

**Multimedia  
Enhanced**

**Whirlpool®**

# **SERVICE MANUAL**

**Whirlpool® Smart Wall Ovens**



**Model No.:** WOC54EC0H    WOC54EC7H    WOC75EC0H  
WOC75EC7H    WOC97EC0H    WOCA7EC0H  
WOD51EC0H    WOD51EC7H    WOD77EC0H  
WOD77EC7H    WOD97EC0H    WODA7EC0H  
WOS51EC0H    WOS51EC7H    WOS72EC0H  
WOS72EC7H    WOS97EC0H    WOSA2EC0H

**W11174422**

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## FORWARD

This Whirlpool Service Manual, (Part No. W11174422), provides the In-Home Service Professional with service information for the “Whirlpool® Smart Wall Ovens”.

The Wiring Diagram used in this Service Manual is typical and should be used for training purposes only. Always use the Wiring Diagram supplied with the product tech sheet when servicing the oven.

For specific operating and installation information on the model being serviced, refer to the “Use and Care Guide” or “Installation Instructions” provided with the oven.

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## GOALS AND OBJECTIVES

The goal of this Service Manual is to provide information that will enable the In-Home Service Professional to properly diagnose malfunctions and repair the “Whirlpool® Smart Wall Ovens”.

The objectives of this Service Manual are to:

- Understand and follow proper safety precautions.
- Successfully troubleshoot and diagnose malfunctions.
- Successfully perform necessary repairs.

WHIRLPOOL CORPORATION assumes no responsibility for any repairs made on our products by anyone other than authorized In-Home Service Professionals.

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# Section 1: General Information

This section provides general safety, parts, and information for the “Whirlpool® Smart Wall Ovens”.

- Oven Safety
- Product Specifications
- Product Features
  - Control Panels
  - Microwave Features
- Model & Serial Label
  - Location
  - Model Nomenclature
- Tech Sheet Location

## Oven Safety

### Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.



This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word “DANGER” or “WARNING.”

These words mean:

**⚠ DANGER**

You can be killed or seriously injured if you don't immediately follow instructions.

**⚠ WARNING**

You can be killed or seriously injured if you don't follow instructions.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

# Product Specifications

## Single Oven

ELECTRICAL			
Fuel Type (Electric):		240 VAC, 60 Hz	
FEATURES			
Language Conversion		English/French/Spanish	
Microwave Selection	Add 30 Seconds	Oven Selection	Audible Signal
	Control Lock		Automatic Door Latch
	Cook/Start		Broil
	Cook Power		Cancel/Off
	Cook Time		Clock
	Defrost		Control Lock
	Dinner Plate		Cook Timer Indicator
	End of Cycle Signal		Delay Start
	Favorites		Favorites
	Keep Warm		Frozen Bake
	Languages - English/French		Keep Warm Setting
	Off/Cancel		Language Conversion
	Popcorn		Rapid Preheat
	Reheat		Sabbath Mode
	Soften/Melt		Start Time
	Sound On/Off		Stop Time
	Steam		Temperature-Sensor Baking
Timer	Timer		
	Warm Hold		
Controls		Exterior	
Control Type	Touch Screen	Door Lock	Yes
		Door Removable	Yes
		Door Type	Metal & Glass
Electronic Display Type	LCD Screen	Flush Installation Approved	Yes
		Handle Color	Black
Number of Keypads	1	Handle Material	Plastic
		Oven Window Size	Extra Large
Dimensions			
Cutout Depth (IN, inches)		24	
Cutout Height (IN, inches)		41 <sup>5</sup> / <sub>16</sub>	
Cutout Width (IN, inches)		28 <sup>1</sup> / <sub>2</sub>	
Depth Closed Excluding Handles (IN, inches)		24 <sup>1</sup> / <sub>2</sub>	
Depth With Door Open 90 Degree (IN, inches)		46 <sup>3</sup> / <sub>4</sub>	
Depth (IN, inches)		26 <sup>1</sup> / <sub>2</sub>	
Height (IN, inches)		42 <sup>9</sup> / <sub>16</sub>	
Width (IN, inches)		30	

## GENERAL INFORMATION

### Double Oven

ELECTRICAL	
Fuel Type (Electric):	240 VAC, 40 A
FEATURES	
Language Conversion	English/French/Spanish
Power On Indicator Light	Yes
Temperature Conversion	Yes
Selections	Audible Signal
	Automatic Door Latch
	Broil
	Cancel/Off
	Clock
	Control Lock
	Cook Time Indicator
	Delay Start
	Favorites
	Frozen Bake
	Keep Warm Setting
	Language Conversion
	Rapid Preheat
	Sabbath Mode
	Start Time
	Stop Time
Temperature-Sensor Baking	
Timer	
Warm Hold	
Details	
Automatic Shut-Off	Yes
Oven Cooking System	Thermal
Bake Element Power	2800 W
Hidden Bake Element	Yes
Number of Bake Elements	1
Broiler Element Power	3600 W
Broiler Location	Top of Oven
Door Broil Position	Closed
Number of Broil Elements	1
Interior Coating	Porcelain
Interior Color	Grey
Light Control	Oven Light Touch Pad
Light Type	Incandescent
Lower Oven Number of Oven Lights	1
Upper Oven Number of Oven Lights	1
Number of Lower Oven Racks	2
Number of Lower Rack Guides	3
Number of Upper Oven Racks	2



Number of Upper Rack Guides	3
Oven Rack 1 Type	Standard
Oven Rack 2 Type	Standard
Oven Rack 3 Type	Standard
Delay Clean	Yes
Oven Self-Cleaning	Self-Cleaning
<b>Controls</b>	
Connected Appliances	Wi-Fi
Control Type	Glass Touch Digital Display
Display Color	Full Color
Electronic Display Type	LCD Screen
<b>Exterior</b>	
Door Lock	Yes
Door Removable	Yes
Door Type	Metal & Glass
Handle Color	Black
Handle Material	Plastic
Oven Window Size	Extra Large
<b>Dimensions</b>	
Capacity (FT <sup>3</sup> , cubic feet)	10
Cutout Depth (IN, inches)	24
Cutout Height (IN, inches)	50 <sup>1</sup> / <sub>4</sub>
Cutout Width (IN, inches)	28 <sup>1</sup> / <sub>2</sub>
Depth Closed Excluding Handles (IN, inches)	24 <sup>1</sup> / <sub>2</sub>
Depth Closed Including Handles (IN, inches)	26 <sup>7</sup> / <sub>16</sub>
Depth With Door Open 90 Degree (IN, inches)	42 <sup>3</sup> / <sub>4</sub>
Depth (IN, inches)	26 <sup>7</sup> / <sub>16</sub>
Height (IN, inches)	51 <sup>1</sup> / <sub>2</sub>
Width (IN, inches)	30

## GENERAL INFORMATION

### Microwave Oven Combination - Lower Oven

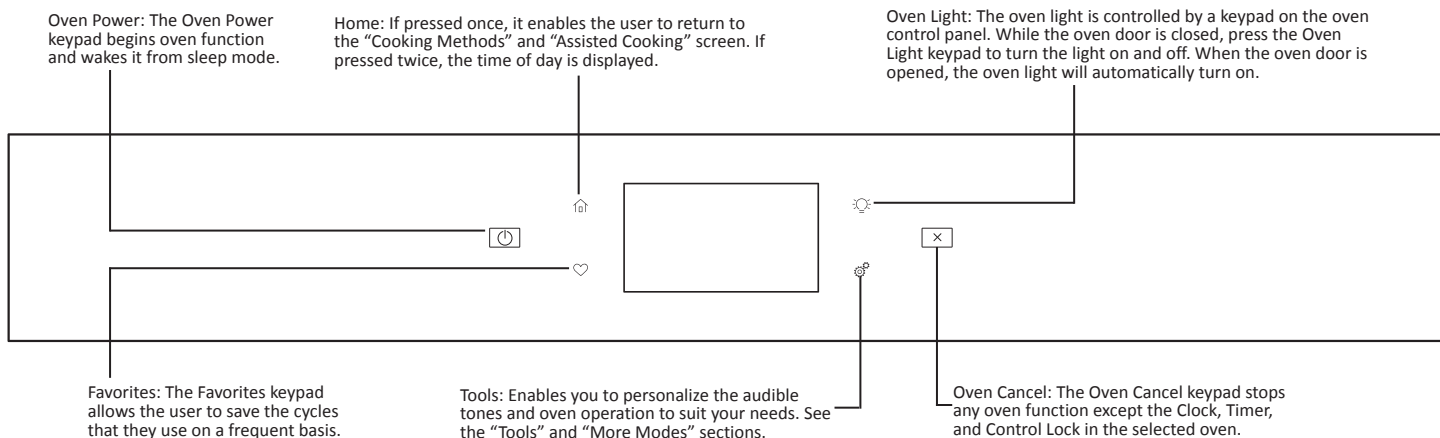
ELECTRICAL			
Fuel Type (Electric):		240 VAC, 60 Hz	
FEATURES			
Language Conversion		English/French/Spanish	
Microwave Selection	Add 30 Seconds	Oven Selection	Audible Signal
	Control Lock		Automatic Door Latch
	Convect		Broil
	Cook/Start		Cancel/Off
	Cook Power		Clock
	Cook Time		Control Lock
	Defrost		Convect Bake
	Dinner Plate		Convect Modes
	End of Cycle Signal		Cook Time Indicator
	Favorites		Delay Start
	Keep Warm		Favorites
	Languages - English/French		Frozen Bake
	Off/Cancel		Keep Warm Setting
	Popcorn		Language Conversion
	Reheat		Rapid Preheat
	Soften/Melt		Sabbath Mode
	Sound On/Off		Start Time
	Steam		Stop Time
	Timer		Temperature-Sensor Baking
			Timer
	Warm Hold		
Temperature Conversion		Yes	
Microwave Details		Oven Details	
Microwave Capacity (cu. ft.)	1.4	Oven Capacity (cu. ft.)	5
Cooking Power (Watts)	900	Automatic Shut-Off	Yes
Convection	Yes	Oven Cooking System	True Convection
		Bake Element Power	2800 W
Convection Power (Watts)	1600	Hidden Bake Element	Yes
		Broiler Element Power	3600 W
Door Release	Handle	Broiler Location	Top of Oven
		Door Broil Position	Closed
Door Swing	Drop Down	Convection Element Type	Single Fan - Oven
		Convection Element Power (Watts)	2500
Interior Light	Halogen	Convection Functions	Bake
			Broil
Number or Racks	0		Convection Conversion
			Roast
Turntable	Yes	Number of Oven Lights	2
		Number of Oven Racks	3

Controls		Oven Details	
Connected Appliances	Wi-Fi	Number of Rack Guides	6
Control Type	Touch Screen	Oven Rack 1 Type	Standard
Electronic Display Type	LCD Screen	Oven Rack 2 Type	Standard
Number of Keypads	1	Oven Rack 3 Type	Standard
		Interior Color	Grey
		Oven Interior Depth(IN, inches)	19
		Oven Interior Height(IN, inches)	18
		Oven Interior Width(IN, inches)	25
		Oven Self-Cleaning	Self-Cleaning
Exterior			
Door Lock		Yes	
Door Removable		Yes	
Door Type		Metal & Glass	
Handle Color		Black	
Handle Material		Plastic	
Oven Window Size		Extra Large	
Dimensions			
Capacity (FT3, cubic feet)		6.4	
Cutout Depth (IN, inches)		24	
Cutout Height (IN, inches)		41 <sup>5</sup> / <sub>16</sub>	
Cutout Width (IN, inches)		28 <sup>1</sup> / <sub>2</sub>	
Depth Closed Excluding Handles (IN, inches)		24 <sup>1</sup> / <sub>2</sub>	
Depth With Door Open 90 Degree (IN, inches)		46 <sup>3</sup> / <sub>4</sub>	
Depth (IN, inches)		23 <sup>1</sup> / <sub>4</sub>	
Height (IN, inches)		42 <sup>9</sup> / <sub>16</sub>	
Width (IN, inches)		30	

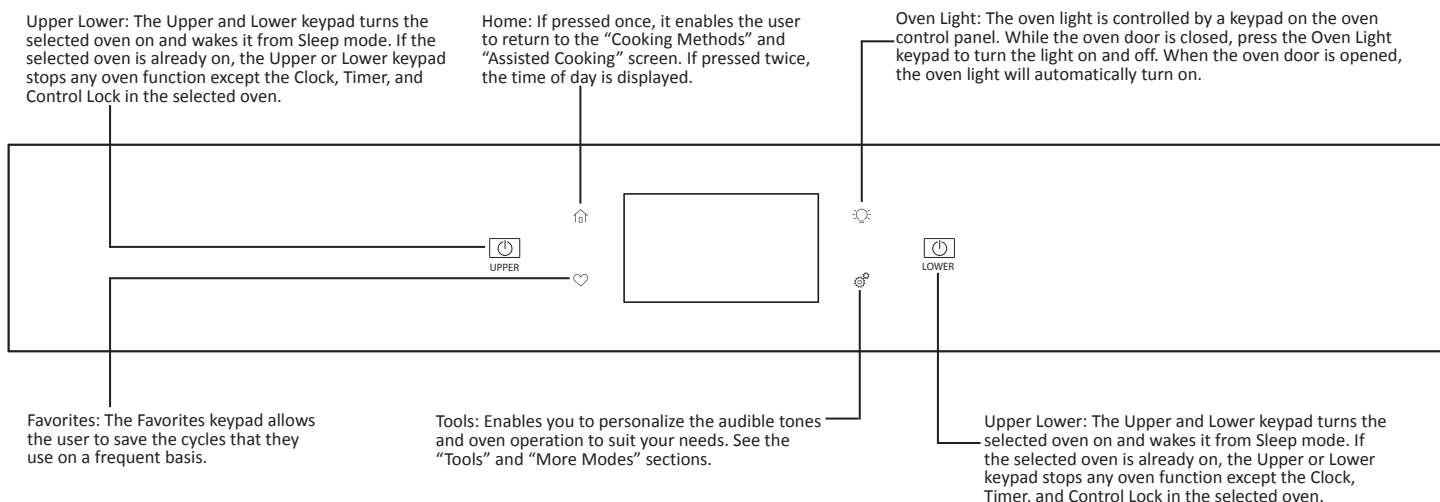
# Product Features

## CONTROL PANEL

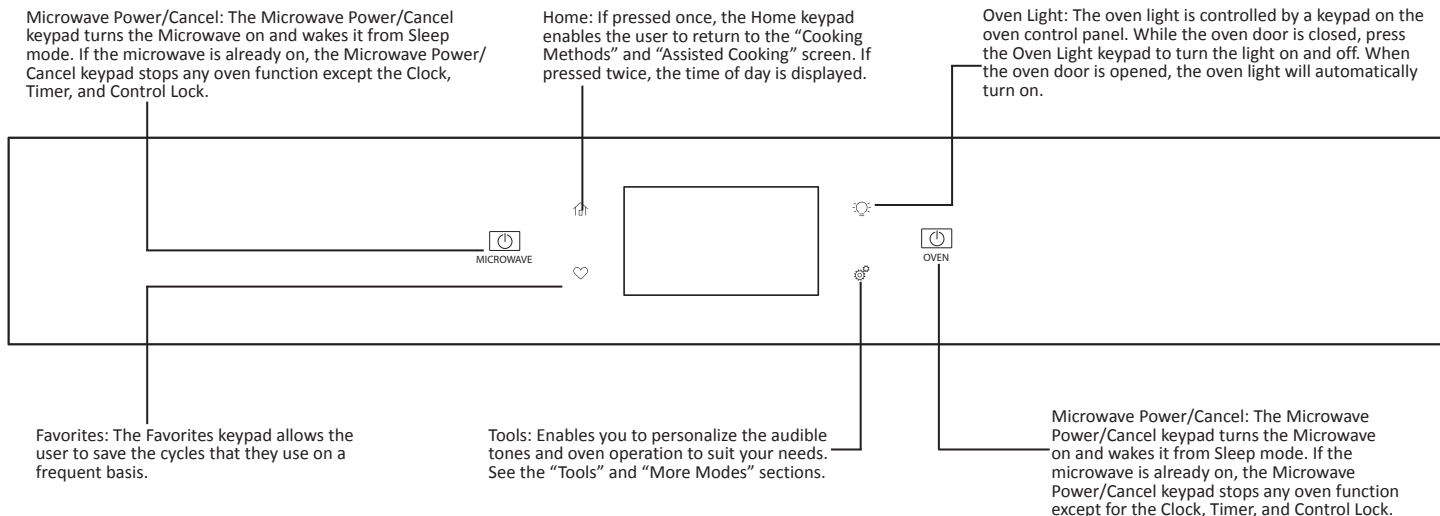
### ELECTRIC SINGLE OVEN CONTROL PANEL



### ELECTRIC DOUBLE OVEN CONTROL PANEL



### ELECTRIC MICROWAVE OVEN COMBINATION - LOWER OVEN



## Microwave Features

### Defrost

The Defrost feature can be used, or the microwave oven can be manually set to defrost by using 20% cook power.

- Unwrap foods and remove lids (from fruit juice) before defrosting. Remove any metal twist-ties and replace them with strings or elastic bands.
- If food is foil wrapped, remove foil and place it in a suitable container.
- Slit or pierce plastic pouches or packaging. Slit the skins, if any, of frozen food such as sausage.
- Bend plastic pouches of food to ensure even defrosting.
- Always underestimate defrosting time. If defrosted food is still icy in the center, return it to the microwave oven for more defrosting.
- The length of defrosting time varies according to how solidly the food is frozen.
- Shallow packages will defrost more quickly than deep blocks.
- Separate food pieces as soon as possible during or at the end of a cycle for more even defrosting.
- Foods left outside the freezer for more than 20 minutes or frozen ready-made food should not be defrosted using the Custom Defrost feature, but should be defrosted manually.
- Use small pieces of aluminum foil to shield parts of food such as chicken wings, leg tips and fish tails. See the “Aluminum Foil and Metal” section first.

### Steam Cook

Steam Cook is a sensor cooking function that uses microwaves to steam food. Use Steam for foods such as vegetables, fish and potatoes.

- Times and cooking powers have been preprogrammed for steaming a number of food types.
- Use a microwave-safe steamer.
- Use 1/2 cup (125 mL) water or as directed in the steamer instructions.

### Popcorn

**NOTE:** During Popcorn function, as with all microwave cooking functions, the microwave oven should be attended at all times. Listen for popping to slow to one pop every 1 or 2 seconds, then stop the cycle.

- To avoid damage to the microwave oven, do not use regular paper bags or glass utensils.
- Pop only one package of popcorn at a time.
- Follow manufacturer’s instructions when using a microwave popcorn popper.
- For best cooking results, do not try to pop unpopped kernels.
- Use fresh bags of popcorn for optimal results.
- Cooking results may vary by brand and fat content.
- The microwave oven uses the sensor to determine sizes that can be popped: 1.75–3.5 oz (50–99 g) bags.

### Assisted Cooking

Scroll through the Assisted Cooking menu until the desired food selection is reached.

Follow the prompts on the screen to customize the settings for Assisted Cooking.

The microwave oven sensor adjusts the cooking times and power levels for various foods and quantities.

**NOTE:** The microwave oven may prompt user to input weight to help optimize the settings.

### Favorites

The Favorites feature stores the microwave settings for your favorite recipe.

**NOTE:** A select set of Favorites and suggestions may be automatically shown on the Home screen based on your meal times.

To save a recipe, select the Favorites keypad (heart icon), and follow the prompts on the screen to customize your favorites. Add an image or name to the favorite to customize it to your preferences.

## Preheating and Oven Temperature

### Preheating

When beginning a Bake, Convection Bake, or Convection Roast cycle, the oven will begin preheating after Start is pressed. The oven will take approximately 12 to 17 minutes to reach 350°F (177°C) with all of the oven racks provided with your oven inside the oven cavity. Higher temperatures will take longer to preheat. The preheat cycle rapidly increases the oven temperature. The actual oven temperature will go above your set temperature to offset the heat lost when your oven door is opened to insert food. This ensures that when you place your food in the oven, the oven, will begin at the proper temperature. Insert your food when the preheat tone sounds. Do not open the door during preheat before the tone sounds.

### Rapid Preheat

Rapid Preheat can be used to shorten the preheating time. Only one standard flat oven rack should be in the oven during Rapid Preheat. Extra racks should be removed prior to starting. The preheating cycle should be completed before placing food in the oven. When the Rapid Preheat cycle is complete, the oven starts a normal Bake cycle.

**IMPORTANT:** Rapid Preheat should be used only for one-rack baking.

### Oven Temperature

While in use, the oven elements will cycle on and off as needed to maintain a consistent temperature, but they may run slightly hot or cool at any point in time due to this cycling. Opening the oven door while in use will release the hot air and cool the oven which could impact the cooking time and performance. It is recommended to use the oven light to monitor cooking progress.

**NOTE:** On models with convection, the convection fan may run in the non-convection bake mode to improve oven performance.

## GENERAL INFORMATION

### Baking and Roasting

**IMPORTANT:** The convection fan and convection element may operate during the Bake function to enhance performance and heat distribution.

The oven will take approximately 12 to 17 minutes to reach 350°F (177°C) with all oven racks inside the oven cavity. The preheat cycle rapidly increases the temperature inside the oven cavity. Higher temperatures will take longer to preheat. Factors that impact preheat times include room temperature, oven temperature, and the number of racks. Unused oven racks can be removed prior to preheating your oven to help reduce preheat time. The actual oven temperature will go above the set temperature to offset the heat lost when the oven door is opened to insert food. This ensures that the oven will begin at the proper temperature when you place food in the oven. Insert food when the preheat tone sounds. Do not open the door during preheat until the tone sounds.

During baking or roasting, the bake and broil elements will cycle on and off in intervals to maintain the oven temperature.

Depending on the model, if the oven door is opened during baking or roasting, the heating elements (bake and broil) will turn off approximately 30 seconds after the door is opened. They will turn on again approximately 30 seconds after the door is closed.

### Frozen Bake™

Frozen Bake™ Technology automatically adjusts the manufacturer's bake time by combining preheating and baking to deliver great packaged frozen food results without the wait. There are multiple preprogrammed food options. The Frozen Bake™ cycle have been customized to work only with these foods. When using Frozen Bake™ Technology, it is important that you follow all manufacturer's instructions including venting, covering, stirring or placing on a baking sheet to ensure a good result. When cooking frozen meals, only cook items that provide instructions for cooking in a conventional oven. Place your dish in the center of the rack and select one of the rack positions recommended for Frozen Bake™ in the "Positioning Racks and Bakeware" section and bake only one package or pan at a time. Use the temperature and maximum bake time from the package.

A tone will alert you to check the food for doneness before the cook time is complete and again at the end of the cook time. The display will prompt you to add additional cook time if needed.

### Broiling

When broiling, no preheating is necessary unless recommended otherwise in the recipe. Position food on grid in a broiler pan, and then place it in the center of the oven rack. Close the oven door to ensure proper broiling temperature.

**NOTE:** Odors and smoke are normal the first few times the oven is used or if the oven is heavily soiled.

Changing the temperature when broiling allows more precise control when cooking. The lower the broil setting, the slower the cooking. Thicker cuts and unevenly shaped pieces of meat, fish and poultry may cook better at lower broil settings. Place the food in the lower oven. Refer to the "Positioning Racks and Bakeware" section for more information.

On lower settings, the broil element will cycle on and off to maintain the proper temperature.

■ For best results, use a broiler pan and grid. It is designed to drain juices and help avoid spatter and smoke.

If you would like to purchase a broiler pan, one may be ordered. Please refer to the "Accessories" section for more information.

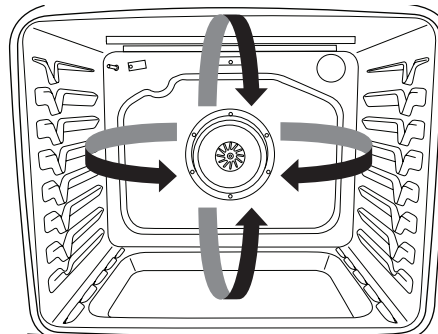
### Convection Cooking

In a convection oven, the fan-circulated hot air continually distributes heat more evenly than the natural movement of air in a standard thermal oven. This movement of hot air helps maintain a consistent temperature throughout the oven, cooking foods more evenly, crisping surfaces while sealing in moisture and yielding crustier breads.

