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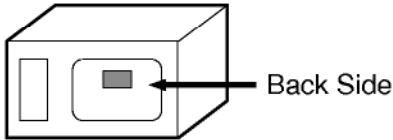
MICROWAVE OVEN **SERVICE MANUAL**

MODEL : MA-690W/B

CAUTION

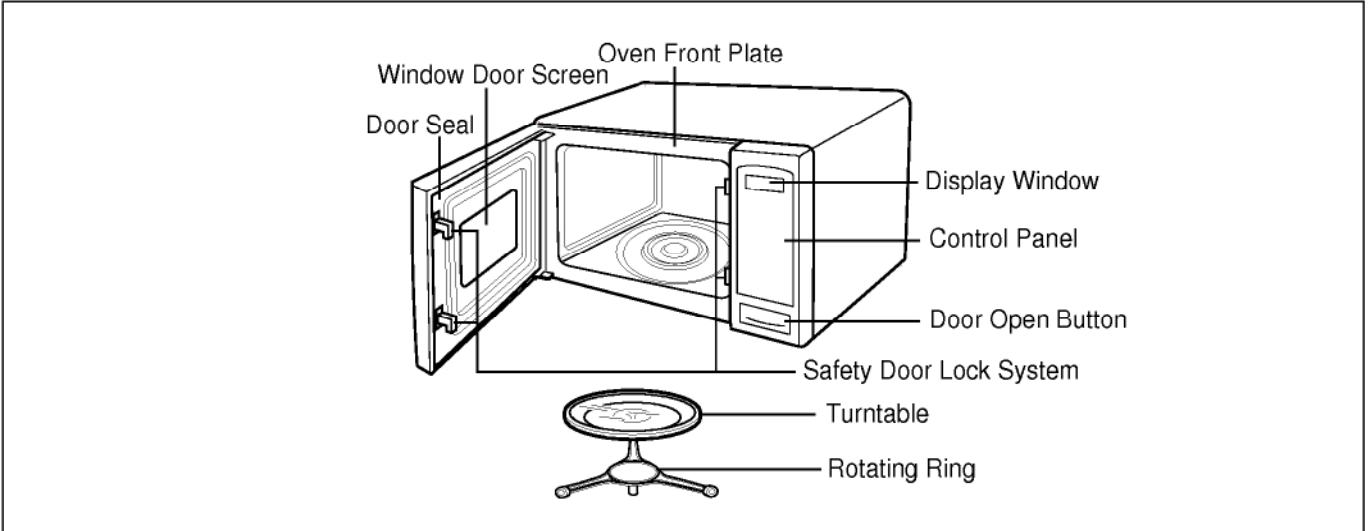
BEFORE SERVICING THE UNIT, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.

SPECIFICATIONS

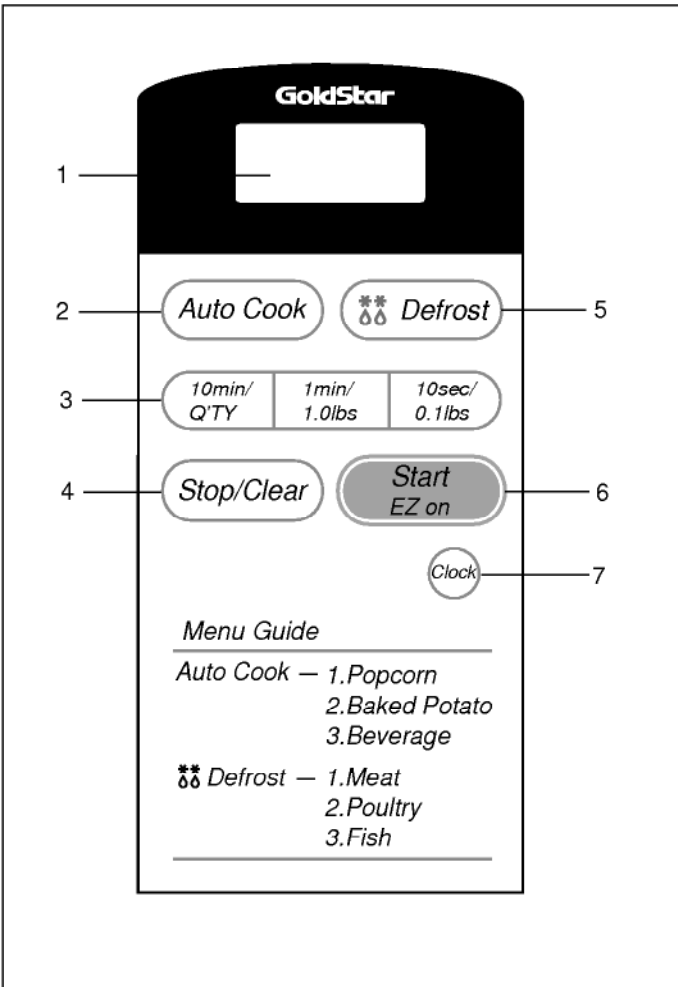
ITEM	DESCRIPTION
MODEL	MA-690W/B
Power Requirement	120 Volts AC 60 Hz 910 Watts (8.5 A) Single phase, 3-wire grounded
Power Output	600 Watts full microwave power (IEC705)
Microwave Frequency	2,450 MHz
Magnetron	2M213
Outside Dimensions	19" (W) x 11" (H) x 12 ⁷ / ₈ " (D)
Cavity Dimensions	11 ⁷ / ₈ " (W) x 7 ⁵ / ₈ " (H) x 12 ¹ / ₂ " (D)
Net Weight	26 lbs (approx.)
Shipping weight	28 lbs (approx.)
Control Complement	Touch Control System Clock : 1:00 - 12:59 Microwave Power for High Cooking
Nameplate Location	
Accessories	Owner's manual & cooking guide Glass turntable Rotating ring
<p>This microwave oven is designed for household use only. It is not recommended for commercial purposes.</p>	

