FOR SERVICE TECHNICIAN'S USE ONLY

NOTE: This sheet contains important Technical Service Data

Assembly: W10910730A

Tech Sheet

Do Not Remove Or Destroy

⚠ DANGER

Electrical Shock Hazard

Only authorized technicians should perform diagnostic voltage measurements.

After performing voltage measurements, disconnect power before servicing.

Failure to follow these instructions can result in death or electrical shock.

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

Voltage Measurement Safety Information

When preforming live voltage measurements, you must do the following:

- **Verify the controls are in the off position so that the appliance does not start when energized.**
- **Allow enough space to perform the voltage measurements without obstructions.**
- **Keep other people a safe distance away from the appliance to prevent potential injury.**
- **Always use the proper testing equipment.**
- **After voltage measurements, always disconnect power before servicing.**

Component Specifications

Component	Specifications All Parts - 115 VAC/60 Hz unless noted	
Cooling		
Compressor	BTUH Wattage Current lock rotor Current full load Resistance run windings Resistance start windings Inverter x 11	Variable VEGC8H 177.5 watts @ 4000 RPM 3.3 amps ± 15% 3.3 amps ± 15% 12.03 ohms ± 8% 12.03 ohms ± 8%@ 77°F/25°C 3-6 VDC, red and white wires = 120 VAC
Condenser Motor	Rotation (facing end opposite shaft) RPM Wattage **NOTE:** Fan blade must be fully seated on shaft to achieve proper airflow.	Clockwise 940 RPM 2.6 ± 1 watt @115 VAC
Freezer Evaporator Fan Motor	Rotation (facing end opposite shaft) RPM - RATED Wattage - RATED **NOTE:** Fan blade must be fully seated on shaft to achieve proper airflow.	Clockwise 2900 RPM @ 12 VDC Maximum 2.5 watts @12 VDC
Bimetal Defrost	Open Closed Resistance Defrost heater terminal Bimetal below 10°F Bimetal above 53°F	45.3° ± 5° F / 7.4° ± 2.8° C 18.0° ± 7.5° F / -7.8° ± 4.2° C 56k ohm 19-27 ohms 0 ohms open circuits
36" Freezer Evaporator Heater	Volts Wattage Resistance	120 VAC 600 watts 24.0 ± 5% ohms
42" Freezer Evaporator Heater	Volts Wattage Resistance	120 VAC 700 watts 20.6 ± 5% ohms
48" Freezer Evaporator Heater	Volts Wattage Resistance	120 VAC 750 watts 19.2 ± 5% ohms
Controls		
Control Board	Volt See control board for diagnostics.	120 VAC, 60Hz
Thermistor	Temperature 50°F/10°C 32°F/0°C -4°F/-20°C	Resistance 5348 ohms ± 5.0% 8758 ohms ± 5.0% 25,862 ohms ± 5.0%
Light Switch	Type Volt Current	SPDT NO/NC 125/250 VAC 8/4 amps
Ice and Water		
Smart Valve	Watts	20 watts (Green)

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Temperature Charts

No-Load Performance, Controls in Normal Position

	Kw/24 hr/±0.4		Percent Run Time/ ±10%		Cycles/ 24 hr/±10	
Ambient °F/°C	70°F 21°C	90°F 32°C	70°F 21°C	90°F 32°C	70°F 21°C	90°F 32°C
	1.1	2.2	60%	84%	45	24

	Refrigerator Compartment Average Food Temperature ±4°F/2°C		Freezer Compartment Average Food Temperature ±5°F/3°C	
Ambient °F/°C	70°F 21°C	90°F 32°C	70°F 21°C	90°F 32°C
	37°F 3°C	37°F 3°C	0°F -18°C	0°F -18°C

Temperature Relationship Test Chart

	Freezer Evaporator Inlet/Outlet ±5°F/3°C		Suction Line ±7°F/4°C	
Ambient °F/°C	70°F 21°C	90°F 32°C	70°F 21°C	90°F 32°C
	-15°F -26°C	-12°F -24°C	80°F 27°C	104°F 40°C

	Average Total Wattage ±10%		Suction Pressure ±2 PSIG		Head Pressure ±5 PSIG	
Ambient °F/°C	70°F 21°C	90°F 32°C	70°F 21°C	90°F 32°C	70°F 21°C	90°F 32°C
	70	100	1.0	-1.0	95	135

Built-In Refrigerator Troubleshooting

Main Control Section		
Problem	**Possible Cause(s)**	**Test Procedure/Action**
Freezer Compartment (FC) too cold	FC control set too cold	See Control Setting section.
	Temperatures are -5°F in the FC and 34°F in the RC	Refrigerator operating in the "Max Cool" mode. Press the "Max Cool" button to return to normal operation.
	FC thermistor	See Thermistor section.
	FC thermistor wires reversed	See Thermistor section.
	Main Control Board	See Main Control Board section.
Freezer Compartment (FC) too warm	FC control set too warm	See Control Setting section.
	FC thermistor	See Thermistor section.
	Freezer light not shutting off	See Door Switch section.
	Evaporator fan not running or not running up to speed	See Evaporator Fan section.
	Condenser fan not running	See Condenser Fan section.
	Frost blocking evaporator airflow	See Evaporator Fan section.
	Main Control Board	See Main Control Board section.
	Compressor not operational	See Compressor section.
	Inverter not operational	See Inverter section.
Indicator light & alarm continue to activate after service has been performed	The indicator lights have not been reset.	See Alarm Reset section.