During convection cooking, the bake, broil and convection (true convection only) elements cycle on and off in intervals to maintain the oven temperature, while the fan circulates the hot air.

If the oven door is opened during convection cooking, the fan will turn off immediately. It will come back on when the oven door is closed.

**NOTE:** The oven door must be closed for convection broiling.



Position the racks according to the "Positioning Racks and Bakeware" section before starting convection cooking.

With convection cooking, most foods can be cooked at a lower temperature for a shorter length of time. These adjustments can be made using the following chart.

Setting	Guidelines
Convect Bake	Reduce the standard baking temperature 25°F (15°C).
Convect Roast	Use standard recipe temperature. Cooking time may be reduced by 15% to 30% with Convect Roast so the food should be checked for doneness early.
Convect Broil	Use standard recipe temperature. Cooking time may be reduced so the food should be checked for doneness early.

### Convert Time/Temp

Convection temperatures and times differ from those of standard cooking. The Convert Time/Temp convection feature is a function that converts a standard thermal bake or roast cook time and temperature into an ideal cook time and temperature for convection cooking. The displayed time and temperature will be the converted for convection values.

## Temperature Probe

The temperature probe accurately measures the internal temperature of meat, poultry and casseroles with liquid and should be used in determining the doneness of meat and poultry. The temperature probe should only be used with Bake, Convection Bake, or Convection Roast.

Always unplug and remove the temperature probe from the oven when removing food.

## To Use:

Before using, insert the probe into the food item. For meats, the probe tip should be located in the center of the thickest part of the meat and not into the fat or touching a bone. Place food in oven and connect the temperature probe to the jack. Keep probe as far away from heat source as possible. Close oven door.

**NOTE:** The temperature probe must be inserted into the food item before the mode is selected.

- Use the Assisted Cooking feature for guidance and step by step instructions on inserting the probe and selecting target food internal temperatures
- Plug the probe into the oven's port or pick the Probe icon in the Tools Menu. Both will show a pop-up that allows user to pick the cooking mode and all of the options. Place food in the oven and connect the temperature probe to the jack. Keep the probe as far away from the heat source as possible. Close the oven door.

## Model & Serial Number Location

Model & Serial Number Label  
Location For Combo Unit



Model & Serial Number Label  
Location For Single/Wall Oven



**GENERAL INFORMATION**

**Model & Serial Number Nomenclature**

<b>MODEL NUMBER</b> INTERNATIONAL SALES OR MARKETING CHANNEL	<b>W</b>	<b>O</b>	<b>C</b>	<b>5</b>	<b>4</b>	<b>E</b>	<b>C</b>	<b>O</b>	<b>H</b>
<b>BRAND</b> W = Whirlpool									
<b>PLATFORM</b> O = WALL OVEN									
<b>SUB PLATFORM</b> S = SINGLE OVEN D = DOUBLE OVEN C = COMBO MICROWAVE OVEN									
<b>SERIES</b> 5 = MID LINE 7 = HIGH (GOLD) 9 = HERO (GOLD)									
<b>FEATURE LEVEL</b> 1 = THERMAL Wall Oven(s) 2 = TRUE CONVECTION Wall Oven(s) 3 = UPPER TRUE CONVECTION/LOWER THERMAL 4 = MICRO WAVE UPPER/LOWER THERMAL 5 = MICRO WAVE UPPER/LOWER TRUE CONVECTION									
<b>KEY FEATURE</b> E = ELECTRIC G = GAS I = INDUCTION									
<b>M = STANDARD CLEAN</b> <b>W = STEAM CLEAN</b> <b>S = SELF CLEAN</b> <b>H = HE SELF CLEAN</b> <b>C = STEAM CLEAN &amp; SELF CLEAN</b>									
<b>0 = 30" WIDTH</b> <b>7 = 27" WIDTH</b>									
<b>YEAR PF MARKET INTRODUCTION</b> G = 2017 H = 2018 J = 2019									

<b>SERIAL NUMBER</b>	<b>D</b>	<b>7</b>	<b>47</b>	<b>03117</b>
<b>DIVISION RESPONSIBILITY</b> D = Cleveland				
<b>YEAR OF PRODUCTION</b> 5 = 2015 6 = 2016 7 = 2017				
<b>WEEK OF PRODUCTION</b> 47 = 47th week				
<b>PRODUCT SEQUENCE NUMBER</b>				



# Tech Sheet Location

Tech Sheet Location  
For Combo Unit  
(side of oven shroud)



Tech Sheet Location  
For Single and Double Wall Oven  
(top panel)





## Section 2: Diagnostics

This section provides diagnostic and fault codes information for the “Whirlpool® Smart Wall Ovens”.

- Safety
- Diagnostics Mode
- Error Codes

# For Service Technician Use Only

## Safety

### Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.



This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word "DANGER" or "WARNING."

These words mean:

**⚠ DANGER**

You can be killed or seriously injured if you don't immediately follow instructions.

**⚠ WARNING**

You can be killed or seriously injured if you don't follow instructions.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

**⚠ 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 performing 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.

## For Service Technician Use Only

### IMPORTANT: Electrostatic Discharge (ESD) Sensitive Electronics

ESD problems are present everywhere. ESD may damage or weaken the electronic control assembly. The new control assembly may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- Use an antistatic wrist strap. Connect wrist strap to green ground connection point or unpainted metal in the appliance

-OR-

Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.

- Before removing the part from its package, touch the antistatic bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic control assembly by edges only.
- When repackaging failed electronic control assembly in antistatic bag, observe above instructions.

## Diagnostics Mode

**IMPORTANT:** Before powering MWO magnetron, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity.

Unplug microwave oven or disconnect power before performing the following checks:

- A potential cause of a control not functioning is corrosion on connections. Observe connections and check for continuity with an ohmmeter.
- All tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 Ω per Volt DC or greater.
- Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough. The damaged harness must be entirely replaced. Do not rework a harness.
- Resistance checks must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.

**IMPORTANT:** Do not replace the control if there is no evidence of any failure.

There are two ways to enter Diagnostics mode.

### Option A

Before proceeding with any corrective action, perform the following steps to enter the Diagnostics mode:

1. Enter Diagnostics mode by pressing the same 3 keypads 3 times in a row.  
Single Ovens: Press HOME > FAVORITES > LIGHT (Repeat two more times.)  
Double Ovens: Press HOME > FAVORITES > LIGHT (Repeat two more times.)
2. The warning will be displayed. Press ENTER.  
**NOTE:** You do not need to wait for any audible or visual feedback from the control between keypad presses.
3. If the control does not enter Diagnostics mode, continue repeating the keypad sequence from Step 1.
4. From the Diagnostic Menu, scroll to the desired selection using the touchscreen.

### Option B

Before proceeding with any corrective action, perform the following steps to enter the Diagnostics mode:

1. Press Tools > Info > Service and Support. Press diagnostics button for 1 minute. Press 1, 2, 3, 1, 2, 3, 1, 2, 3. Press ENTER.  
**NOTE:** The warning will be displayed. Press ENTER.

2. If the control does not enter Diagnostics, continue repeating the keypad sequence from Step 1. All the keypads will light up when the control enters Diagnostics.

3. From the Diagnostic Menu, scroll to the desired selection using the touchscreen.

**Error Diagnostics:** View and clear the failure history.

**Component Activation:** Manually activate each relay.

**Sensors & Switches:** View the traditional oven cavity temperatures and door/latch switch status.

**System Information:** View the model number, serial number, and software versions.

**Wi-Fi:** View Wi-Fi related content such as IP Address, Gateway, SSID, and connection status.

### General Procedure: Error Codes

**NOTE:** All failures are stored in the failure history. To check if the error code is still present, start a cooking function and wait 1 minute to check if the error appears.

1. Enter Error Diagnostics.
2. Touch “Error Diagnostics” in the Diagnostics menu, and then touch OK.

<	Error Diagnostic
F4E1 Fri Jan 2 15:27:48	
F2E5 Wed Dec 31 20:58:42	

3. To clear error codes, touch “Clear History”.
4. If no failures are listed, the message “No Error” will appear on the screen.

### General Procedure: Component Activation

1. Enter Component Activation.
2. Touch “Component Activation”.  
**NOTE:** The loads are switched off, if they remain active for more than 5 minutes.

**For Service Technician Use Only**

**Single Oven Model**

<b>Selection</b>	<b>Relay</b>
Bake Element	Bake Relay
Broil Element	Broil Relay
Convection Element	Convection Relay
Convection Fan	Convection Fan Relay
Cooling Fan High Speed	Cooling Fan High Relay
Cooling Fan Low Speed	Cooling Fan Low Triac
Oven Light	Oven Light Triac
Door Latch Motor	Door Latch Relay

**Double Oven Model**

<b>Selection</b>	<b>Relay</b>
Upper Bake Element	Upper Bake Element Relay
Upper Broil Element	Upper Broil Element Relay
Upper Convection Element	Upper Cavity Convection Element Relay
Upper Convection Fan	Upper Cavity Convection Fan Relay
Upper Cooling Fan High Speed	Upper Cooling Fan High Speed Relay
Upper Cooling Fan Low Speed	Upper Cooling Fan Low Speed Triac
Upper Oven Light	Upper Oven Light Triac
Upper Door Latch Motor	Upper Door Latch Motor Relay
Lower Bake Element	Lower Bake Element Relay
Lower Broil Element	Lower Broil Element Relay
Lower Convection Element	Lower Cavity Convection Element Relay
Lower Convection Fan	Lower Cavity Convection Fan Relay
Lower Cooling Fan High Speed	Lower Cooling Fan High Speed Relay
Lower Cooling Fan Low Speed	Lower Cooling Fan Low Speed Triac
Lower Oven Light	Lower Oven Light Triac
Lower Door Latch Motor	Lower Door Latch Motor Relay

**Microwave Oven Combination - Lower Oven**

<b>Selection</b>	<b>Relay</b>
MW Light	MW Light Relay
MW Turntable	MW Turntable Relay
MW Cooling Fan	MW Cooling Fan Relay
MW Magnetron/Cooling Fan	MW Magnetron and MW Cooling Fan Relay
Oven Bake Element	Oven Bake Element Relay
Oven Broil Element	Oven Broil Element Relay
Convection Element	Convection Element Relay
Convection Fan	Convection Fan Relay
Oven Cooling Fan High Speed	Oven Cooling Fan High Speed Relay
Oven Cooling Fan Low Speed	Oven Cooling Fan Low Speed Relay
Oven Light	Oven Light Triac
Oven Door Latch Motor	Oven Door Latch Motor Relay

**General Procedure: System Information**

**NOTE:** This procedure is to view the following system information:

1. Select TOOLS, then select INFO.
2. Select "Service and Support".
3. Press and hold DIAGNOSTICS until Diagnostics screen shows.
4. Press 1, 2, 3, 1, 2, 3, 1, 2, 3, then press ENTER.
5. Touch "Diagnostics Home".
6. Select "System Info". See "Version Info" for below system information.

## For Service Technician Use Only

### Single & Double Oven Model

System Information	Display	Single Oven	Double Oven
Model #	Model Information	o	o
Serial #	Product Serial Number	o	o
UI Serial #	User Interface Serial Number	o	o
ACU Serial #	Appliance Control Unit Serial Number	o	NA
Upper ACU Serial #	Upper Appliance Control Unit Serial Number	NA	o
Lower ACU Serial #	Lower Appliance Control Unit Serial Number	NA	o
UI Version	User Interface Software Version	o	o
ACU SW	Appliance Control Unit Software Version	o	NA
Upper ACU SW	Upper Appliance Control Unit Software Version	NA	o
Lower ACU SW	Lower Appliance Control Unit Software Version	NA	o
Diagnostics Entries	Number of times Diagnostic Menu has been entered	o	o

### Microwave Oven Combination - Lower Oven

System Information	Display
Model #	Model Information
Serial #	Product Serial Number
UI Serial #	User Interface Serial Number
Oven ACU Serial #	Appliance Control Unit Serial Number
UI Version	User Interface Software Version
Oven ACU SW	Oven Appliance Control Unit Software Version
MWO ACU SW	Microwave Oven Appliance Control Unit Software Version
Diagnostics Entries	Number of times Diagnostic Menu has been entered

#### General Procedure: Model Selection

**NOTE:** When a new User Interface is installed, you will be prompted to select a new model number upon power up. To change the model number on an existing UI, follow the steps below:

1. Plug in microwave oven or connect power.
2. Enter Diagnostics mode.
3. Touch or scroll to “System Information” in the Diagnostics menu, then touch “OK”.
4. Touch or scroll to “Model Number,” then touch “OK”.
5. Touch or scroll to the correct model number in the list, then touch “Select”.

## Failure/Error Display Codes

### Single Oven and Microwave Oven Combination

Code	Description	Explanation and Recommended Procedure
<b>User Interface (UI) not reacting to touch</b>	HMI-Central/UI board Control Panel Assembly	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostic menu, and then touch POWER.</li> <li>2. To reset Touch Calibration: Unplug the oven or disconnect power, wait 10 seconds, and then plug in the oven or reconnect power. If still no response, go to Step 3.</li> <li>3. Unplug the oven or disconnect power.</li> <li>4. Replace HMI-Central/UI board Control Panel Assembly.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>7. Verify operation is normal.</li> </ol>

## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
<b>No Sound</b>	Speaker, HMI-Central/ UI board Control Panel Assembly	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <ol style="list-style-type: none"> <li>1. Verify sound is enabled. Touch the Tools menu, and then scroll to the Sound menu. Confirm Key Press, Timer &amp; Alert, and Power On &amp; Off actions are all turned on and set to the desired volume.</li> <li>2. Unplug the oven or disconnect power.</li> <li>3. Confirm the speaker is firmly connected to the UI board. If speaker is firmly connected, go to Step 4. If speaker connection is loose, reconnect and proceed to Step 5.</li> </ol> <div style="text-align: center; margin: 10px 0;"> <p style="font-size: small; margin: 0;">Speaker    BK    2    J8    HMI-C                  RD    1    User Interface</p> </div> <ol style="list-style-type: none"> <li>4. Replace HMI-Central/UI board Control Panel Assembly.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>7. Confirm operation of the speaker. If the problem persists, unplug the oven or disconnect power, replace HMI-Central/UI board Control Panel Assembly, and repeat steps 5 through 7.</li> </ol>
F1 Internal EO	Oven User Interface (UI) Failure	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting “Error Diagnostics”.</p> <p><b>NOTE:</b> If other error codes are stored, troubleshoot those other error codes first.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Confirm the HMI-Central/UI board Control Panel Assembly is grounded to the oven chassis. If it is, go to Step 6. If it is not, fix the connection.</li> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in the oven or reconnect power and cycle power.</li> <li>5. If error persists, unplug the oven or disconnect power.</li> <li>6. Replace HMI-Central/UI board Control Panel Assembly.</li> <li>7. Reassemble all parts and panels before operating.</li> <li>8. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>9. Verify operation is normal. Enter Diagnostics mode, select “Error Diagnostics”, and clear the history. If the HMI-Central/UI board Control Panel Assembly was replaced, there is no need to clear the error history.</li> </ol>



## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F1E1	Internal Oven ACU Error	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting “Error Diagnostics”.</p> <p><b>NOTE:</b> If other error codes are stored, troubleshoot those other error codes first.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Replace Copernicus ACU.</li> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in the oven or reconnect power.</li> <li>5. If error persists after Copernicus ACU is replaced, unplug the oven or disconnect power, and then go to Step 6. If not, go to Step 9.</li> <li>6. Replace HMI-Central/UI board Control Panel Assembly.</li> <li>7. Reassemble all parts and panels before operating.</li> <li>8. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>9. Verify operation is normal. Enter Diagnostics mode, select “Error Diagnostics”, and clear the history. If the HMI-Central/UI board Control Panel Assembly was replaced, there is no need to clear the error history.</li> </ol>
F1E4	Microwave Oven Relay 4903 Error	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, then verify that the failure happens again.</p> <ol style="list-style-type: none"> <li>1. Make sure that all interlock switches work properly: When door is open, microwave light is on, when door is closed, microwave light is off.</li> <li>2. Unplug the oven or disconnect power.</li> <li>3. Check the following on the Microwave ACU:               <ol style="list-style-type: none"> <li>a. Wire connections to Relay 4903.</li> </ol> </li> </ol> <div data-bbox="781 1108 1219 1205" style="text-align: center;"> <p>The diagram shows a series circuit starting with a 'Line Fuse 20A' connected to terminal 'L1'. The circuit then passes through a 'Primary Interlock Switch' labeled 'BR', which has terminals '1' and '4'. From terminal '4', the circuit goes to a 'Microwave Relay 4903'. The other side of the relay is connected to terminal 'BU', which is then connected to an 'Inverter' component labeled 'CN702'.</p> </div> <ol style="list-style-type: none"> <li> <ol style="list-style-type: none"> <li>b. Check if Relay 4903 is shorted. If so, go to Step 7.</li> </ol> </li> <li>4. Reassemble all parts and panels before operating.</li> <li>5. Plug in microwave oven or reconnect power.</li> <li>6. To check if the error code is still present, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Wait 1 minute to check if the error appears. If error remains, go to Step 7. If not, go to Step 10.</li> <li>7. Unplug microwave oven or disconnect power and replace the Microwave ACU.</li> <li>8. Reassemble all parts and panels before operating.</li> <li>9. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>10. Verify operation is normal. Enter Diagnostics mode, select “Error Diagnostics”, and clear the history. If the HMI-Central/UI board Control Panel Assembly was replaced, there is no need to clear the error history.</li> </ol>

## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F1E5	Microwave Oven Inverter Error	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, then verify that the failure happens again.</p> <ol style="list-style-type: none"> <li>1. Make sure that all interlock switches works properly: when door is open, microwave light is on, and door is closed, microwave light is off.</li> <li>2. Unplug microwave oven or disconnect power.</li> <li>3. Check the following on the Microwave ACU:                             <ol style="list-style-type: none"> <li>a. Relay 4903</li> <li>b. Connector P8</li> </ol> </li> </ol> <div style="text-align: center;"> </div> <ol style="list-style-type: none"> <li>4. Check the following connections on the Inverter board:                             <ol style="list-style-type: none"> <li>a. CN701</li> <li>b. CN702</li> <li>c. CN703</li> </ol> </li> <li>5. If the door works properly and all connections are okay, replace the Microwave Inverter Board.</li> <li>6. Reassemble all parts and panels before operating.</li> <li>7. Plug in microwave oven or reconnect power.</li> <li>8. To check if the error code is still present, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Wait 1 minute to check if the error appears. If error remains, then go to Step 9. If not, go to Step 17.</li> <li>9. Unplug the oven or disconnect power.</li> <li>10. Replace the Magnetron.</li> <li>11. Reassemble all parts and panels before operating.</li> <li>12. Plug in microwave oven or reconnect power.</li> <li>13. To check if the error code is still present, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Wait 1 minute to check if the error appears. If error remains, then go to Step 14. If not, go to Step 17.</li> <li>14. Unplug microwave oven or disconnect power and replace the Microwave ACU.</li> <li>15. Reassemble all parts and panels before operating.</li> <li>16. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>17. Verify operation is normal. Enter Diagnostics mode, select "Error Diagnostics", and clear the history. If the HMI-Central/UI board Control Panel Assembly was replaced, there is no need to clear the error history.</li> </ol>

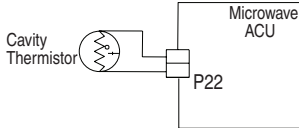
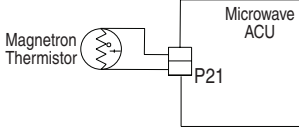
## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F1E6	Microwave Generation Error	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, and then verify that the failure happens again.</p> <ol style="list-style-type: none"> <li>1. Make sure that all interlock switches works properly: when door is open, microwave light is on, and when door is closed, microwave light is off.</li> <li>2. Unplug microwave oven or disconnect power.</li> <li>3. Check the following connections on Microwave ACU:               <ol style="list-style-type: none"> <li>a. Relay 4903</li> </ol> </li> </ol> <div data-bbox="781 520 1222 621" style="text-align: center;"> <p>The diagram illustrates the electrical circuit for the microwave oven. It starts with a power source labeled 'L1' connected to a 'Line Fuse 20A'. The circuit then passes through a 'Primary Interlock Switch' labeled 'BR', which has terminals '1' and '4'. From terminal '4', the power goes to a 'Microwave Relay 4903'. The output of the relay is connected to a 'BU' (Inverter Board) at terminal 'CN702'.</p> </div> <ol style="list-style-type: none"> <li>4. If the door works properly and all connections are okay, replace the Magnetron.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> <li>7. To check if the error code is still present, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Wait 1 minute to check if the error appears. If error remains, then go to Step 8. If not, go to Step 16.</li> <li>8. Unplug the oven or disconnect power and replace the Inverter Board.</li> <li>9. Reassemble all parts and panels before operating.</li> <li>10. Plug in the oven or reconnect power.</li> <li>11. To check if the error code is still present, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Wait 1 minute to check if the error appears. If error remains, then go to Step 12. If not, go to Step 16.</li> <li>12. Unplug microwave oven or disconnect power.</li> <li>13. Replace the Microwave ACU.</li> <li>14. Reassemble all parts and panels before operating.</li> <li>15. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>16. Verify operation is normal. Enter Diagnostics mode, select "Error Diagnostics", and clear the history. If the HMI-Central/UI board Control Panel Assembly was replaced, there is no need to clear the error history.</li> </ol>

## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F2 Keypad E6	Microwave Generation Error	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting “Error Diagnostics”.</p> <ol style="list-style-type: none"> <li>Unplug the oven or disconnect power.</li> <li>Check that connector J1 is firmly connected. If it is not, go to Step 3. If it is, go to Step 6.</li> </ol> <div style="text-align: center; margin: 10px 0;"> <p>The diagram shows a 'User Interface' box connected to a 'Keypad' box via a 'Ribbon Cable' labeled 'J1'. Below the 'User Interface' box is a 'Speaker' box. A bracket groups the 'User Interface', 'Keypad', and 'Speaker' boxes as the 'Control Panel Assembly'.</p> </div>
F2 Keypad E1	Stuck/shorted key	<ol style="list-style-type: none"> <li>Reconnect any loose connectors.</li> <li>Reassemble all parts and panels before operating.</li> <li>Plug in microwave oven or reconnect power. If the failure is gone, go to Step 9. If the failure is still present, unplug the oven or disconnect power.</li> <li>Replace the HMI-Central/UI board Control Panel Assembly.</li> <li>Reassemble all parts and panels before operating.</li> <li>Follow the on-screen prompts to select for a model selection.</li> <li>Verify operation is normal. Enter Diagnostics Mode, select “Error Diagnostics”, and clear the history. If the HMI-Central/UI board Control Panel Assembly was replaced, there is no need to clear the error history.</li> </ol>
F3 Sensors E0	Main oven sensor open or shorted	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting “Error Diagnostics”.</p> <ol style="list-style-type: none"> <li>Unplug the oven or disconnect power.</li> <li>Disconnect connector P3 from Oven ACU, and measure the resistance of the sensor between P3-1 and P3-2. Test for 1000 Ω to 1200 Ω at 77°F (25°C). Check sensor for short to ground. If checks on sensor are not correct, replace sensor and repeat the checks.</li> </ol> <div style="text-align: center; margin: 10px 0;"> <p>The diagram shows an 'Oven Temperature Sensor' (represented by a circle with a resistor symbol) connected to a 'Copernicus ACU' (represented by a rectangle with a terminal block). Two wires connect the sensor to the terminal block, labeled 'V' and 'V'. The terminal block is labeled 'P3'.</p> </div> <ol style="list-style-type: none"> <li>Reassemble all parts and panels and plug in the oven or reconnect power.</li> <li>Enter the Diagnostics Menu and select “Sensors &amp; Switches” to verify if the temperature shown in the Cavity Temp display is correct (ambient temperature). If it is, go to Step 8. If it is not, unplug microwave oven or disconnect power.             <p><b>NOTE:</b> On the status screen, the unit of measurement is Celsius.</p> </li> <li>Replace the Copernicus ACU.</li> <li>Reassemble all parts and panels before operating.</li> <li>Plug in the oven or reconnect power.</li> <li>Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics”, and clear the history.</li> </ol>

## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F4E1	Microwave Cavity Temperature Sensor Error	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function that uses the temperature sensor, such as a Convect cycle. Wait 1 minute, then verify that the failure happens again.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Check that the P22 connection of the Microwave ACU is firmly connected. If it is, go to Step 3. If it is not, reconnect and go to Step 5.</li> </ol>  <ol style="list-style-type: none"> <li>3. Disconnect connector P22 from the Microwave ACU, and measure the resistance of the thermistor. It should be approximately 230 kΩ at 77°F ± 10°F (25°C ± 10°C).</li> <li>4. Check thermistor for short to ground. If check on thermistor is not correct, replace the thermistor. If thermistor check is correct, replace the Microwave ACU.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in the oven or reconnect power.</li> <li>7. Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics”, and clear the history.</li> </ol>
F4E2	Magnetron Temperature Sensor Error	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and then power on). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, then verify that the failure happens again.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Check that the P21 connection of the Microwave ACU is firmly connected. If it is, go to Step 3. If it is not, reconnect and go to Step 5.</li> </ol>  <ol style="list-style-type: none"> <li>3. Disconnect connector P21 from the Microwave ACU. Measure the resistance of the thermistor. It should be (approximately) 10 kΩ at 77°F ± 10°F (25°C ± 10°C).</li> <li>4. Check thermistor for short to ground. If check on thermistor is not correct, replace the thermistor. If thermistor check is correct, replace the Microwave ACU.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in the oven or reconnect power.</li> <li>7. Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics”, and clear the history.</li> </ol>

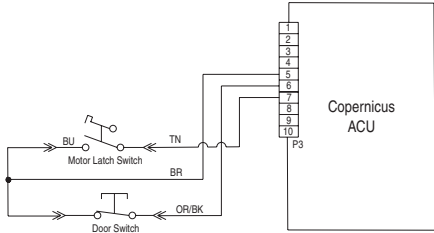
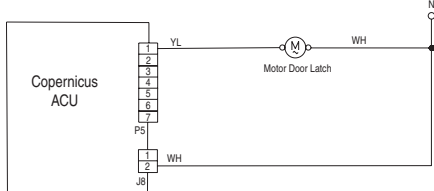
**For Service Technician Use Only**

Code	Description	Explanation and Recommended Procedure
F4 Inputs E4	Microwave Oven Humidity Sensor Error	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and then power on). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function that uses the humidity sensor, such as a Steam cycle. Wait 1 minute, then verify that the failure happens again.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Check that the P23 connection of the Microwave ACU is firmly connected. If it is, go to Step 3. If it is not, reconnect and go to Step 5.</li> </ol> <div data-bbox="850 485 1154 678" style="text-align: center;"> <p>The diagram shows a rectangular component labeled 'Humidity Sensor 1600' with three pins extending from its right side. These pins are connected to a three-pin connector labeled 'P23' on the side of a larger rectangular component labeled 'Microwave ACU'.</p> </div> <ol style="list-style-type: none"> <li>3. Disconnect connector P23 from Microwave ACU and measure the resistance of the sensor: Between pins 3 and 1, it should be approximately 2800Ω at 77°F ± 10°F (25°C ± 10°C). Between pins 3 and 2, it should be approximately 2800Ω at 77°F ± 10°F (25°C ± 10°C).</li> <li>4. Check sensor for short to ground. If checks on sensor are not correct, replace the sensor. If sensor checks are correct, replace the Microwave ACU.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in the oven or reconnect power.</li> <li>7. Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics”, and clear the history.</li> </ol>
F4E8	Inverter Over Temperature	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on). After powering on, be sure that a load, such as a microwave safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, then verify that the failure happens again.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Check the following:             <ol style="list-style-type: none"> <li>a. Cooling fan connection for any loose connectors.</li> <li>b. Oven installation and make sure there is no air blockage at the bottom vent.</li> </ol> </li> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in microwave oven or reconnect power.</li> <li>5. To check if the cooling fan is stalled, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Make sure the fan is running. If it is not, unplug the oven or disconnect power, replace the fan and go to Step 8. If it is, go to Step 6.</li> <li>6. Unplug microwave oven or disconnect power.</li> <li>7. Replace the inverter board.</li> <li>8. Reassemble all parts and panels before operating.</li> <li>9. Plug in the oven or reconnect power.</li> <li>10. Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics”, and clear the history.</li> </ol>

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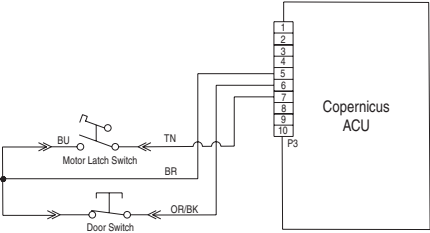
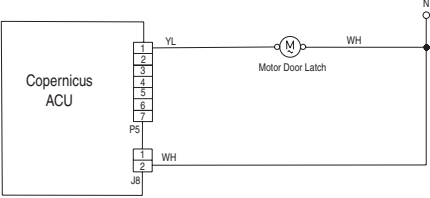
Code	Description	Explanation and Recommended Procedure
F4E9	Inverter and Magnetron Over Temperature	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and then power on). After powering on, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a microwave cooking function. Wait 1 minute, then verify that the failure happens again.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Check the following:               <ol style="list-style-type: none"> <li>a. Cooling fan connection for any loose connectors.</li> <li>b. Oven installation and make sure there is no air blockage at the bottom vent.</li> </ol> </li> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in microwave oven or reconnect power.</li> <li>5. To check if the cooling fan is stalled, be sure that a load, such as a microwave-safe cup of water, is present in the microwave oven cavity, and start a cooking function in the microwave oven. Make sure the fan is running. If it is not, unplug the oven or disconnect power, replace the fan and go to Step 8. If it is, go to Step 6.</li> <li>6. Unplug microwave oven or disconnect power.</li> <li>7. Replace the Magnetron and the inverter board.</li> <li>8. Reassemble all parts and panels before operating.</li> <li>9. Plug in the oven or reconnect power.</li> <li>10. Verify operation is normal. Enter the Diagnostics Menu, select "Error Diagnostics", and clear the history.</li> </ol>

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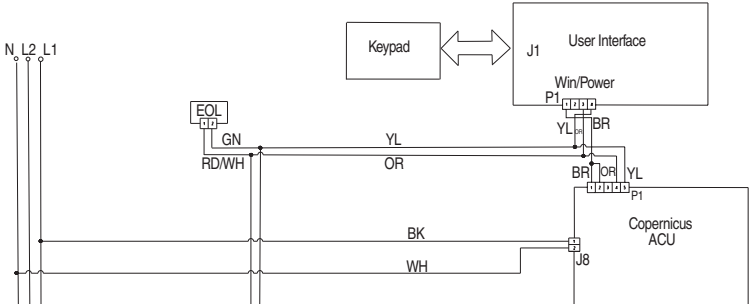
Code	Description	Explanation and Recommended Procedure
F5 Inputs E0	Door and latch switch do not agree	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics".</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostics Menu and select "Component Activation". Touch or scroll to "Door Latch Motor," then touch "OK." Touch "Latch Door." Wait at least 15 seconds, then check if latch status changes on screen. If status does not change, unplug microwave oven or disconnect power and go to Step 2. If status changes, unplug microwave oven or disconnect power and go to Step 5.</li> <li>2. If the oven door did not unlatch, unplug connector P3 and check for continuity (on the latch wire) between P3-5 and P3-7.</li> </ol> <div style="text-align: center; margin: 10px 0;">  </div> <ol style="list-style-type: none"> <li>3. Disconnect J8 connector from Copernicus ACU.</li> <li>4. Measure the resistance between connectors J8-2 and P5-1. It should be 500Ω to 3000Ω at 77°F (25°C).</li> </ol> <div style="text-align: center; margin: 10px 0;">  </div> <ol style="list-style-type: none"> <li>5. If the resistance check is outside the range, replace the affected door latch assembly. Verify that the error is gone.</li> <li>6. Reassemble all parts and panels.</li> <li>7. Plug in microwave oven or reconnect power.</li> <li>8. Enter the Diagnostics Menu and select "Component Activation". Check the door status on the screen by opening and closing the oven door.</li> <li>9. If status does not change, unplug the oven or disconnect power.</li> <li>10. Check for continuity with door open and closed at P3-5 to P3-6. Door open = infinite resistance. Door closed = zero resistance.</li> <li>11. If continuity check is not correct, replace the door latch assembly. If all checks were correct, replace Copernicus ACU.</li> <li>12. Reassemble all parts and panels before operating.</li> <li>13. Plug in microwave oven or reconnect power.</li> <li>14. Verify operation is normal. Enter the Diagnostics Menu, select "Error Diagnostics", and clear the history.</li> </ol>



## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F5 Inputs E1	Latch not operating	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics".</p> <ol style="list-style-type: none"> <li>Enter the Diagnostics Menu and select "Component Activation." Touch or scroll to "Door Latch Motor", then touch "OK". Touch "Latch Door". Wait at least 15 seconds, then check if latch status changes on screen. If status does not change, go to Step 2. If status changes, unplug the oven or disconnect power, replace Copernicus ACU and go to Step 6.</li> <li>If latch status on screen is "open", unplug microwave oven or disconnect power and check for loose harness connection between motor latch switch and P3-5 and P3-7.</li> </ol>  <ol style="list-style-type: none"> <li>Disconnect connector J8 from Copernicus ACU.</li> <li>Measure the resistance between connectors J8-2 and P5-1. It should be 500 Ω to 3000 Ω at 77°F (25°C).</li> </ol>  <ol style="list-style-type: none"> <li>If the resistance check is outside the range, replace the door latch assembly. Verify that the error is gone. If all checks were correct, replace Copernicus ACU.</li> <li>Reassemble all parts and panels before operating.</li> <li>Plug in the oven or reconnect power.</li> <li>Verify operation is normal. Enter the Diagnostics Menu, select "Error Diagnostics", and clear the history.</li> </ol>

## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F6E0	Oven user interface - lost communication	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics".</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Confirm continuity of wiring between HMI-Central/UI board Control Panel Assembly and ACU. For combo ovens: P1-4 to P1-3 and P1-5 to P1-4 Check for continuity between P1-1 and P1-2.</li> </ol>
F6E6	Oven ACU lost communication	 <ol style="list-style-type: none"> <li>3. If continuity has been confirmed, plug in the oven or reconnect power.</li> <li>4. If the error reappears, open door and check if light is on.</li> <li>5. If light is off, unplug the oven or disconnect power and replace ACU. If light is on, unplug the oven or disconnect power and replace HMI-Central/UI board Control Panel Assembly.</li> <li>6. Reassemble all parts and panels before operating</li> <li>7. Plug in the oven or reconnect power.</li> <li>8. Follow the on screen prompts to select the model number.</li> <li>9. Verify operation is normal. Enter diagnostic mode to view "Clear History" screen to clear each fault code.</li> </ol>

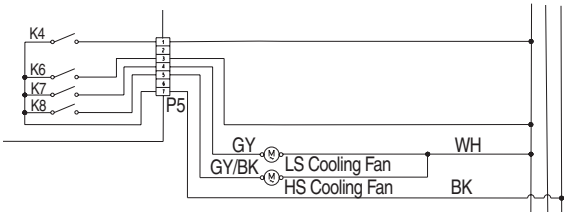
## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F6E1	Over temperature	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, then power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics".</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Check for elements shorted to ground. Check resistance of elements:               <ol style="list-style-type: none"> <li>a. PX4-2 and PX3-2 to check Broil element (13.2Ω to 14.6Ω)</li> <li>b. PX1-1 and PX3-2 to check Bake element (19Ω to 21Ω)</li> <li>c. PX1-3 and PX3-2 to check Convection element (16.6Ω to 18.4Ω) (For Microwave Oven Combination)</li> </ol> </li> <li>3. If there is a short to ground, the control is good. Look for element failures.</li> <li>4. Check for shorted relays. Disconnect PX1 and PX4 connectors and check for shorts between:               <ol style="list-style-type: none"> <li>a. PX1-1 and PX1-2 (Bake relay)</li> <li>b. PX1-3 and PX1-4 (Convection relay) (For Microwave Oven Combination)</li> <li>c. PX4-1 and PX4-2 (Broil relay)</li> </ol> </li> </ol> <div data-bbox="743 772 1263 1060" style="text-align: center;"> <p>The diagram shows the Copernicus ACU connected to three power lines: N (Neutral), L2, and L1 (Line). The ACU has three relays: PX4 (top), PX1 (middle), and PX3 (bottom). PX4 controls the Broil element (BU, 3600W) and is connected to L2. PX1 controls the Bake element (BK, 2800W) and is connected to L1. PX3 controls the Convection element (RD) and is connected to L1. A Temperature Limiter (RD/WH, 170A C/338A F) is also connected to L1. The ACU also has three switches: K11 (top), K10 (middle), and K3 (bottom).</p> </div> <ol style="list-style-type: none"> <li>5. If there is a shorted relay, replace the Copernicus ACU. Go to Step 9.</li> <li>6. If everything is correct, disconnect connector P3 from the Copernicus ACU.</li> <li>7. Measure the resistance of the oven sensor. It should be 1000Ω to 1200Ω at 77°F (25°C).</li> <li>8. Check sensor for short to ground. If checks on sensor are not correct, replace the sensor and repeat the checks.</li> </ol> <div data-bbox="852 1291 1156 1428" style="text-align: center;"> <p>The diagram shows an Oven Temperature Sensor connected to the Copernicus ACU at connector P3. The sensor is represented by a circle with a wavy line inside, and the ACU is a rectangular box with a multi-pin connector labeled P3.</p> </div> <ol style="list-style-type: none"> <li>9. Reassemble all parts and panels before operating.</li> <li>10. Plug in microwave oven or reconnect power.</li> <li>11. Enter the Status screen in the Diagnostics mode and check the Status screen to verify oven temperature shown in display is correct (ambient temperature). If not, unplug the oven or disconnect power, and replace the Copernicus ACU. <b>NOTE:</b> On the Status screen, the unit of measurement can be Celsius or Fahrenheit, depending on the user settings.</li> <li>12. Reassemble all parts and panels before operating.</li> <li>13. Plug in microwave oven or reconnect power.</li> <li>14. Verify operation is normal. Re-enter the Diagnostics mode and remove error code(s).</li> </ol>

## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F6E4	User interface/ACU state status mismatch	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics".</p> <p><b>NOTE:</b> If other error codes are stored, troubleshoot those other error codes first.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power</li> <li>2. Replace Copernicus ACU.</li> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in the oven or reconnect power.</li> <li>5. Cycle power. If error persists after the Copernicus ACU is replaced, unplug the oven or disconnect power. Go to Step 7.</li> <li>6. If the error is gone, go to Step 10.</li> <li>7. Replace UI.</li> <li>8. Reassemble parts and panels before operating.</li> <li>9. Plug in the oven or reconnect power. Follow the steps in the "General Procedure: Cavity Size Select" section if the UI was replaced.</li> <li>10. Verify operation is normal. Re-enter the Diagnostics mode and remove error code(s).</li> </ol>
F6E8	Lost communications with microwave oven ACU	<p><b>NOTE:</b> Before starting any test, cycle power to the microwave oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics".</p> <ol style="list-style-type: none"> <li>1. Make sure the oven is plugged in. Open microwave door to check if the light comes on.</li> <li>2. Check that Sabbath mode for the oven is disabled during this check. Press TOOLS and select "More Modes", then press "Sabbath" to turn off. Confirm the display shows "Sabbath mode off".</li> <li>3. Unplug the oven or disconnect power.</li> <li>4. Check the connection between HMI-Central/UI board Control Panel Assembly J1-3 (yellow) to J1-4 (orange) and Microwave ACU P26-3 (orange) to P26-4 (yellow).</li> </ol> <div style="text-align: center; margin: 10px 0;"> <pre> graph TD     subgraph HMI [HMI-Central/UI Board Control]         J1_1[Wide/Power 1]         J1_2[OR 2]         J1_3[OR 3]         J1_4[YL 4]     end     subgraph ACU [Microwave ACU]         P26_1[1]         P26_2[2]         P26_3[3]         P26_4[4]         P26_5[5]     end     J1_2 --- P26_3     J1_4 --- P26_4             </pre> </div> <ol style="list-style-type: none"> <li>5. If harness is correct, replace the Microwave ACU.</li> <li>6. Reassemble all parts and panels before operating.</li> <li>7. Plug in the oven or reconnect power.</li> <li>8. If the error appears again, unplug or disconnect power and replace UI.</li> <li>9. Reassemble all parts and panels before operating.</li> <li>10. Plug in the oven or reconnect power.</li> <li>11. Verify operation is normal. Re-enter the Diagnostics mode and remove error code(s).</li> </ol>

## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F9E0	Product not wired correctly	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics Menu and selecting "Error Diagnostics".</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Access the electrical wiring from the house power supply to the oven.</li> <li>3. Check house wiring to the product. Check to see if the neutral connection is switched with L1 or L2 (refer to the installation instructions for product wiring).</li> <li>4. Verify correct power supply to unit L1 to L2 = 240 V, L1 to Neutral = 120 V and L2 to Neutral = 120 V.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in the oven or reconnect power.</li> <li>7. Verify operation is normal by running a cooking function. Enter Diagnostics mode, select "Error Diagnostics", and clear the history.</li> </ol>
F8E0	Low fan speed underspeed	<p><b>LOW FAN SPEED MESSAGE ON SINGLE/DOUBLE:</b> The product is experiencing a problem and can no longer be used.</p> <p><b>PROCEDURE:</b> Enter diagnostics mode by going to tools, info, service and support. Press diagnostics button for 1 minute. Press 1, 2, 3, 1, 2, 3, 1, 2, 3. Press ENTER. The warning will be displayed. Press ENTER.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Wait for at least 30 seconds.</li> <li>3. Plug in the oven or reconnect power.</li> </ol>
F8E1	Low fan speed overspeed	
F8E2	High fan speed underspeed	<ol style="list-style-type: none"> <li>4. Enter Diagnostics mode and navigate to the Component Activation list.</li> <li>5. Turn on the Cooling Fan Low Speed.</li> <li>6. Check for proper voltage input at P5-5 and neutral for high speed fan, P5-4 and neutral for low speed fan when cooling fan should be running by completing following steps.</li> <li>7. Unplug the oven or disconnect power.</li> <li>8. Connect voltage measurement equipment.</li> <li>9. Plug in the oven or reconnect power. Measure voltage and confirm voltage reading is 120 V. If it is not, unplug the oven or disconnect power and go to Step 13. If it is, go to Step 10.</li> </ol>
F8E3	High fan speed overspeed	<ol style="list-style-type: none"> <li>10. Check for proper voltage input at P4-1 and P4-2 and confirm voltage reading is 5 VDC. If it is not, unplug the oven or disconnect power and go to Step 13. If it is, go to Step 11.</li> <li>11. Unplug the oven or disconnect power.</li> <li>12. Replace cooling fan. Go to Step 15.</li> <li>13. Check integrity of all harness wires and connections between the oven ACU and the cooling fan. Ensure no shorted wires to chassis. If the wiring is pinched or damaged, replace the cooling fan harness. Go to Step 15. If the wiring is good, go to Step 14.</li> <li>14. Replace the oven ACU. Go to Step 15.</li> <li>15. Replace all parts and panels before operating.</li> <li>16. Plug in the oven or reconnect power.</li> <li>17. Plug in the oven or reconnect power.</li> </ol> <p>Once Fan Speed is completed, navigate back to the activation list and activate the Cooling Fan High Speed and return to "More Information" screen for fan speed.</p>

## For Service Technician Use Only

### Double Oven

Code	Description	Explanation and Recommended Procedure
User Interface (UI) not reacting to touch	HMI-Central/UI board Control Panel Assembly	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostic menu, and then touch POWER.</li> <li>2. To reset Touch Calibration: Unplug the oven or disconnect power, wait 10 seconds, and then plug in the oven or reconnect power. If still no response, go to Step 3.</li> <li>3. Unplug the oven or disconnect power.</li> <li>4. Replace HMI-Central/UI board Control Panel Assembly.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>7. Verify operation is normal.</li> </ol>
No Sound	Speaker, HMI-Central/UI board Control Panel Assembly	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <ol style="list-style-type: none"> <li>1. Verify sound is enabled. Touch the Tools menu, and then scroll to the Sound menu. Confirm Key Press, Timer &amp; Alert, and Power On &amp; Off actions are all turned on and set to the desired volume.</li> <li>2. Unplug the oven or disconnect power.</li> <li>3. Confirm the speaker is firmly connected to the UI board. If speaker is firmly connected, go to Step 4. If speaker connection is loose, reconnect and proceed to Step 5.</li> </ol> <div style="text-align: center; margin: 10px 0;"> </div> <ol style="list-style-type: none"> <li>4. Replace HMI-Central/UI board Control Panel Assembly.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>7. Confirm operation of the speaker. If problem persists, unplug the oven or disconnect power, replace HMI-Central/UI board Control Panel Assembly, and repeat steps 5 through 7.</li> </ol>
F1 Internal E0	Oven User Interface (UI) failure	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics mode and selecting “Error Diagnostics”.</p> <p><b>NOTE:</b> If other error codes are stored, troubleshoot those other error codes first.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Confirm the control panel assembly is grounded to the oven chassis. If it is, go to Step 6. If it is not, fix the connection.</li> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in the oven or reconnect power and cycle power.</li> <li>5. If error, persists unplug the oven or disconnect power.</li> <li>6. Replace HMI-Central/UI board Control Panel Assembly.</li> <li>7. Reassemble all parts and panels before operating.</li> <li>8. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>9. Verify operation is normal. Enter Diagnostics mode, select “Error Diagnostics”, and clear the history. If the HMI-Central/UI board Control Panel Assembly was replaced, there is no need to clear the error history.</li> </ol>

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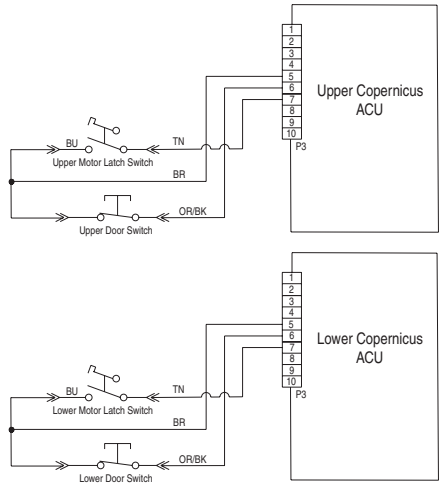
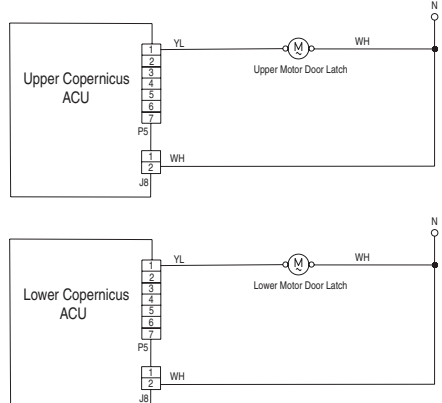
Code	Description	Explanation and Recommended Procedure
F1 E1	Internal oven appliance manager error	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics mode and selecting “Error Diagnostics”.</p> <p><b>NOTE:</b> If other error codes are stored, troubleshoot those other error codes first.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. For single ovens: Replace the Copernicus ACU. For double ovens: Replace both Copernicus ACU’s.</li> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in the oven or reconnect power.</li> <li>5. If error persists after Copernicus ACU is replaced, unplug the oven or disconnect power, and then go to Step 6. If not, go to Step 9.</li> <li>6. Replace HMI-Central/UI board Control Panel Assembly.</li> <li>7. Reassemble parts and panels before operating.</li> <li>8. Plug in the oven or reconnect power. Follow the on-screen prompts for a model selection.</li> <li>9. Verify operation is normal. Enter Diagnostics mode, select “Error Diagnostics”, and clear the history. If the HMI-Central/UI board Control Panel Assembly was replaced, there is no need to clear the error history.</li> </ol>
F2 Keypad E0	Keypad disconnected	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics mode and selecting “Error Diagnostics”.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Check that connectors J1 are firmly connected. If they are not, go to Step 3. If they are, go to Step 6.</li> </ol> <div style="text-align: center;"> </div>
F2 Keypad E1	Stuck/shorted key	<ol style="list-style-type: none"> <li>3. Reconnect any loose connectors.</li> <li>4. Reassemble all parts and panels before operating.</li> <li>5. Plug in the oven or reconnect power. If the failure is gone, go to Step 9. If the failure is still present, unplug the oven or disconnect power.</li> <li>6. Replace the HMI-Central/UI board Control Panel Assembly.</li> <li>7. Reassemble all parts and panels before operating.</li> <li>8. Follow the on-screen prompts to select a model number.</li> <li>9. Verify operation is normal. Enter the Diagnostics Menu, select “Error Diagnostics” and clear the history. If the Control Panel Assembly was replaced, there is no need to clear the error history.</li> </ol>

