FOR SERVICE TECHNICIAN'S USE ONLY



Component Specifications

Component	Specifications all parts 115VAC/60HZ unless noted
Cooling	
Freezer	VoltClockwise
Evaporator fan motor	Wattage
	Resistance
	Note: Fan blade must be fully seated on shaft to achieve proper airflow.
Freezer	Volt 115 VAC
Evaporator Heater	Wattage
	Resistance
Controls	
Control Board	Volt120 VAC, 60HZ See control board section for diagnostics
Thermistor	TemperatureResistance
	77°F2700 ohms± 5.0%
	36°F
	0°F23,345 ohms± 2.0%
Light switch	Type SPDT NO/NC
	Volt
	Current
Ice & Water	
Dual Water Valve	Watts Green side 10w Red side 35w
Isolation Valve	Watts
Ice Box Fan	RotationClockwise (facing end opposite shaft)
	RPM
	Watt

Control Board Troubleshooting

SWITCH DIAGRAM								
SW1	SW2	SW3	SW4	SW5	SW6			

To ENTER SERVICE DIAGNOSTICS Mode:

Press SW1 and SW2 simultaneously for 3 seconds. Release both buttons when you hear the CHIME indicator. Unit must not be in Lockout prior to entering SERVICE DIAGNOSTIC MODE.

The display will show 01 to indicate the control is in step 1 of the diagnostics routine.

To EXIT SERVICE DIAGNOSTICS Mode: do one of the following 3 options: Press SW1 and SW2 simultaneously for 3 seconds

- Disconnect the product from power.
- Allow 20 minutes to pass
- Following the exit of the diagnostic mode, the controls will then resume normal operation. NOTES:
- Cooling diagnostics are steps 1 through 6 and 32 through 41.
- Dispensing diagnostics are steps 8 through 31.
- Each step must be manually advanced.
- Press SW5 to move to the next step in the sequence.
- Press SW4 to back up in the sequence to the previous step.
- Diagnostics will begin at Step 1.
- Each step is displayed in the two digits of the dispenser user interface display. • The step results are displayed in the two digits on dispenser user interface display 2 seconds after the step number is displayed. An amber order filter light will be shown to designate that the step number is being displayed and a red replace filter light will be shown to designate that the status of the step is being displayed.
- All button and pad inputs shall be ignored and all inputs shall be off except as described in the actions for each step.

Service Test - 1 FC thermistor

• The board will check the resistance value of the thermistor and display flashes results on the Temp Display. (01 = Pass, 02 = Open, 03 = Short).

Service Test - 2 RC Thermistor

• The board will check the resistance value of the thermistor and display the results on the Temp Display (01 = Pass, 02 = Open, 03 = Short).

No-Load Performance, Controls in Normal Position																			
	Kv	v/24 hr/±0).4	Percent	: Run Time	e/±10%	Сус	les/24 hr ,	/±10	Refrigerator Compartment Average Food Temperature ±4°F/2°C		Refrigerator Compartment Average Food Temperature ±4°F/2°C		Refrigerator Compartment Average Food Temperature ±4°F/2°C		rtment od °F/3°C	Ice Maker Compartment Average Food Temperature ±5°F/3°C		r ent od °F/3°C
Ambient °F/°C	70°F	90°F	110°F	70°F	90°F	110°F	70°F	90°F	110°F	70°F	90°F	110°F	70°F	90°F	110°F	70°F	90°F	110°F	
	21°C	32°C	43°C	21°C	32°C	43°C	21ºC	32°C	43°C	21°C	32°C	43°C	21°C	32°C	43°C	21ºC	32°C	43°C	
29 cu ft	1.3	1.9	3.6	49.4%	85.3%	89.2%	28.6	18.8	8.6	36.8⁰F 2.7⁰C	36.4⁰F 2.4℃	36.8⁰F 2.6℃	-2.1⁰F -18.9℃	1.6⁰F -18.7℃	7.3⁰F -13.7℃	24.5F -4.2℃	22.2⁰F -5.5℃	21.6⁰F -5.8℃	

Temperature Relationship Test Chart												
	Refrigerator Evaporator Inlet/ Outlet ±5°F/3°C		Freezer Evaporator Inlet/Outlet ±5°F/3°C		Suction Line /±7°F/4°C		Average Total Wattage ±10%		Suction Pressure ±2 PSIG *		Head Pressure ±5 PSIG *	
Ambient °F/°C	70⁰F 21⁰C	90°F 32°C	70⁰F 21℃	90°F 32°C	70⁰F 21℃	90°F 32°C	70⁰F 21℃	90°F 32°C	70⁰F 21℃	90⁰F 32°C	70⁰F 21⁰C	90°F 32°C
29 cu ft	22.2⁰F -5.4℃	23.2°F -4.9°C	-5.7⁰F -20.9℃	-6⁰F -21.1℃	86.5°F 30.3°C	104ºF 40ºC	38	67.1	31.1	31.3	121	161.3

