



Fast Track Troubleshooting

Models Covered:
RF197ACPN

**French Door
Refrigeration**

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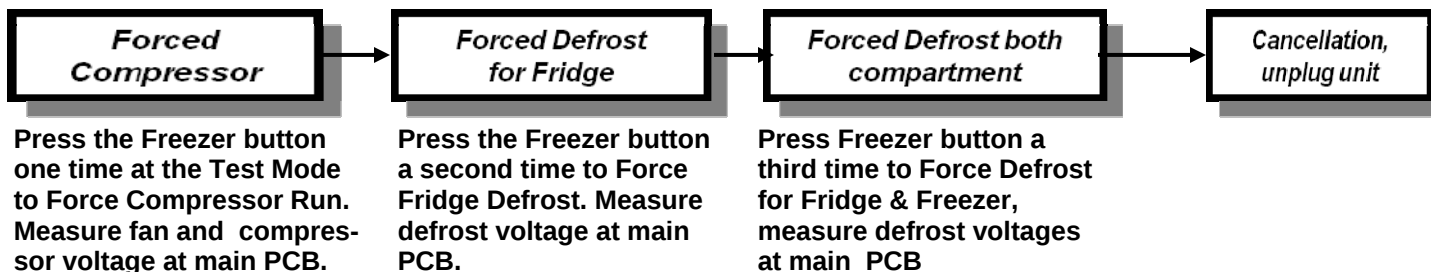
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Self Diagnosis: Press the Pwr Freeze—Pwr Cool buttons simultaneously for 8-12 seconds (No sound when both buttons are pressed at the same time) until the display quits blinking. Release the buttons and read Fault Codes. This will also cancel the Fault Mode created by self-diagnosis at power up.

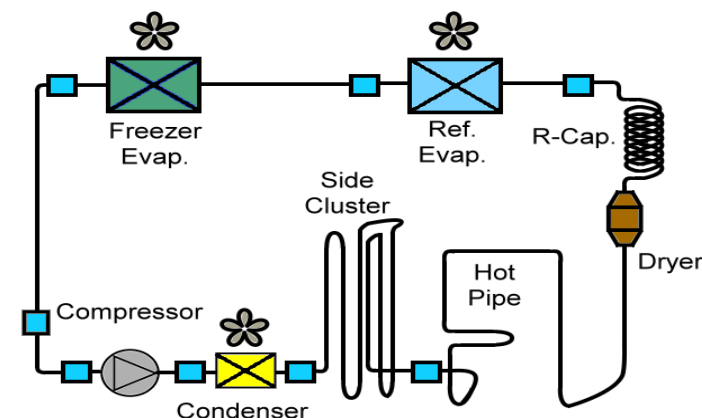
Forced Mode: Press the Pwr Freeze– Fridge buttons simultaneously for 8-12 seconds (No sound when both buttons are pressed at the same time) until the display beeps and goes blank.



Wait 5 seconds between button pushes



Sealed System

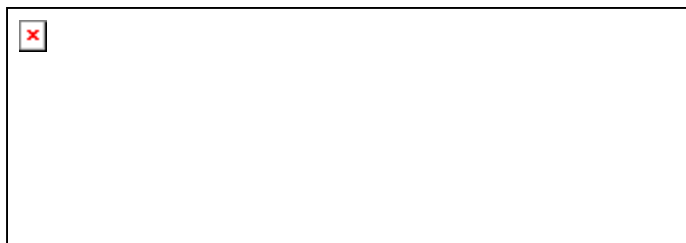


Compressor → Condenser → Side Cluster → Hot Pipe →
Dryer → R Capillary → R Evaporator → F Evaporator →
Suction Pipe → Compressor

Sales Mode, No Compressor Operation

Press Power Freeze & Freezer temp buttons simultaneously for 3 sec (you will hear a “Ding Dong”) to remove or put into Sales Mode. When in the Sales Mode the Display will show "OF" "OF"
Removing power will not cancel this mode.

Component Value Chart



Refrigerant Charge
R134a 5.64 oz.

DC FAN MOTORS

Brushless DC Fan motors are used to save energy. The fans operate at two speeds. Fan speed information is read by the Main PCB. If the fan speed exceeds 600 RPM or the speed is too slow, or stopped the fan drive circuit is disabled, After 10 seconds the circuit tries again with 3 seconds of DC voltage. If the fan continues this activity for 5 cycles, 10 seconds off 3 seconds on, the fan drive circuit is disabled for 10 minutes.

TO TEST THE FAN CIRCUIT VOLTAGE.

Power off and back on to check the DC voltage to the motor, wait from 10 to 60 seconds for the fan voltage to kick in, and then check fan voltage, the average reading is 9 VDC. If you get 3 seconds of voltage every 10 seconds for the 5 fan power up cycles, then the Main PCB is good.

NOTE: You may need to put unit in FORCED FREEZE mode to activate the fans/compressor.

If the fan blade is blocked by ice, then defrost and check the motor again, after removing power from the unit.

