

# SERVICE DATA SHEET

## Electric Ranges with ES610 Electronic Oven Controls

**NOTICE:** This service data sheet is intended for use by persons having electrical and mechanical training and a level of knowledge of these subjects generally considered acceptable in the appliance repair trade. The manufacturer cannot be responsible, nor assume any liability, for injury or damage of any kind arising from the use of this data sheet.

**IMPORTANT NOTE:** This unit includes an EOC (electronic oven control). This board is not field-repairable.

### Safe Servicing Practices

To avoid the possibility of personal injury and/or property damage, it is important that safe servicing practices be observed. The following are some, but not all, examples of safe practices.

- Do not attempt a product repair if you have any doubts as to your ability to complete it in a safe and satisfactory manner.
- Before servicing or moving an appliance, remove power cord from electric outlet, trip circuit breaker to Off, or remove fuse.
- Never interfere with the proper installation of any safety device.
- Use only replacement parts specified for this appliance. Substitutions may not comply with safety standards set for home appliances.
- Grounding: The standard color coding for safety ground wires is green or green with yellow stripes. Ground leads are not to be used as current carrying conductors. It is extremely important that the service technician reestablish all safety grounds prior to completion of service. Failure to do so will create a potential hazard.
- Prior to returning the product to service, ensure that:
  - All electric connections are correct and secure.

- All electrical leads are properly dressed and secured away from sharp edges, high-temperature components, and moving parts.
- All uninsulated electrical terminals, connectors, heaters, etc. are adequately spaced away from all metal parts and panels.
- All safety grounds (both internal and external) are correctly and securely reassembled.
- All panels are properly and securely reassembled.

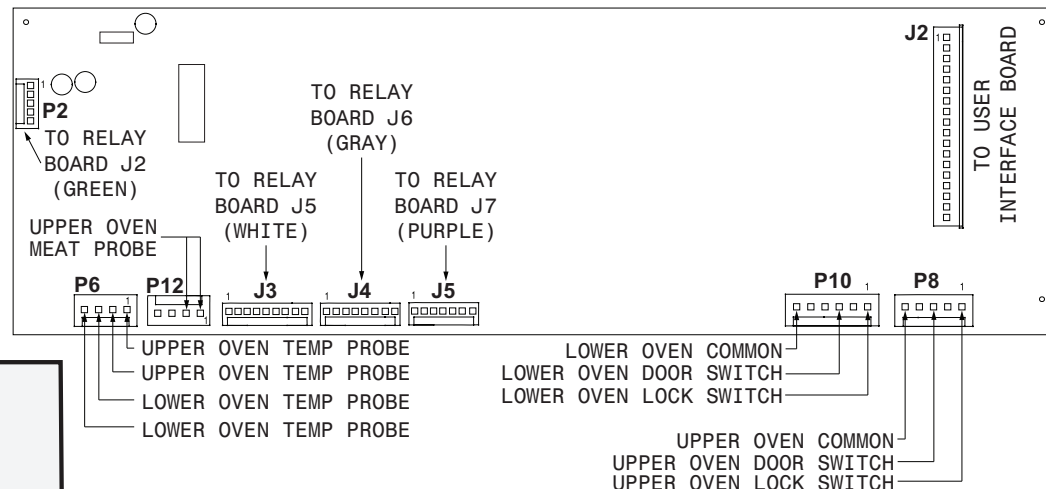
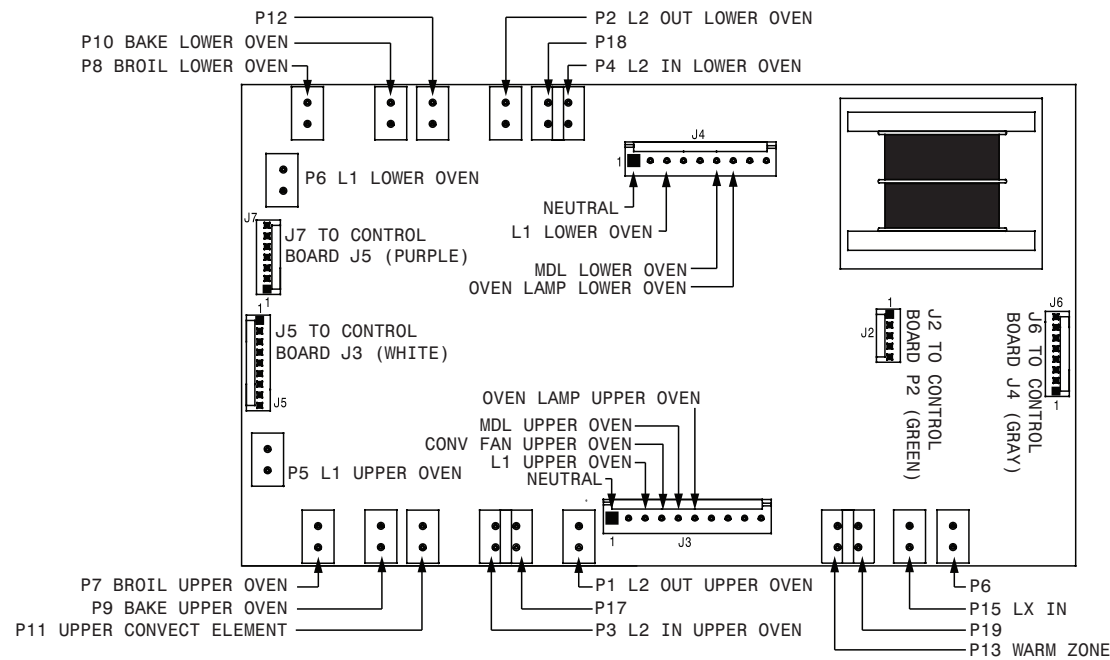
### Oven Calibration