* Pressures during FC cycle

NOTE: This sheet contains important Technical Service Data FOR SERVICE TECHNICIAN ONLY DO NOT REMOVE OR DESTROY

Control Board Troubleshooting

chime will be produced. • Control the Sealed System loads selecting SW3 (01 = Initialize Dual Evap Valve in home position (4 min), 02 = Close both RC & FC Evap Valve (1 min), 03 = Turn compressor ON (1 min), 04 = Keep compressor ON, drive the valve to RC position & turn RC fan ON, 05 = Keep compressor ON, drive the valve to FC position & turn FC fan ON. Verify airflow from the evaporator fan. NOTE: Advance quickly through step 4 keep from locking in. Once locked in you can't exit, must wait ten

minutes approximately Service Test - 5 Compressor Status/Speed

- Initial Display, 02 = Minimum speed 01 displayed.

Service Test - 7 Defrost Mode • Set the Defrost Mode using CHANGE SETTING KEYs. This value shall be stored on EEPROM (in the next Power-up the Defrost Mode shall be initialized according to this setting.) Initial display 01 = ADC ON, 02 = Basic Mode ON (8 hour timer).

Service Test - 8 All UI indicators • Verify that all LED indicators and UI display digits turn on automatically. All indicators ON for 30 second timeout.

Service Test - 9 UI Button and Pad Test Indicator column below

Press
SW1
SW2
SW3
SW6
Dispenser Pad

Service Test - 11 Dispenser Lighting indicator is Blank.

Service Test - 15 Ice Level Sensor

Service Test - 16 RC Left Door Switch Input

Service Test - 18 Ice Door Motor **NOTE:** Ice door will have a delay in closing after an ice paddle is released. (01 = Closed, 02 = Opening, 02 = Opening)03 = Open, 04 = Closing).

Service Test - 19 Ice Maker Fill Tube Heater Status

Service Test - 20 - Water Filter Usage Rating

Service Test - 21 Water Filter Time Rating

• Displays in two sequential flashes the total time rating in days for the water filter on the UI display. Wait until dash is displayed which means end of the number. (00/0- to 99/9) Example: 123 will be displayed as 12 3-

Service Test - 22 Water Filter Usage Example: 123 will be displayed as 12 3-

Service Test - 23 Water Filter Time displayed as 12 3-

Service Test - 24 Water Filter Reset

be displayed as 123-

Service Test - 29 Low Voltage IDI Software Version NOTE: Not normally used Displays in three sequential flashes the low voltage software version on the UI display. NOTE: This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99.

Service Test - 31 Touch Input Module Software NOTE: Not normally used • Displays in three sequential flashes the Dispenser UI Control software version on the UI display. NOTE: This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99.

Service Test - 32 Ambient Thermistor UI Control • This is an internal board test, The board will check the resistance value of the thermistor and display the results. (01 = Pass, 02 = Open, 03 = Short).

Service Test - 33 Humidity Sensor UI Control

Service Test - 34 Vertical Mullion Heater Mode • Set the Vertical Mullion Heater Sensor Mode by selecting SW3. (01 = Sensor Operation On, 02 = Sensor Operation Off (Heater on 100%))

Service Test - 35 Vertical Mullion Heater Status

Service Test - 3 Evaporator Fan Motor and Air Baffle Motor

• Control the RC & FC Evaporator Fan Mtrs. by depressing SW3 (01 = Both Fan Mtr. off, 02 = FC Fan on). • Depress SW3 once to advance. Step 3 will flash quickly and advances to steps 13/23 very quickly. The result is RC Fan on, Pantry Air Damper on. Pantry Air Damper will open and close automatically. (13 = Damper Open, 23 = Damper Closed. Verify airflow inside pantry on left hand side when damper is open, 912 displayed). Airflow in pantry will cease when 23 is displayed. • Depress SW3 to advance to last step. (04 = Both RC & FC fans on).

Service Test - 4 Compressor/Condenser Fan Motor/Evaporator Fan

• There will be a delay of 3 seconds before start of sub step 01. Each step is timed and will be automatically proceed to the next step. User will not be allowed to exit step. If exit is attempted, an invalid

• Depress SW3, Display = 03, Compressor ramps up to Max speed. When Max speed reached,

• Depress SW3, Display = 04 Speed ramps down from Max to minimum speed, Display 02.