OPERATING INSTRUCTIONS

FEATURES



CONTROL PANEL



1. DISPLAY WINDOW.

2. **AUTO COOK:** Used to cook the foods listed by one touch.

3. WEIGHT PAD

4. **STOP/CLEAR:** It used to stop oven and clear all entries except time of day.

5. **DEFROST:** This feature provides you with the best defrosting method for frozen foods.

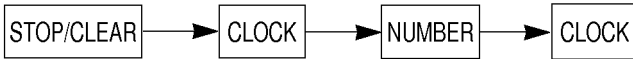
6. **START/EZ on:** This feature turns the oven on instantly.

7. **CLOCK:** Used to set clock.

OPERATING SEQUENCE

The following is a description of component functions during oven operation.

1. SETTING THE CLOCK



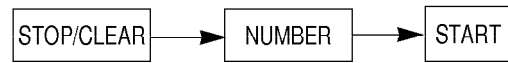
ex.) To set 4:35, touch **10 min** 4 times, **1 min** 3 times, and **10 sec** 5 times.

NOTE: In the clock mode, the hours will be set by using **10 min** pad (1 ~ 12), the minutes will be set by using **1 min** pad (10 ~ 50), and **10 sec** pad (0 ~ 9).

2. CANCEL FUNCTION

Touch the **STOP/CLEAR** pad whenever you need to cancel an entry or a function currently in use. The display will return either to the last item entered or to the clock.

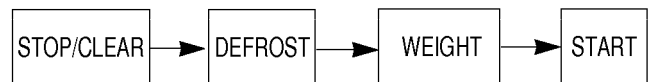
3. TIME COOKING



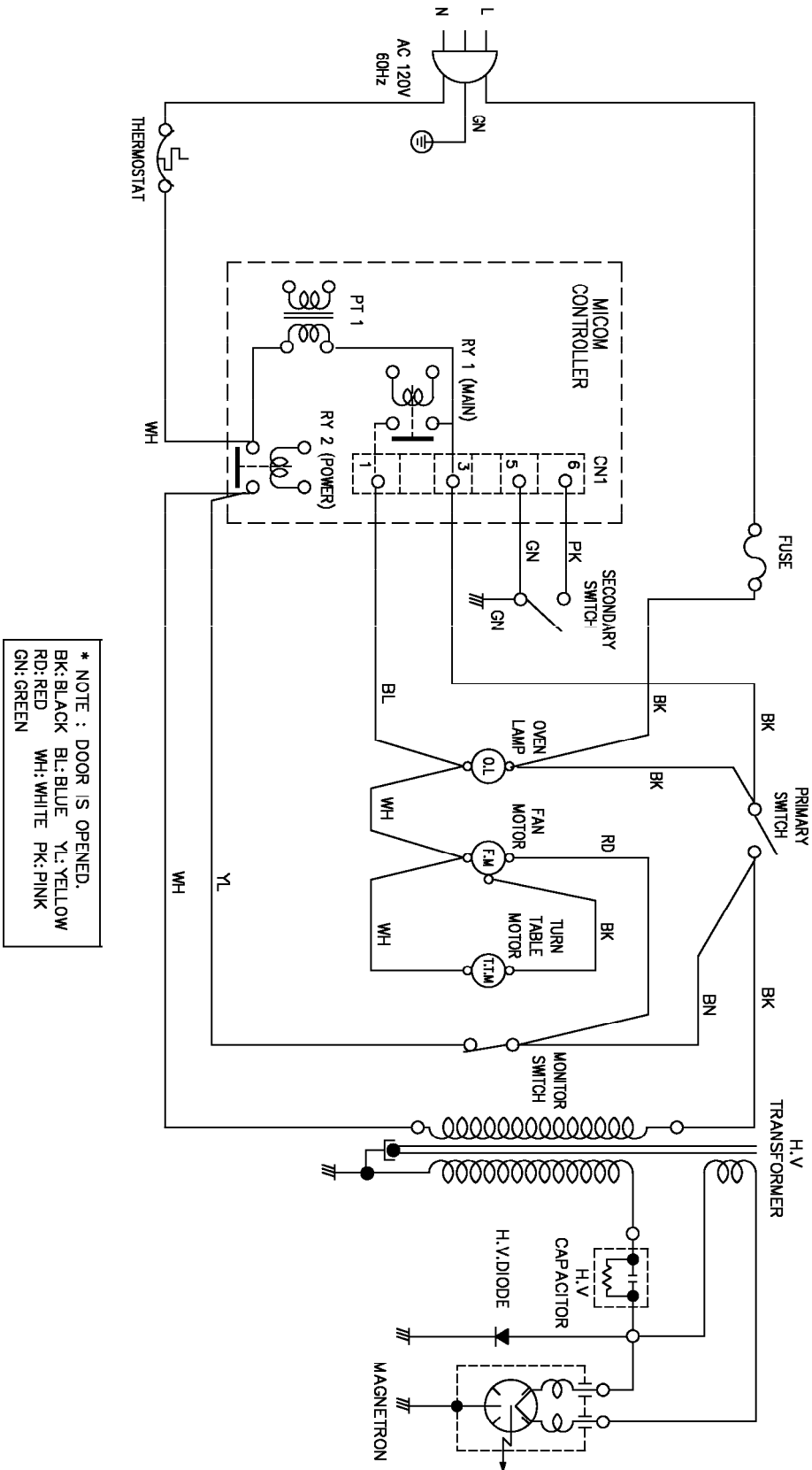
ex.) To cook food for 5 minutes 30 seconds. Touch the **STOP/CLEAR** **1 min** 5 times, and **10 sec** 3 times.