Main Control Section		
Problem	**Possible Cause(s)**	**Test Procedure/Action**
No display, no interior lights, can't change settings	Touch/Display Board has lost power connection	See Touch/Display Board section.
	Main Control Board is not supplying power to the user interface	See Main Control Board section.
	Control is in the Sabbath Mode. Control is powered off. Control board failure.	Press the "Sabbath Mode" button to return to normal mode.
	The FC or RC doors have been open for more than ten minutes.	See Door Open section.
	Door light switch problem	See Door Switch section.
	Wiring issue, bad connection, etc.	See Touch/Display section.
No/Low Ice	The modular ice maker or the ice level detector is not operating properly.	See Modular Ice Maker and Ice Detector Service Sheet.
Not defrosting	Faulty Bimetal	See Bimetal/Defrost Heater section.
	Faulty defrost heater	See Bimetal/Defrost Heater section.
Overtemp Alarm door left open	Temperatures are 48°F in the RC or 15°F in the FC for more than 1.5 hrs and Temp isn't decreasing.	See Over Temperature section.
	The compressor or sealed system is not operating	See Compressor section.
	The inverter is not operating	See Inverter section.
	The evaporator fan is not operating	See Evaporator Fan section.
	The Air Door is not operating	See Air Door section.
Product does not run	Control powered off	See Power Off Mode section.
	No power to the control board	Verify power to the control board.
Product is noisy	The noise is coming from the freezer section. The evaporator fan motor is binding, hitting, misaligned, or vibrating.	Evaporator Fan section.
	The noise is coming from the unit compartment section. Condenser fan blade is hitting or compressor is noisy.	Condenser Fan and/or Compressor section.
Refrigerator Compartment (RC) too cold	RC control set too cold	See Control Setting section.
	RC thermistor	See Thermistor section.
	Air Door stuck open, seal missing, damaged, or reversed	See Air Door section.
	Main Control Board	See Main Control Board section.
Refrigerator Compartment (RC) too warm	RC control set too warm	See Control Setting section.
	RC thermistor	See Thermistor section.
	Refrigerator light not shutting off	See Door Switch section.
	Air Door stuck closed or inoperative. Reversed Air Door wires.	See Air Door section.
	Blocked airflow	Check for any restriction to the airflow in the RC and FC.
	Warm FC temperature	Cold air for the RC is drawn from the FC. Check for proper FC temperatures (see FC compartment too warm).
	Reversed RC thermistor wiring	See Thermistor section.
	Evaporator fan not running or not running up to speed	See Evaporator Fan section.
	Frost blocking evaporator airflow	See Evaporator Fan section.

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Main Control Section		
Problem	**Possible Cause(s)**	**Test Procedure/Action**
Refrigerator Compartment (RC) too warm (cont.)	Main Control Board	See Main Control Board section.
	Compressor not operational	See Compressor section.
	Condenser fan not operational	See Condenser Fan section.
	Inverter not operational	See Inverter section.
Pan too Warm/Cold	Verify pan settings	Change to appropriate setting.
	Pan thermistor failure	See Thermistor section.
	Air Door stuck shut/open	See Air Door section.
	Evap fan failure	See Evaporator Fan section.
	Sealed system failure	See Compressor section.
	ICC control failure	See ICC Control Board section.
	Main control failure	See Main Control Board section.

Component Specifications

Main Control Section		
Component	**Symptom**	**Test Procedure/Action**
Air Door	Stuck closed	(1) Run control diagnostics to check the Air Door operation in step 6. (2) A 12 Volts square wove is supplied to the Air Door in a series of short pulses. It is not possible to obtain a reliable voltage reading with a VOM. (3) Check for the Air Door binding with the cover. (4) Disconnect power or unplug the product. Check the resistance of the Air Door motor Air Door through the Air Door connector. The yellow wire to red wire and white wire to blue wire should have a resistance reading of 415 Ω.±45 Ω.
	Inoperative	
	Reversed wiring	(1) Reversed wiring at the Air Door or at the control board will cause the Air Door to operate exactly contrary to the needs of the refrigerator. Verify the Air Door and cabinet wiring is correct. **DO NOT DISCONNECT THE AIR DOOR WHILE THE CYCLE IS IN PROGRESS.**
	Stuck open	(1) Look for any kind of mechanical blockage.
Alarm Reset	The indicator lights and alarm continue to activate	Pressing the ALARM RESET will shut off the audio alarm. The audio alarm will not sound again until a new condition occurs. (1) A Master Alarm Reset con be performed by pressing the POWER (On/Off) twice or by turning the power to the refrigerator off and on again. (2) The indicator light will reactivate after the ALARM RESET is pressed if the condition that caused the alarm is still present.
Bimetal/Defrost Heater	Not defrosting	(1) Run control diagnostics to check Bimetal status in step 7. (2) "01" indicates that the defrost heater is energized/bimetal is closed. "02" indicates that the defrost heater is energized/bimetal is open. The voltage at the defrost heater terminals will be 120 volts AC. (3) Disconnect power or unplug the product. Touch the ohmmeter test leads to the defrost heater terminals. The meter should indicate approximately 19 to 27 Ω. Touch the ohmmeter test leads to the defrost bimetal wire connectors. With the bimetal below 10°F, the meter should indicate 0 Ω. With the bimetal above 53°F, the meter should indicate on open circuit.

