indicates 0.0
3) Enter the food weight by holding down the Kg, g buttons. Control the defrost condition by pressing the ▲or▼ buttons as required.
4) Press START.
   Result: Defrosting begins and the time counts down. The oven beeps ten times and will stop operating at the half way stage of an auto-weight defrost programme. Turn the food over and press START. When defrosting has finished, the oven beeps four times.

Example: Defrosting 1.2kg of stewing steak in cubes.

AUTO DEFROST

Result: 0.0

Result: 1.2

Result: The meat is defrosted.

IMPORTANT Allow 20~40 minutes standing time.

Auto Defrost Guide

MEAT: The programme can be used to deforst beef, pork, beef steaks, pork chops and Minced Meat automatically.

POULTRY: Use the automatic programme to defrost whole chicken and chicken pieces.

FRUIT: The automatic programme for defrosting frozen fruit is especially made for soft fruit like raspberries, strawberries and blackberries. It is also possible to defrost other fruit eg, apple or mango slices and cherries.

FISH: This programme is recommended for defrosting trout, sea bream, plaice, salmon and cod either whole fish or fish fillet.

HINTS: It is of course possible to defrost other quantities and kinds of food manually. To defrost meat, poultry and fish, we recommend that you shield the edge parts with aluminium foil. During the defrosting programme. as soon as you hear the "beep" turn the food over.

Operation Instruction

Auto Defrosting Food (continued)

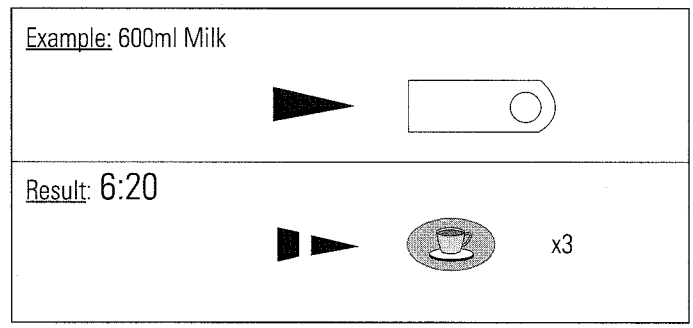
Auto Defrost Guide

RECIPES	WEIGHT	STANDING TIME	PREPARATION
FISH whole fish fish fillets	0.2 - 2.0kg	20 - 40 mins	Shield the whole tail of the fish with aluminium foil. Turn over when beep sounds during defrosting.
POULTRY whole chicken chicken pieces	0.2 - 2.0kg	20 - 40 mins	Shield the chicken legs and wings with aluminium foil. Turn over when beep sounds during defrosting.
MEAT roast beef roast pork beef steak pork chops minced beef	0.2 - 2.0kg	20 - 40 mins	Shield the edge parts with aluminium foil. Turn over when beep sounds during defrosting.
FRUIT	250g 500g	10 mins 10 mins	Spread the fruit, if it is possible, and place them in a glass bowl with a lid. Cover during defrosting. Stir carefully before standing.

Instant Cook

With the instant cook feature, the oven automatically sets cooking time.
No need to touch START.
The serving size is automatically set at 1, but can be changed by touching instant cook pad.

1) Place the milk in the oven and close the door.
2) Select the serving size by pressing the DRINKS button as required.
   Result: Cooking starts after about 2 seconds and the time displayed starts counting down. At the end, you hear four beeps.



Instant Cook Guide

JAKET POTATOES: Arrange 2 potatoes on opposite sides of the cooking tray.
Arrange 4 potatoes in a circle.

PIZZA: If you frozen pizza has thin crust, you should select the 300~350g serving size and if it has thick crust, you should select the 375~450g one.

Instant Cook (continued)

Instant Cook Guide

CODE	RECIPES	SERVING SIZE	STANDING TIME	PREPARATION
1	DRINKS coffee/milk/water coffee/milk/water water	 150ml 300ml 600ml	-	Take the coffee, milk, water out of the refrigerator and heat covered.
2	BAKED POTATOES	2 x 175 - 225g 4 x 175 -225g 6 x 175 - 225g	5 mins 5 mins 5 mins	Take potatoes which are approximately the same size and weigh them. Wash the potatoes, use a fork to prick the skin in several places.
3	PIZZA	300g-350g 375g-450g		Put the pizza on a plate
4	BURGER/FISH FINGER	110g-225g 225g-450g		Place burger directly on the rack and fish finger on the rack with aluminum foil. Turn over when beef sounds during cooking.
5	OVEN CHIPS	250g 500g		Place the oven chips on grid with a backing paper. Turn over when beef sounds during cookig.
6	RICE/PASTA rice	250g	10 mins	Put the rice into a large glass bowl. Add 600ml cold water and stir well. Cover with lid. Stir before standing and cover during standing. Stir before serving.
	pasta	250g	5 mins	Put the pasta into a large bowl. Add 1500ml boiling water and stir well. Cook Uncovered. Stir immediately after cooking and cover during standing.
	rice	500g	5 mins	Put the rice into a large glass bowl. Add 1100ml cold water and stir. Cook with a lid. Stir before standing and cover during standing. Stir before serving.
	pasta	500g	5 mins	Put the pasta into a large bowl. Add 2000ml boiling water and stir well. Cook uncovered. Stir before standing. Cover during standing and stir before serving.

Operation Instruction

Auto Cook

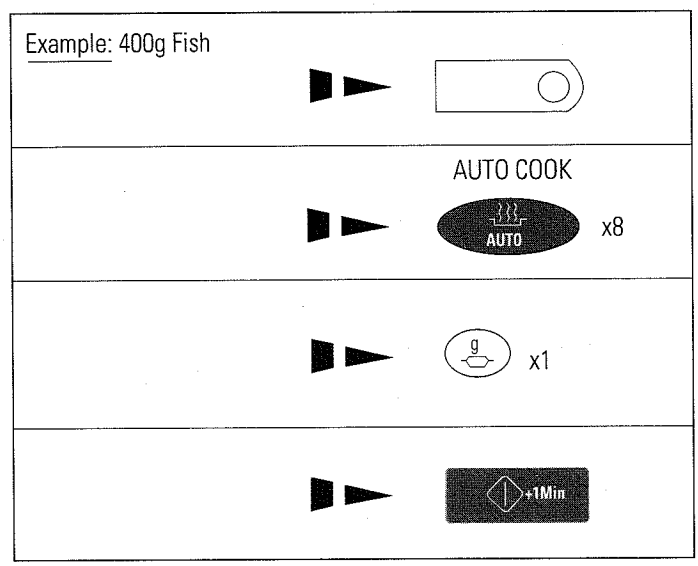
The Auto cook function has six pre-programmed cooking times. Everything is automatic, neither cooking nor power levels has to be set.
The Serving size is automatically set at 1, but can be changed by touching (g) pad.

1) Place the Fish in the oven close the door.

2) Select the code for AUTO COOK button.

3) Select the serving size by pressing the (g) button as required and then control the cooking condition by ▲ or ▼ (see Auto Cook Guide)

4) Press START.
The oven will operate automatically in accordance with the Auto cooking programme selected.



Auto Cook Guide

RECOMMENDATIONS FOR REHEATING

For plated meal: This program is for traditional meals with meat pieces in sauce, cooked vegetables served with a side-dish like mashed potatoes or noodles.
Depending on the kind of the meat, the thickness of the slices etc, it is possible that sometimes you will have to push the More-button.

Important: Make sure that all of the components of the meal are piping hot.

RECOMMENDATIONS FOR COOKING

Chicken portion: Before cooking if you brush with cil, you will have a better browing.

Fish: The automatic programme for fresh fish is especially made for whole fish or fish fillets of trout, plaice, salmon, sea bream and cod.

Fresh vegetables: The automatic program for fresh vegetables is suitable for peas, carrots, beans, broccoli, cauliflower and mixed vegetables.

Frozen vegetables: We recommend that other different kinds of frozen vegetables.

(Normal programme) Use the normal programme to cook frozen broccoli and cauliflower. There is a MORE and LESS facility for use with the automatic programme.

(LESS-button) For cooking frozen peas, sweet corn and mixed vegetables you will need to push the LESS-button.

(MORE-button) You will need to push the MORE-button for carrots and beans. For the best results when cooking beasn we recommend that you stir at intervals.