Service Test - 6 Defrost Heater/Bimetal/Sensor

 Switch on the defrost heater, wait 0.5 seconds and read the status of bimetal/sensor. Display will be blank until a valid reading is displayed (01 = Bimetal Closed/Sensor Short, 02 = Bimetal Open/Sensor Open, 03 = Pass (only in case a defrost sensor is present).

• Displays the user Interface Buttons and Ice and Water Pads status as described in the Component Status

NOTE: Do not use SW4 and SW5 as these are used only to navigate through the Service Diagnostics.



NOTE: SW4 and SW5 are used for navigation and are not displayed.

• Pressing SW3 will change the dispenser lighting setting from OFF (0%) to ON (100%) to DIM (50%) Status

• Displays the Ice Bin Status in real time on the UI display. Verify that the full and not full levels display correctly. (01 = Bin Full or not present, 02 = Bin Not Full).

• Displays the RC Door status in real time on the UI display. Verify that the open and close status display correctly. (01 = FC Door Open, 02 = FC Door Closed).

Service Test - 17 RC Right, Pantries, FC Doors Switch Input

• Displays the FC Door status in real time on the UI display. Verify that the open and close status display correctly. (01 = FC Door Open, 02 = FC Door Closed).

• Displays the Ice Door stepper motor state on the UI display. Press ice paddle and verify that the mechanical operation of the ice door corresponds to the component status indicator.

Control the Ice Maker Fill Tube Heater selecting SW3 (toggle between On and Off) (01 = ON, 02 = Off).

 Displays in two sequential flashes the total water usage rating in gallons for the water filter on the Ul display. Wait until dash is displayed which means end of the number. (00/0- to 99/9-) Example: 123 will be displayed as 12 3.

• Displays in two sequential flashes the current water filter status in gallons used since last rest on the Ul display. Wait until dash is displayed which means end of the number. (00/0- to 99/9-)

• Displays in two sequential flashes the current water filter status in days since last reset on the UI display. Wait until dash is displayed which means end of the number. (00/0- to 99/9) Example: 123 will be

• Display in two sequential flashes the current times the water filter was rest on the UI display. Wait until dash is displayed which means the end of the number. (00/0- to 99/9) Example: 123 will

Service Test - 26 Main Control Software Version NOTE: Not normally used

 Displays in three sequential flashes the Main Control software version on the UI display. NOTE: This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99.

Service Test - 27 Dispenser UI Control Software Version NOTE: Not normally used • Displays in three sequential flashes the Main Control software version on the UI display. NOTE: This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99.

• Relative Humidity Test (Humidity % Value 0-99 = pass or Er = Fail).

• Control the Vertical Million Heater selecting SW3 (toggle between On and Off) (01 = ON, 02 = OFF).

Service Test - 36 Ice Box Fan

- Check for fan operation. Control Ice Box Fan using SW3. Display the status on Temp Display. (01 = ON, 02 = OFF). Verify airflow from the IB fan.
- Service Test 37 Ice Box Thermistor
- The board will check the resistance value of the thermistor and display the results on the Temp Display. (01 = Pass, 02 = Open, 03 = Short).
- Service Test 38 Forced Defrost Mode • Set the Forced Defrost Mode by selecting SW3, OF = No forced Defrost, Sh = Short Defrost,
- Lo = Long defrost.
- Service Test 39 RC Evap Thermistor

• The board will check the resistance value of the thermistor and display the results on the Temp Display. (01 = Pass, 02 - Open, 03 = Short.

Service Test - 40 Horizontal Mullion Heater Mode

• Set the Horizontal Mullion Heater Sensor Mode by selecting SW3. (01 = Sensor Operation On, 02 =Sensor Operation Off (Heater on 100%).

Service Test - 41 Horizontal Mullion Heater Status

- Control the Horizontal Mullion Heater selecting SW3. (toggle between On and Off) (01 = ON, 0= OFF). Service Test - 41 Horizontal Mullion Heater Status
- Control the Horizontal Mullion Heater selecting SW3 (toggle between On and Off) (01 = ON, 02 = OFF).
- Service Test 42 UI EEPROM Control Software Version NOTE: Not normally used
- Displays in three sequential flashed the Dispenser UI Control software version on the UI display. **NOTE:** This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99.

Service Test - 45 Ice Maker Water Fill Test

NOTE: BEFORE INITIATION THIS TEST, GO TO STEP 57, INITIATE ICE MAKER HARVEST TO INSURE ALL ICE IS EJECTED FROM MOLD BEFORE FILLING.

• After an initial 3 second delay, displays the Ice Maker water fill stat on the UI display. Press SW3 to start a water fill. Pressing SW3 will toggle between ON and PAUSE. (02 = Off, 03 = On, 04 + Paused).

Service Test - 46 Water Dispensing Test

 Displays the status of the water dispense valve. Press the water pad to initiate a water dispense. (00 = Water Dispense Valve Off, 01 = Water Dispense Valve On).