Main Control Section		
Component	**Symptom**	**Test Procedure/Action**
Compressor	Inoperative	(1) Check to make sure that it is not on the 7-minute delay. (2) Disconnect the power or unplug the product. Touch the ohmmeter test leads to any two pins at a time. The meter should indicate approximately 6 to 7Ω. If no resistance is present replace compressor. NEVER APPLY 120 VAC TO COMPRESSOR PINS
	Noisy	(1) If mechanical clanking noise is evident, replace compressor. (2) If the consumer is complaining about varying sound level, explain variable speed operation of the compressor to consumer.
Condenser Fan	Not operational/not running	(1) Run control diagnostics to check condenser fan operation in step 4. (2) The condenser fan runs independently of the compressor but is a constant speed motor. AC voltage is supplied to the condenser fan by a relay on Main Control Board.
	Blocked	(1) Check for blade hits and/or issues in Mounting system.
	Noisy	Press "Set to Recommended" button.
Control Setting	RC/FC control set too warm/too cold	Press "Set to Recommended" button.
Door open Alarm	No display, no interior lights	(1) If any door is open for more than ten minutes, the control will turn off the light circuit. This includes the control user interface in the RC. The user interface is powered down when the RC door is closed and is inactive. The Door Open indicator light will flash and an audio alarm will sound.
Door Switch	No display, co interior lights	Verify switch activation. Replace if necessary.
	RC Compartment too warm	
	FC Compartment too warm	
Evaporator fan	Not running	(1) Run control diagnostics to check the evaporator fan operation in step 3. (2) Disconnect power or unplug the product. Touch the ohmmeter test leads to pins 1 and 4 of the evaporator fan motor connector. The meter should indicate approximately 1400 to 1700 Ω. (3) A failed evaporator fan motor or any condition that can mimic a failed motor will cause the control to run the compressor 100% at 4500 RPM. (4) If voltage is still present and the evaporator fan is still not operating, verify evaporator fan harness wiring (See Evaporator Fan-Improper Wiring section below).
	Not running up to speed	
	Open evaporator fan feedback circuit	
	Frost blocking evaporator air flow	(1) Run control diagnostics to check the defrost system operation in step 7. (2) The test mode can be used for a manual defrost cycle to clear the coil. (3) A frost load as the result of one or more doors being left open con toke several days to clear.
	Improper wiring	(1) Verify the wires connecting from the square connector of the evaporator fan harness to the Cab harness. WH/V to WH, YL/BK to YL, and YL/RD to RD. BU is not connected to Cab harness. (2) If wiring is incorrect, order evaporator fan kit.
	Noisy	(1) Check for the evap fan misalignment.
Thermistor	Inoperative	(1) Check wires and connectors. Disconnect power or unplug product. Check resistance given in the diagram on page 1. (2) Run control diagnostics to check the thermistor operation in step 1. (3) Inoperative thermistor causes control to operate in a Recovery mode.
	Reversed wiring	(1) The thermistor wires con be reversed in the connector at the Main Control Boards. A quick way to confirm this is to remove the thermistor. Initiate control diagnostics and look for a "2" in the appropriate step, which is an indication of an open circuit for the thermistor.

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Main Control Section		
Component	**Symptom**	**Test Procedure/Action**
Inverter	Compressor not operational	(1) Check compressor connection from the inverter to make sure that it is secure. (2) Voltage should be present from the inverter to the compressor. (3) If voltage from the Main Control Board to the inverter is present, no voltage out of the inverter to the compressor, and the compressor has approximately 6 to 7Ω, replace the inverter.
Main Control Board	FC or RC compartment too warm/too cold No display, no interior lights, can't change settings	(1) Check for loose terminals or connectors. (2) Voltage should be present at the respective pin of the respective connector of the Main Control Board during operation. (3) If the proper voltage to the component in question is not present from the respective pin location on the Main Control Board during operation, replace the Main Control Board.
	Product does not run	(1) This connection supplies the Main Control Board with power. (2) If the proper voltage to the Main Control Board is not present, check cabinet wiring and power cord. (3) If the proper voltage to the Main Control Board is present and the product still does not run, replace the Main Control Board.
	Evaporator fan motor does not run	(1) Jump the red to yellow wire in the evaporator fan motor harness to check the 12 VDC fan operation. (2) If the fan runs after jumping the wire, replace the Main Control Board.
Overtemp Alarm	Temperatures ore 48˚F in the RC or 15˚F in the FC for more than 1.5 hrs	The overtemp alarm is a visual and audio signal that alerts the customer to unacceptably warm temperatures in either compartment for more than 1.5 hours. The trigger points are 48˚F in the RC or 15˚F in the FC. The corresponding temperature display will flash to indicate the problem compartment. The audio alarm stops if the temperatures return to normal but the visual alarm will continue to flash until reset.
Power Off Mode	Product does not run, no display, no interior lights, can't change settings	(1) Press the "Power on/off" button for 2 seconds. (2) If there is no response, unplug the refrigerator for 30 seconds. (3) Plug in refrigerator and check for normal operation. (4) Failed control board. Run diagnostic test.
Touch/Display Board	No display, no interior lights, can't change settings.	(1) Verify Touch/Display Board connection and wiring to the cabinet. (2) See Power Off mode section. (3) If control is in the Sabbath Mode, press the "Sabbath Mode" button to return to normal mode.