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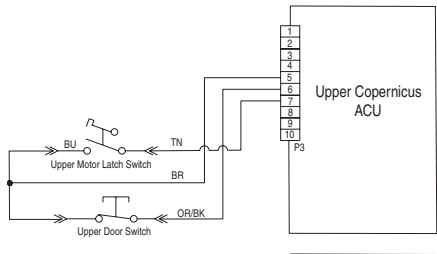
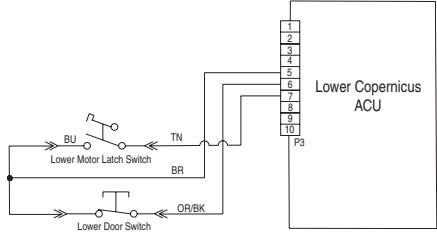
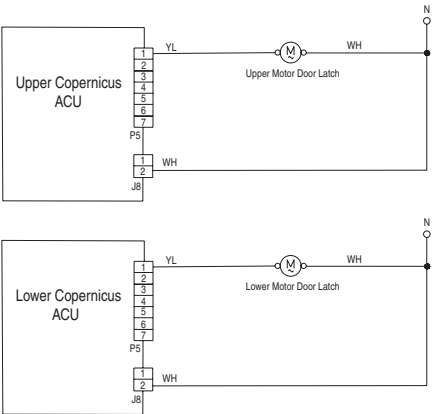
Code	Description	Explanation and Recommended Procedure
F3 Sensors E0	Main oven sensor open or shorted	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics mode and selecting “Error Diagnostics”.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Disconnect connector P3 from Copernicus Appliance Manager and measure the resistance of the sensor between P3-1 and P3-2. Test for 1000Ω to 1200Ω at 77°F (25°C). Check sensor for short to ground. If checks on sensor are not correct, replace sensor and repeat the checks.</li> </ol> <div style="text-align: center;"> </div>
F3 Sensors E1	Bottom oven sensor open or shorted	<ol style="list-style-type: none"> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in the oven or reconnect power.</li> <li>5. Enter Diagnostics mode and select “Sensors &amp; Switches” to verify if the temperature shown in the Cavity Temp display is correct (ambient temperature). If it is, go to Step 8.</li> </ol> <p><b>NOTE:</b> On the status screen, the unit of measurement is Celsius.</p> <ol style="list-style-type: none"> <li>6. If not, unplug the oven or disconnect power.</li> <li>7. Replace the Copernicus ACU board.</li> <li>8. Reassemble all parts and panels before operating.</li> <li>9. Plug in the oven or reconnect power.</li> <li>10. Verify operation is normal. Enter Diagnostics mode, select “Error Diagnostics”, and clear the history.</li> </ol>



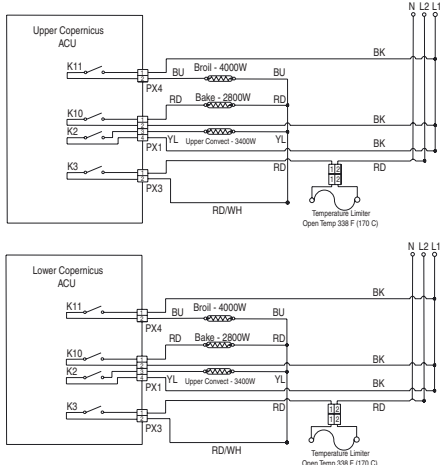
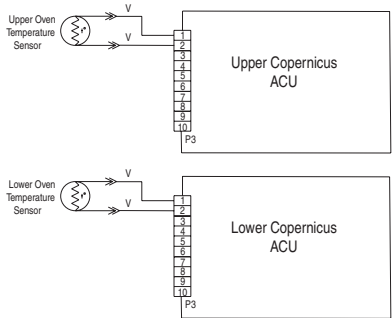
## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F5 Inputs E0	Door and latch switch do not agree (main/upper oven).	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics mode and selecting “Error Diagnostics”.</p> <ol style="list-style-type: none"> <li>1. Enter the Diagnostic mode and select “Component Activation”.</li> <li>2. Touch or scroll to “Door Latch Motor”. Touch “Okay”. Touch “Latch Door”. Wait at least 15 seconds and check if latch status changes on screen. If status does not change, go to Step 4. If status changes, go to Step 8.</li> <li>3. Unplug the or disconnect power.</li> <li>4. Unplug connector P3 and check for continuity (on the latch wire) between P3-5 and P3-7.</li> </ol> 
F5 Inputs E3	Door and latch switch do not agree (lower oven).	<ol style="list-style-type: none"> <li>5. Unplug connector J8 from the Copernicus ACU and measure the resistance between connectors J8-2 and P5-1. It should be 500Ω to 3000Ω at 77°F (25°C).</li> </ol>  <ol style="list-style-type: none"> <li>6. If the resistance check is not correct, replace the affected door latch assembly.</li> <li>7. Verify that the resistance between connectors J8-2 and P5-1 is 500 Ω to 3000 Ω at 77°F (25°C).</li> <li>8. Reassemble all parts and panels before operating.</li> <li>9. Plug in the oven or reconnect power.</li> <li>10. Enter the Diagnostic mode and select “Sensors &amp; Switches”. Check the door status on the screen by opening and closing the oven door.</li> <li>11. If status does not change, unplug the oven or disconnect power.</li> <li>12. Check door switch for continuity with the door open and closed at P3-5 to P3-6. Door open = infinite resistance. Door closed = zero resistance.</li> <li>13. If continuity check is not correct, replace the door latch assembly and verify that the resistance is correct.</li> <li>14. If all checks are correct, replace Copernicus ACU.</li> </ol>

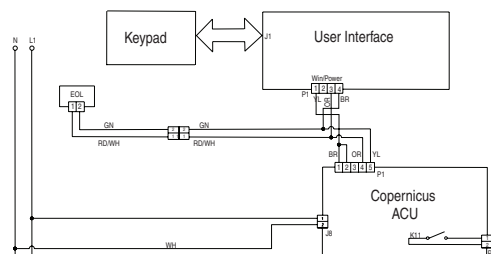
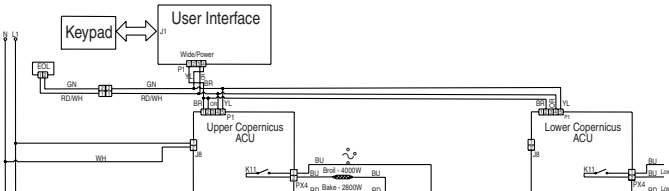
## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
		<p><b>15.</b> Reassemble all parts and panels before operating.</p> <p><b>16.</b> Plug in the oven or reconnect power.</p> <p><b>17.</b> Verify operation is normal. Enter Diagnostics mode, select “Error Diagnostics”, and clear the history.</p>
F5 Inputs E1	Latch not operating (main/upper oven)	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics mode and selecting “Error Diagnostics”.</p> <ol style="list-style-type: none"> <li><b>1.</b> Enter the Diagnostic mode and select “Component Activation”.</li> <li><b>2.</b> Touch or scroll to “Door Latch Motor”. Touch “OK”. Touch “Latch Door”. Wait at least 15 seconds and check if latch status changes on screen. If status does not change, go to Step 4.</li> <li><b>3.</b> If status changes, unplug the oven or disconnect power, and go to Step 8.</li> <li><b>4.</b> If latch status on screen is “open”, unplug the oven or disconnect power.</li> <li><b>5.</b> Check for loose harness connection between motor latch switch and P3-5 and P3-7.</li> </ol> <div style="text-align: center;">  </div>
F5 Inputs E4	Latch not operating (lower oven)	<div style="text-align: center;">  </div> <ol style="list-style-type: none"> <li><b>6.</b> Disconnect connector J8 from the Copernicus ACU. Measure the resistance between connectors J8-2 and P5-1. It should be 500Ω to 3000Ω at 77°F (25°C).</li> </ol> <div style="text-align: center;">  </div> <ol style="list-style-type: none"> <li><b>7.</b> If the resistance check is outside the range, replace the door latch assembly.</li> <li><b>8.</b> Verify that the resistance between connectors J8-2 and P5-1 is 500Ω to 3000Ω at 77°F (25°C).</li> <li><b>9.</b> If all checks were correct, replace Copernicus ACU.</li> <li><b>10.</b> Reassemble all parts and panels before operating.</li> <li><b>11.</b> Plug in the oven or reconnect power.</li> <li><b>12.</b> Verify operation is normal. Enter Diagnostics mode, select “Error Diagnostics”, and clear the history.</li> </ol>

# For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F6 E1	Over temperature (main/upper oven)	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics mode and selecting “Error Diagnostics”.</p> <ol style="list-style-type: none"> <li>Unplug the oven or disconnect power.</li> <li>Check for elements shorted to ground. Check resistance of elements:                     <ol style="list-style-type: none"> <li>PX4-2 and PX3-2 to check Broil element (13.2Ω to 14.6Ω)</li> <li>PX1-1 and PX3-2 to check Bake element (19Ω to 21Ω)</li> <li>PX1-3 and PX3-2 to check Convect element (15.2Ω to 17.3Ω)</li> </ol> </li> <li>If there is a short to ground, replace the corresponding element.</li> <li>Check for shorted relays. Disconnect PX1, PX2, and PX4 connectors and check for shorts between:                     <ol style="list-style-type: none"> <li>PX1-1 and PX1-2 (Bake relay)</li> <li>PX1-3 and PX1-4 (Convect relay)</li> <li>PX4-1 and PX4-2 (Broil relay)</li> </ol> </li> </ol>
F6 E3	Over temperature (lower oven)	 <ol style="list-style-type: none"> <li>If there is a shorted relay, replace the Copernicus ACU control.</li> <li>Go to Step 13.</li> <li>If everything is correct, disconnect connector P3 from the Copernicus ACU and measure the resistance of the oven sensor. It should be 1000Ω to 1200Ω at 77°F (25°C). Check sensor for short to ground. If checks on sensor are not correct, replace the sensor and repeat the checks.</li> </ol>  <ol style="list-style-type: none"> <li>Reassemble all parts and panels before operating.</li> <li>Plug in the oven or reconnect power.</li> <li>Enter the Diagnostics mode and select “Sensors &amp; Switches” to verify that the corresponding oven temperature displayed is correct (ambient temperature).                     <p><b>NOTE:</b> On the status screen, the unit of measurement is Celsius.</p> </li> <li>If it is not, unplug the oven or disconnect power.</li> <li>Replace the Copernicus ACU board.</li> <li>Reassemble all parts and panels before operating.</li> </ol>

## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
		<p><b>14.</b> Plug in the oven or reconnect power.</p> <p><b>15.</b> Verify operation is normal. Enter Diagnostics mode, select “Error Diagnostics”, and clear the history.</p>
F6 E0	Oven user interface – lost communication	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <ol style="list-style-type: none"> <li><b>1.</b> Unplug the oven or disconnect power.</li> <li><b>2.</b> Confirm continuity of wiring between HMI-Central/UI board Control Panel Assembly and ACU. For single ovens: P1-4 to P1-3 and P1-5 to P1-4 For double ovens: P1-4 Upper Copernicus to P1-3 and P1-4 Lower Copernicus to P1-3 P1-5 Upper Copernicus to P1-4 and P1-5 Lower Copernicus to P1-4</li> <li><b>3.</b> If continuity has been confirmed, plug in the oven or reconnect power.</li> <li><b>4.</b> If the error reappears, open door and check if light is on.</li> </ol>
F6 E6	Oven appliance manager – lost communication (main/upper oven)	<ol style="list-style-type: none"> <li><b>5.</b> If light is off, unplug the oven or disconnect power and replace ACU. If light is on, unplug the oven or disconnect power and replace HMI-Central/UI board Control Panel Assembly.</li> <li><b>6.</b> Reassemble all parts and panels before operating.</li> <li><b>7.</b> Plug in the oven or reconnect power.</li> <li><b>8.</b> Follow the on screen prompts to select the model number.</li> <li><b>9.</b> Verify operation is normal. Enter diagnostic mode to view “Clear History” screen to clear each fault code.</li> </ol>
F6 E9	Oven appliance manager – lost communication (lower oven)	<p><b>Single Oven</b></p>  <p><b>Double Oven</b></p> 

## For Service Technician Use Only

Code	Description	Explanation and Recommended Procedure
F6 E4	User Interface/Appliance Manager state status mismatch	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Replace Copernicus ACU.</li> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in the oven or reconnect power.</li> <li>5. Cycle power. If error persists after the Copernicus ACU is replaced, unplug the oven or disconnect power. Go to Step 7.</li> <li>6. If the error is gone, go to Step 10.</li> <li>7. Replace the HMI-Central/UI board Control Panel Assembly.</li> <li>8. Reassemble parts and panels before operating.</li> <li>9. Plug in the oven or reconnect power and follow the on-screen prompts for a model selection.</li> <li>10. Verify operation is normal. Enter Diagnostics mode, select "Error Diagnostics", and clear the history.</li> </ol>
F8 E0	Low fan speed underspeed	<p><b>LOW FAN SPEED MESSAGE ON SINGLE/DOUBLE:</b> The product is experiencing a problem and can no longer be used.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Wait for at least 30 seconds.</li> <li>3. Plug in the oven or reconnect power.</li> <li>4. Enter Diagnostics mode and navigate to the Component Activation list.</li> <li>5. Turn on the Cooling Fan Low Speed.</li> <li>6. Check for proper voltage input at P5-5 and neutral for high speed fan, P5-4 and neutral for low speed fan when cooling fan should be running by completing following steps.</li> <li>7. Unplug the oven or disconnect power.</li> <li>8. Connect voltage measurement equipment.</li> <li>9. Plug in the oven or reconnect power. Measure voltage and confirm voltage reading is 120 V. If it is not, unplug the oven or disconnect power and go to Step 13. If it is, go to Step 10.</li> <li>10. Check for proper voltage input at P4-1 and P4-2 and confirm voltage reading is 5VDC. If it is not, unplug the oven or disconnect power and go to Step 13. If it is, go to Step 11.</li> <li>11. Unplug the oven or disconnect power.</li> <li>12. Replace cooling fan. Go to Step 15.</li> <li>13. Check integrity of all harness wires and connections between the oven appliance manager and the cooling fan. Ensure no shorted wires to chassis. If the wiring is pinched or damaged, replace the cooling fan harness. Go to Step 15. If the wiring is good, go to Step 14.</li> <li>14. Replace the oven appliance manager. Go to Step 15.</li> <li>15. Replace all parts and panels before operating.</li> <li>16. Plug in the oven or reconnect power.</li> <li>17. Enter into Diagnostics mode and verify that fan speed is running within oven. (High speed: 1000-3300, Low speed: 400-3000)</li> </ol> <p>Once Fan Speed is completed, navigate back to the activation list and activate the Cooling Fan High Speed and return to "More Information" screen for fan speed.</p>
F8 E1	Low fan speed overspeed	
F8 E2	High fan speed underspeed	
F8 E3	High fan speed overspeed	

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Code	Description	Explanation and Recommended Procedure
F9 E0	Product not wired correctly	<p><b>NOTE:</b> Before starting any test, cycle power to the oven (power off, wait 10 seconds, and power on).</p> <p><b>PROCEDURE:</b> Before proceeding, verify the error code by entering the Diagnostics mode and selecting “Error Diagnostics”.</p> <ol style="list-style-type: none"> <li>1. Unplug the oven or disconnect power.</li> <li>2. Access the electrical wiring from the house power supply to the oven.</li> <li>3. Check house wiring to the product. Check to see if the neutral connection is switched with L1 or L2 (refer to the Installation Instructions for product wiring).</li> <li>4. Verify correct power supply to unit L1 to L2 = 240 V, L1 to Neutral = 120 V and L2 to Neutral = 120 V.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in the oven or reconnect power.</li> <li>7. Verify operation is normal by running a cooking function. Enter Diagnostics mode, select “Error Diagnostics”, and clear the history.</li> </ol>

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## Section 3: Component Testing

This section provides the wiring diagram, component testing, and component location for the “Whirlpool® Smart Wall Ovens”.

- Safety
- Wiring Diagram
- Component Testing
- Component Location

# For Service Technician Use Only

## Safety

### Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.



This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word "DANGER" or "WARNING."

These words mean:

**⚠ DANGER**

You can be killed or seriously injured if you don't immediately follow instructions.

**⚠ WARNING**

You can be killed or seriously injured if you don't follow instructions.

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

**⚠ 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 performing 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.

#### IMPORTANT: Electrostatic Discharge (ESD) Sensitive Electronics

ESD problems are present everywhere. ESD may damage or weaken the electronic control assembly. The new control assembly may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- Use an antistatic wrist strap. Connect wrist strap to green ground connection point or unpainted metal in the appliance

-OR-

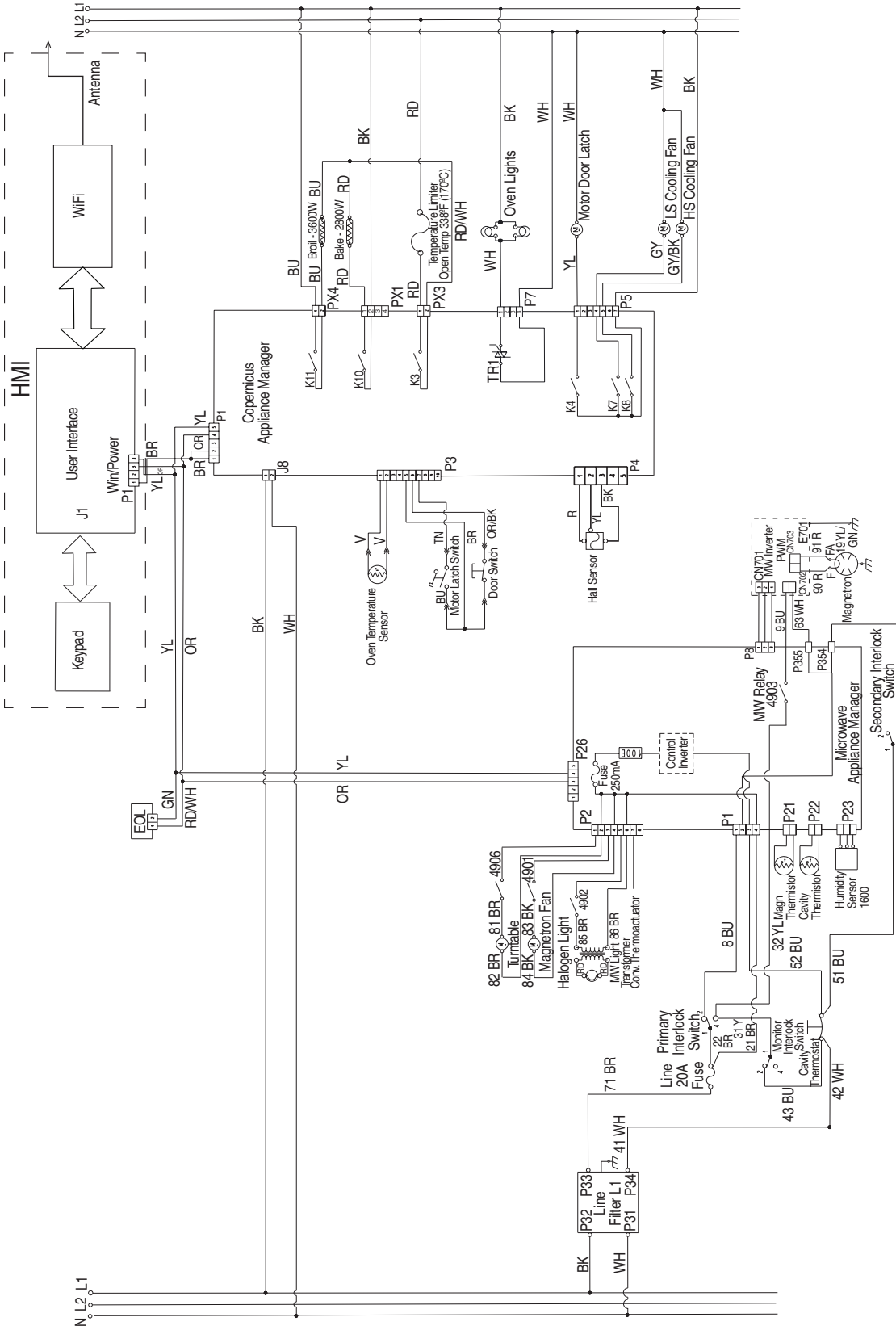
Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.

- Before removing the part from its package, touch the antistatic bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic control assembly by edges only.
- When repackaging failed electronic control assembly in antistatic bag, observe above instructions.

