

OPERATION

DESCRIPTION OF OPERATING SEQUENCE

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

OFF CONDITION

Closing the door activates the door sensing switch and secondary interlock switch. (In this condition, the monitor switch contacts are opened.)

When oven is plugged in, 120 volts A.C. is supplied to the control unit. (Figure O-1).

1. The display will show flashing "88 : 88".

To set any program or set the clock, you must first touch the STOP/CLEAR pad. The display will clear, and " : " will appear.

COOKING CONDITION

Program desired cooking time by touching the NUMBER pads. Program the power level by touching the POWER LEVEL pad.

When the START pad is touched, the following operations occur:

1. The contacts of relays are closed and components connected to the relays are turned on as follows.
(For details, refer to Figure O-2)

RELAY	CONNECTED COMPONENTS
RY-1	oven lamp/turntable motor/fan motor
RY-2	power transformer

2. 120 volts A.C. is supplied to the primary winding of the power transformer and is converted to about 3.3 volts A.C. output on the filament winding, and approximately 2360 volts A.C. on the high voltage winding.
3. The filament winding voltage heats the magnetron filament and the H.V. winding voltage is sent to a voltage doubler circuit.
4. The microwave energy produced by the magnetron is channelled through the waveguide into the cavity feed-box, and then into the cavity where the food is placed to be cooked.
5. Upon completion of the cooking time, the power transformer, oven lamp, etc. are turned off, and the generation of microwave energy is stopped. The oven will revert to the OFF condition.
6. When the door is opened during a cook cycle, the monitor switch, door sensing switch, secondary interlock switch, relay (RY1) and primary interlock relay are activated with the following results. The circuits to the turntable motor, the cooling fan motor, and the high voltage components are de-energized, the oven lamp remains on, and the digital read-out displays the time still remaining in the cook cycle when the door was opened.
7. The monitor switch electrically monitors the operation of the secondary interlock switch and primary interlock

relay and is mechanically associated with the door so that it will function in the following sequence.

- (1) When the door opens from the closed position, the primary interlock relay (RY2) and secondary interlock switch open their contacts. And contacts of the relay (RY1) remains closed. Then the monitor switch contacts close.
- (2) When the door is closed from the open position, the monitor switch contacts open first. Then the contacts of the secondary interlock switch and door sensing switch close. And contacts of the relay (RY1) open.

If the secondary interlock switch and primary interlock relay (RY2) fail with the contacts closed when the door is opened, the closing of the monitor switch contacts will form a short circuit through the C/T fuse, secondary interlock switch, relay (RY1) and primary interlock relay (RY2), causing the C/T fuse to blow.

POWER LEVEL P-0 TO P-90 COOKING

When Variable Cooking Power is programmed, the 120 volts A.C. is supplied to the power transformer intermittently through the contacts of relay (RY-2) which is operated by the control unit within a 32 second time base. Microwave power operation is as follows:

VARI-MODE	ON TIME	OFF TIME
P-HI (100% power)	32 sec.	0 sec.
P-90 (approx. 90% power)	30 sec.	2 sec.
P-80 (approx. 80% power)	26 sec.	6 sec.
P-70 (approx. 70% power)	24 sec.	8 sec.
P-60 (approx. 60% power)	22 sec.	10 sec.
P-50 (approx. 50% power)	18 sec.	14 sec.
P-40 (approx. 40% power)	16 sec.	16 sec.
P-30 (approx. 30% power)	12 sec.	20 sec.
P-20 (approx. 20% power)	8 sec.	24 sec.
P-10 (approx. 10% power)	6 sec.	26 sec.
P-0 (approx. 0% power)	0 sec.	32 sec.

Note: The ON/OFF time ratio does not correspond with the percentage of microwave power, because approx. 3 seconds are needed for heating of the magnetron filament.

POWER OUTPUT REDUCTION

If the oven is set for more than 20 minutes at 80, 90 or 100% power level, after the first 20 minutes the power level will automatically adjust itself to 70% power to avoid overcooking.