Instant Cook (continued)

Instant Cook Guide

CODE	RECIPES	SERVING SIZE	STANDING TIME	PREPARATION
1	PLATED MEAL (Reheating)	300-400g 450g-550g	2 mins 2 mins	Take the plated meal out of the refrigerator and cover it. Make sure that the meal is piping hot right through, if not, push the MORE-button.
2	PIE/QUICHE (Reheating)	160g-210g 340g-550g		Put pie/quiche on a plate or the crisp plate
3	CASSEROLE/STEW (Reheating)	400g 300g	2 mins 2 mins	Cover during heating, Stir before standing and cover during standing. Stir before serving.
4	SOUP//SAUCE (Reheating)	200g-250g 400g-500g	2 mins 2 mins	Pour soup/sauce into a deep plate or a small bowl (ceramic plate/bowl) cover during heating. Stir before standing and cover during standing.
5	CHICKEN PORTION	400g 600g 900g	2 mins 2 mins 2 mins	Arrange pieces bone-side up on the rack. Turn over when beep sounds during cooking.
6	FRESH VEGETABLES	200g add 45ml water 400g add 60ml water 600g add 60ml water	2 mins 2 mins 2 mins	Put the vegetables into a bowl and add 45 or 60ml cold water. Cover during cooking, stir before standing, cover during standing.
7	FROZEN VEGETABLES	200g 300g 450g	2 mins 2 mins 2 mins	Put the vegetables into a bowl and add 45ml cold water. Cover during cooking. Stir before standing and cover during standing. Put the vegetables into a bowl and add 45ml cold water. Cover during cooking. Stir before standing, Cover during standing. Put the vegetables into a bowl and add 45ml (3tbsp) cold water (for broccolil and cauliflower add 60ml). Cover during cooking. Stir before standing, cover during standing.
8	FISH	200g 400g 600g	- - -	Arrange the fish in a microwave sultable dish and cover.

Operation Instruction

Grill Cooking

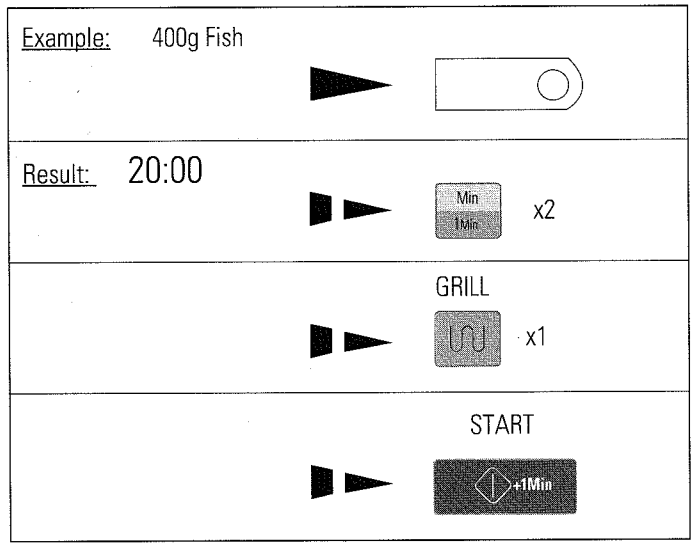
This method allows food to be browned evenly without losing any of the juices.

1) Open the door by pushing the DOOR OPEN button.
   Place the food in the center of the glass plate.
   Close the door.

2) Select the GRILL cooking time by pressing the 10 Min, 1 Min, or 10 sec button as required.

3) Press the GRILL pad once.

4) Press the START pad.
   Result: Cooking starts and selected time starts counting down.
   * Grill cooking does not use microwave energy. For versatile grill cooking you may use metal rack prepared for grill cooking, but consult your cookbook for its correct use.
   * You Can't set the time more than 60 minutes



Memory Cooking

The cooking times and power levels for foods that are cooked frequently can be programmed and stored in the oven's memory.

MEMORY ENTRY

1) Touch the MEMORY pad.

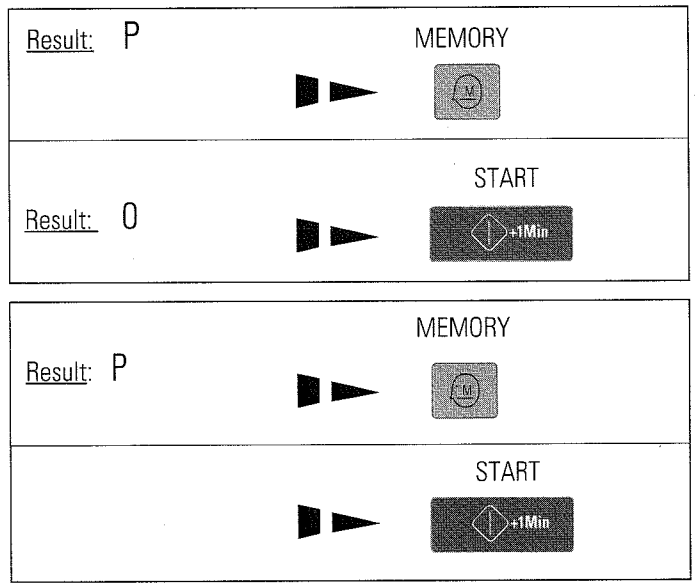
2) Set your cooking programme following the instructions book

3) Touch the Start Pad your favourite recipe is now set and entered in the Memory.

MEMORY START

1) Touch the MEMORY pad.

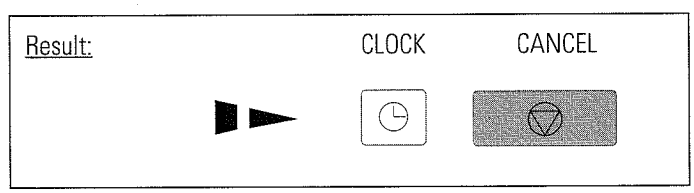
2) Touch the START pad.



Child Safety Programme

Your microwave oven incorporates a special Child Safety programme which enables the oven to be "locked" to prevent children or anyone unfamiliar with the oven from operating it. The oven can be "locked" at anytime.

1) Press the CLOCK and CANCEL pads together. The oven will be "locked" and a key symbol will appear in the display. To cancel the child lock press CLOCK and CANCEL pads together. The key symbol will disappear.



Operation Instruction

Cookware Guide

To cook food in the microwave oven, the microwaves must be able to penetrate the food, without being reflected or absorbed by the dish used.

Care must therefore be taken when choosing the cookware. If the cookware is marked microwave-safe, you do not need to worry.

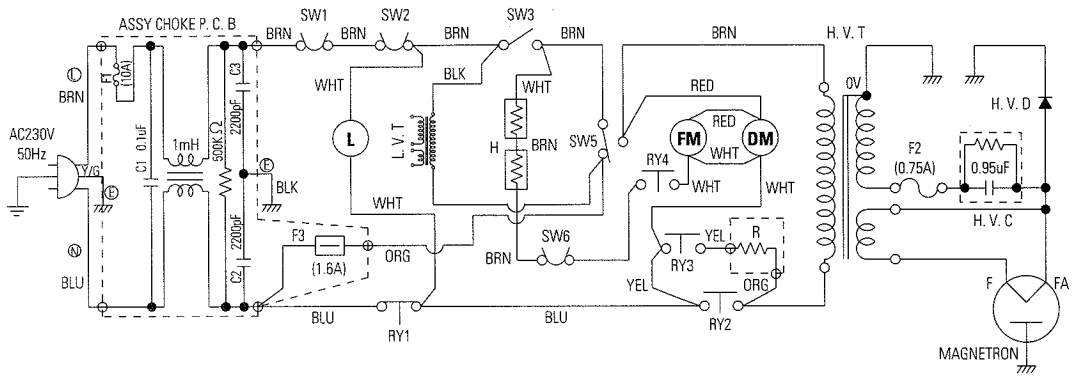
The following table lists the various types of cookware and indicates whether and how they should be used in a microwave oven.

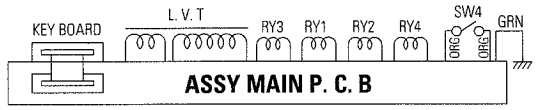
COOKWARE	MICROWAVE SAFE	COMMENTS
Aluminium foil	X	Can be used in small quantities to protect areas against overcooking. Arcing can occur if the foil is too close to the oven wall or if too much foil is used.
Browning plate	√	Do not preheat for more than 8 minutes.
China and earthenware	√	Porcelain, pottery, glazed earthenware and bone china are usually suitable, unless decorated with a metal trim.
Disposable polyester dishes	√	Some frozen foods are packaged in these dishes.
Fast-food packaging * Polystyrene cups and containers	√	Can be used to warm food. Overheating may cause the polystyrene to melt.
* Paper bags or newspaper	X	May catch fire.
* Recycled paper or metal trims	X	May cause arcing.
Glassware * Oven-to-table ware	√	Can be use, unless decorated with a metal trim.
* Fine glassware	√	Can be used to warm food or liquids. Delicate glass may break or crack if heated suddenly.
* Glass jars	√	Must remove lid. Suitable for warming only.
Metak * Dishes * Freezer bag twist ties	X X	May cause arcing or fire.
Paper * Plates, cups, napkins and kitchen paper	√	For short cooking times and warming. Also to absorb excess moisture.
* Recycled paper	X	May cause arcing.
Plastic * Containers	√	Particularly if heat-resistant thermoplastic. Some othe plastics may warp or discolour at high temperatures. Do not use Melamine plastic.
* Cling film	√	Can be used to retain moisture. Should not touch the food. Take care when removing the film as hot steam will escape.
* Freezer bags	X √	Only if boilable or oven-proof. Should not be airtight. Prick with a fork if necessary.
Wax or greaseproof paper	√	Can be used to retain moisture and prevent spattering.