ICC Control Section		
Component	**Symptom**	**Test Procedure/Action**
Air Door	See page 3.	
Control Settings	Pan too warm/too cold	(1) Verify that food item isn't blocking airflow and/or touching thermistor. (2) Verify that pan connections are not reversed (right pan to left pan 1/0 or vice versa).
Thermistor	Inoperative Reversed wiring	Refer to thermistor sections.
ICC Control Board	Pan too warm/too cold	(1) Verify wiring, Air Door failure (see above). (2) Verify thermistor failure (see above). (3) Verify ICC Control board failure.
Display Board	No Display, no interior lights, can't change settings.	See above

LED Control Section		
Component	**Symptom**	**Test Procedure/Action**
Lighting control board/ LEDs internal lights	All lights do not turn on when door is opened. Possible causes: (1) Door Switch malfunction; (2) Lighting control board not being supplied by the DC power supply; (3) Problem on communication wire of lighting control board; (4) LED lighting control board malfunction	(1) Test Door Switch (refer to existing section) (2) Measure voltage across J1-1 (14V) and J1-4 (GND) on Lighting control board. If voltage is present, go to the next step. If voltage is not present, look for misconnections between the lighting control board and the Main Control Board on the wires connected to pins J1-1 and J1-4 in the lighting control board. (3) Check continuity from the pin J1-3 in lighting control board and the pin J9-2 in Main Control Board. If there is continuity, go to the next step. If there is no continuity between the referred pins, look for misconnections on these pins. (4) Open the product doors and check voltage across J3-1 (LED Out 1 +) and J3-2 (LED Out 1 -). Open the product doors and check voltage across J3-3 (LED Out 2 +) and J3-4 (LED Out 2 -). If voltage is less than 15 volts in any of the pins pair, replace lighting control board. If voltage is greater than 15 volts, troubleshoot the LED lights.
	All lights remain on regardless of the door state (door opened/ closed). Possible causes: (1) Door Switch malfunction; (2) Problem on communication wire of lighting control board; (3) LED lighting control board malfunction	(1) Test Door Switch (refer to existing section) (2) Check continuity from the pin J1-3 in lighting control board and the pin J9-2 in Main Control Board. If there is continuity, go to the next step. If there is no continuity between the referred pins, look for misconnections on these pins. (3) Close the product doors and check voltage across J3-1 (LED Out 1 +) and J3-2 (LED Out 1 -). Open the product doors and check voltage across J3-3 (LED Out 2 +) and J3-4 (LED Out 2 -). If voltages are greater than 15 volts in any of the pins pair even the products doors are still closed, replace lighting control board.
	Lights partially not turning on when doors are opened: - All the 5 FC lights and 1 of the RC lights remain off when door is opened; - 6 out of 7 RC lights works as expected (turn on when door is opened and turns off when door is closed). Possible cause: LED module malfunction Possible cause: (1) Misconnection on the J3 connector (2) One of the LEDs that are not turning on is malfunctioning.	(1) Verify continuity problems on connector J3; (2) Troubleshoot the LEDs that are not turning on. Each LED has to be replaced one by one. Once the failed LED is replaced, all the other LEDs will turn on as well.
	Lights partially not turning on when doors are opened: - 6 out of 7 RC lights remain off when door is opened; - All the 5 FC lights and 1 of the RC lights works as expected (turn on when door is opened and turns off when door is closed) Possible cause: (1) Misconnection on the J3 connector (2) One of the LEDs that are not turning on is malfunctioning.	(1) Verify continuity problems on connector J3; (2) Troubleshoot the LEDs that are not turning on. Each LED has to be replaced one by one. Once the failed LED is replaced, all the other LEDs will turn on as well.

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ELECTRONIC CONTROL FEATURES

The electronic control in this appliance maintains the temperature, controlling the operation and speed of the compressor as well as the evaporator fan motor. The Adaptive Defrost Control (ADC) portion of the electronic control utilizes "Pulsed Defrost" technology to perform defrost function. (See troubleshooting tips for more Information)

Pulsed Defrost Heat - During the defrost cycle the heater is energized continuously for the first 7 minutes. It is then cycled off for 60 seconds and on for 120 seconds. The on/off cycle is repeated until the bimetal opens or the maximum defrost time (33 minutes) is reached.

SERVICE DIAGNOSTICS MODE

Product must be on to enter service diagnostic mode. Press the RC Temp increase key and the Cooling On/Off key simultaneously for 3 seconds. The 2-digit FC display shows the diagnostic step.

Steps 00 through 07 are for input/output circuits of the Main Control Board.

