# International Commercial Microwave-Technical Information

## 230 VAC, 50 Hz model

**RCS511DS P2001106M RCS511DS P2001112M**

- Due to possibility of personal injury or property damage, always contact an authorized technician for servicing or repair of this unit.
- Refer to Service Manual for installation, operating, testing, troubleshooting, and disassembly instruction.

**⚠ CAUTION**

All safety information must be followed as provided in Service Manual.

**⚠ WARNING**

To avoid the risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

| Models | RCS511DS | |
|---|---|---|
| **Power Source** | | |
| Voltage AC | 230 VAC | |
| Amperage (Single Unit) | 15 A | |
| Frequency | 50 Hz | |
| Single Phase, 3 wire grounded | X | |
| Receptacle | CEE 7/7 Schuko | |
| Plug | CEE 7/7 Schuko | |
| **Power Output – Microwave** | | |
| Nominal microwave energy (IEC705) | 1000 Watts | |
| Minimum temperature rise (ΔT) | 10ºF / 5ºC | |
| Operating Frequency | 2450 MHz | |
| **Power Consumption** | | |
| Microwave only | 1500 Watts | |
| **Dimensions** | | |
| **Cabinet (in cm)** | | |
| Width | 22" | 56 cm |
| Height | 13 3/4" | 34.4 cm |
| Depth | 19" | 37.9 cm |
| **Oven Interior (in cm)** | | |
| Width | 14 1/2" | 36.8 cm |
| Height | 8 1/2" | 21.6 cm |
| Depth | 15 " | 38.1 cm |
| **Weight** | | |
| Uncrated | 41 lbs. | 18.6 kg |
| **Features** | | |
| Timer | 10 minute single speed | |
| Power Selection | 5 Levels | |
| Cavity Volume | 1.2 cu. Ft. | |

# Component Testing Procedures

**⚠ WARNING**

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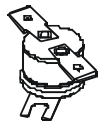
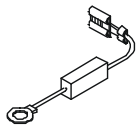
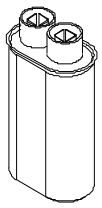
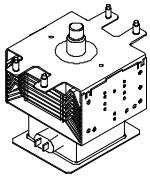
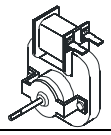
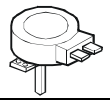
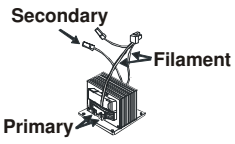
| Illustration | Component | Testing | Results |
|---|---|---|---|
|  | Thermal cutout | Disconnect all wires from TCO.<br>Measure resistance across terminals.<br>Cavity TCO .....<br><br>Magnetron TCO ..... | <br><br>Closed at 50ºC (122ºF) and Opens at 85ºC (185ºF)<br>Closed at 115ºC (249ºF) and Opens at 160ºC (320ºF) |
|  | Diode | **Discharge Capacitor**<br><br>Remove diode lead from capacitor and connect ohmmeter.<br><br>Reverse leads for second test. | Infinite resistance should be measured in one direction and 50KΩ or more in the opposite direction.<br><br>**NOTE:** Ohmmeter must contain a battery of 6 volts minimum. |
|  | Capacitor | **Discharge Capacitor**<br><br>Remove wires from capacitor terminals and connect ohmmeter, set on highest resistance scale to terminals.<br><br>Also check between each terminal and capacitor case. | <br><br>Between Terminals: Meter should momentarily deflect towards zero then return to over 5 MΩ. If no deflection occurs, or if continuous deflection occurs, replace capacitor.<br><br>Terminal to Case: Infinite resistance |
|  | Magnetron | **Discharge Capacitor**<br><br>Remove wires from magnetron and connect ohmmeter to terminals. Also check between each terminal and ground. | Between Terminals: Less than 1 Ω<br><br>Each terminal to ground measures Infinite resistance.<br>**Note:** This test is not conclusive. If oven does not heat and all other components test good replace the magnetron and retest. |
|  | Blower motor | Remove all wires from motor.<br><br>Measure resistance across coil..... | <br><br>Approximately 160 Ω |
|  | Stirrer motor | Remove all wires from motor.<br><br>Measure resistance across terminals.... | <br><br>Approximately 14.7K Ω |
|  | Transformer | **Discharge Capacitor**<br>Remove all wires from terminals.<br><br>Measure resistance from:<br>Primary.....<br>Filament.....<br>Secondary to Ground screw on transformer stack..... | <br><br><br><br>Less than <1 Ω<br>Less than <1 Ω<br><br>Approximately 130 Ω |
|  | Lamp and receptacle | Test continuity of receptacle terminals. | Indicates continuity with bulb installed. |
| | Wire Harness | Test continuity of wires | Indicates continuity |