7. Wiring Diagram

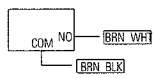
Wiring Diagram

NOTE
DOOR IS OPENED

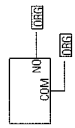




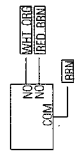
SYMBOL	COLOR
BRN	BROWN
BLU	BLUE
ORG	ORANGE
RED	RED
WHT	WHITE
BLK	BLACK
YEL	YELLOW
GRN	GREEN
Y/G	YELLOW/ GREEN



PRIMARY LATCH SWITCH



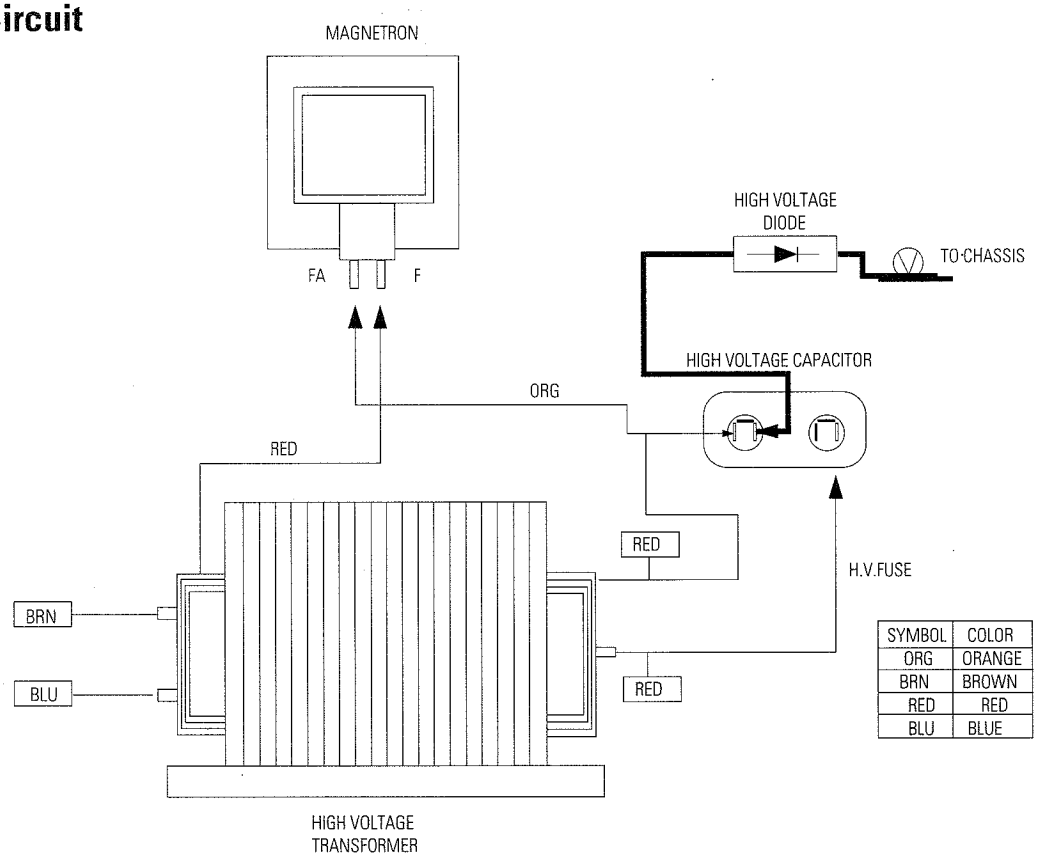
DOOR SENSING SWITCH



MONITOR SWITCH

F1 MAIN FUSE
F2 H. V. FUSE
F3 MONITOR FUSE
SW1 THERMAL CUTOUT (CAVITY)
SW2 THERMAL CUTOUT (MGT)
SW3 PRIMARY LATCH SWITCH
SW4 DOOR SENSING SWITCH
SW5 MONITOR SWITCH
SW6 THERMAL CUTOUT (GRILL)
RY1 MAIN RELAY
RY2 POWER RELAY
RY3 INRUSH RELAY
RY4 GRILL RELAY
C1 X-CAPACITOR
C2 Y-CAPACITOR
C3 Y-CAPACITOR
H HEATER
L OVEN LAMP
R RESISTOR
FM FAN MOTOR
DM DRIVE MOTOR
H. V. T HIGH VOLTAGE TRANSFORMER
H. V. C HIGH VOLTAGE CAPACITOR
L. V. T LOW VOLTAGE TRANSFORMER
HIGH VOLTAGE DIODE
CHASSIS GROUND
GROUNDING

High Voltage Circuit



SYMBOL	COLOR
ORG	ORANGE
BRN	BROWN
RED	RED
BLU	BLUE

8. Cautions Observed when Servicing

Unlike many other appliances, the microwave oven is high-voltage, high current equipment. Though it is free from danger in ordinary use, extreme care should be taken during repair.

PRECAUTION

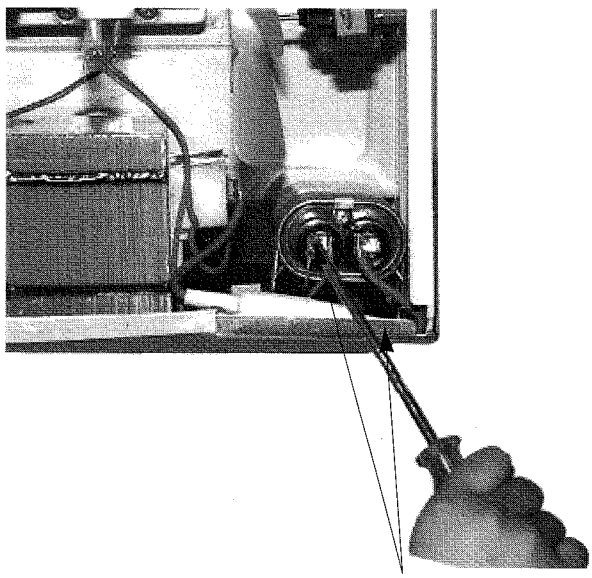
Servicemen should remove their watches whenever working close to or replacing the magnetron.

8-1. Check the ground.

Do not operate on a 2-wire extension cord. The microwave oven is designed to be used when grounded. It is imperative, therefore, to make sure that the oven should be grounded prior to repair.

8-2. Warning about the electric charge in the high voltage capacitor

As an electric charge in the high voltage capacitor remains for about 30 seconds after operation stops, short the current between the oven chassis and the negative terminal of the high voltage capacitor, by using a screwdriver before replacing or checking parts.



☞ : Touch chassis side first then short to the high voltage capacitor terminal by using a screwdriver or jumper wire.

8-3. When parts must be replaced, remove the power plug from the outlet

8-4. When the 1.6 Amp fuse is blown out by the operation of the interlock Monitor switch:

(A) Replace the primary, door sensing and interlock monitor switches. This is mandatory. Refer to page 20 for the necessary adjustments of these switches.

(B) When replacing the fuse, confirm that it has the appropriate rating for this model.

8-5. Avoid inserting any foreign materials, etc. through any hole in the unit during operation.

Never insert any foreign materials or any other metal object through the lamp hole on the cavity or any other holes or gaps, because such objects may work as an antenna and cause microwave leakage.

8-6. Confirm after repair:

(A) After repair or replacement of parts, make sure that screws of the oven are neither loose nor missing; to prevent the microwave leakage.

(B) Make sure that all electrical connections are tight before inserting the plug in to the wall outlet.

(C) Check for radiation leakage. (Refer to the procedure for measuring energy leakage in page 21.)

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 an insulated tool during operation.

9. Circuit Descriptions

Refer to the wiring diagram on page 16.

1. When food is placed inside oven and door is closed

(A) Low voltage transformer supplies necessary voltage to the touch control circuit when power cord is plugged in.

(B) The primary interlock switch is closed.