The Set to Recommended and °F/°C buttons switch between steps. The 2-digit RC display shows the status for input circuits or the option for output circuits. The RC+ and RC- buttons switch between options. Turn Cooling or power off to quit diagnostics. Diagnostics time out after 20 minutes. All other keys are disabled during diagnostics.

MAIN CONTROL			
COMPONENT	FC CODE	RD CODE	DESCRIPTION
FC Thermistor	00	°F/°C	TEMPERATURE
		OP	OPEN > 88kΩ
		SH	SHORT < 1600Ω
RC Thermistor	01	°F/°C	TEMPERATURE
		OP	OPEN CIRCUIT
		SH	SHORT CIRCUIT
Evaporator Fan Motor	02	00	OFF
		20	2000 RPM (8 V)
		23	2300 RPM (9.2 V)
		26	2600 RPM (10.4 V)
		30	3000 RPM (12 V)

MAIN CONTROL			
COMPONENT	FC CODE	RD CODE	DESCRIPTION
Condenser Fan Motor	03	00	OFF
		01	ON (115 V)
VC Compressor	04	00	OFF; WAITING DELAY
		16	ON AT 1600 RPM
		45	ON AT 4500 RPM
Air Door & evap fan on	05	00	Air Door CLOSES
		01	Air Door OPENS
Defrost Heater On	06	00	BIMETAL CLOSED
		01	BIMETAL OPEN
Defrost Option	07	00	DEFAULT-ADAPTIVE
		01	BASIC

WARNING: If Bimetal is By-passed for testing (if applicable), Do Not Overheat Evaporator Area.

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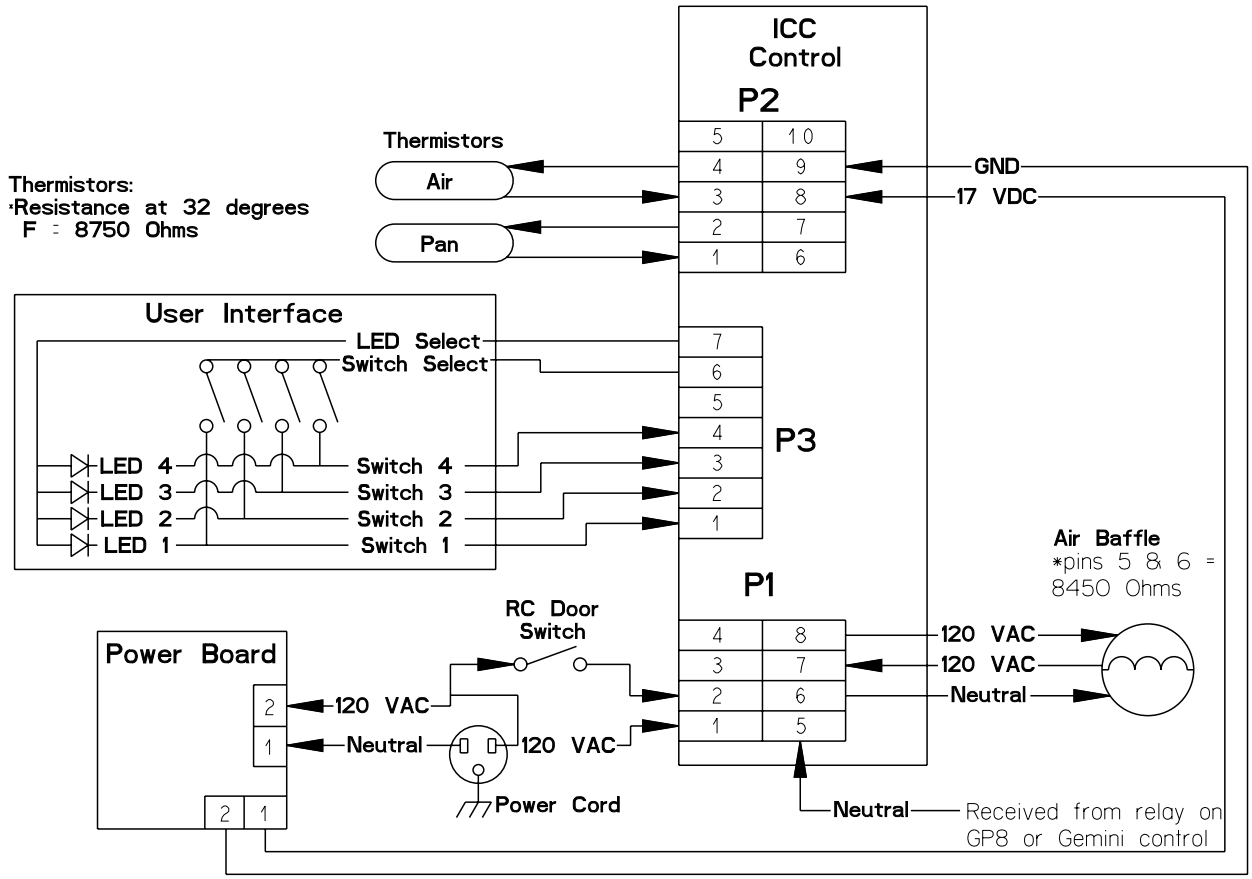
Ingredient Care Center (ICC) Tech Sheet

SERVICE INFORMATION



SERVICE DIAGNOSTICS MODE

Before entering Service Diagnostic Mode, lift the shelf to be able to view the air baffle. To enter into Service Diagnostics Mode, press and hold the Fresh Produce button and the Meats/Beverages button for 4 seconds or greater and then release the buttons. The buzzer shall beep 3 times and the control shall enter the Service Diagnostics Mode.