# Component Testing Procedures

**⚠ WARNING**

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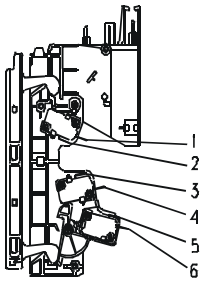
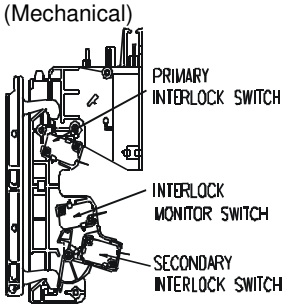
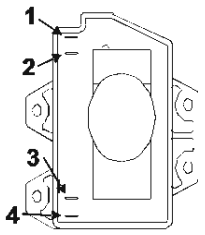
| Illustration | Component | Testing | Results |
|---|---|---|---|
|  | Fuse block / Filter assembly | Power In terminals.....<br>Power Out terminals ..... | 230 VAC<br>230 VAC<br>If no power in, check power outlet<br>If no power out, check fuses |
|  | Interlock switch assembly (Mechanical)<br>  | Disconnect wires to switch.<br><br>With door open measure resistance from:<br>Monitor – Terminals 3 - 4.....<br>Primary – Terminals 1 - 2 .....<br>Secondary – Terminals 5 - 6.....<br><br>With door closed measure resistance from:<br>Monitor – Terminals 3 - 4.....<br>Primary – Terminals 1 - 2 .....<br>Secondary – Terminals 5 - 6.....<br><br>**After verifying or replacing the module, re-connect wires to switch and check operation of monitor circuit before operating the oven.** | <br><br><br>Indicates continuity<br>Infinite Ω<br>Infinite Ω<br><br><br>Infinite Ω<br>Indicates continuity<br>Indicates continuity |
|  | Dial Timer | Remove leads from timer contact terminals.<br>Measure resistance of following terminals:<br>1 to 3 □ Timer in OFF position .....<br>1 to 3 □Timer in ON position.....<br>2 to M □Timer in OFF or ON position..... | If timer does not indicate readings<br>below, replace timer.<br>Infinite Ω<br>Approximately <1 Ω<br>Approximately 13.6 K Ω (timer motor) |

# Power Test

**⚠ WARNING**

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All microwave oven power outputs are rated using the IEC705 standards. Using the IEC705 test method requires precision measurements and equipment that is not practical to be performed in the field. Using the test shown below will indicate if the oven performance is satisfactory.

### Test equipment required:

- 1000 ml test container and thermometer
- Digital watch / watch with a second hand for use on ovens with electromechanical timers.

### Important Notes:

- Low line voltage will cause low temperature rise / power output.
- Ovens must be on a dedicated circuit, properly grounded, and polarized. Other equipment on the same circuit may cause a low temperature rise / power output.
- This test and results are not a true IEC705 test procedures and are only intended to provide servicers with an easy means of determining if the microwave oven cooking output is correct.

## Procedure

1. Fill the test container to the 1000 ml line with cool tap water.

**NOTE:** Water temperature should be approximately 60°F / 16°C

2. Using the thermometer, stir water for five to ten seconds; measure, and record the temperature (T1).
3. Place test container of water in the center of oven cavity and close door.
4. Heat the water for a 33-second full power cycle.

**NOTE:** Use a digital watch or a watch with a second hand for ovens with electromechanical timers.

5. At end of the cycle, remove test container. Using the thermometer, stir water for five to ten seconds and record temperature (T2).
6. Subtract the starting water temperature (T1) from the ending water temperature (T2) to obtain the temperature rise (ΔT).
7. If the temperature rise (ΔT) meets or exceeds the minimum, the test is complete. If the temperature rise (ΔT) fails to meet the minimum temperature rise, test the line voltage to verify it is correct. Then repeat steps 1 - 6 making sure to change the water. If the temperature rise (ΔT) fails to meet the minimum temperature rise again the oven will require service.

**Minimum Temperature Rise at Thirty -Three (33) Seconds Run Time**

| ΔT (°F) | Cooking Power Output | ΔT (°F) | Cooking Power Output | ΔT (°C) | Cooking Power Output | ΔT (°C) | Cooking Power Output |
|---|---|---|---|---|---|---|---|
| 10 | 1000 | 20 | 2000 | 5 | 1000 | 11 | 2000 |
| 11 | 1100 | 21 | 2100 | 5.5 | 1100 | 11.5 | 2100 |
| 12 | 1200 | 22 | 2200 | 6.5 | 1200 | 12 | 2200 |
| 14 | 1400 | 24 | 2400 | 7.5 | 1400 | 13 | 2400 |
| 17 | 1700 | 25 | 2500 | 9.5 | 1700 | 13.5 | 2500 |
| 18 | 1800 | 27 | 2700 | 10 | 1800 | 15 | 2700 |
| 19 | 1900 | 30 | 3000 | 10.5 | 1900 | 16.5 | 3000 |

# Wiring Diagram and Schematic

**WARNING**

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