(C) The interlock monitor switch is opened. This interlock monitor switch acts to blow 10A fuse and stop magnetron oscillation when the door is opened during operation under an abnormal condition. (i.e. the contacts of door sensing switch do not open and the contacts of secondary interlock switch do not close the circuit to stop oscillation)

(D) The door key is caught by the door hook, the door sensing switch is closed to send the door-close signal to the touch control circuit.

2. When cooking cycle, power and time are set by touching the function pads

(A) The time set appears in the display window.

(B) The touch control circuit stores the cooking data set.

3. When the START pad is touched

The main relay and the power control relay are controlled by the touch control circuit.

(A) An oven lamp lights the inside of the oven by operation of the main relay in the Touch Control Circuit.

(B) Fan motor rotates and cools the magnetron by blowing the air coming from the intake on the back panel over the magnetron fins. After cooling the fins, this air is directed into the oven to blow out the vapor.

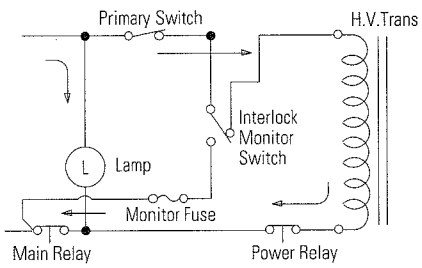


Fig. 1

(C) 230V~50Hz AC is applied to the high voltage transformer through the contacts of primary windings as shown by the solid line just after the power control relay turns ON. (Fig. 1)

(D) 3.3V AC is generated from the filament winding of the high voltage transformer. This 3.3V is applied to the magnetron to heat the magnetron filament through two noise preventing choke coils.

(E) High voltage of 2,220 volts AC is generated from the high voltage transformer secondary and this secondary voltage is increased by the action of the diode and the charging of the high voltage capacitor. This resultant D.C. voltage is then applied to the anode of the magnetron. As shown in the Fig. 2, the first half cycle of the high voltage produced in the secondary high voltage transformer charges the high voltage capacitor.The dotted lines indicate the current flow. During operation of the second half cycle, the voltage produced by the transformer secondary and the charge of the high voltage capacitor are combined and applied to the magnetron as shown in the solid line so that magnetron starts to oscillate. The interference wave generated from the magnetron is prevented by the 1.6mH choke coils, 500pF filter capacitors and the magnetron's shielded case so that TV and radio signals are not interfered with.

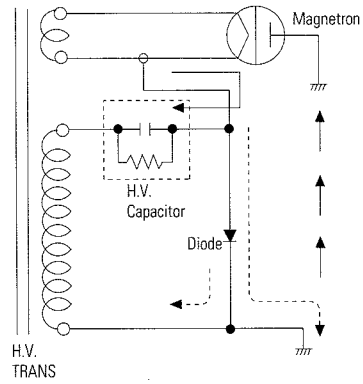


Fig. 2

(F) The power control relay is turned on intermittently by the touch control circuit, when the oven is set at any power except for full power. The touch control circuit controls the ON/OFF time of the power control relay in order to vary the output power of the microwave oven from Low to "Full" power. One complete ON/OFF cycle of the power control is 30 seconds.

(G) The cooking time shown on the display start to count down.

4. When the door is opened during cooking

(A) The primary interlock switch is opened to cut off the primary voltage of the high voltage transformer to stop microwave oscillation.

(B) The door sensing switch is opened to give the door open information to touch control circuit. The main relay stays on, the power control relay turns off and the display stops counting down.

(C) The fan motor and turn-table motor are stopped by operation of the primary or secondary interlock switch. But the oven lamp lights the inside of the oven again until the door is closed.

(D) Upon opening the door, the contacts of primary interlock switch open and the contacts of interlock monitor switch close the short circuit.

(E) If the contacts of primary interlock switch do not function properly, the monitor fuse blows out due to the large current surge caused by the monitor switch activation, and this in turn stops magnetron oscillation. (Fig. 3)

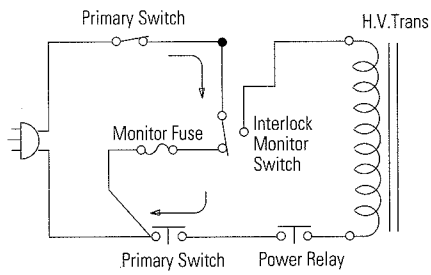


Fig. 3

5. When the CANCEL pad is touched during cooking

(A) Once touching of the CANCEL pad stops the time cooking. Twice touching of the pad cancels all programs stored in the touch control circuit. The time of day reappears on the display window.

(B) The oven lamp and cooking indicators turn off.

(C) The fan motor stops.

(D) The power control relay turns off to cut primary voltage to high voltage transformer so that the magnetron stops oscillation.

10. Component Test Procedure

PRECAUTION

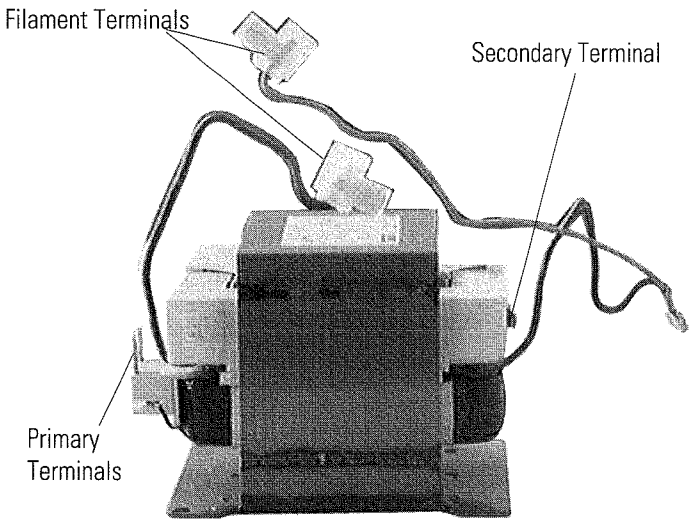
1. High voltage is present at the high voltage terminal of the high voltage transformer during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components, or wiring, always unplug the oven from its power source and discharge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

10-1. High Voltage Transformer

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

MODEL	M6045
Secondary	Approx. 115Ω
Filament	Approx.0Ω
Primary	Approx.2.167Ω

(Room temperature = 20°C)



10-2. Low Voltage Transformer

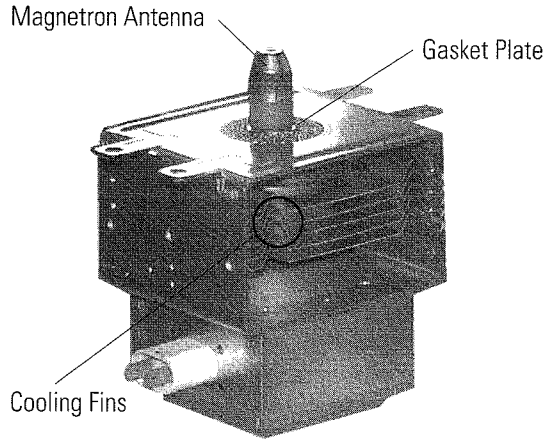
The low voltage transformer is located on the control circuit board.
1) Remove the low voltage Transformer from the PCB Ass'y and check continuity.
2) Normal resistor reading should be as follows.

Terminals	Resistance
1~2(Input)	1000Ω
3~4(Output 2.9V)	3.947Ω
5~6(Output13V)	2.117Ω

10-3. Magnetron

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

10-4. High Voltage Capacitor



1) Check continuity of the capacitor with meter set at the highest ohm 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.

10-5. 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 the resistance 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.

10-6. Main Relay and Power Control Relay

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

11. Measurements & Adjustments

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 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.

11-1. Adjustment of Primary Switch, Door Sensing Switch and Monitor Switch

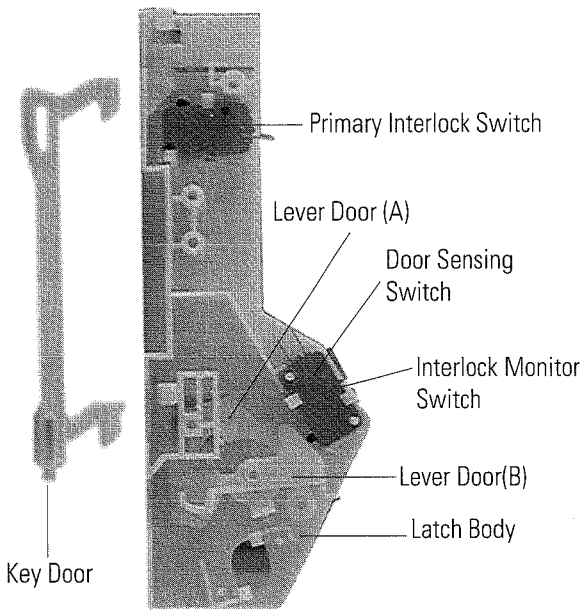
1) When mounting Primary switch and interlock Monitor switch to Latch Body, consult the figure below.