NOTE: When the cooking time is over, four long tones will sound. The word **End** shows in the display windows.

4. AUTO WEIGHT DEFROST COOKING



SCHEMATIC DIAGRAM



CIRCUIT DESCRIPTION

GENERAL DETAILS

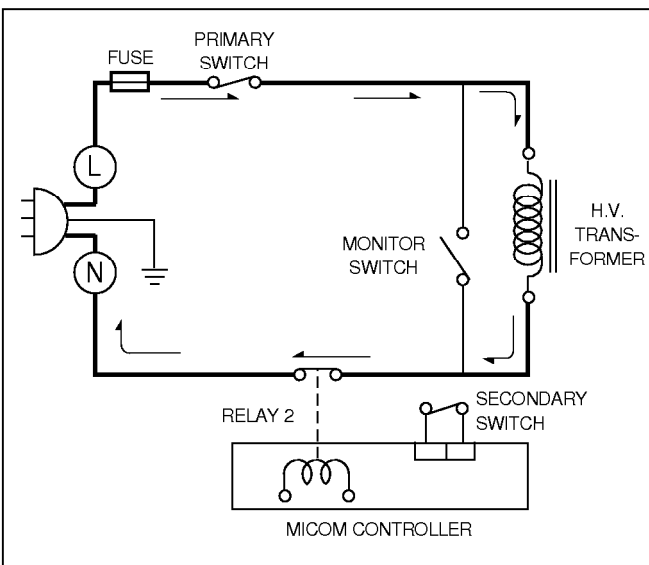
- The low voltage transformer supplies the necessary voltage to the micom controller when power cord is plugged in.
- When the door is closed, the primary switch is ON, the secondary switch is ON, and the monitor switch opens (contact COM and NO).

WHEN SELECTING COOKING POWER LEVEL AND TIME

- The micom controller memorizes the function you set.
- The time you set appears in the display window.
- Each indicator light turns on to indicate that the stage has been set.

WHEN TOUCHING THE START PAD

- The coil of the relay is energized by the micom controller.
- Power input is supplied to the high voltage transformer through the fuse to the primary switch and relay 2.
- Turntable rotates.



- The fan motor rotates and cools the magnetron by blowing air (coming from the intake on the base-plate).
- The air is also directed into the oven to exhaust the vapor in the oven through the upper plate.
- Cooking time starts counting down.
- 3.3 volts AC is generated from the filament winding of the high voltage transformer. This 3.3 volts is applied to the magnetron to heat the magnetron filament through two noise-preventing choke coils.

- A high voltage of approximately 2100 volts AC is generated in the secondary of the high voltage transformer which is increased by the action of the high voltage diode and charging of the high voltage capacitor.
- The negative 4,000 Volts DC is applied to the filament of the magnetron.

WHEN THE OVEN IS SET AT ANY LEVEL EXCEPT MAXIMUM.

- The micom controller controls the ON-OFF time of relay 2 by the applied signal to vary the average output power of microwave oven as POWER LEVEL. (refer to page 1-1)
- One complete cycle of the relay 2 is 22 seconds.

WHEN THE DOOR IS OPENED DURING COOKING

- Both the primary switch and relay 2 cut off the primary winding voltage of the high voltage transformer.
- ON-OFF of relay 2 is coupled electrically with opening and closing of the secondary switch.
- When the door is opened, the secondary switch is opened and when the door is closed, the secondary switch is closed.
- The cooking time stops counting down.
- Relay stops functioning.
- As the door is opened, if the contact of primary switch and relay 2 and/or secondary switch fail to open, the fuse opens due to the large current surge caused by the monitor switch activation, which, in turn, stops magnetron oscillation.