Set the electronic oven control for normal baking at 350°F. Allow oven to preheat to set temperature. Obtain an average oven temperature after a minimum of five cycles. Press the **STOP** key to end the Bake mode.

### Temperature Adjustment

- While in a non-cooking mode, press and hold the **Bake** key for 6 seconds.
- The current calibration offset (temperature adjustment) should appear in the temperature display.
- Use the number keys (0-9) to enter the desired amount of adjustments (up to 35°F).
- Press the **Self Clean** key to change the sign of the adjustment to a (-), if necessary. A positive adjustment will not display a sign.
- Once the desired adjustment (-35° to 35° F) has been entered, press the **Start** key to accept the change or the **Cancel** key to reject the change.

**Note:** Changing calibration affects all baking modes. The adjustments made will not change the self-cleaning temperature.



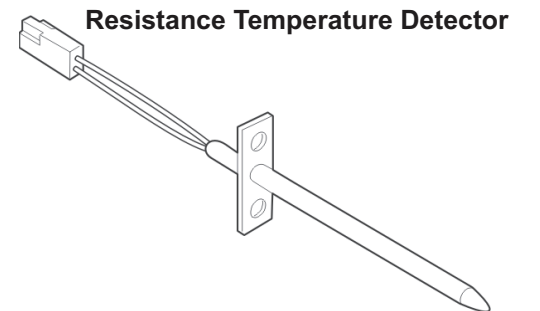
**IMPORTANT**  
**DO NOT REMOVE THIS BAG**  
**OR DESTROY THE CONTENTS**  
 WIRING DIAGRAMS AND SERVICE  
 INFORMATION ENCLOSED  
**REPLACE CONTENTS IN BAG**

## ELECTRONIC OVEN CONTROL (EOC) FAULT CODE DESCRIPTIONS

**Note:** Generally speaking "F1x" implies a control failure, "F3x" an oven probe problem, and "F9x" a latch motor problem.