NOTE: No specific adjustment during installation of Primary switch and Monitor switch to the latch body is necessary.

2) When mounting the Latch Body to the oven assembly, adjust to 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.

3) Reconnect to Monitor switch and check the continuity of the monitor circuit and all latch switches again by following the components test procedures.
Please confirm that the gap between the switch housing and the switch actuator is no more than 0.5mm when door is closed.

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



11-2. Output Power of Magnetron

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

Equipment needed for the test:

* Two 1-liter cylindrical borosilicate glass vessel (Outside diameter of 190mm)
* 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.

(A) Fill the one liter glass vessel with one liter of water.
(B) Stir water in glass vessel with thermometer and record glass vessel's temperature as T1. (10±1°C)
(C) After moving the water into another glass vessel, place it on the center of the cooking tray. Set the oven to high power and operate for 49 seconds exactly. (2 seconds included as a holding time of magnetron oscillation)
(D) When heating is finished, stir the water again with the thermometer and measure the temperature rise as T2.
(E) Subtract R1 from T2. This will give you the water temperature rise. (ΔT)
(F) The output power is obtained by the following formula;

$$\text{Output Power} = \frac{4.187 \times 1000 \times \Delta T}{47}$$

52.3 : Heating Time (sec)
4.187 : Coefficient for Water
1000 : Water (cc)
ΔT : Temperature Rise (T2-T1)

*** Output (W) = 100 x ΔT**

(F) 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 E) by a power factor of 91 in case of centigrade temperature.

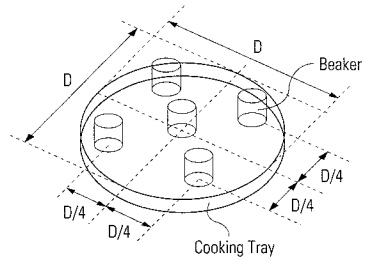
11-3. Microwave Heat Distribution - Heat Evenness

The microwave heat distribution can be checked by indirectly measuring the water temperature rises at certain positions in the oven as directed below.

(1) Prepare five beakers made of 'Pyrex', having 100 milliliters capacity each.
(B) Measure exactly 100milliliters off water load with a measuring cylinder and pour it into each beaker.
(C) Measure the temperature of each water load. (Readings shall be taken to the first place of decimals.)
(D) Put each beaker in place on the cooking tray as illustrated in Figure below and start heating.
(E) After heating for 2 minutes, measure the temperatures of water in each beaker.
(F) Microwave heat distribution rate can be obtained by the following formula.

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

The result should exceed 65%.



CAUTION
MICROWAVE RADIATION

PERSONNEL SHOULD NOT BECOME EXPOSED TO MICROWAVE RADIATION FROM MICROWAVE GENERATOR OR OTHER PARTS CONDUCTING MICROWAVE ENERGY.

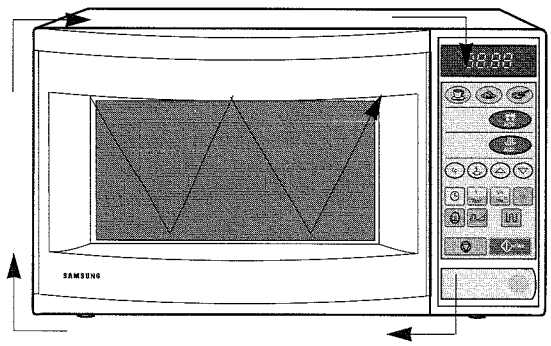
12. Leakage Measuring Procedure

12-1. Equipment

* Microwave Energy Survey Meter
* 600cc glass beaker
* Mercurial or digital thermometer 100°C or 212°F

12-2. Procedure for Measurement of Microwave Energy Leakage

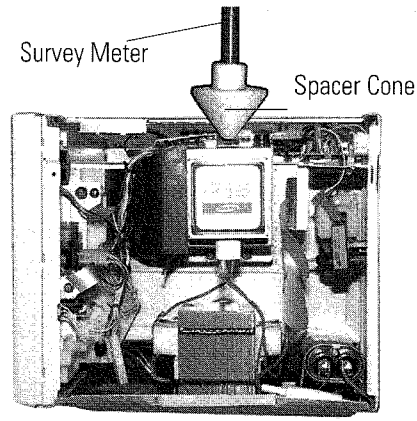
1) Pour 275±15cc of 20±5°C (68±9°F) water in a beaker which is graduated to 600cc, and place the beaker in the center of the oven.
2) Start to operate the oven and measure the leakage by using a microwave energy survey meter.
3) Set survey meter with dual ranges to 2,450MHz.
4) When measuring the leakage, 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 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 2 inches to any metal. If it gets closer than 2 inches, erroneous readings may result.
5) Measured leakage must be less than 5mW/cm^2, after repair or adjustment.



12-3. Check for Microwave Energy Leakage with Outer Panel Removed.

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 to operate the oven at the highest power level.
4) Set survey meter with dual ranges to 2,450MHz.
5) By using the survey meter and spacer cone as described above, measure around the opening area 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 meter should read less than 5mW/cm^2.

12-4. Note on Measurement



WARNING

AVOID THE HIGH VOLTAGE COMPONENTS.

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.

12-5. 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 5mW/cm^2 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;

SAMSUNG ELECTRONIC COMERCIAL IBERICA,S.A
VIA AUGUSTA,PARCELA 103
08184 PALAU DE PLEGAMANS
BARCELONA,ESPANA

12-6. At least once a year have the Microwave Energy Survey Meter checked for accuracy by its manufacturer.

13. 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 A DAMAGE TO YOUR METER.
5. DO NOT TOUCH ANY PART OF THE CIRCUIT OR THE TOUCH CONTROL CIRCUIT BOARD, SINCE STATIC ELECTRIC DISCHARGE MAY DAMAGE THIS CONTROL PANEL. ALWAYS TOUCH GROUND WHILE WORKING ON THIS TO DISCHARGE ANY STATIC CHARGE BUILT UP IN YOUR BODY.

First of all operate the microwave oven by observing the correct operating procedures by time cooking in order to find the exact cause of any trouble.

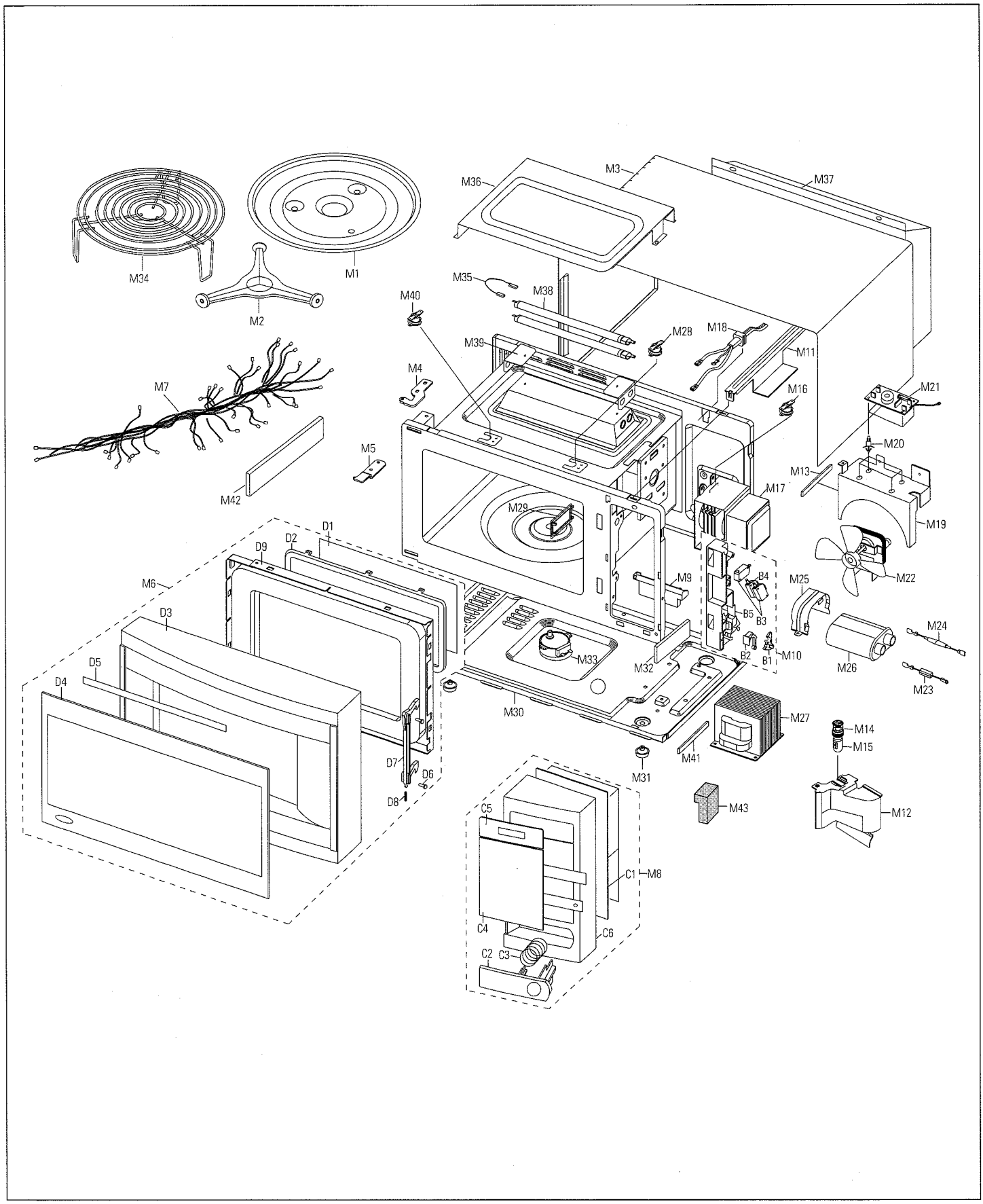
13-1. Problems not Related to Defects of the Oven