If the evaporator is ice blocked and thus blocking the air flow, the fan will over RPM and will be stopped. Remove ice and check the motor again. If everything is clear around the fan blade then the motor would be at fault. Continuous fan errors will be displayed on the front panel display. **PLEASE NOTE:** The door switches control the evaporator fan motors. Have them closed to test the motors. Delay time 10 – 60 seconds.

FLEX TRAY Ice Makers

When the initial power is applied, the ice tray will stand by for 2 hours. After the 2-hour standby time, the Ice Maker Sensor will check the temperature, when it is lower than 1.5°F for more than 5 minutes, it will do a harvest, with or without ice in the tray, then fill with water. 58 minutes after water is supplied to the Ice Tray, the Ice Maker Sensor temperature will be checked. When the Ice Maker Sensor maintains lower than 1.5°F for 5 minutes, it completes the harvest (if the ice bin is not sensed as full).

Filling the tray

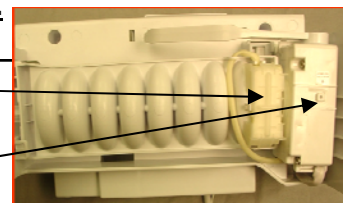
After the water fill is completed, the ice maker sensor will evaluate the water volume one and a half minutes later. When it detects no or low water level, it will add more water. First supply time will be 1.5 sec, next one will be 1 sec and the last will be 2 sec.

Shattered Ice – Flex Tray

When all ice shatters, it's because of a bad tray or ice cube temp that is too cold (lower than -5 degrees). In some areas, there are water issues that can also cause shattered cubes. The temp in the freezer should not have any effect on this issue, as long as it's below 1.5 degrees F, as a properly installed sensor will not read the freezer temp, only the water/ice temp.

Check the Ice tray for defects in the plastic. Ice that is too cold will shatter during harvest. This can be from the (1) sensor not reading the correct temp (2) or the sensor not mounted correctly (3). By programming the ice-maker offset value to a lower number (4), the board not understanding the reading.

Please note, some shattering is normal for a flex tray icemaker.



Ice Maker Thermistor

Ice Maker Test Button

FREEZER TEMPERATURE CONTROL BY THE ICE MAKER

Interior Temperature of the freezer will be set to -14 degrees Fahrenheit until the ice bucket is full. When the ice bucket is full, the freezer will maintain original set temperature. Also, whenever the ice is used, the freezer will again set to -14 degrees Fahrenheit. Selecting "Ice Off" will allow the freezer to be controlled by the set temperature. If water is not hooked up, the freezer will always be at -14 unless "Ice Off" is selected.