Step 1 shall run immediately after Fresh Produce button and the Meats/Beverages button have been pressed for 4 seconds or greater to initiate the Service Diagnostics Mode. The Various Cheeses/Jams and Jellies button shall be pressed to advance to Step 2 and subsequent steps.

To exit Service Diagnostics Mode, press and release Various Cheeses/Jams and Jellies button, while in the last step (Step 4). The buzzer shall beep and the control shall enter the Various Cheeses/Jams and Jellies mode.

If all tests pass, then the control will return to Various Cheeses/Jams and Jellies mode. If any one test fails, the succeeding tests do not need to be performed, and the LED corresponding to the failed step shall blink (see table below).

Step #	Component Description	LED	Test Results	LED Display
1	Pan Thermistor	Various Cheeses/ Jams and Jellies	Pass	LED on solid
			Fail - Open	Slow blink
			Fail - Shorted	Fast blink
2	Evap Thermistor	Fresh Produce	Pass	LED on solid
			Fail - Open	Slow blink
			Fail - Shorted	Fast blink
3	Open Air Baffle	Fresh Herbs/ Berry Fruits	Pass	LED on solid
			Fail - Baffle did not cycle	LED blinking
4	Close Air Baffle	Meats/Beverages	Pass	LED on solid
			Fail - Baffle did not cycle	LED blinking

Slow Blink - Turn on LED for 0.6 seconds then turn LED off far 0. 6 seconds, and repeating.
Fast Blink - Turn on LED for 0. 2 seconds then turn LED off for 0.2 seconds, and repeating.

NOTE: If the time elapsed in Diagnostics Mode exceeds 20 minutes, the Diagnostics Mode shall be exited and the OFF mode entered.

FOR SERVICE TECHNICIAN'S USE ONLY

IDI ICE MAKER AND ICE LEVEL DETECTOR SERVICE SHEET

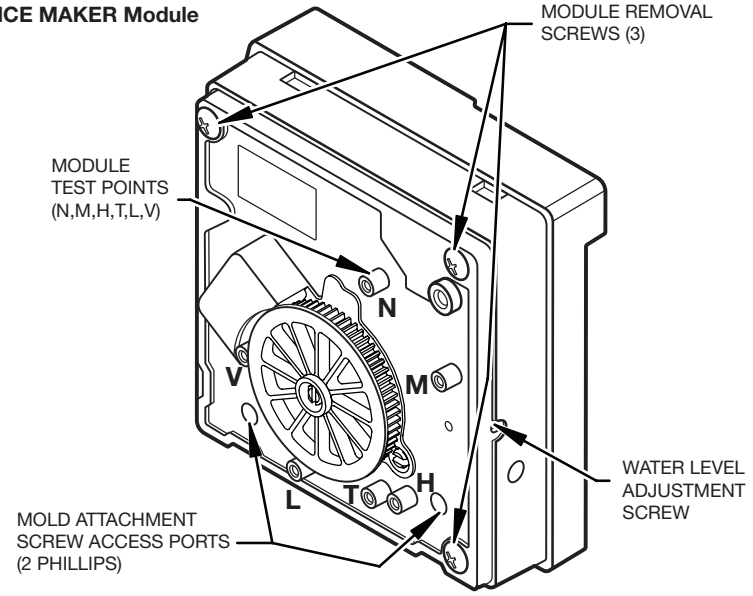
SERVICE INFORMATION

ICE MAKER SPECIFICATIONS (120 VOLT MODEL)		
COMPONENT	**42" & 48" BIR IDI MODELS**	**36" BIR IDI MODELS**
WATER FILL	140CC, 7.5 SEC	86CC, 7.5 SEC
MOLD HEATER	185 WATTS, 72 OHMS	
THERMOSTAT (BIMETAL)	CLOSE 17˚± 3˚ OPEN 32˚± 3˚	
MOTOR	1.5 WATTS, 4,400-8,800 OHMS	
MODULE	STAMPED CIRCUIT, PLUG IN CONNECTORS	
CYCLE	ONE REVOLUTION (EJECTS ICE & WATER FILL)	

MODULE OHMMETER CHECKS (NO POWER TO ICE MAKER & EJECTOR BLADES PARK)			
TEST POINTS	**COMPONENT**	**MODULE POSITION**	**OHMS**
L - H	MOLD HEATER	ATTACHED TO SUPPORT	72
L - M	MOTOR	DISCONNECT FROM SUPPORT	4,400 - 8,800

MODULE VOLTAGE CHECKS WITH METER OR TEST LIGHT (POWER TO ICE MAKER)			
TEST POINTS	**COMPONENT**	**LINE VOLTAGE**	**0 VOLTS**
L - N	MODULE	POWER OK	NO POWER
T - H	BIMETAL	OPEN	CLOSED
L - H	HEATER	ON	OFF
L - M	MOTOR	ON	OFF
N - V	WATER VALVE	ON	OFF

ICE MAKER Module



WATER LEVEL ADJUSTMENT

TURNING THE ADJUSTMENT SCREW (SEE PICTURE ABOVE) CLOCKWISE DECREASES THE WATER FILL.