# For Service Technician Use Only

## Wiring Diagram

Wiring diagram for models WOC54EC0H and WOC54EC7H

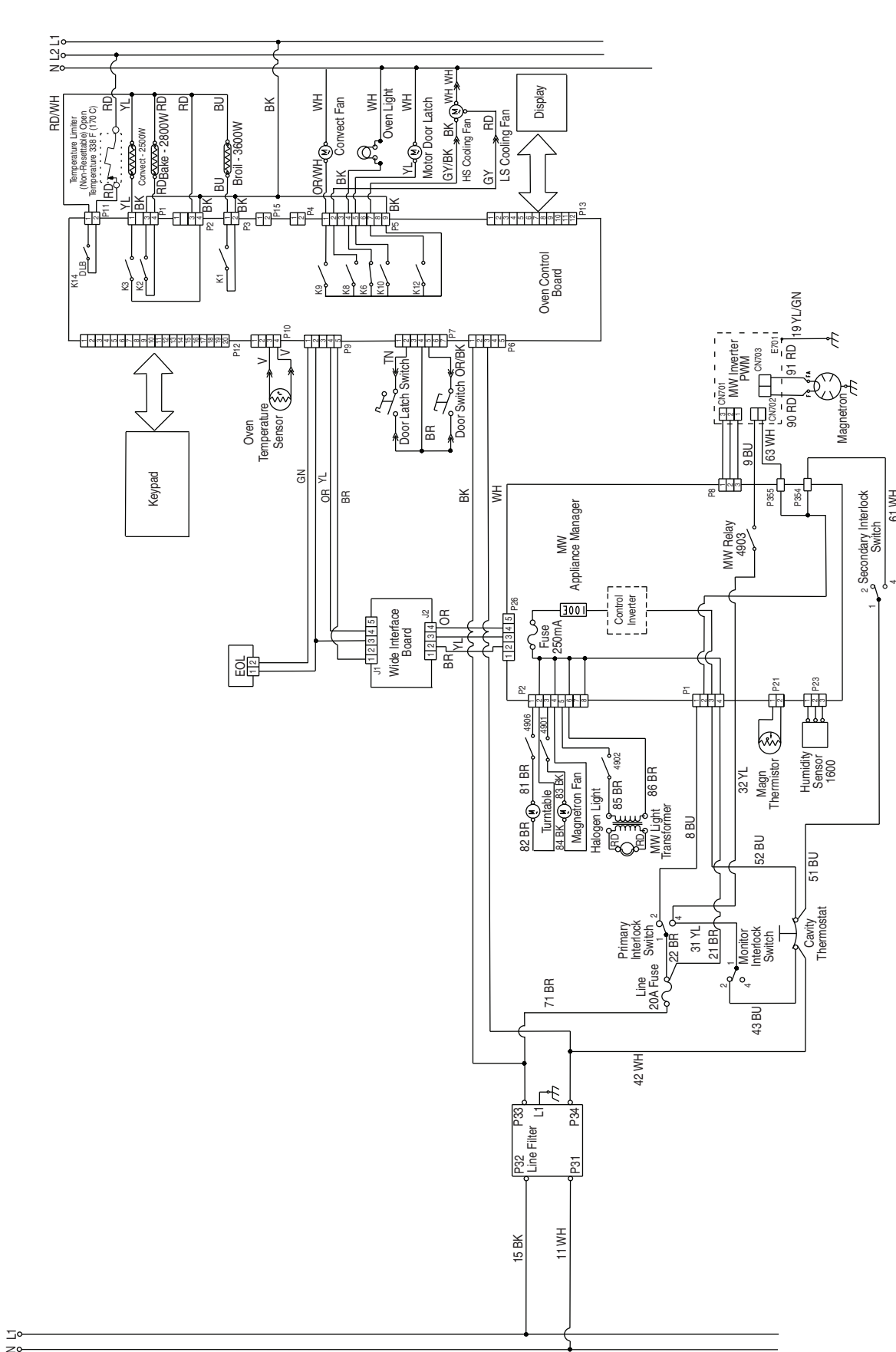


**LEGEND**

+	Connection
⊢	No Connection
⊢	On Some Models
↔	In-Line Connection
P2-1	Connector P2, Position 1
□	Circuitry Enclosed Within
○	Terminals
⏏	Single Switch
⏏	Thermal Switch (opens on heat rise)
⏏	Thermal Switch (closes on heat rise)
Ω	Resistor or Element
Ⓜ	Motor
Ⓛ	Incandescent Light
Ⓛ	Non-Resettable Fuse
Ⓛ	Thermistor
Ⓛ	Indicator Light
Ⓛ	Triac
Ⓛ	Thermo Fuse
Ⓛ	Hall Effect Sensor

# For Service Technician Use Only

## Wiring diagram for model WOC75EC0H

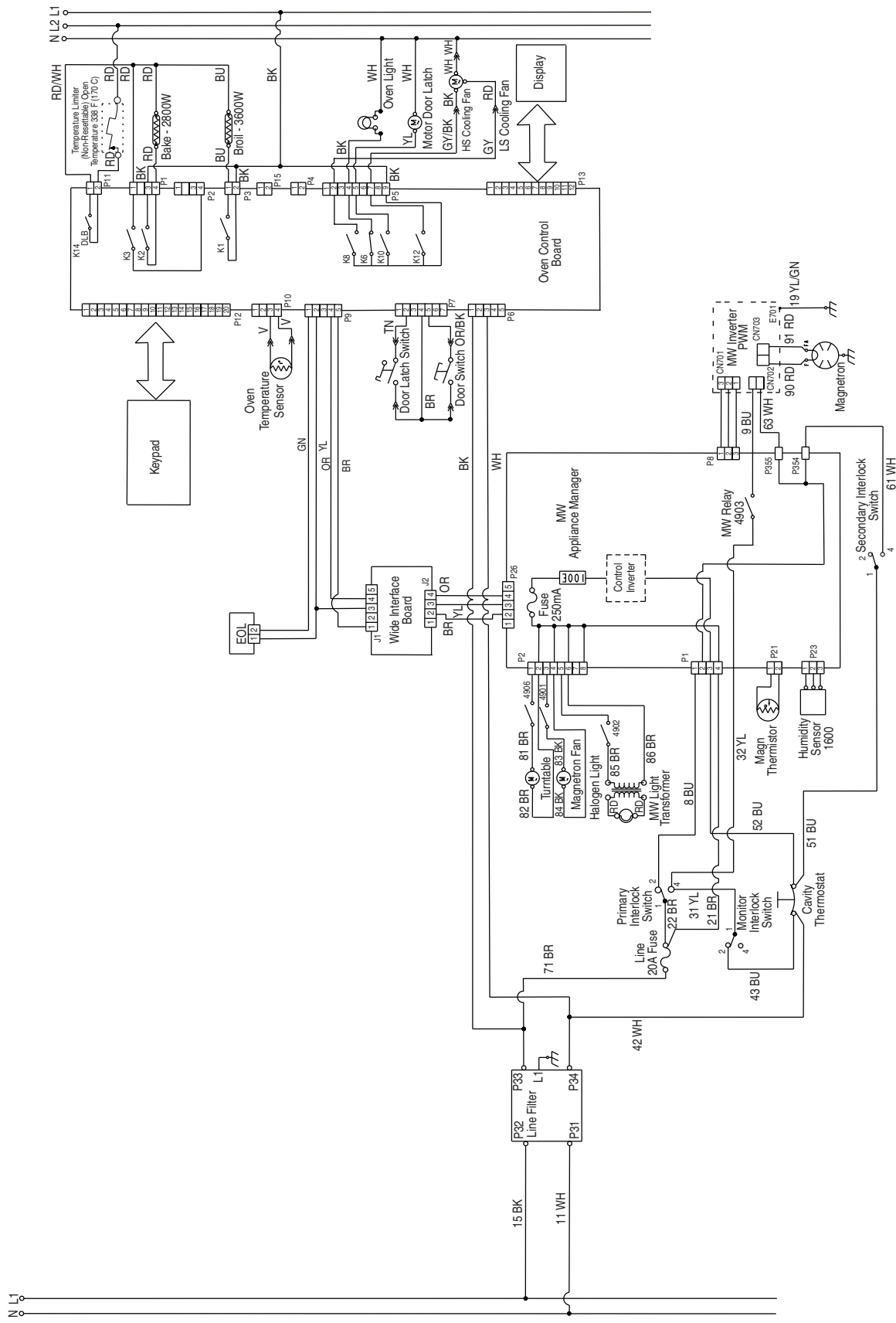


### LEGEND

	Thermo Fuse
	Triac
	Indicator Light
	Thermistor
	Non-resettable Fuse
	Incandescent Light
	Motor
	Resistor or Element
	Thermal Switch (closes on heat rise)
	Thermal Switch (opens on heat rise)
	Single Switch
	Terminals
	Circuitry Enclosed Within
	P2-1 Connector P2, Position 1
	In-Line Connection
	On Some Models
	No Connection
	Connection

# For Service Technician Use Only

## Wiring diagram for model WOC75EC7H

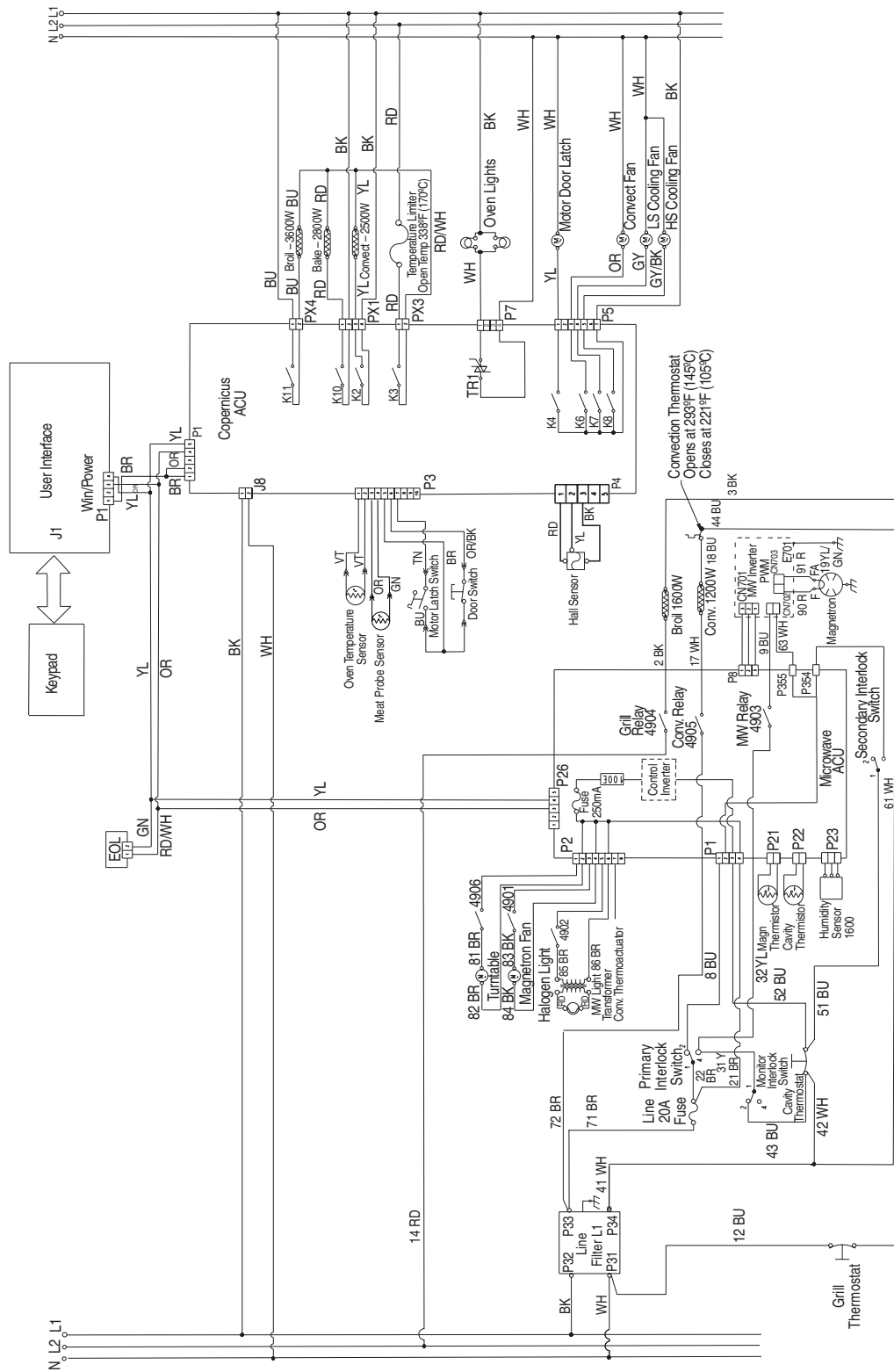


### LEGEND

	Connection
	No Connection
	On Some Models
	In-Line Connection
	Circuitry Enclosed Within
	Terminals
	Single Switch
	Thermal Switch (opens on heat rise)
	Thermal Switch (closes on heat rise)
	Resistor or Element
	Motor
	Incandescent Light
	Non-resizable Fuse
	Thermistor
	Indicator Light
	Triac
	Thermo Fuse

# For Service Technician Use Only

## Wiring diagram for models WOC97EC0H and WOCA7EC0H

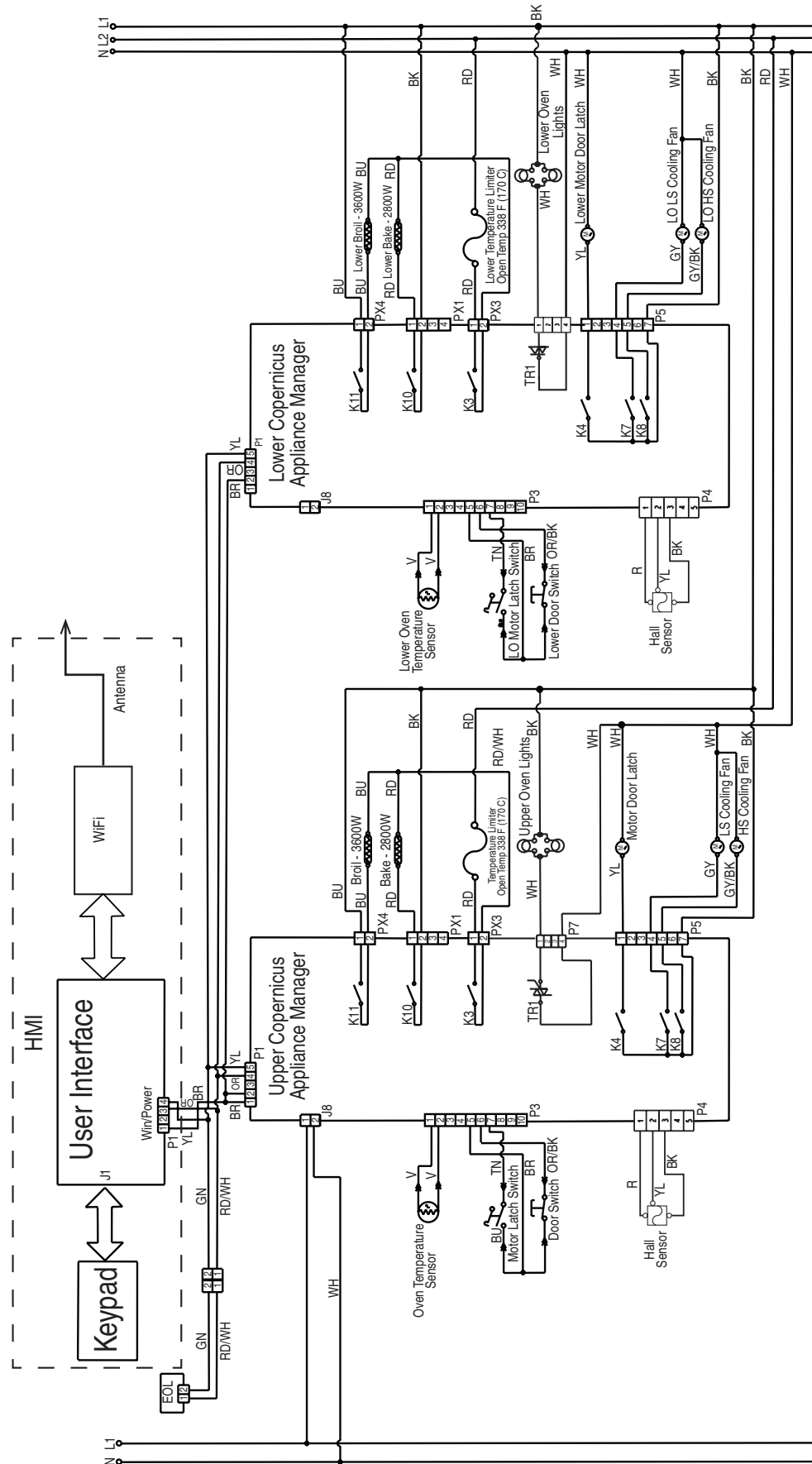


### LEGEND

+	Connection
-	No Connection
-	On Some Models
-	In-Line Connection
P2-1	Connector P2, Position 1
□	Circuitry Enclosed Within
○	Terminals
⏏	Single Switch
⏏	Thermal Switch (opens on heat rise)
⏏	Thermal Switch (closes on heat rise)
⏏	Resistor or Element
⏏	Motor
⏏	Halogen Light
⏏	Non-Resettable Fuse
⏏	Thermistor
⏏	Indicator Light
⏏	Triac
⏏	Thermo Fuse
⏏	Hall Effect Sensor

# For Service Technician Use Only

## Wiring diagram for models WOD51EC0H and WOD51EC7H

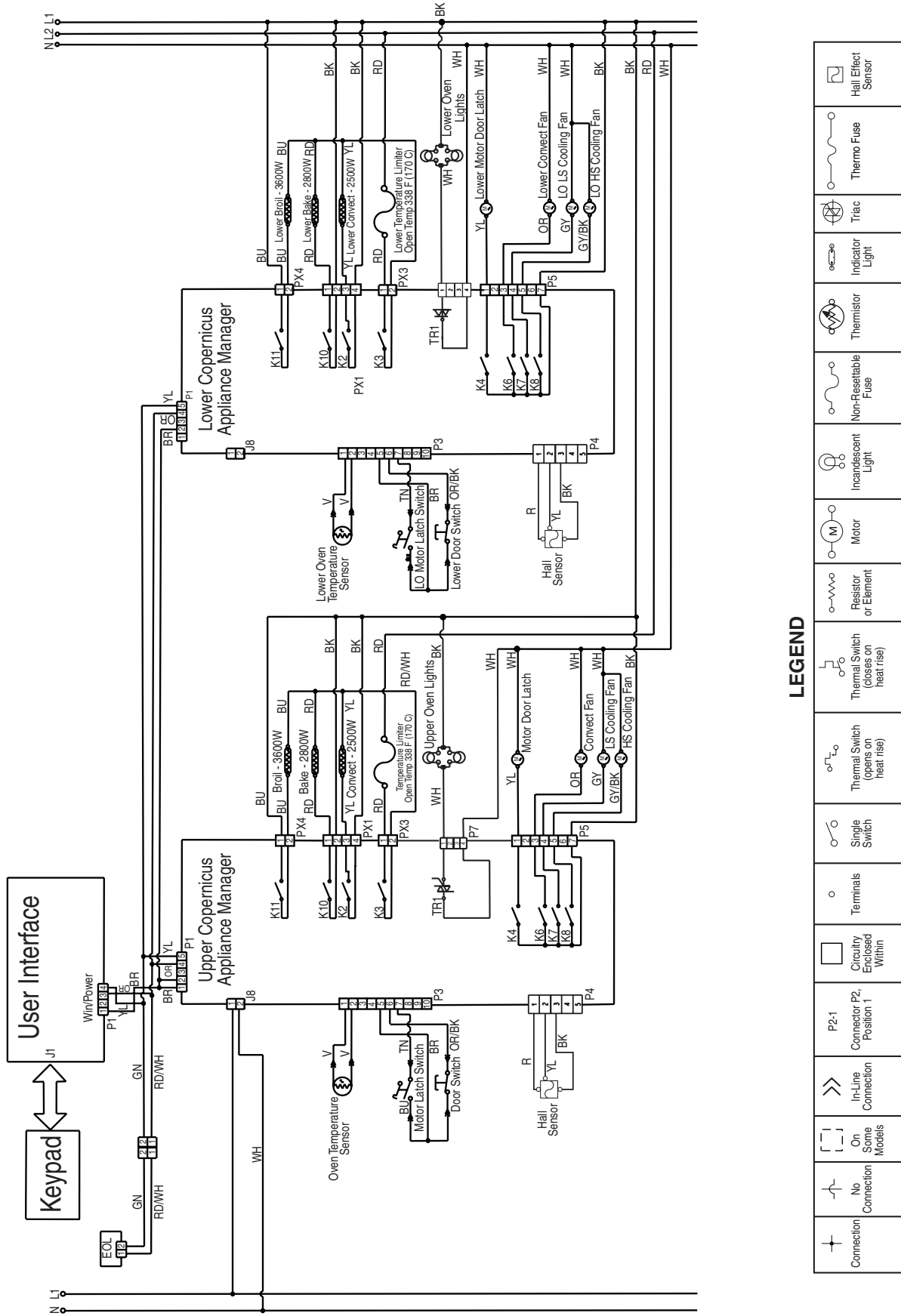


### LEGEND

	Connection
	No Connection
	On Some Models
	In-Line Connection
	P2-1 Connector P2, Position 1
	Circuitry Enclosed Within
	Terminals
	Single Switch
	Thermal Switch (opens on heat/rise)
	Thermal Switch (closes on heat/rise)
	Resistor or Element
	Motor
	Incandescent Light
	Non-Resettable Fuse
	Thermistor
	Indicator Light
	Triac
	Thermo Fuse
	Hall Effect Sensor

# For Service Technician Use Only

## Wiring diagram for models WOD77EC0H and WOD77EC7H



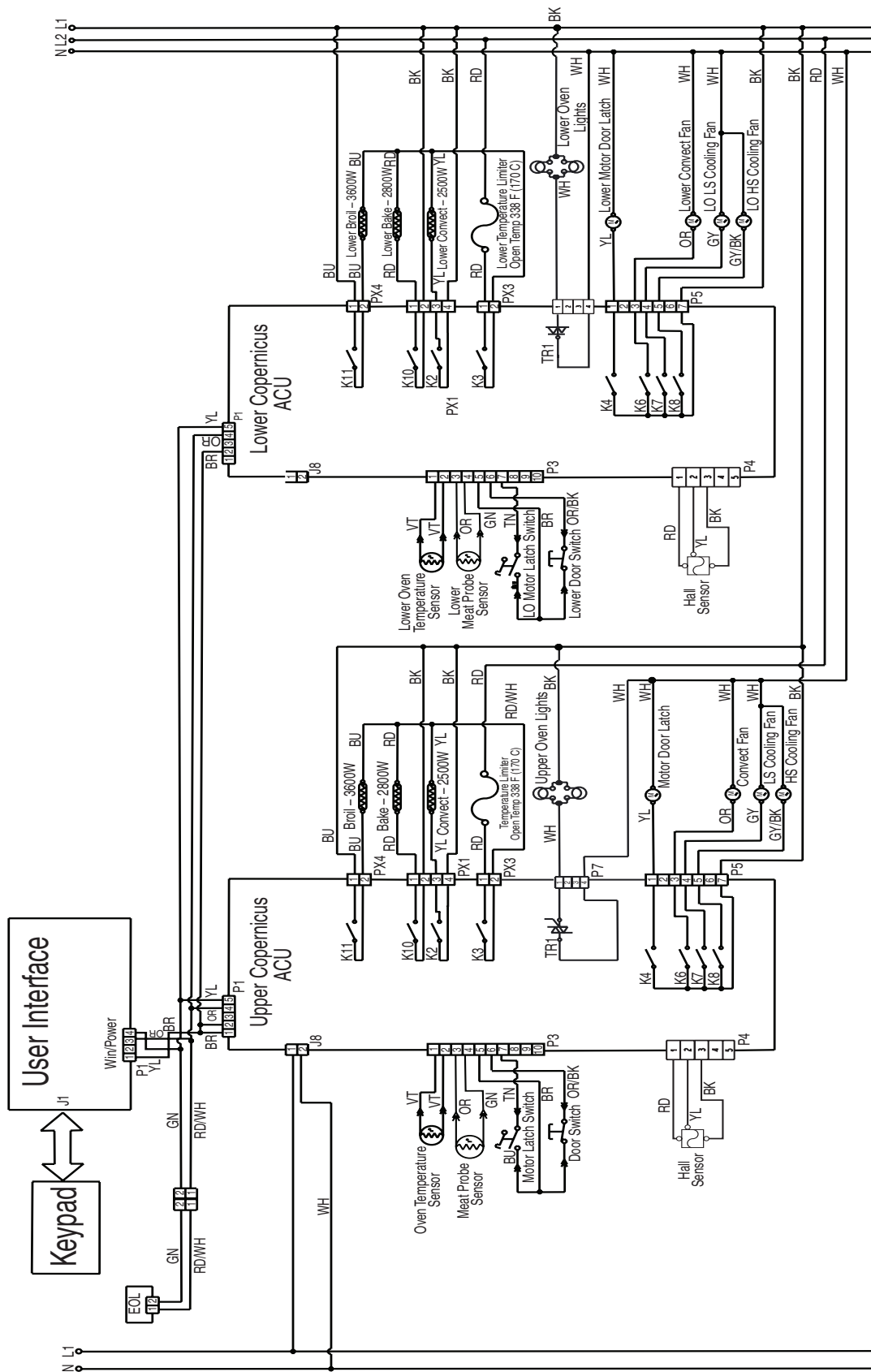
### LEGEND

	Connection
	No Connection
	On Some Models
	In-Line Connection
	P2-1 Connector P2, Position 1
	Circuitry Enclosed Within
	Terminals
	Single Switch
	Thermal Switch (opens on heat rise)
	Thermal Switch (closes on heat rise)
	Resistor or Element
	Motor
	Incandescent Light
	Non-Reservable Fuse
	Thermistor
	Indicator Light
	Triac
	Thermo Fuse
	Hall Effect Sensor