	SYMPTOM	CAUSE	CORRECTIONS
1	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 LVT is defective.
2	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 (NOTE1) 4. Shorted HVCapacitor 5. Shorted HVTransformer (NOTE2)	Check adjustment of primary, interlock monitor, 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 HVTransformer is replaced, check diode and magnetron also.	
3	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.
4	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.

Troubleshooting

	SYMPTOM	CAUSE	CORRECTIONS
5	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.
6	Oven can program but timer does not start.	1. Open or loose wiring of secondary interlock switch 2. Off-alignment of primary interlock 3. Defective secondary interlock S/W	Adjust door and interlock switches.
7	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 change of magnetron	Consult electrician.
8	Fan motor turns on when plugged in	Loose wiring of door sensing switch	Check wire of door sensing switch.
9	Oven does not operate and return to the plugged in mode.	Defective Ass'y PCB	Replace PCB main.
10	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.
11	Turntable motor does not rotate.	1. Open or loose wiring of turntable motor. 2. Defective turntable motor.	Replace turntable motor.
12	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.
13	Sparks	1. Metallic ware or cooking dishes touching on the oven wall. 2. Ceramic ware trimmed with gold or silver powder also causes sparks.	Educate your customer. Do not use any type of cookware with metallic trimming.
14	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.
15	Clock noise from the turntable motor when it starts to operate.	The noise may result from the motor.	Replace turntable motor.

Exploded View



Parts List - Main Parts

Ref. No.	Parts No.	Description/Specification	Q'ty	Remarks	Old No.
M 1	DE74-20017A	TRAY-COOKING;GLASS(NEOREX/RE-31) T6 OD28	1		73602-0009-00
M 2	DE92-90435A	ASSY-GUIDE ROLLER;GUJU-ALL W3(@19)	1		-
M 3	DE70-30032R	PANEL-OUTER;C/STEEL T0.6 W351.2 L1010 M6	1		72061-0018-12
M 4	DE61-80039B	HINGE-UPPER;SCP T2.0 W25 L73.5 WHT	1		73094-0038-01
M 5	DE61-80047B	HINGE-LOWER;SCP1 T2.3 W20 L80 WHT-COAT M	1		73094-0048-01
M 6		ASSY DOOR;M6Q45(CTW) P/WHT	1	● ⚠	
M 7	DE39-40432A	ASSY WIRE HARNESS-A;230V50HZ M6Q45(CTW)	1		79202-0413-002
M 8		ASSY CONTROL-BOX;230V50HZ M6Q45(CTW) P/W	1	● ⚠	
M 9	DE66-90013A	LEVER-DOOR;POM(F20-01) NTR MW5630T	1		71533-0015-00
M 10	DE93-20019B	ASSY BODY LATCH;M8145G NEW LATCH	1		79292-0053-01
M 11	DE61-50129A	BRACKET-MOUNTING;SECC T0.8 W24 L316 M624	1		73013-0342-00
M 12	DE71-60088F	COVER-AIR;PP-A353 T2 20G RE-AS1	1		73312-0123-001
M 13	DE63-90072B	CUSHION-GUIDE;SPONGE T5 W10 L130 M9245	1		76804-261-860
M 14	DE47-40021A	SOCKET-LAMP;E/14(22.225)	1		76609-200-228
M 15	4713-000168	LAMP-INCANDESCENT;230V,-,25W,ORG,-,-,	1		A4158-0040
M 16	DE47-20119A	THERMOSTAT;NT-101NA(5XH)P 125V15A H 150/60	1		A3024-0078
M 17	DE03-30029A	MAGNETRON;OM75SH(31)ESS	1	⚠	77059-0028-00
M 18	DE39-20054D	ASSY POWER CORD;KKP-4819D/B206 250V6A L1	1		79243-0072-04
M 19	DE71-60102A	COVER-BLOWER;SGCC-Z T0.8 W140 L92.2	1		73312-0151-00
M 20	DE61-30129A	SUPPORTER-PCB;DASS-T9N	4		76659-200-518
M 21	DE91-40042A	ASSY NOISE FILTER;DNA-1019(C) 250V 10A C	1		79179-0042-00
M 22	DE31-10086D	MOTOR-FAN;AMM92-002AUEA 230V50HZ 2550RPM	1		76822-0072-03
M 23	DE59-40001A	DIODE-H.V;HVR-1X-32B-12	1		72169-219-108
M 24	DE91-70061B	ASSY-H.V.FUSE;THV060T-0750-H 5KV0.75A RE	1		79163-0252-01
M 25	DE61-50170A	BRACKET-HVC;SECC T0.8 W35 L153 M6235	1		73014-0229-00
M 26	2501-000260	C-OIL;950nF,2100VAC,54x35x85,-,BK	1		A1110-0001
M 27	DE26-10044A	TRANS-H.V;Y6245NTC 230V 50HZ AC220V M6245	1		77202-0083-00
M 28	DE47-20042A	THERMOSTAT;CS-7S 100/60 PWE	1	⚠	73589-001-031
M 29	DE71-60160D	COVER-MGT;PP-TB53 15G WHT	1		73313-0122-001
M 30	DE80-10036D	BASE-PLATE;SGCC1 T0.8 W291.4 L487	1		72201-0051-001
M 31	DE61-40017A	FOOT;PP(A353) BLK MW5630T	2		73004-0007-00
M 32	DE63-90065E	CUSHION-LAMP;PUT-FOAM T40 W10 L90 M6245	1		76803-207-015
M 33	DE31-10097A	MOTOR-SYNCHRONOUS;M2LJ24ZS52 220/240V 50	1		76823-0048-00
M 34	DE74-70002A	RACK-WIRE;MSWR10 3 220 80	1		-
M 35	DE39-30097B	ASSY WIRE LEAD-G;L100 MBQ45 GRILL	1		79224-0056-01
M 36	DE61-50323A	BRACKET-UPPER;ALSTAR T0.6 W385 L205 M624	1	●	73011-0243-00
M 37	DE71-60298A	COVER-BACK;SECC T0.6 W273 L633 M6Q45	1		73312-0184-001
M 38	DE47-70030C	HEATER-CERAMIC;D12 115V4.3A 490W 26OHM M	2		76402-0010-02
M 39	DE61-50343A	BRACKET-HEATER;SECC T0.6 W46.5 L61.5 M62	2	● ⚠	73014-0242-001
M 40	DE47-20033A	THERMOSTAT;PW-2N 80/70 125V15A/250V7.5A	1	●	73582-200-112
M 41	DE63-90065E	CUSHION-LAMP;PUT-FOAM T40 W10 L90 M6245	1		76803-207-015
M 42	DE63-90065D	CUSHION-LAMP;PUT-FOAM T40 W10 L340 MB245	1		76803-207-014
M 43	DE27-10020A	COIL-MC CHOKE;TC 101	1		79179-204-248