MAXIMUM ADJUSTMENT IS ONE FULL TURN IN EITHER DIRECTION. ADDITIONAL ROTATION COULD DAMAGE THE MODULE.

IDI ICE MAKER OPTICS DIAGNOSTICS PROCEDURE				
STEP	**DESCRIPTION**	**STATUS LED**	**POSSIBLE CAUSES**	**ACTION**
1	Open the freezer door.	2 PULSES followed by a 1 second delay (Repeated)	The flipper door on the emitter is blocking the beam.	Go to step 2.
			The freezer light bulb is causing faulty sensing.	Block or unscrew the top F.C. light bulb from the socket. If LED is on solid, the optics are working correctly. If the LED has 2 pulses followed by a 1 second delay. Go to step 3.
			The optics are faulty.	Go to Step 3.
		No lamp	Ice maker is in the harvest mode.	Press in the freezer Door Switch. When in the harvest mode, the status LED will blink 1 flash every second.
			Faulty diagnostics LED	Replace receiver board.
2	Press in the emitter flapper door to un-block the beam.	2 PULSES followed by a 1 second delay (Repeated)	The optics are faulty.	Replace emitter and receive boards.
		LED is solid	Optics are working correctly.	Close freezer door.
3	Disconnect the power supply.			
4	Slide the ice maker out. Remove the cover.			
5	Jump “T” & “H” to bypass the bimetal and start harvest.			
6	Correct the power supply.			
7	Close the freezer door to align the optics and the harvest cycle will begin in 5 seconds.			
8	Open the freezer door and observe the ice maker. If “T” and “H” are properly jumped and the ice maker won’t run, stop, test and check the ice maker.			
9	Remove the jumpers before the fingers reach 10 o’clock. Reinstall the ice maker or be prepared to catch the water fill.			
10	Immediately disconnect power offer water fill.			
11	With the freezer door closed. Reconnect the power supply.			
12	Wait 5 seconds and open the freezer door and watch the status lights.	4 PULSES repeated once	Relay is defective.	Replace both emitter and receiver boards
		3 PULSES repeated once	Optics and relay are good, but I/M is not being sensed/ will not operate.	• Check emitter slide switch. (must be on). • Check I/M circuit and connections back to receiver board and neutral. • Check I/M components.
		2 PULSES repeated once	Optics are defective	Repeat Step 1 and replace both boards necessary.
		Steady light for 5 seconds	Relay and optics are good, and the receiver senses the ice maker.	
		No light		Unplug the refrigerator for 5 seconds and repeat test.

FOR SERVICE TECHNICIAN'S USE ONLY

⚠WARNING

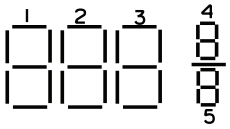
Electrical Shock Hazard

Disconnect power before servicing.

Replace all panels before operating.

Failure to do so can result in death or electrical shock.

LCD DISPLAY DIGITS



ELECTRONIC DISPENSER CONTROL FEATURES

The electronic dispenser control in this appliance controls ice and water dispensing, directs icemaker water fills upon request from the icemaker system, monitors the water filter usage, and controls the operation of the dispenser cavity lighting and dispenser housing heater.

SERVICE DIAGNOSTICS MODE

The dispenser control system consists of three electronic controls. A Dispenser Care Control which is located behind the dispenser bezel assembly, a Dispenser UI Control which is attached to the back portion of the dispenser bezel assembly, and a Smart Valve which is located underneath the refrigerator. The dispenser control system automatically tests steps 0, 1, 3, 4, 7, 10, 15, 18, and 19. Steps 5, 6, 9, 12, 14, and 20 require manual interaction with the technician.

How to enter service diagnostic mode:

Unit must not be in Lockout prior to entering service diagnostic mode.

While depressing the ice button, press and hold the Light button for about 3 seconds, and then release both buttons after the unit beeps.

Diagnostics will begin in step 0. Each step displays the step number in the two right-most digits (Digits 4 & 5) of the UI dispenser LCD display and the step result using the first three digits.

(Digits 1 to 3) as described in the Suggestion Diagnostic Routine for each step.

Each step must be manually advanced by pressing the Lockout button to move to the next step in the sequence or retreated to the previous step by pressing the filter button.

All button and pod inputs shall be ignored and all outputs shall be off, except as described in the actions of each step.

The table below shows the component tested of each step. Ignore steps for which the component tested is N/A.

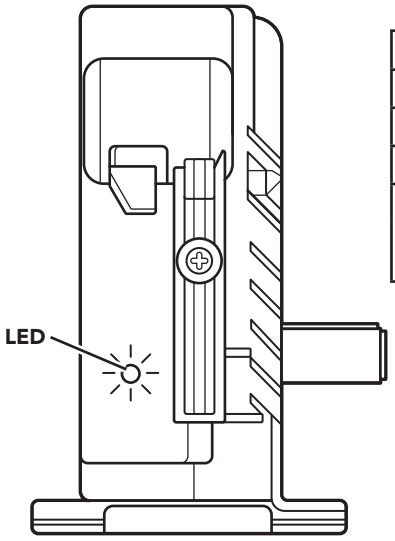
If communication is lost with the Dispenser Care Control. Steps 10 through 14 will display " - - -" on digits 1 to 3.