# For Service Technician Use Only

## Wiring diagram for models WOD97EC0H and WODA7EC0H

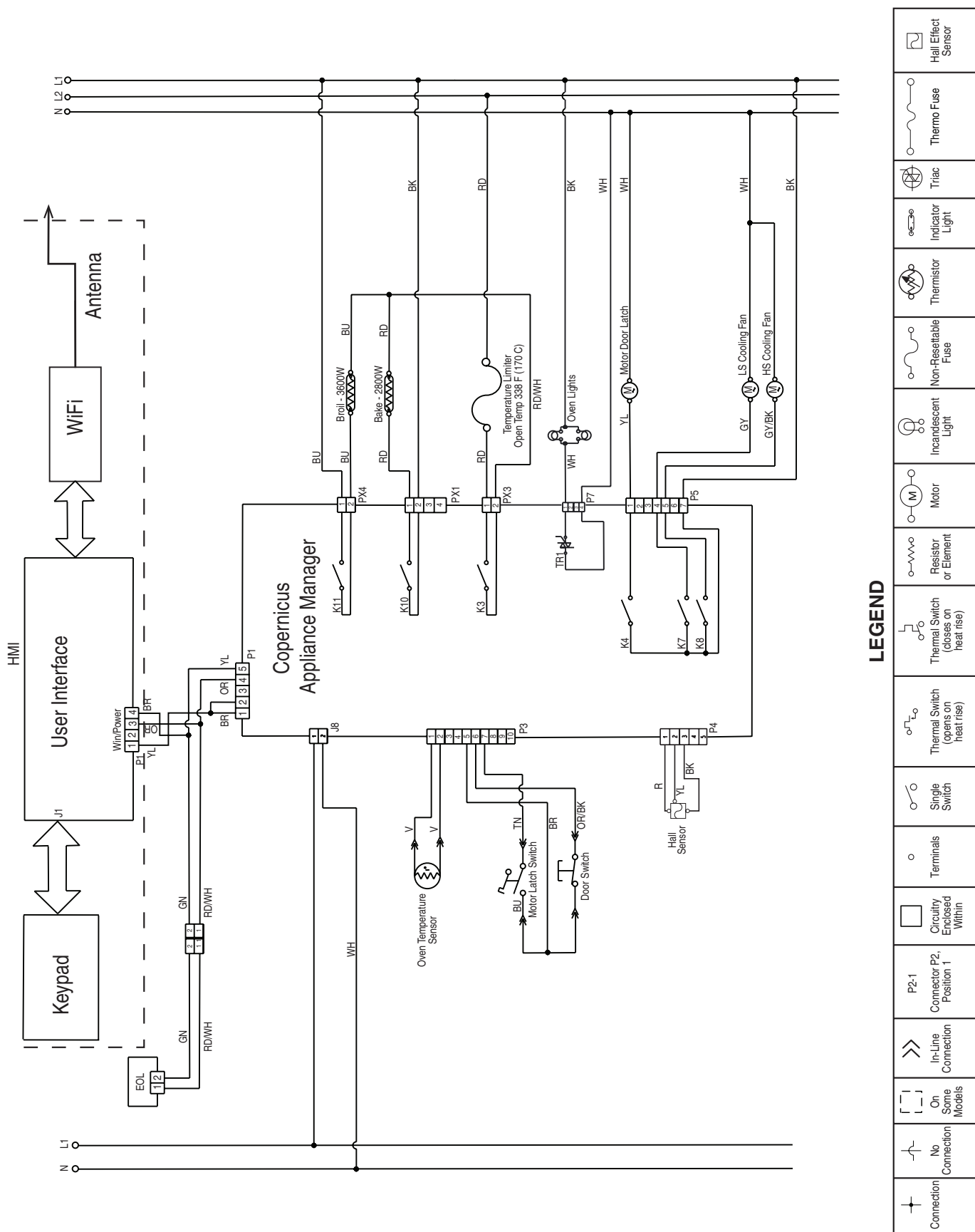


### LEGEND

	Connection
	No Connection
	On Some Models
	In-Line Connection
	P2-1 Connector P2, Position 1
	Circuitry Enclosed Within
	Terminals
	Single Switch
	Thermal Switch (opens on heat rise)
	Thermal Switch (closes on heat rise)
	Resistor or Element
	Motor
	Halogen Light
	Non-Resettable Fuse
	Indicator Light
	Thermistor
	Indicator Light
	Trac
	Thermo Fuse
	Hall Effect Sensor

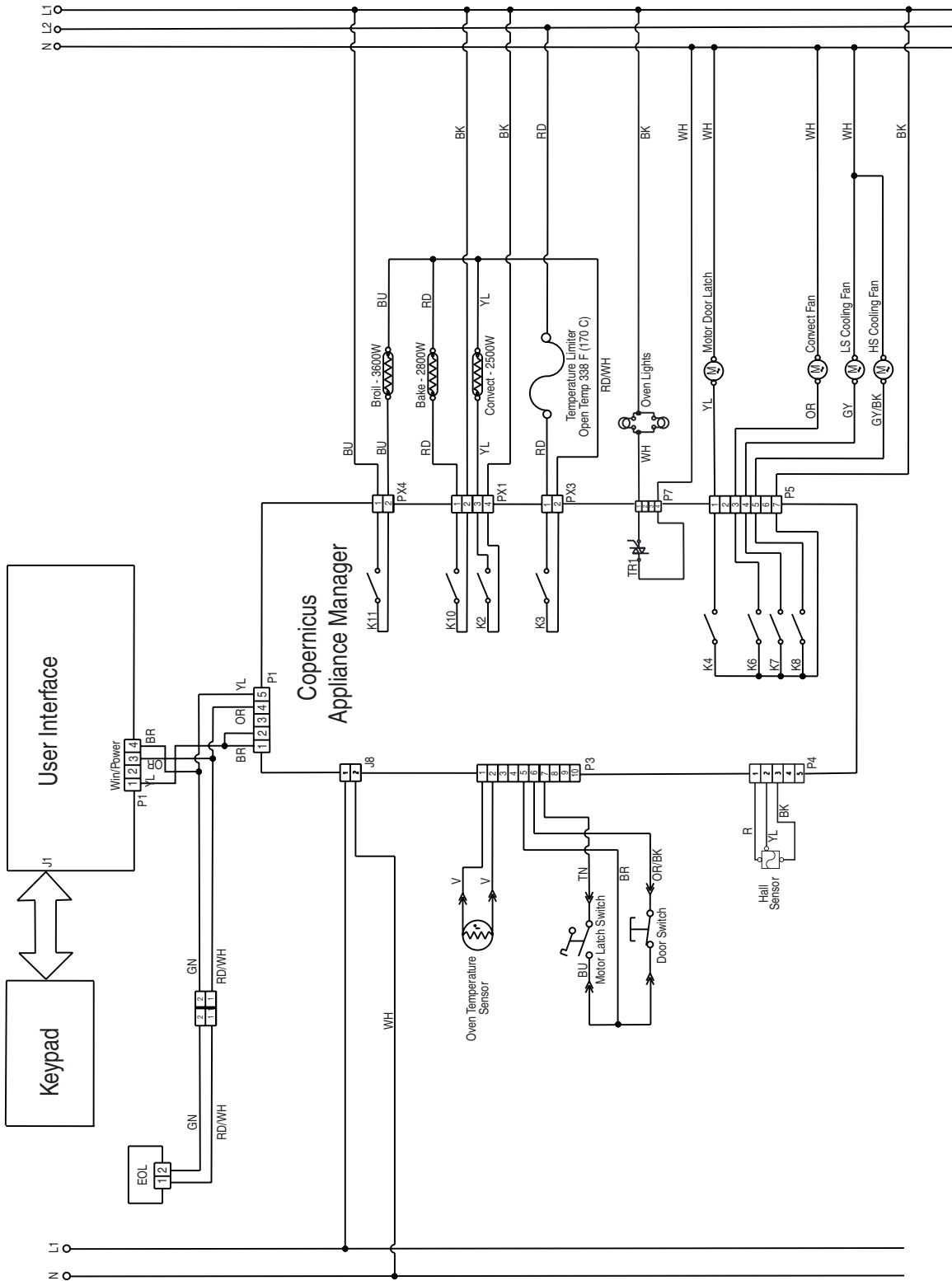
# For Service Technician Use Only

## Wiring diagram for models WOS51EC0H and WOS51EC7H



# For Service Technician Use Only

## Wiring diagram for models WOS72EC0H and WOS72EC7H

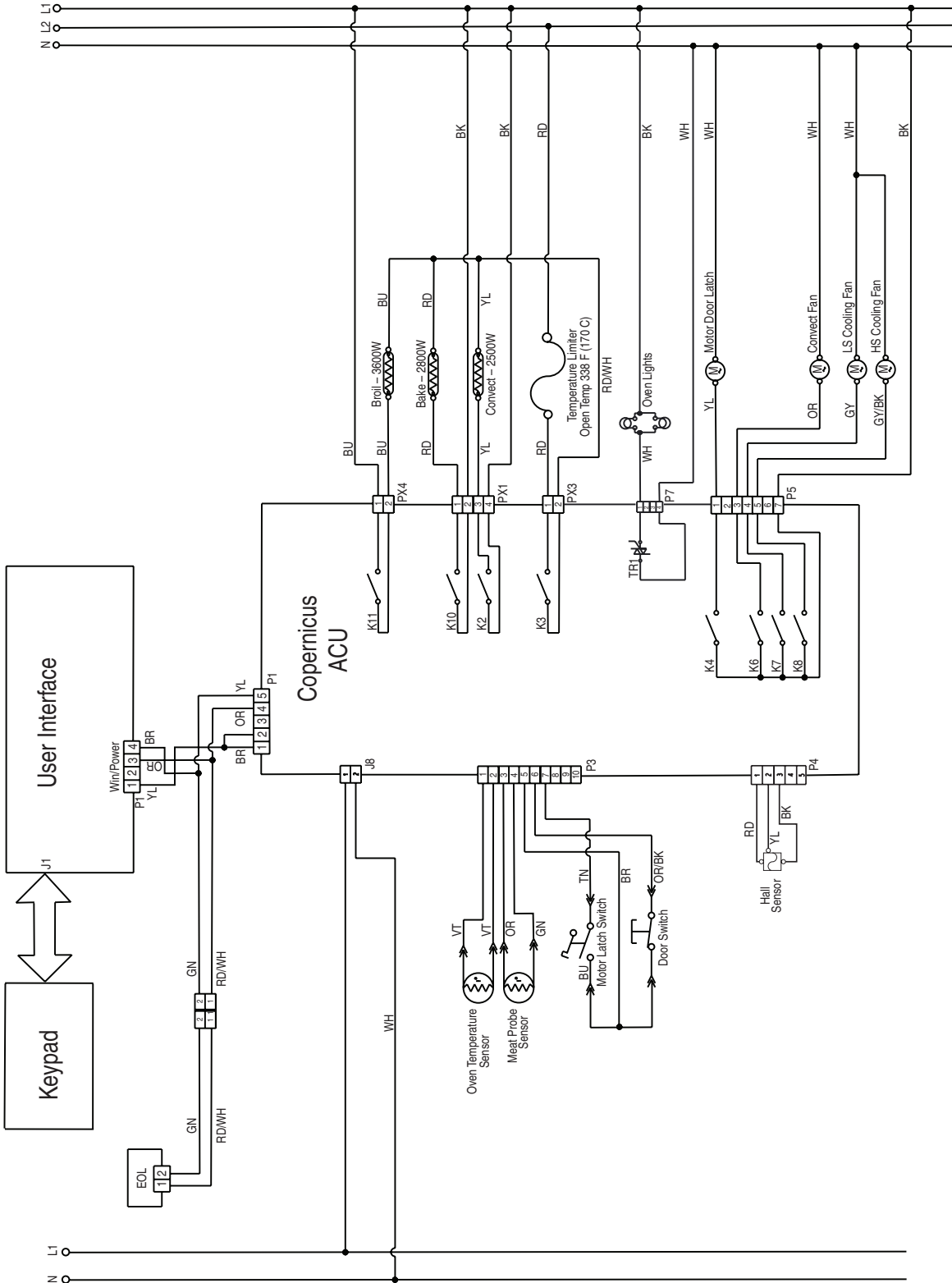


### LEGEND

	No Connection
	Connection
	In-Line Connection
	On Some Models
	Circuitry Enclosed Within
	Terminals
	Single Switch
	Thermal Switch (opens on heat rise)
	Thermal Switch (closes on heat rise)
	Resistor or Element
	Motor
	Incandescent Light
	Non-Resettable Fuse
	Thermistor
	Indicator Light
	Triac
	Thermo Fuse
	Hall Effect Sensor

# For Service Technician Use Only

## Wiring diagram for models WOS97EC0H and WOSA2EC0H



### LEGEND

	Connection
	No Connection
	On Some Models
	In-Line Connection
	P2-1 Connector P2, Position 1
	Circuitry Enclosed Within
	Terminals
	Single Switch
	Thermal Switch (opens on heat rise)
	Thermal Switch (closes on heat rise)
	Resistor or Element
	Motor
	Halogen Light
	Non-Resettable Fuse
	Thermistor
	Indicator Light
	Triac
	Thermo Fuse
	Hall Effect Sensor

## For Service Technician Use Only

### Component Testing

The following charts provide pin locations and Voltage/Resistance values for all components used in the oven and microwave. These charts should be used to confirm that a component is operating properly. All this testing information is also available in the Tech Sheet that is provided with every oven Whirlpool produces.

#### Component Testing Chart - Oven (Single Oven & Microwave Oven Combination)

To properly check for voltage, complete the following steps:

1. Unplug the oven or disconnect power.
2. Connect voltage measurement equipment to check points.
3. Plug in the oven or reconnect power and confirm voltage reading.
4. Unplug the oven or disconnect power.

Component	Serviceable Side	Check Points Copernicus	Results-Resistance	Results-Voltage
Lights	Front	P7-1 to L1 (J8-1)	0 $\Omega$ to 40 $\Omega$	120 VAC
Latch Switch	Front	P3-7 to P3-5	Open circuit	
Door Switch	Front	P3-6 to P3-5	Closed circuit with oven door closed	
Latch Motor	Front	P5-1 to N (J8-2)	500 $\Omega$ to 3000 $\Omega$	120 VAC motor running
Oven Temperature Sensor	Front	P3-1 to P3-2	1075 $\Omega$ at 68°F (20°C) DLB	
Meat Probe	Side	P3-3 to P3-4	9876-10075 $\Omega$	
Blower Motor—High Speed	Rear	P5-5 to N (J8-2)	15 $\Omega$ to 23 $\Omega$	120 VAC motor running
Blower Motor—Low Speed	Rear	P5-4 to N (J8-2)	15 $\Omega$ to 23 $\Omega$	120 VAC motor running
Thermal Limiter	Rear	PX3-1 to L2 (Main line)	Closed circuit	0 V closed, N/A open
Thermal Fuse (only for single/double)	Front	PX1-1 to PX3-2	Closed circuit	0 V closed, N/A open
Convection Fan	Rear	P5-3 to N (J8-2)	20 $\Omega$ to 28 $\Omega$	120 VAC motor running
Convection Element	Front	PX1-3 to PX3-2	21.3 $\Omega$ to 24.7 $\Omega$	240 VAC Convection cycle operating
Bake Element	Rear	PX1-1 to PX3-2	19.0 $\Omega$ to 21.6 $\Omega$	240 VAC Bake cycle operating
Broil Element	Front	PX4-2 to PX3-2	14.8 $\Omega$ to 17.2 $\Omega$	240 VAC Broil cycle operating
User Interface Board	Front	P1-4 to P1-1	N/A	14 VDC
Copernicus ACU	Side (Combo)	P1-2 to P1-5	N/A	14 VDC

#### Component Testing Chart - Oven (Double Oven)

Component	Serviceable Side	Check Points Copernicus	Results-Resistance	Results-Voltage
Lights	Front	P7-1 to L1 (J8-1)	0 $\Omega$ to 40 $\Omega$	120 VAC
Latch Switch	Front	P3-7 to P3-5	Open circuit	
Door Switch	Front	P3-6 to P3-5	Closed circuit with oven door closed	
Latch Motor	Front	P5-1 to N (J8-2)	500 $\Omega$ to 3000 $\Omega$	120 VAC motor running
Oven Temperature Sensor	Front	P3-1 to P3-2	1075 $\Omega$ at 68°F (20°C) DLB	
Meat Probe	Side	P3-3 to P3-4	9876-10075 $\Omega$	
Cooling Fan Motor — High Speed	Rear	P5-5 to N (J8-2)	15 $\Omega$ to 23 $\Omega$	120 VAC motor running
Cooling Fan Motor — Low Speed	Rear	P5-4 to N (J8-2)	15 $\Omega$ to 23 $\Omega$	120 VAC motor running
Thermal Limiter	Rear	PX3-1 to L2 (Main line)	Closed circuit	0 V closed, N/A open
Thermal Fuse (only for single/double)	Front	PX1-1 to PX3-2	Closed circuit	0 V closed, N/A open

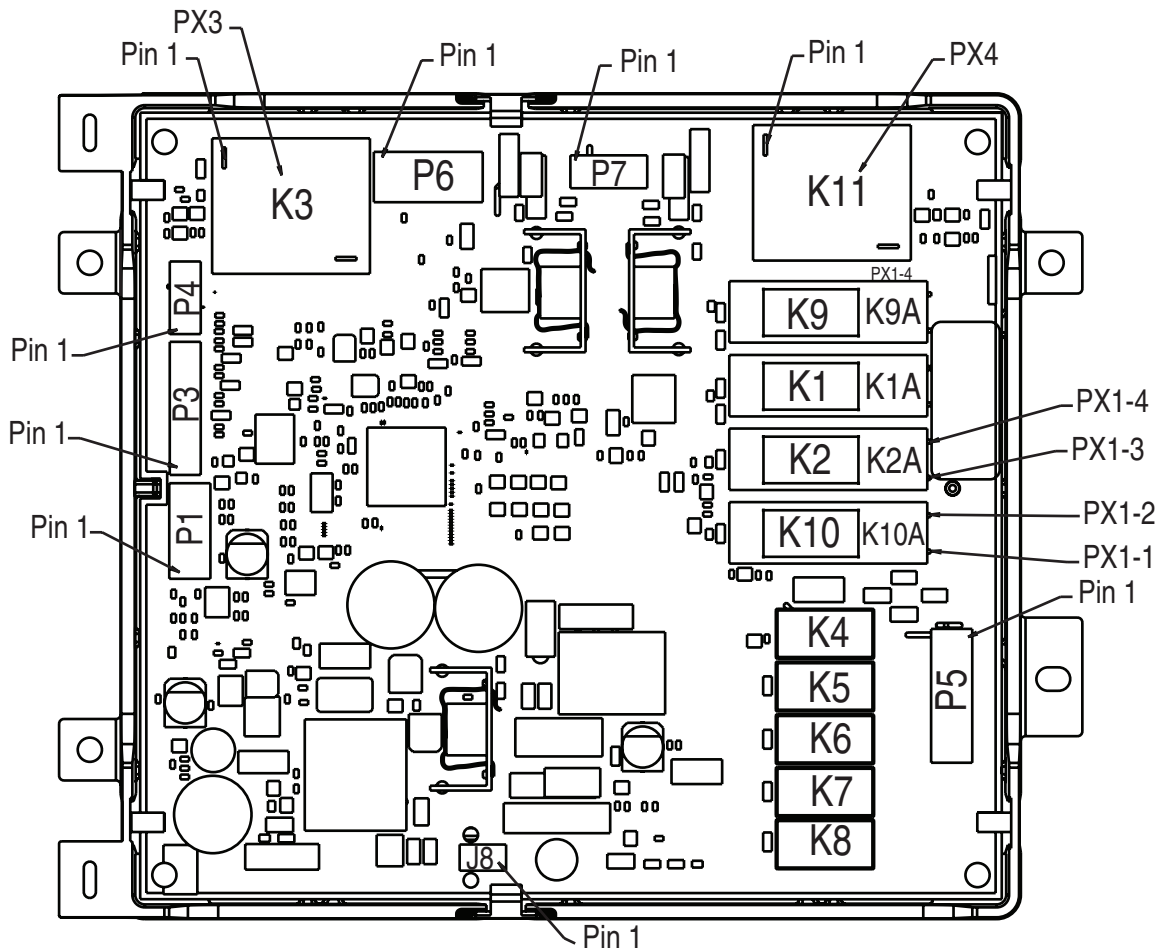
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Component	Serviceable Side	Check Points Copernicus	Results-Resistance	Results-Voltage
Convection Fan	Rear	P5-3 to N (J8-2)	20Ω to 28Ω	120 VAC motor running
Convection Element	Front	PX1-3 to PX3-2	16.63Ω to 18.38Ω	240 VAC Convection cycle operating
Bake Element	Rear	PX1-1 to PX3-2	19.0Ω to 21.6Ω	240 VAC Bake cycle operating
Broil Element	Front	PX4-2 to PX3-2	13.5Ω to 14.92Ω	240 VAC Broil cycle operating
User Interface Board	Front	P1-4 TO P1-1	N/A	14 VDC
Copernicus ACU	"Top (single/double) Side (combo)"	P1-2 to P1-5	N/A	14 VDC

**\* NOTES:**

- Disconnect the harness from the board before performing measurements.
- See the following table for connector pin identification.