● : Option Parts ⚠ : Warning ⚠ : Electrostatically Sensitive Devices

Parts List - Door Parts

Ref. No.	Parts No.	Description/Specification	Q'ty	Remarks	Old No.
D 1	DE01-00031A	FILM-DOOR;POLYESTER W135 L257 TRP M6245	1		74043-0083-01
D 2	DE64-40086B	DOOR-C;PP-A353 WHT 20G M6245	1		74042-0063-01
D 3	DE64-40051A	DOOR-A;ABS-HR0370U RA-WH-02-B 292G M6245	1		74041-0069-00
D 4	DE67-20056G	SCREEN-DOOR;ACRYL T2.0 W375.5 L211.9 WHT	1	● ⚠	74113-0032-01
D 5	DE02-00032A	TAPE-DOUBLE FACE;PET T0.3 W20 WHT HKCHEM	1		A0071-0074
D 6	DE60-60008A	PIN-HINGE;PI4 L17 MSWR10 M301TBC	2		70544-0010-00
D 7	DE64-40087I	DOOR-KEY;POM(TC3005) WHT 13G M6245	1		74042-0065-011
D 8	DE61-70031A	SPRING-KEY;ES MSWR PI0.6 D5 L23.7	1		72724-0037-00
D 9	DE92-50070C	ASSY DOOR-E;M6245 COATING WHT	1		79341-0020-02

Parts List - Control Parts

Ref. No.	Parts No.	Description/Specification	Q'ty	Remarks	Old No.
C 1	DE91-10014A	ASSY P.C.B-MAIN;230V/50HZ NS VFD M6Q45-V	1	● ⚠	-
C 2	DE66-20027A	BUTTON-DOOR;ABS-HR0370U RA-WH-02-B 35G M	1		74082-0081-00
C 3	DE61-70076A	SPRING-BUTTON;HSWR PI0.6	1		76674-239-310
C 4	DE34-10130L	SWITCH-MEMBRANE;PC-FILM W92.2 L130.2	1	● ⚠	76013-0079-04
C 5	DE67-40097A	WINDOW-DISPLAY;PC SMOG 2G M6Q45 T1.0 W38	1		74074-0027-00
C 6	DE72-70060A	CONTROL-PANEL;ABS-HR0370U RA-WH-02-B 150	1		74051-0048-00

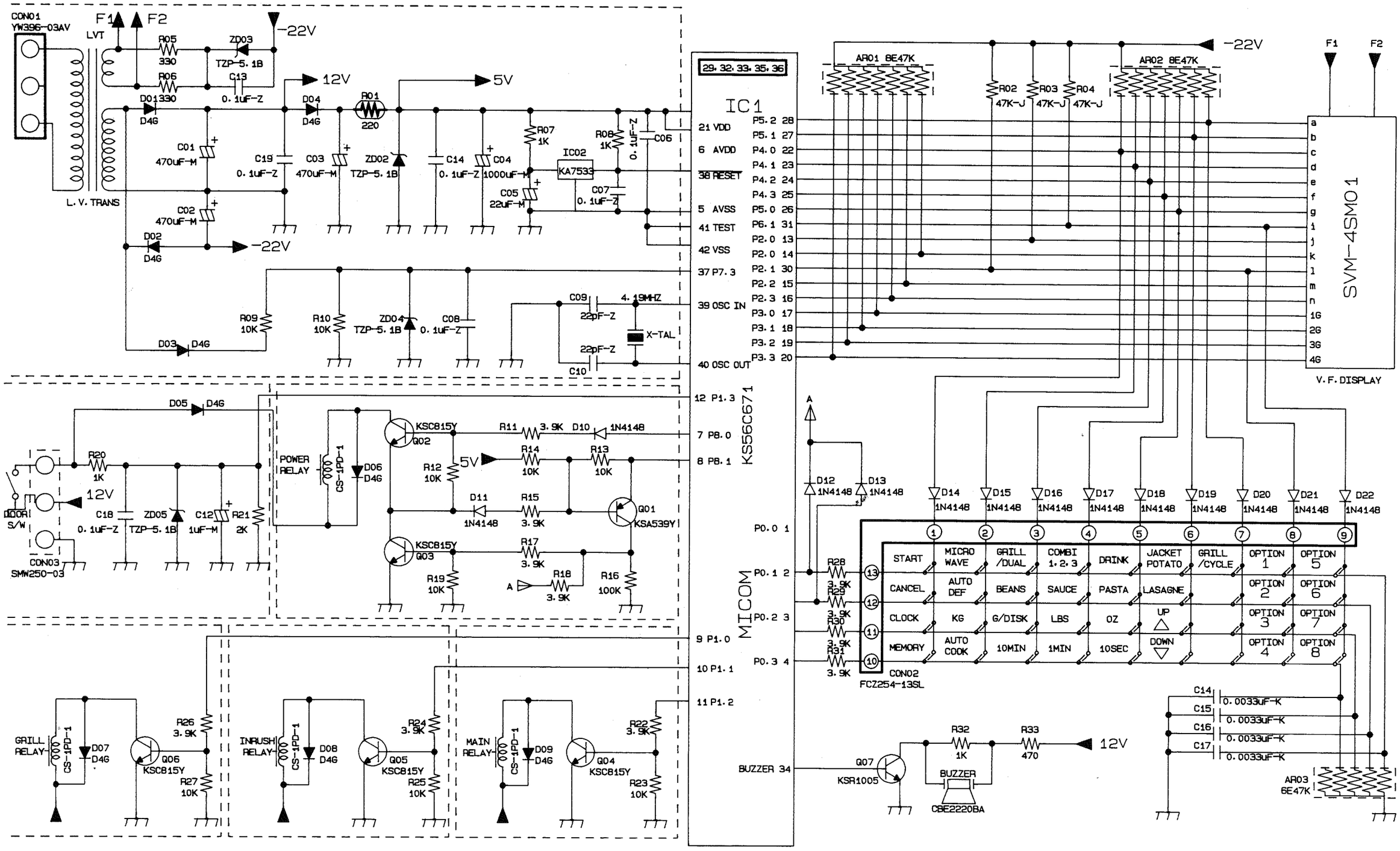
Parts List - Body Latch Parts

Ref. No.	Parts No.	Description/Specification	Q'ty	Remarks	Old No.
B 1	DE66-90053A	LEVER SWITCH(B);POM 12G NTR MX245	1		71533-0012-00
B 2	DE66-90052A	LEVER-SWITCH(A);POM 10G NTR MX245	1		71533-0011-00
B 3	3405-000178	SWITCH-MICRO;250V,15A,200gf,SPST-NO	2		73579-203-207
B 4	3405-000175	SWITCH-MICRO;250V,15A,200gf,SPST-NO	1		73579-203-278
B 5	DE66-40020A	LATCH-BODY;POM 50G M8135G NEW LATCH	1		72681-0004-001

Parts List - Standard Parts

Parts No.	Description / Specification	Q'ty	Remarks	Old No.
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	3	MO-FAN	70504-0002-00
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	2	B/UPP	70504-0002-00
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	1	P-CORD	70504-0002-00
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	1	NO/FIL	70504-0002-00
DE60-10012A	SCREW-TAP TITE;TH + 3 M4 L10 SWR10 ZPC2	1	SVC-SC	70504-0002-00
DE02-00029A	TAPE-SCOTCHPAR;POLYESTER 3M-893 W50	1	P-TRAY	70859-800-311
DE60-10033A	SCREW-TH;TH + M4 L10 MSWR10 FEFZY	3	MO-FAN	77028-140-101
DE60-20014A	BOLT-FLANGE;M5 L10 MSWR3 FEFZY	2	HI-LOW	77094-211-410
DE60-20014A	BOLT-FLANGE;M5 L10 MSWR3 FEFZY	2	HI-UPP	77094-211-410
DE60-10055A	SCREW-TAP TITE;PH M4 L8 FEFZY	2	SW-THE	77108-940-081G
DE60-10059A	SCREW-TAP TH;TH M4 L8 SUS410 CR	2	B/HEAT	77128-140-086
DE60-10069A	SCREW-TAP TH;TH M4 L10 FRFZY	3	CV/BLW	77128-840-101
DE60-10069A	SCREW-TAP TH;TH M4 L10 FRFZY	1	B-HI-U	77128-840-101
DE60-10069A	SCREW-TAP TH;TH M4 L10 FRFZY	1	B/MGT	77128-840-101
DE60-10069A	SCREW-TAP TH;TH M4 L10 FRFZY	1	C/AIR	77128-840-101
DE60-10080A	SCREW-WASHER;M5 L12 2S	4	HVT	77154-202-910
DE60-10080A	SCREW-WASHER;M5 L12 2S	4	MGT	77154-202-910
DE60-10082I	SCREW-A;2S-4X12 FEFZY	3	B-PLTE	77154-203-8201
DE60-10082I	SCREW-A;2S-4X12 FEFZY	2	PN/OUT	77154-203-8201
DE60-10082I	SCREW-A;2S-4X12 FEFZY	2	BD-LAT	77154-203-8201
DE60-10082I	SCREW-A;2S-4X12 FEFZY	1	CON-PA	77154-203-8201
DE60-10082J	SCREW-TAPPING;TH 2S-4X8 MSWR3 ZPC YEL WS	1	B/HVC	77154-203-8401
DE60-10098A	SCREW-ASSY TAPTITE;PH TC M4X8 SWRCH18A Z	2	MO/DRV	A0103-0010
DE60-10098A	SCREW-ASSY TAPTITE;PH TC M4X8 SWRCH18A Z	1	MEM-EA	A0103-0010