If communication is lost with the Smart Valve Control. Steps 15 through 20 will display " - - -" on digits 1 to 3.

The diagnostics mode ends automatically after the steps are complete or 20 minutes have passed (whichever comes first). Diagnostics mode can also be manually exited by pressing the Light button during any step or in the case that electrical power is cycled. Following the exit of diagnostic mode, the controls will then resume normal operation.

STEP #	Component Tested	Suggested Diagnostics Routine	Component Status Indicator
0	All UI Indicators	Verify that all LCD icons, UI LCD display digits, UI button lighting, and dispenser lighting turn on automatically.	N/A
1	Dispenser UI Control SW Version	Displays the Dispenser UI Control software version on Digits 1 to 3 of the UI display.	N/A
2	N/A	N/A	N/A
3	Water Filter Usage Rating	Displays the total water usage rating in gallons for the water filter on Digits 1 to 3 of the UI display.	200
4	Water Filter Time Rating	Displays the total time rating in days for the water filter on Digits 1 to 3 of UI display.	182
5	UI Pod and Button Test	Note: Do not use Lockout, Filter and Light as these buttons are only used to control the Service Diagnostics Mode as previously described. Displays the status of both Water and Ice pods on Digit 1. Depress the pods in all combinations to verify the appropriate status indications as shown in the Component Status indicator Column. Displays the UI button matrix on Digit 2 or 3. Depress Ice button to verify the appropriate status indication as shown in the Component Status Indicator column.	Digit 1: Ice Pod "1" Water Pod "2" Ice & Water Pod "3" Digits 2 & 3: Ice "24"
6	Night Light Sensor	Displays the Night Light Sensor reading on Digits 1 to 3 of UI display. Cover the sensor to verify a decrease in the result.	N/A
7	Dispenser Lighting	Verify that the dispenser lighting cycles between Maximum and Minimum output levels.	N/A
8	Dispenser Housing Heater Status	Digit 3 must read "1". Press Ice to change.	Digit 3: Housing Heater Off "0" Housing Heater On "I"
9	LCD Contrast Setting	Displays the LCD controls on Digits 2 and 3 of the UI display. The contrast setting can be changed by depressing Ice button.	0 to 15
10	Dispenser Care Control SW Version	Displays the Dispenser Care Control software version on Digits 1 to 3 of the UI display.	N/A
11	Care Feature Status	The digits 1 to 3 of UI display should read 000.	000

12	FC Door Switch Input	Displays the FC Door status in realtime on Digit 3 of the UI display. Verify that the open and close status display correctly.	FC Door Closed “0” FC Door Open “I”
13	N/A	N/A	N/A
14	Ice Door Motor	Displays the Ice Door stepper motor stole on Digit 3 of the UI display, Initiate ice dispense and verify that the mechanical operation of the Ice Door corresponds to the component status indicator. Note: Ice Door will close 10 sec. following release of Ice Pod. Ice will dispense upon Ice Pod depressing.	Ice Door Closed “0” Ice Door Opening “1” Ice Door Open “2” Ice Door Closing “3”
15	Smart Valve SW Version	Display the Smart Valve software version on Digits 1 to 3 of the UI display.	N/A
16	Ice Maker Valve Flow Rate	Display the current Ice maker valve flow rate in mL/s.	0 - 255
17	Water Dispenser Valve Flow Rate	Display the current Water Dispenser valve flow rate in mL/s.	0 - 255
18	Water Filter Usage	Display the current water filter status in gallons used since last reset on digits 1 to 3.	0 to 999
19	Water Filter Time	Display the current water filter status in days since last reset on Digits 1 to 3.	0 to 999
20	Water Dispensing and Ice maker Fill Test	Displays Ice maker status on Digit 1. Initiate ice maker fill and verify that display changes from “0” to “3”. If a water dispense is in progress while the ice maker fill is initiated, the display will change to “1”. Once the water dispense is complete, the ice maker fill will begin and the display will change to “3” as long as it is not interrupted by a water dispense. Displays water valve status on Digit 2 and flowsensor status on Digit 3. Initiate water dispense and verify Digit 2 changes to “1” and Digit 3 remains “0” during water dispense.	Digit 1: Ice Maker Off “0” Ice Maker Fill Pending “1” Ice maker Filling “3” Digit 2: Water Dispenser Valve Off “0” Water Dispenser Valve On “1” Digit 3: Flowsensor Okay “0” Flowsensor Failed “1”



INVERTER DIAGNOSTICS

STATUS LED	POSSIBLE CAUSES
LED OFF	No failure detected
2 FLASHES	No 3-6 VDC signal from the control
3 FLASHES	Inverter failure
4 FLASHES	Compressor failure
	Trying to start compressor too soon after turning off. Trips out. Wait ten minutes and try again.