Temperature/Resistance/Voltage Chart for Samsung Refrigerators Sensors

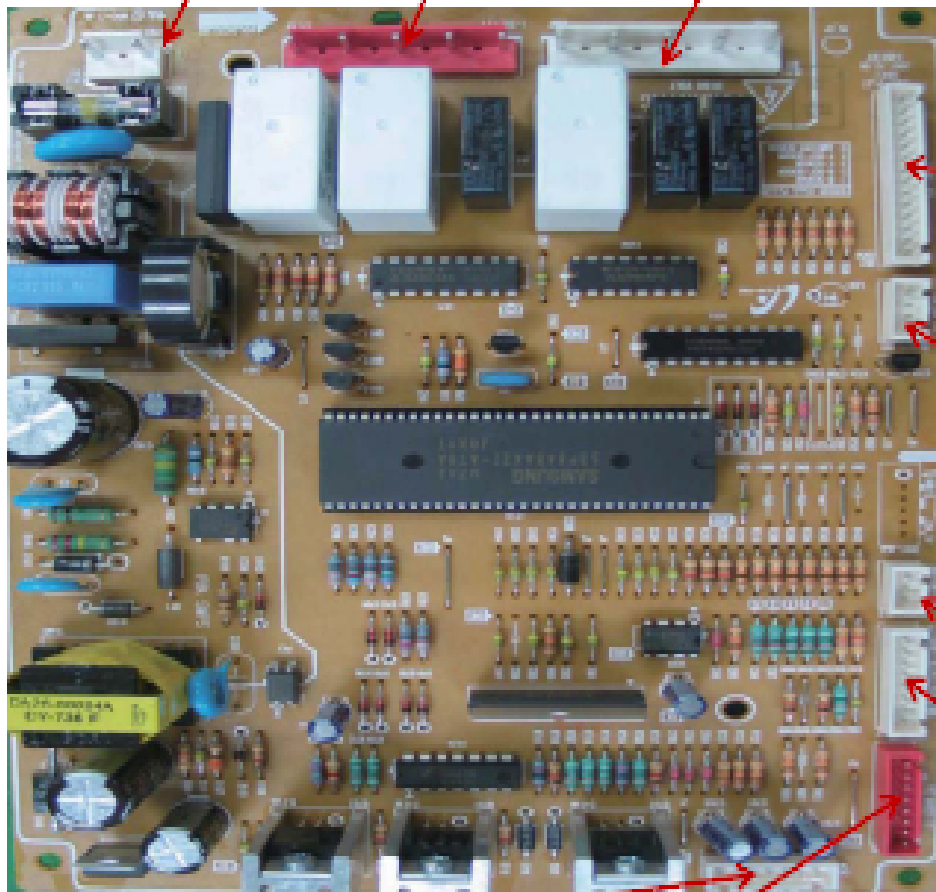
Temp.	(Ω)	Volts	Temp.	(Ω)	Volts	Temp.	(Ω)	Volts	Temp.	(Ω)	Volts
-29.2°F	64227	4.326	1.4°F	28021	3.685	32.0°F	13290	2.853	62.6°F	6771	2.019
-27.4°F	61012	4.296	3.2°F	26760	3.64	33.8°F	12749	2.802	64.4°F	6521	1.974
-25.6°F	57977	4.264	5.0°F	25562	3.594	35.6 °F	12233	2.751	66.2°F	6281	1.929
-23.8°F	55112	4.232	6.8°F	24425	3.548	37.4 °F	11741	2.7	68.0°F	6052	1.885
-22.0°F	52406	4.199	8.6°F	23345	3.501	39.2 °F	11271	2.649	69.8°F	5832	1.842
-20.2°F	49848	4.165	10.4°F	22320	3.453	41.0°F	10823	2.599	71.6°F	5621	1.799
-18.4°F	47431	4.129	12.2°F	21345	3.405	42.8°F	10395	2.548	75.2°F	5225	1.716
-16.6°F	45146	4.093	14.0°F	20418	3.356	44.6°F	9986	2.498	77.0°F	5000	1.675
-14.8°F	42984	4.056	15.8°F	19537	3.307	46.4°F	9596	2.449	78.8°F	4861	1.636
-13.0°F	40938	4.018	17.6°F	18698	3.258	48.2°F	9223	2.399	80.6°F	4690	1.596
-11.2°F	39002	3.98	19.4°F	17901	3.208	50.0°F	8867	2.35	86.0°F	4218	1.483
-9.4°F	37169	3.94	21.2°F	17142	3.158	51.8°F	8526	2.301	87.8°F	4072	1.447
-7.6°F	35433	3.899	23.0°F	16419	3.107	53.6°F	8200	2.253	89.6°F	3933	1.412
-5.8°F	33788	3.858	24.8°F	15731	3.057	55.4°F	7888	2.205	91.4°F	3799	1.377
-4.0°F	32230	3.816	26.6°F	15076	3.006	57.2°F	7590	2.158	95.0°F	3547	1.309
-2.2°F	30752	3.773	28.4°F	14452	2.955	59.0°F	7305	2.111	96.8°F	3428	1.277
-0.4°F	29350	3.729	30.2°F	13857	2.904	60.8°F	7032	2.064	100.4°F	3204	1.213



CN71 120vac
 1-(CN72-9) French Htr(7W) (Yel-Red)
 3-(CN72-9) R Lamps (Blu-Red)
 5-(CN72-9) F Lamp (Pnk-Red)
 7 Common N (Gry)
 9-(CN72-9) I/M Valve(Prp-Red)

CN10 120vac
 3- Common Line L (Red)

CN72 120vac
 1-9 Comp (S/Blu-Red)
 3-Heater Common (Org)
 5-3 R Defrost (120W)/Fill Tube Htr (13W) (Wht-Org)
 7-3 F Defrost (240W) (Brn-Org)
 9- Common Line L (Red)



CN50 Display

Not Used

CN31 Sensor
 1-3 Ambient Sensor
 (Wht-Wht) 1~4.5vdc

CN76 F, R, C Fans
 1- C Fan FG(Blu)
 2- F Fan FG (Pnk)
 3- R Fan FG(Yel)
 4-7 C Fan (Org-Gry) 7~12vdc
 5-7 F Fan (Red-Gry) 7~12vdc
 6-7 R Fan (Brn-Gry) 7~12vdc

CN90 Ice Maker
 1-2 I/M Motor (Red-Blk) 12vdc
 3-4 I/M Sensor 1~4.5vdc (Wht-Wht)
 5-8 Test Sw (Gry-S/Blu) 5vdc
 6- 8 (Blu-S/Blu) 5vdc
 7 Hall IC output (Prp)
 8-VDC GND

CN30 Sensors & Switches
 1-7 Freezer Dr Sw (Blk-Gry)
 2-8 R Door Sw (Brn-Gry)
 3-8 R Sensor (Red-Gry) 1~4.5vdc
 4-8 R Def Sensor (Org-Gry) 1~4.5vdc
 5-8 F Sensor (Yel-Gry) 1~4.5vdc
 6-8 F Def Sensor (Pnk-Gry) 1~4.5vdc
 7-VDC GND (Gry)
 8-VDC GND (Gry)

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