PCB Diagram


CON01
YW396-03AV
L.V.TRANS
F1
F2
LVT
R05 330
R06 330
ZD03 TZP-5.1B
C13 0.1uF-Z
-22V
12V
5V
D01 D4G
D04 D4G
R01 220
C01 470uF-M
C02 470uF-M
C19 0.1uF-Z
C03 470uF-M
ZD02 TZP-5.1B
C14 0.1uF-Z
C04 1000uF-M
C05 22uF-M
R07 1K
R08 1K
IC02 KA7533
C07 0.1uF-Z
C06 0.1uF-Z
D02 D4G
D03 D4G
R09 10K
R10 10K
ZD04 TZP-5.1B
C08 0.1uF-Z
C09 22pF-Z
4.19MHZ
X-TAL
22pF-Z
C10
IC1
29.32.33.35.36
21 VDD
6 AVDD
38 RESET
5 AVSS
41 TEST
42 VSS
37 P7.3
39 OSC IN
40 OSC OUT
12 P1.3
7 P8.0
8 P8.1
9 P1.0
10 P1.1
11 P1.2
P5.2 28
P5.1 27
P4.0 22
P4.1 23
P4.2 24
P4.3 25
P5.0 26
P6.1 31
P2.0 13
P2.0 14
P2.1 30
P2.2 15
P2.3 16
P3.0 17
P3.1 18
P3.2 19
P3.3 20
KS56C6671
MICOM
AR01 8E47K
AR02 8E47K
R02 47K-J
R03 47K-J
R04 47K-J
SVM-4SM01
V.F.DISPLAY
a
b
c
d
e
f
g
i
j
k
l
m
n
1G
2G
3G
4G
D05 D4G
KSC815Y Q02
R11 3.9K
D10 1N4148
R14 10K
R13 10K
R12 10K
D11 1N4148
R15 3.9K
Q01 KSA539Y
KSC815Y Q03
R17 3.9K
R19 10K
R18 3.9K
R16 100K
POWER RELAY
CS-1PD-1
D06 D4G
R20 1K
12V
DOOR S/W
CON03
SMW250-03
C18 0.1uF-Z
ZD05 TZP-5.1B
C12 1uF-M
R21 2K
D12 1N4148
D13 1N4148
D14 1N4148
D15 1N4148
D16 1N4148
D17 1N4148
D18 1N4148
D19 1N4148
D20 1N4148
D21 1N4148
D22 1N4148
P0.0 1
P0.1 2
P0.2 3
P0.3 4
R28 3.9K
R29 3.9K
R30 3.9K
R31 3.9K
CON02
FCZ254-13SL
START
MICRO WAVE
GRILL /DUAL
COMBI 1.2.3
DRINK
JACKET POTATO
GRILL /CYCLE
OPTION 1
OPTION 5
CANCEL
AUTO DEF
BEANS
SAUCE
PASTA
LASAGNE
OPTION 2
OPTION 6
CLOCK
KG
G/DISK
LBS
OZ
UP
OPTION 3
OPTION 7
MEMORY
AUTO COOK
10MIN
1MIN
10SEC
DOWN
OPTION 4
OPTION 8
C14 0.0033uF-K
C15 0.0033uF-K
C16 0.0033uF-K
C17 0.0033uF-K
AR03 6E47K
GRILL RELAY
CS-1PD-1
D07 D4G
Q06 KSC815Y
R26 3.9K
R27 10K
INRUSH RELAY
D08 D4G
Q05 KSC815Y
R24 3.9K
R25 10K
MAIN RELAY
D09 D4G
Q04 KSC815Y
R22 3.9K
R23 10K
BUZZER 34
Q07 KSR1005
R32 1K
R33 470
BUZZER
CBE2220BA

Parts List - PCB Parts

Parts No.	Description / Specification	Q'ty	Remarks
0401-000005	DIODE-SWITCHING;1N4148,75V,150mA,500mW,4	13	D10~22
0402-000559	DIODE-RECTIFIER;D4G,400V,1A,T-1	9	D01~09
0501-000283	TR-SMALL SIGNAL;KSA539-Y,PNP,400mW,TO-92	1	Q01
0501-000388	TR-SMALL SIGNAL;KSC815-Y,NPN,400mW,TO-92	5	Q02~06
2003-000220	R-METAL OXIDE;220ohm,5%,1W,AA,TP,4.3x12m	1	R01
2201-000442	C-CERAMIC,DISC;3.3nF,10%,50V,X7R,-,08x5.	4	C14~17
2201-000817	C-CERAMIC,DISC;22pF,+80-20%,50V,Y5V,5x5,	2	C09,10
2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	5	C06~08,13,18
2202-000783	C-CERAMIC,MLC-AXIAL;10nF,+80-20%,50V,Y5V	1	C11
2401-000247	C-AL;100uF,20%,10V,GP,6.3x11mm,5mm,	1	C04
2401-000598	C-AL;1uF,20%,50V,GP,4x7mm,5mm,	1	C12
2401-001412	C-AL;470uF,20%,35V,GP,10x16,5mm,TP	3	C01~03
3501-000265	RELAY-POWER;12V,-,16A,-,15mS,15mS	4	GRILL,INRUSH,MAIN,POWER
3501-000309	RELAY-POWER;240V,3750VA,15A,-,6mS,20mS	1	
3708-000528	CONNECTOR-FPC/FC/PIC;FCZ254-13SL,BLK 13P	1	
3711-000203	CONNECTOR-HEADER;YW396-03AV,WHT 1WALL,3P	1	CON01
3711-000881	CONNECTOR-HEADER;SMW250-03,WHT BOX,3P,1R	1	CON03
74537-001-001	RESONATOR-CERA;CSA 4.19MG(TAPG)	1	XTAL
A1000-0217	R-CARBON;RD 1/8 T 181-J	1	R33
A1000-0225	R-CARBON;RD 1/8 T 392-J	11	R11,15,17,18,22,24,26,28~31
A1000-0228	R-CARBON;RD 1/8 T 103-J	9	R09,10,12~14,19,23,25,27
A1000-0241	R-CARBON;RD 1/8 T 202-J	1	R21
A1000-0246	R-CARBON;RD 1/8 T 331-J	2	R05,06
A1000-0433	R-CARBON;RD 1/8 T 104-J	1	R16
A1000-0473	R-CARBON;RD 1/8 T 102-J	4	R07,08,20,32
A1000-0598	R-CARBON;RD 1/8 T 473-J	3	R02~04
A1018-0067	R-NETWORK;RN 1/8 X 6P 473-J T MHR5A473J	1	AR03
A1018-0069	R-NETWORK;RN 1/8 X 8P 473-J T MHR7A473J	2	AR01,02
A1104-0762	C-ELEC;CE 04 -40/85 25V T 220-M NP A/2 1	1	C05
A4060-0008	TR-W/RESISTOR;KSR1005 300MW 100MA 50V EB	1	Q07
A4106-0154	DIODE-ZENER;TZP5.1B 5.1/5.7V 40MA T 1W	4	ZD01~04
DE01-00045I	VINYL-DOOR;HDPE T0.03 SEG	1	
DE07-10055A	V.F.DISPLAY;SVM-4SM01 MWO	1	
DE09-30185A	IC-MCU;KS56C671-20 DIP MBG45/M9G45	1	MICOM
DE13-20009A	IC;KA7533 DIP	1	IC02
DE26-20002A	TRANS-L.V;CE9245STC AC230V 50HZ AC13/AC	1	
DE30-20016A	BUZZER;CBE2220BA STICK	1	
DE39-60001A	WIRE-SO COPPER;PI0.6 SN T 52MM	18	J01~18
DE45-10025J	TIMER-ASSY;TMFF30MTM1 230V15MA	1	
DE59-40001A	DIODE-H.V;HVR-1X-32B-12	1	

SAMSUNG

ELECTRONICS

Printed in Korea
DE68-61655A