**Copernicus ACU**

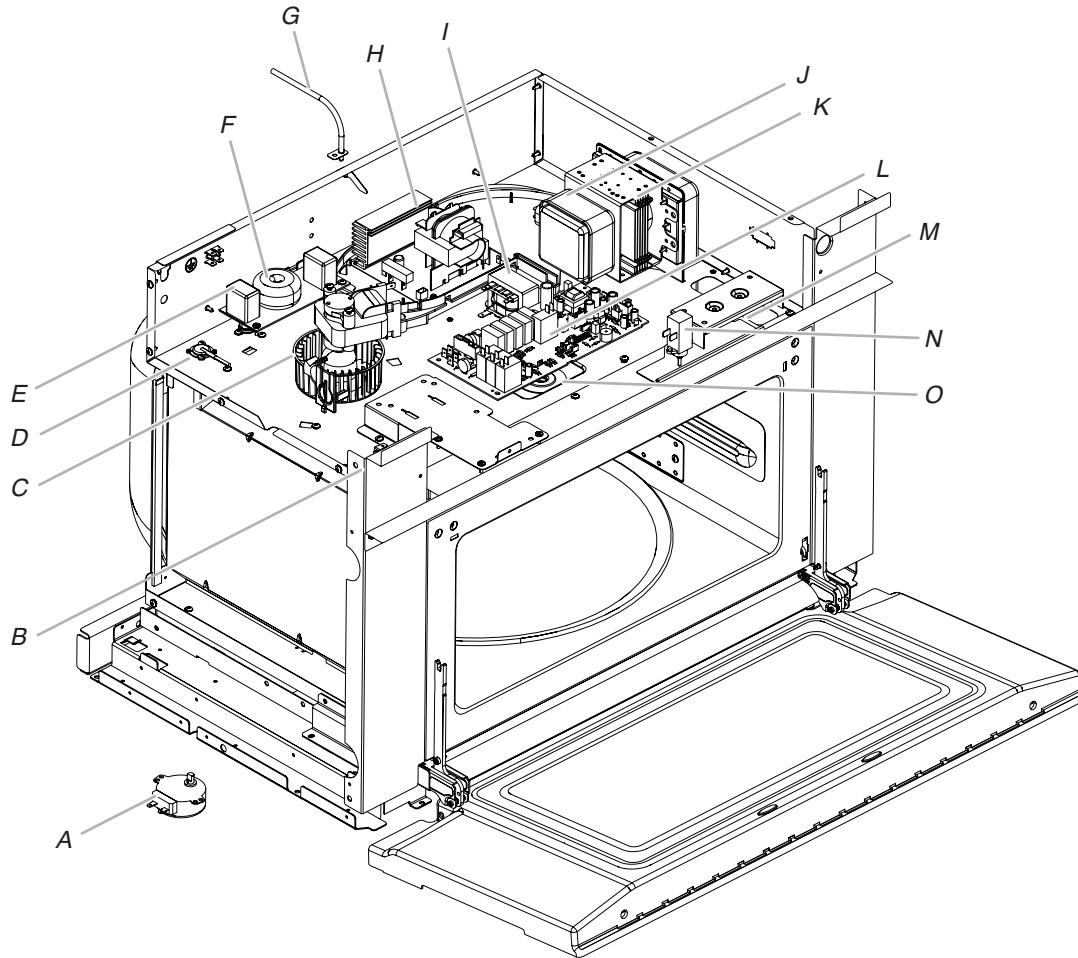


Harness Connector Pin	Copernicus ACU Pin
PX1-1	J12
PX1-2	J16
PX1-3	J13
PX1-4	J17

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Component Location

Microwave Oven



- A. Turntable Motor
  - B. Secondary Interlock Switch
  - C. Magnetron Fan Motor
  - D. Humidity Sensor
  - E. Cavity Thermostat
  - F. Line Filter
  - G. Cavity Temperature Sensor
  - H. Inverter
  - I. Microwave Light Transformer
  - J. Magnetron Thermistor
  - K. Magnetron
  - L. ACU
  - M. Monitor Interlock Switch
  - N. Primary Interlock Switch
  - O. Halogen Lamp
- Not shown: Monitor Fuse, Line Fuse

Component Testing Chart - Microwave Oven

Component	Serviceable Side	Procedure	Results-Resistance	Component Location
ACU	Top	<p>Check wiring to MW ACU</p> <ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Visually inspect connectors on the microwave ACU, P1, P2, P8, P21, P22, P23, P26, P354, P355, and the top connectors (relays 4903, 4904, and 4905) to see whether there are signs of overheating or any signs of failure due to loose wires, bad crimping, etc.</li> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in microwave oven or reconnect power.</li> </ol>		L

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Component	Serviceable Side	Procedure	Results-Resistance	Component Location
Cavity Thermostat	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads.</li> <li>3. Measure resistance.</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	Normal = Continuity Abnormal = Infinite	E
Magnetron Fan Motor	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads.</li> <li>3. Measure resistance (ohmmeter scale: Rx1).</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	Normal = 15Ω Abnormal = Infinite	C
Turntable Motor	Bottom	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads.</li> <li>3. Measure resistance (ohmmeter scale: Rx1).</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	Normal = 2500Ω (approximately) Abnormal = Infinite	A
Monitor Fuse	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads.</li> <li>3. Measure resistance.</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	Normal = Continuity Abnormal = Infinite	Not shown
MW Light Transformer	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads.</li> <li>3. Measure resistance (ohmmeter scale: Rx1).</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	Primary Winding = 40Ω (approximately) Secondary Winding = 0.4Ω (approximately)	I
Line Fuse	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads.</li> <li>3. Measure resistance.</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	Normal = Continuity Abnormal = Infinite	Not shown



## For Service Technician Use Only

Component	Serviceable Side	Procedure	Results-Resistance	Component Location
Primary Interlock Switch	Top	<b>Test 1:</b> <ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Disconnect the wires at the Primary Interlock Switch.</li> <li>3. Check from the common terminal (brown wire) to the normally open terminal (yellow wire).</li> <li>4. Reconnect the wires at the Primary Interlock Switch.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	<b>Test 1:</b> Door Open = Infinite Door Closed = Continuity	N
		<b>Test 2:</b> <ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Disconnect the wires at the Primary Interlock Switch.</li> <li>3. Check from the common terminal (brown wire) to the normally closed terminal (blue wire).</li> <li>4. Reconnect the wires at the Primary Interlock Switch.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	<b>Test 2:</b> Door Open = Continuity Door Closed = Infinite	
Secondary Interlock Switch	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Disconnect the wires at the Secondary Interlock Switch.</li> <li>3. Check from the common terminal (blue wire) to the normally open terminal (white wire).</li> <li>4. Reconnect the wires at the Secondary Interlock Switch.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	Door Open = Continuity Door Closed = Infinite	B
Monitor Interlock Switch	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Disconnect the wires at the Monitor Interlock Switch.</li> <li>3. Check from the common terminal (yellow wire) to the normally closed terminal (blue wire).</li> <li>4. Reconnect the wires to the Monitor Interlock Switch.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	Door Open = Continuity Door Closed = Infinite	M
Halogen Light	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads.</li> <li>3. Measure resistance.</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	Normal = approximately 3Ω Abnormal = Infinite	O

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Component	Serviceable Side	Procedure	Results-Resistance	Component Location
Inverter	Top	<p>Check wiring to MW inverter:</p> <ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Visually inspect 4 connectors on the MW inverter boards, CN701, CN702, CN703, and E701 to see whether there are signs of overheating or any signs of failure due to loose wires, bad crimping, etc.</li> <li>3. Reassemble all parts and panels before operating.</li> <li>4. Plug in microwave oven or reconnect power.</li> </ol>		H
Magnetron	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads. Check that the seal is in good condition.</li> <li>3. Measure resistance.</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	<p>Filament Terminals Normal = &lt;1 W Filament to Chassis Normal = Infinite</p>	K
Line Filter	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads.</li> <li>3. Measure resistance.</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	<p>P31 to P32, P33 to P34 Normal &gt;= 300 kΩ Abnormal &lt;= 100 kΩ P31 to P34, P32 to P33 Normal = 0 Ω Abnormal &gt;= 100 kΩ</p>	F
Humidity Sensor	Top	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove the 3-pin connector from MW ACU.</li> <li>3. Measure resistance across pins 1 and 3 and across pins 2 and 3.</li> <li>4. Replace the 3-pin connector from MW ACU.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	<p>Normal = 2.8 kΩ (approximately) at 77°F ± 10°F (25°C ± 10°C) Abnormal = Infinite</p>	D
Magnetron Thermistor		<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads.</li> <li>3. Measure resistance.</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	<p>Normal = 10 kΩ (approximately) at 77°F ± 10°F (25°C ± 10°C) Abnormal = Infinite</p>	J
Cavity Temp Sensor	Rear	<ol style="list-style-type: none"> <li>1. Unplug microwave oven or disconnect power.</li> <li>2. Remove wire leads.</li> <li>3. Measure resistance.</li> <li>4. Replace wire leads.</li> <li>5. Reassemble all parts and panels before operating.</li> <li>6. Plug in microwave oven or reconnect power.</li> </ol>	<p>Normal = 230 kΩ (approximately) at 77°F ± 10°F (25°C ± 10°C) Abnormal = Infinite</p>	G

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## Section 4: Component Access

This section provides service parts access, removal, and replacement instructions for the “Whirlpool® Smart Wall Ovens”.

- Microwave
  - HMI Removal
  - Accessing the Microwave Appliance Manager
  - High Voltage System
    - 🕒 Inverter Board
    - 🕒 Magnetron
  
- Oven
  - Door Removal
  - Accessing the Door Latch
  - Accessing the Appliance Manager (Copernicus)
  - Accessing the Cooking Components
    - 🕒 Remove the Rear Panel
      - Convection Assembly/Fan
      - Light assembly (left side light)
      - Thermal Limiter
      - Oven temp sensor
      - Light assembly (right side light)
      - Cooling Fan
      - Broil element
      - Bake element
      - Hall Effect Sensor

## Removing the Microwave HMI

### **⚠ 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.

### **⚠ WARNING**

**Excessive Weight Hazard**

Use two or more people to move and install oven.  
 Failure to do so can result in back or other injury.

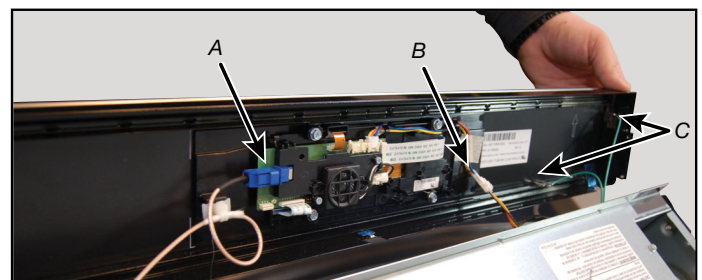
1. Remove four (4) Phillips screws, two on each side of the UI.



2. Grasp the UI on each side and lift up to disengage UI from front panel.




3. Tilt away from the microwave and disconnect the WiFi antenna, PCB connector, and the 2 ground straps.  
**NOTE:** Reverse procedure to reinstall HMI.



A. Wifi Antenna  
 B. PCB Connector  
 C. Ground Straps

# Accessing the Microwave Appliance Manager

**⚠ WARNING**

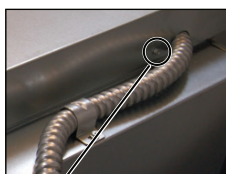
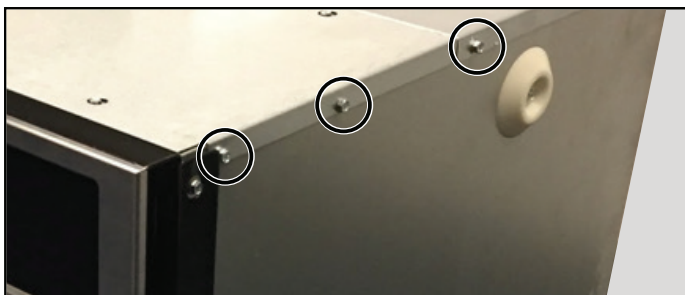


**Electrical Shock Hazard**  
Disconnect power before servicing.  
Replace all parts and panels before operating.  
Failure to do so can result in death or electrical shock.

**⚠ WARNING**

**Excessive Weight Hazard**  
Use two or more people to move and install oven.  
Failure to do so can result in back or other injury.

1. Remove ¼" (6.4 mm) hex-head screws for the top panels; three (3) on each side and four (4) on the back.



**NOTE:** The clamp around the power harness conduit may need to be removed to access one of the rear ¼" (6.4 mm) screws.

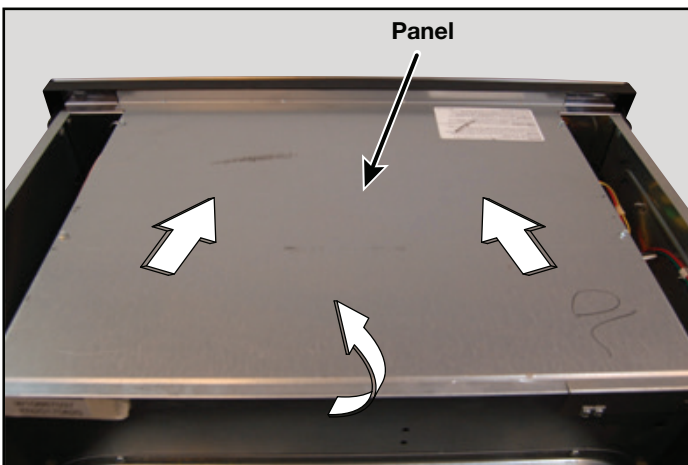
2. Slide off the top panels and set aside.



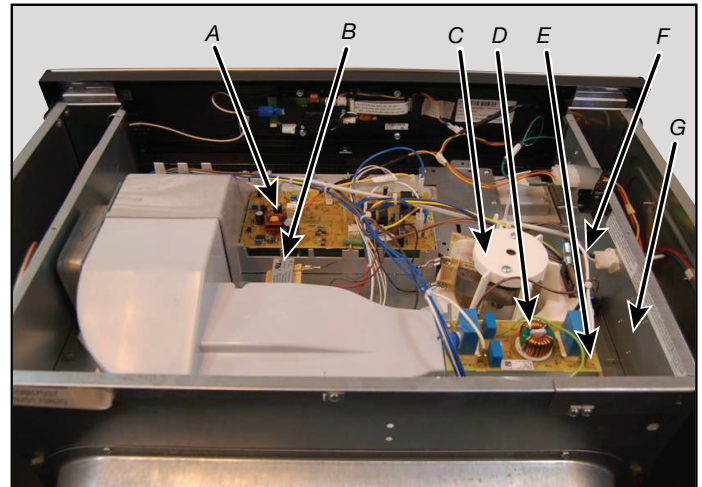
3. Remove four (4) ¼" (6.4 mm) hex-head screws securing the Appliance Manager top cover to the microwave.



4. Slide panel forward and lift up from back to remove. Remove cover and set aside.



5. You now have access to the following components:
- Microwave Appliance Manager
  - Microwave light transformer
  - Magnetron fan motor
  - Line filter
  - Cavity thermistor
  - 20 A Line Fuse
  - Humidity sensor



- A. Microwave Appliance Manager
- B. Microwave light transformer
- C. Magnetron fan motor
- D. Line filter
- E. Cavity thermistor
- F. 20 A Line Fuse
- G. Humidity sensor



# Accessing the Microwave Inverter Board

## **⚠ WARNING**



### **Electrical Shock Hazard**

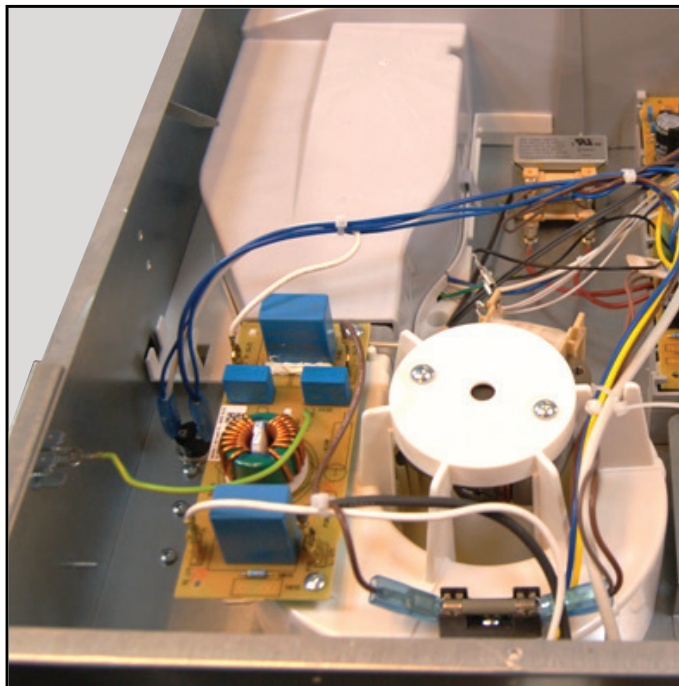
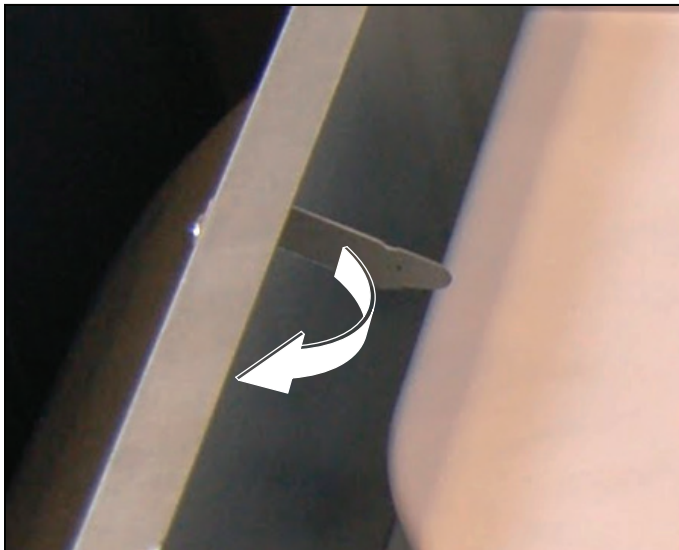
**Disconnect power before servicing.**  
**Replace all parts and panels before operating.**  
**Failure to do so can result in death or electrical shock.**

## **⚠ WARNING**

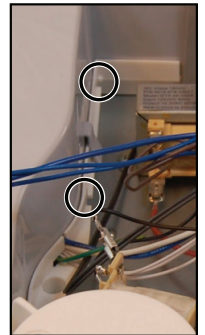
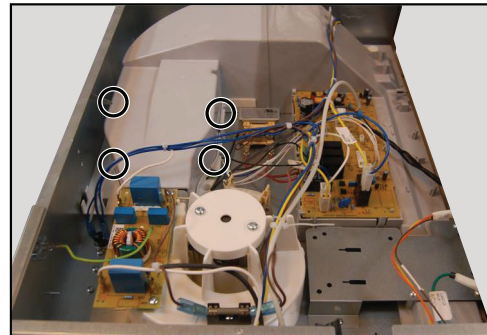
### **Excessive Weight Hazard**

**Use two or more people to move and install oven.**  
**Failure to do so can result in back or other injury.**

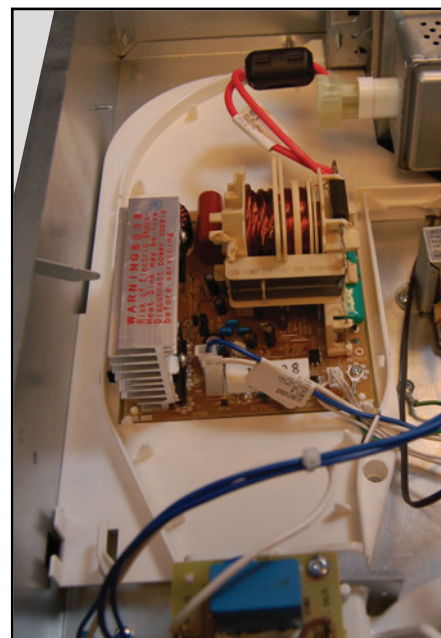
1. Bend security tab down.



2. Using a slotted screwdriver or putty knife, unclip all clips around the cover of the Magnetron assembly.



3. Lift the cover off and set aside. You may now service the Inverter Board.



## Accessing the Microwave Magnetron

### **⚠ WARNING**



**Electrical Shock Hazard**

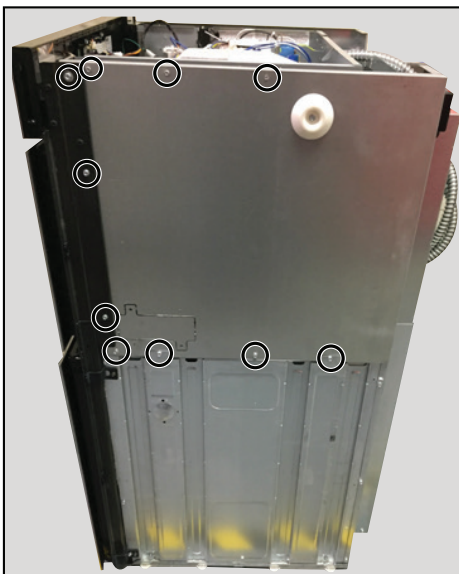
**Disconnect power before servicing.**  
**Replace all parts and panels before operating.**  
**Failure to do so can result in death or electrical shock.**

### **⚠ WARNING**

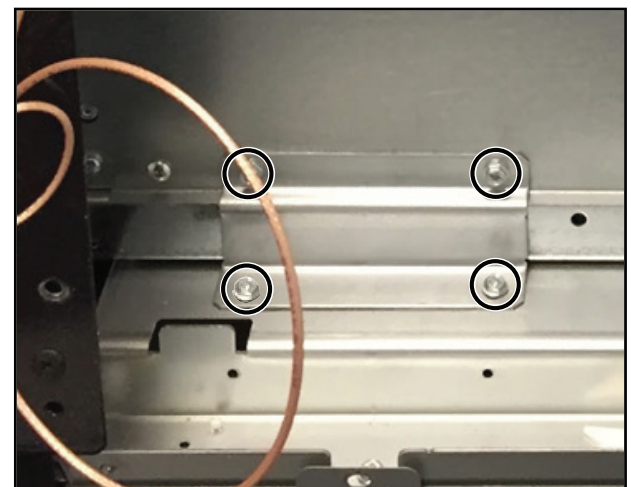
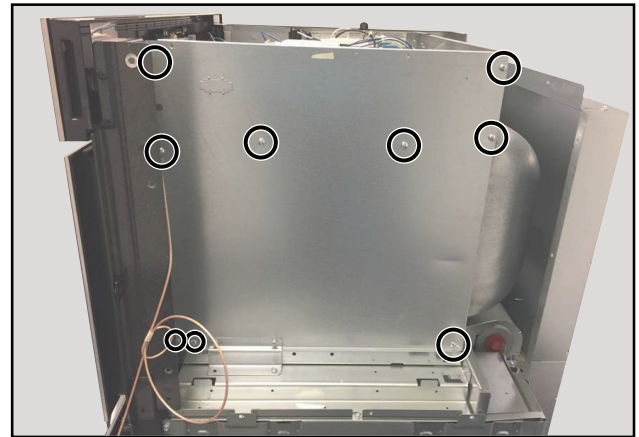
**Excessive Weight Hazard**

**Use two or more people to move and install oven.**  
**Failure to do so can result in back or other injury.**

1. Remove three (3) ¼" (6.4 mm) hex screws from the back panel and ten (10) ¼" (6.4 mm) hex screws from the side, then gently place outer panel aside.



2. Remove nine (9) #T10 †Torx® screws and four (4) ¼" (6.4 mm) hex mounting screws from the outer panel and gently place aside.

