The working principle description

When the microwave oven is plug into a wall outlet, the oven display "0:00", Press "clock", the LCD display 00:00, you can set the clock (You can press stop if you don't want to set the clock). Then you can select cooking mode. There are several cooking modes, you can select power, auto cook, and auto defrosts, and so on. There is program in the Microcontroller of the control board, the cooking time and power level are pre-set in the program.

Here we can choose the power level to cook food, so we can see how the microwave oven work. Put the food in the cavity glass tray, then press "power", we can select one of ten power level (P100 to P10). We can select the difference power level by increasing the impulse ratio. The control of the power elements uses the keyboard commands. Then press "1-9", we can set cooking time. As a final step, press "start". (If you want to stop cooking, press "stop" or "pause").

Then magnetron power supply system will work, and High Voltage transformer, High Voltage diode, High Voltage capacitor will supply power to magnetron, and about 3 second the magnetron will work. The magnetron is a radio transmitter. . If it was on a radio mast it would be able to send radio signals a long way. But it is inside a metal box which keeps the signal in. The frequency of the transmitter is 2450MHz (megahertz), which is a wavelength of 12cm, rather than short waves, medium waves or long waves. In microwave cooking, the radio waves penetrate the food and excite water and fat molecules pretty much evenly throughout the food. Anything with water in it has all these molecules being moved this way and that by the electrical field, and heated up. Microwaves in this frequency range have another interesting property: they are not absorbed by most plastics, glass or ceramics. The dishes, walls of the oven , etc, don't pick up radio, so don't get heated up.

The cooling system will start working, the lamp will be lighted, and the turntable will rotate, at the same time when the power supply system work. After we press "start", the fan will running, it can get rid of its excess heat, and cooling the magnetron and High voltage transformer. You mustn't block the vents or the oven will overheat.

At the same time, the turntable motor will turn. The turning system including the turntable motor, shaft, roller, and glass tray will start working.It is used for better cooking. An AC motor rotates the plate with constant speed about 5 rpm. When the start button is pushed the motor starts.

A light that lights when the door is opened and when the oven is working. So we can see the food in cavity clearly!

A ring alarm that makes a sound when cooking is done.