Service Test - 56 Ice Maker Error Codes

• Displays active Ice Maker Error Codes on the UI display. (E0 = No Errors, E1 = No Cooling, E2 = Motor Lost Position, E3 = Heater Timeout, E4 = Dry Cycle, E5 = Timed Ice Making).

Service Test - 57 Ice Maker Harvest

• Press SW3 to activate a Harvest sequence. Digit 1 displays the state of the sequence. Digit 2 displays the outcome of the sequence. Once initiated, the sequence cannot be exited. Digit 1 0 = Heater and Motor OFF, 1 = IM Heater ON, 2 = Motor Rotating CW until it finds home position

Digit 2 0 = In Progress, 1 = Harvesting Completed, 2 = Harvesting not completed, Doors must be closed. NOTE: Harvesting Not Completed does not exit the step, but indicates the timeout of

70 seconds has passed Service Test - 58 Ice Maker Heater Activation and Thermistor

• Press SW3 to activate the Ice Maker Heater and to toggle between On and Off. Digit 1 displays the state of the heater. Digit 2 displays the thermistor state.

Digit 1 0 = IM Heater OFF, 1 = IM Heater ON. Digit 2 0 - Temp warmer than harvest temp, 1 = Temp cooler than harvest temp, 2 = Open, 3 =Short.

Service Test = 59 Ice Maker Motor

• Press SW 3 to activate a Motor sequence and toggle through each step. Digit 1 displays the state of the motor

Digit 2 displays the status of the motor. Once initiated, the sequence cannot be exited. Digit 1 0 = Motor OFF, 1 = Motor Rotating CW until home position, 2 = Motor OFF, 3 = Motor Rotating CCW until home position.

Digit 2 0 = In Progress, 1 = Harvesting Completed, 2 = Harvesting Not Completed. NOTE: Harvesting Not Completed does not exit the step, but indicates the timeout of 70 seconds has passed

Service Test = 60 Pantry UI Software Version

• Displays in three sequential flashes the Pantry UI Control software version on the UI display. **NOTE:** This is repeatedly displayed during all time in this step. 00/00/00 to 99/99/99.

Service Test - 63 All Pantry UI indicators

• Verify that all pantry LED indicators and pantry UI display digits turn on automatically.

All indicators ON for 30-second timeout. Service Test - 64 Pantry UI Button Test

Displays the pantry UI Buttons status

Label	Control Key	Digit 1	Digit 2
Select	SW705	0	2

Service Test - 65 Pantry Thermistor

 The board will check the resistance value of the thermistor and display the results on the temp display. (01 = Pass, 02 = Open, 03 = Short).

Service Test - 66 Manufacturing Codes

Service Test - 73 Pantry Heater Status

Service Test - 76 Icebox Fascia Heater

Service Test - 78 Pantry UI Flashmap Version

Service Test - 77 Defrost Thermistor

03 = SHORT).

• Displays the active manufacturing errors codes stored in the UI. Press SW3 to toggle between the Errors. See status on Temp Display (E0 = No Error, E1 = LPIM Motor Faulty, E2 = Damper Cycle not completed, E3 = Thermistor Faulty, E4 = Ice Bin not present or Full, E5 = Heater Bimetal Faulty, E6 = Dispenser UI EEPROM Faulty, Er = Communication Failure). **NOTE:** Step is used by Whirlpool Manufacturing plant only.

Displays the water filter switch status in real time on the UI display. Verify that the open and close

status display correctly. (01 = Switch open/filter not installed, 02 = Switch closed/filter installed).

• Control the Icebox Fascia Heater selecting SW3 (toggle between On and Off) (00 = OFF, 01 = ON).

• The board will check the resistance value of the thermistor and display (01 = PASS, 02 = OPEN,

Displays in three sequential flashes the pantry UI flashmap version on the UI Display.

Displays in three sequential flashes the LED driver software version on the UI Display

Service Test - 81 LED Driver Flash Software Version: NOTE: Not normally used

NOTE: This is repeatedly displayed during all time in the step. 00/00.00 to 99/99/99.

Displays in three sequential flashes the LED driver flash software version on the UI Display.

NOTE: This is repeatedly displayed during all time in the step. 00/00.00 to 99/99/99.

Service Test - 80 LED Driver Software Version: NOTE: Not normally used

NOTE: This is repeatedly displayed during all time in the step. 00/00.00 to 99/99/99.

Control the Pantry Heater selecting SW3 (toggle between On and Off) (01 = ON, 02 = OFF).

Service Test - 67 Water Filter Switch Status



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Schematic DWG. No.: W10735493 Rev. C

Wiring Diagram