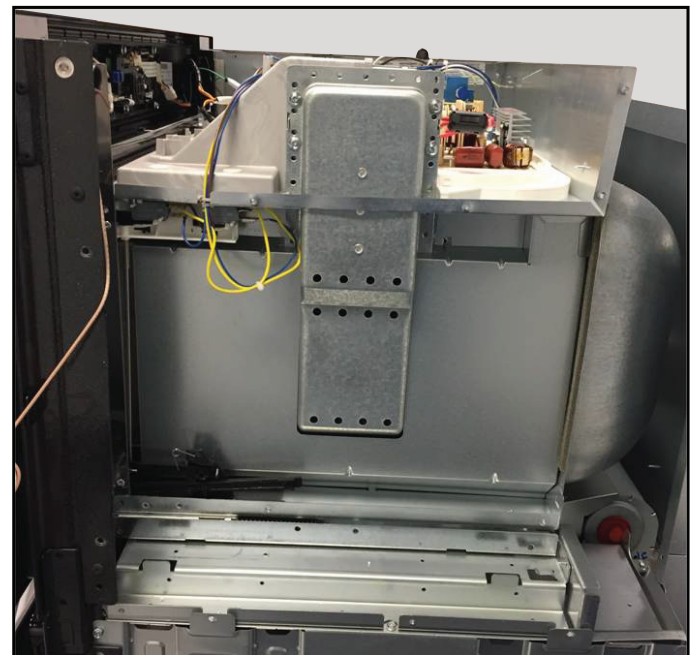
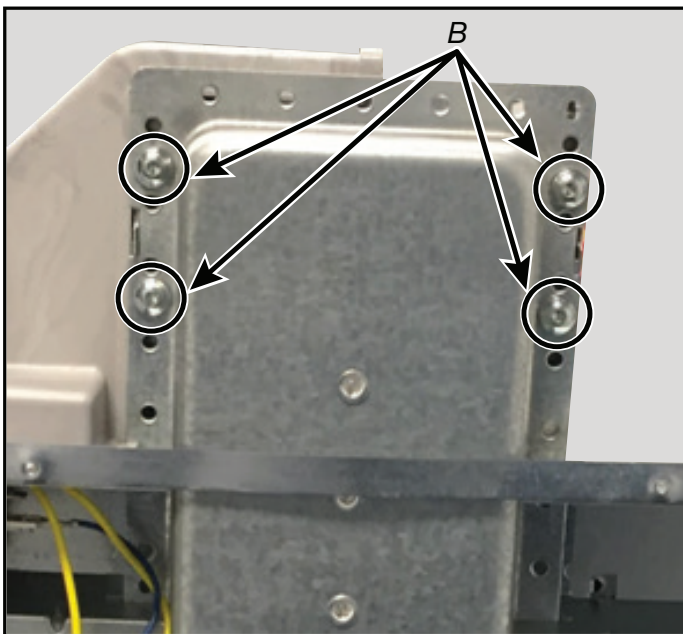
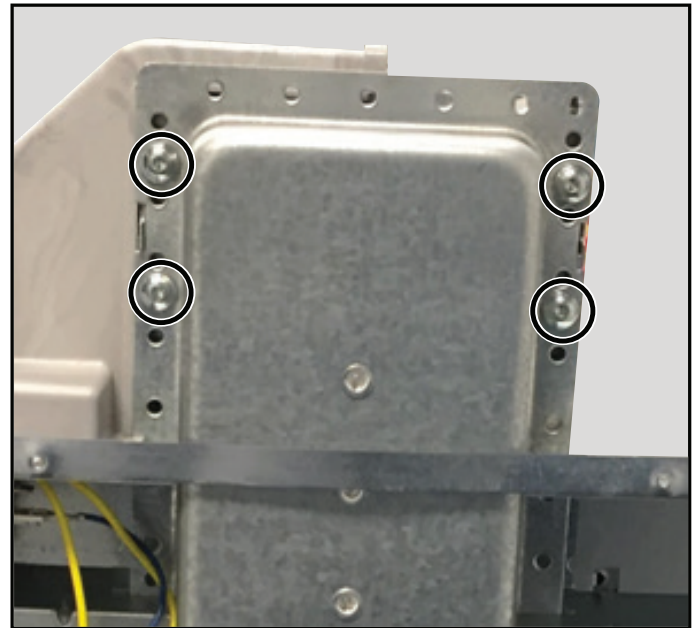
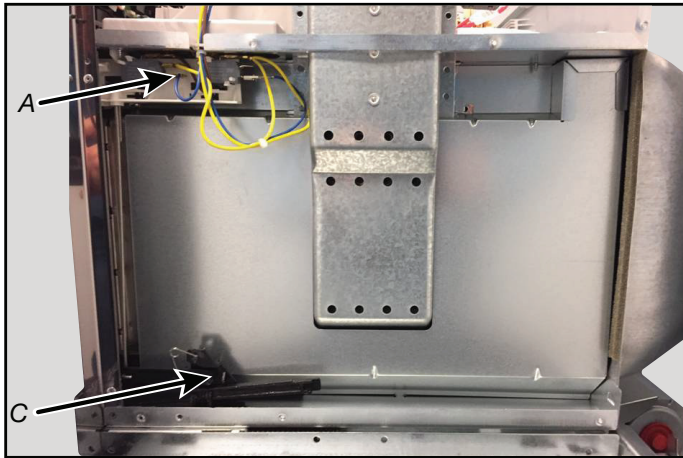


††Torx is a registered trademark of Acument Intellectual Properties, LLC.

3. You now have access to the following components:

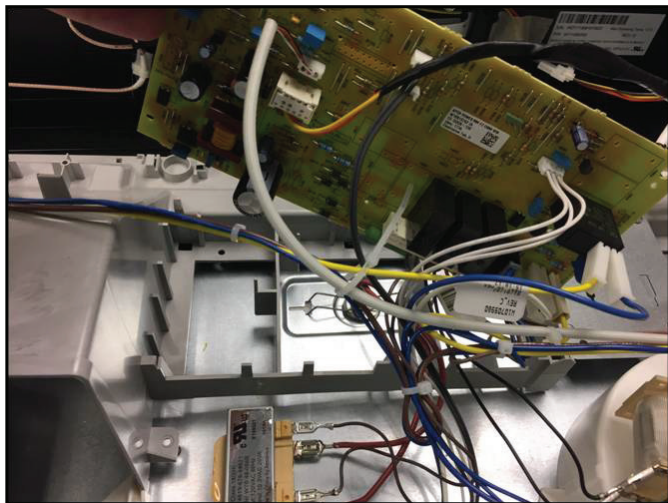
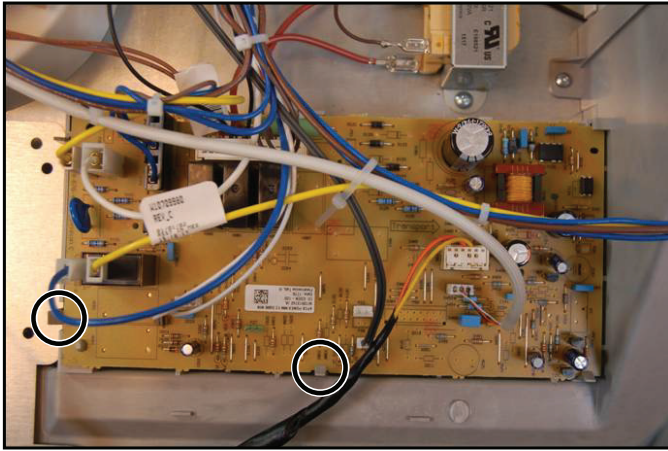
- Interlock Switches
- (4) #15 Torx® Magnetron Mounting Screws
- Microwave Door Hinge

4. Remove four (4) #15 Torx® mounting screws from the magnetron.

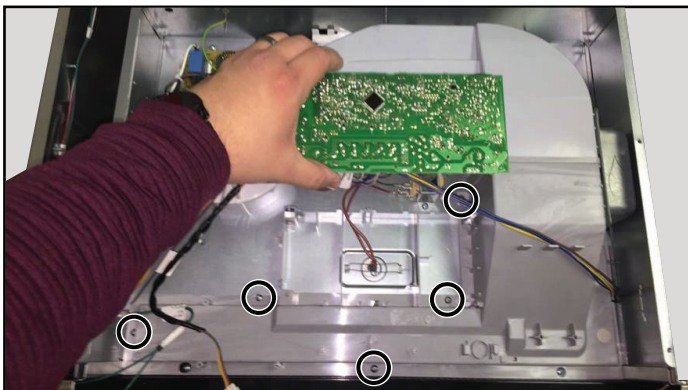


A. Interlock Switches  
B. (4) #15 Torx® Magnetron Mounting Screws  
C. Microwave Door Hinge

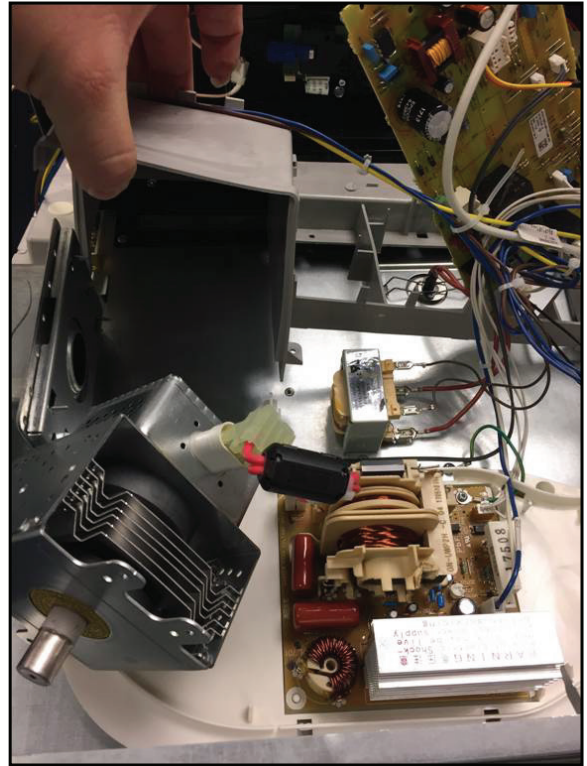
- 5. Unclip Appliance manager from the plastic mounting panel and allow to float suspended.



- 6. Remove the five (5) #T10 Torx® screws from the plastic mounting assembly.



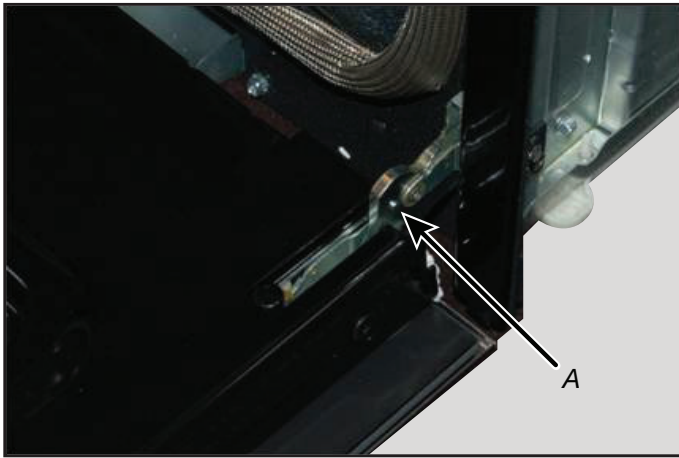
- 7. Lift the plastic mounting assembly until the magnetron is accessible and can be removed.



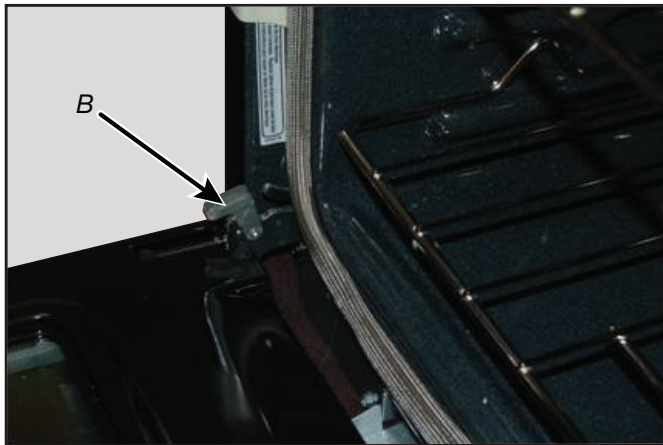
## Removing the Oven Door

**IMPORTANT:** Use two hands to remove oven door. For double ovens, repeat the process for each door.

1. Prior to removing the oven door, prepare a surface where you will place it. This surface should be flat and covered with a soft blanket or use the corner posts from your packaging material.
2. Fully open the oven door.
3. Locate the oven door hinge locks in both corners of the oven door, and rotate the hinge locks toward the oven door to the unlocked position. If the door hinge lock is not rotated fully (see illustration B), the door will not remove properly.



A. Oven door hinge lock in locked position

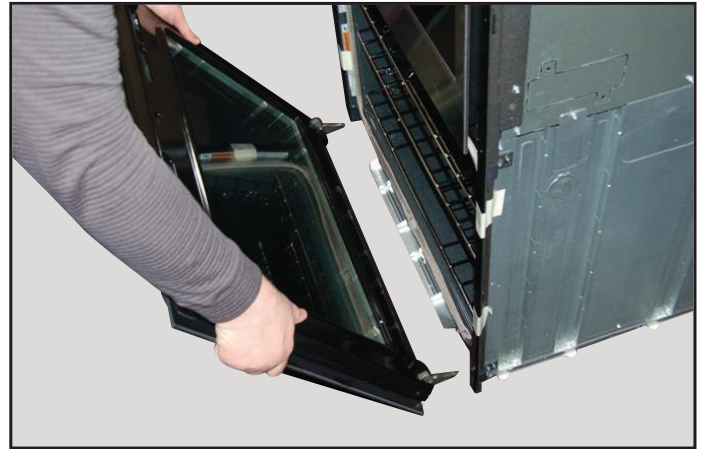


B. Oven door hinge lock in partially unlocked position

4. Gently start to close the door. The door will stop at a partially closed position.
5. Using two hands, grasp the edges of the oven door. Close the oven door slightly past the stop position to take the weight off of the door hinges, and then pull the oven door up.



6. Pull the oven door toward you, and then remove it. You may need to gently shift the door from side to side as you pull.



7. Set the oven door aside on the prepared covered work surface with the oven door resting on its handle.

## Accessing the Oven Door Latch

### **⚠ WARNING**



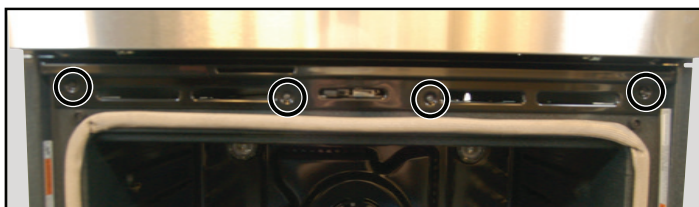
#### Electrical Shock Hazard

**Disconnect power before servicing.  
Replace all parts and panels before operating.  
Failure to do so can result in death or electrical shock.**

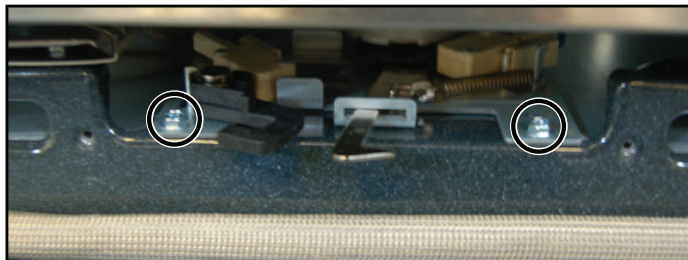
1. Open the oven door to expose the vent trim, located above the oven door opening.



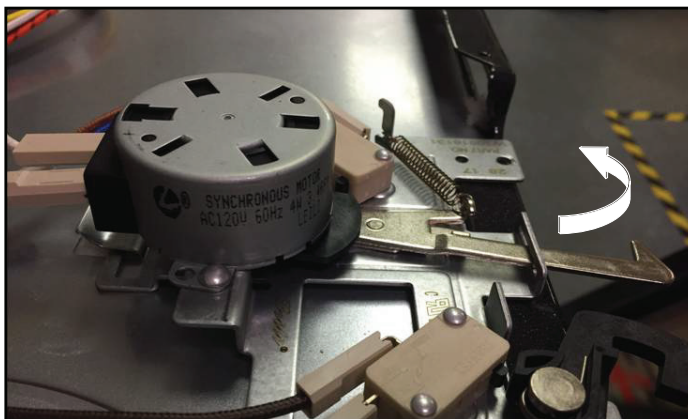
2. Remove the four (4) Phillips screws and remove the vent trim panel from the oven.



3. Locate and remove two (2) ¼" (6.4 mm) hex-head mounting screws at the front of the latch assembly using a ¼" (6.4 mm) socket or ¼" (6.4 mm) wrench (limited height clearance).



4. Push the Latch Assembly back and up to release it from the mounting tab at the back. Remove latch assembly and set aside.



## Oven - Accessing the Application Manager (Copernicus - Combo Unit)

### **⚠ WARNING**



#### **Electrical Shock Hazard**

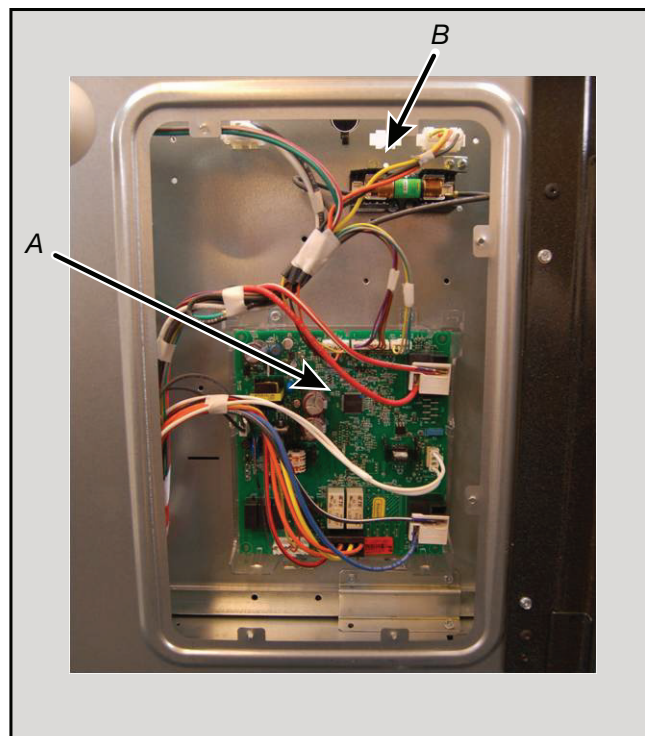
**Disconnect power before servicing.**  
**Replace all parts and panels before operating.**  
**Failure to do so can result in death or electrical shock.**

### **⚠ WARNING**

#### **Excessive Weight Hazard**

**Use two or more people to move and install oven.**  
**Failure to do so can result in back or other injury.**

1. Remove the six (6) ¼" (6.4 mm) hex-head screws securing the Oven Appliance Manager access panel to the left side of the oven cabinet.
2. Remove panel and set aside.
3. Remove panel and set aside. You now have access to the following components:
  - Copernicus Appliance Manager
  - Oven Line Fuse



A. Copernicus Appliance Manager  
B. Oven Line Fuse

## Oven - Accessing the Application Manager (Copernicus - Single and Double Oven)

**⚠ WARNING**

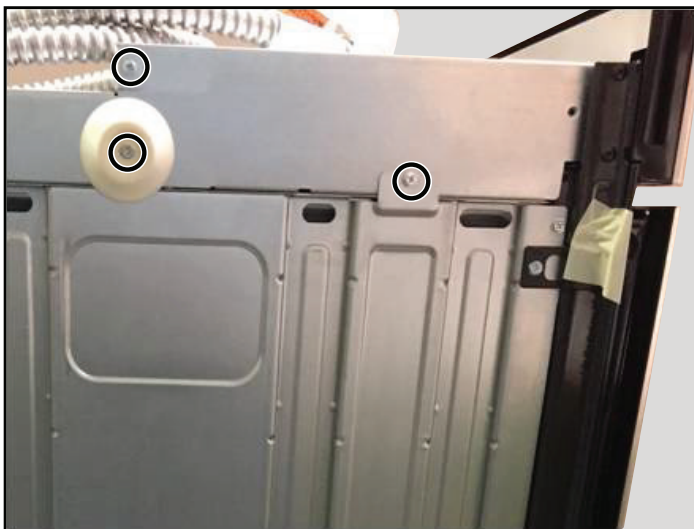
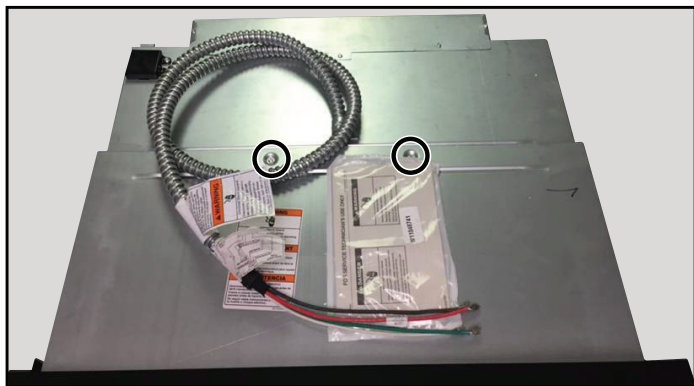


**Electrical Shock Hazard**  
 Disconnect power before servicing.  
 Replace all parts and panels before operating.  
 Failure to do so can result in death or electrical shock.

**⚠ WARNING**

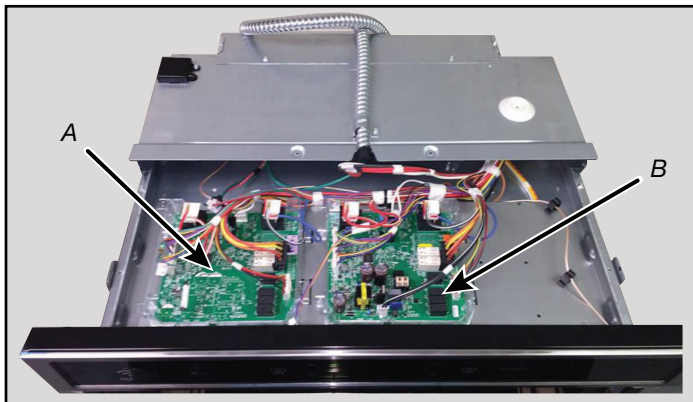
**Excessive Weight Hazard**  
 Use two or more people to move and install oven.  
 Failure to do so can result in back or other injury.

1. Remove the eight (8) ¼" (6.4 mm) hex-head screws securing the top access panel, two (2) on the top, and three (3) on each side.



2. Remove panel and set aside. You now have access to the Copernicus Appliance Manager(s).

**NOTE:** Single wall-ovens have one Copernicus, where the double ovens have two (as seen in this figure).




A. Lower Oven Copernicus  
 B. Upper Oven Copernicus



# Oven - Accessing the Cooking Components

**⚠ 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.**

**⚠ WARNING**

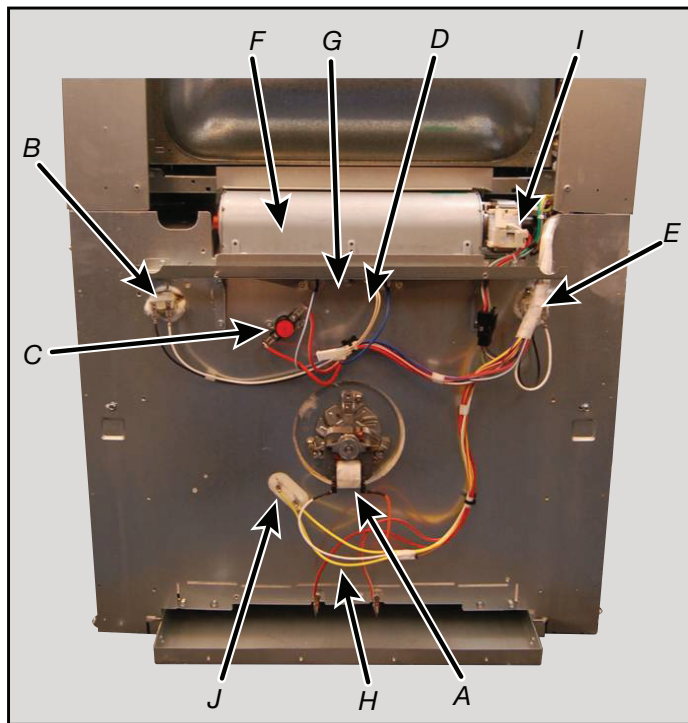
**Excessive Weight Hazard**  
**Use two or more people to move and install oven.**  
**Failure to do so can result in back or other injury.**

1. Remove the all ¼" (6.4 mm) hex-head screws from the rear panel as illustrated in the figure below.



2. Remove rear panels and set aside. You now have access to the following components (may vary by model):

- Convection Assembly/Fan
- Light assembly
- Thermal Limiter
- Oven temp sensor
- Light assembly (right side light)
- Cooling Fan
- Broil element
- Bake element
- Hall Effect Sensor
- Convection Element



- |                                      |                       |
|--------------------------------------|-----------------------|
| A. Convection Assembly/Fan           | F. Cooling Fan        |
| B. Light assembly                    | E. Broil element      |
| C. Thermal limiter                   | H. Bake element       |
| D. Oven temp sensor                  | I. Hall Effect Sensor |
| E. Light assembly (right side light) | J. Convection element |



# PRODUCT SPECIFICATIONS & WARRANTY INFORMATION SOURCES

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## *IN THE UNITED STATES:*

**FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL:**

FOR WHIRLPOOL PRODUCTS: 1-800-253-1301

**FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:**

THE TECHNICAL ASSISTANCE LINE: 1-800-832-7174

**HAVE YOUR STORE NUMBER READY TO IDENTIFY YOU AS AN  
AUTHORIZED IN-HOME SERVICE PROFESSIONAL**

**FOR LITERATURE ORDERS (CUSTOMER EXPERIENCE CENTER):**

PHONE: 1-800-851-4605

**FOR TECHNICAL INFORMATION AND SERVICE POINTERS:**

[www.servicematters.com](http://www.servicematters.com)

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## *IN CANADA:*

**FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL**

1-800-461-5681

**FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:**

THE TECHNICAL ASSISTANCE LINE: 1-800-488-4791

**HAVE YOUR STORE NUMBER READY TO IDENTIFY YOU AS AN  
AUTHORIZED IN-HOME SERVICE PROFESSIONAL**