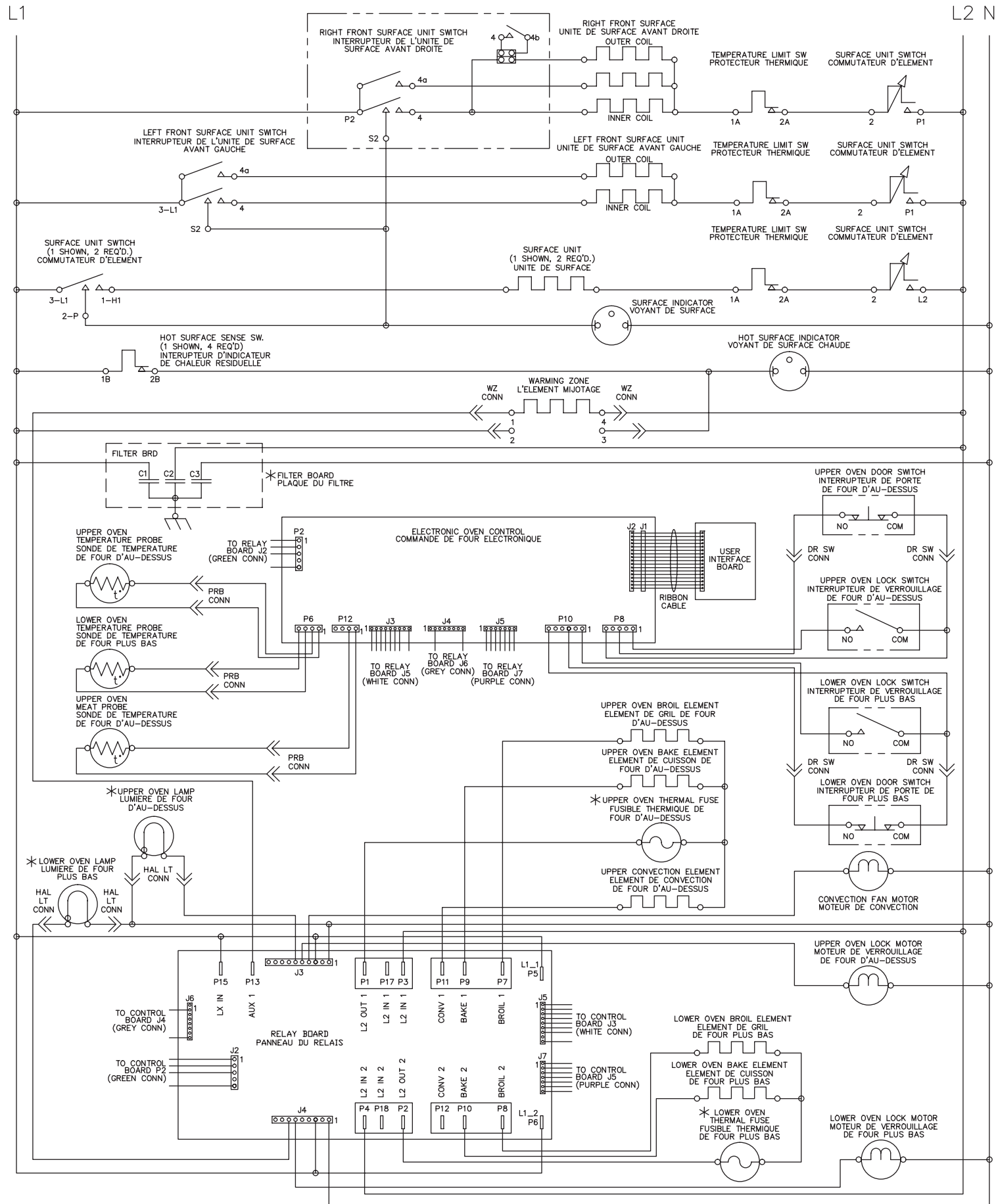
Code	Condition / Cause	Suggested Corrective Action
F10	Control has sensed a potential runaway oven condition. Control may have shorted relay, RTD sensor probe may have a gone bad.	- Check RTD sensor probe and replace if necessary. If oven is overheating, disconnect power. If oven continues to overheat when power is reapplied, replace the EOC-Display Board.
F11	Shorted Key: a key has been detected as pressed (for a long period) will be considered a shorted key alarm and will terminate all oven activity.	- Press CANCEL key. - If fault returns, replace the keyboard (membrane). - If the problem persists, replace the EOC- Display Board.
F13	Control's internal checksum may have become corrupted.	- Press CANCEL key. - Disconnect power, wait 10 seconds ad reapply power. If fault returns upon power-up, replace EOC- Display Board.
F14	Misconnected keyboard cable.	- Disconnect power. Verify the flat cable connection between the keyboard membrane and the EOC- Display Board on J2. - If the problem persists, replace the EOC- Display Board. - If the connection is good but the problem persists, replace the keyboard (membrane switch).
F15	Controller self check failed.	- Replace the EOC- Display Board.
F30	Open RTD sensor probe/ wiring problem. Note: EOC may initially display an "F10", thinking a runaway condition exists.	- Check wiring in probe circuit for possible open condition. - Check RTD resistance at room temperature (compare to probe resistance chart). If resistance does not match the chart, replace the RTD sensor probe. - Let the oven cool down and restart the function
F31	Shorted RTD sensor probe / wiring problem.	- If the problem persists, replace the EOC- Display Board.
F90 F91 F95	Door motor mechanism failure. The controller does not see the motor rotating.	- Press CANCEL key. - If CANCEL key does not eliminate problem, turn off power for 30 seconds, then turn on power. - Check wiring of Lock Motor, Lock Switch and Door Switch circuits. - Unplug the lock motor from the board and apply power (L1) directly to the Lock Motor. If the motor does not rotate, replace Lock Motor Assembly. - Check Lock Switch for proper operation (do they open and close, check with ohmmeter). The Lock Motor may be powered as in above step to open and close Lock Switch. If the Lock Switch is defective, replace Motor Lock Assembly. - If all above steps fail to correct situation, replace the EOC- Display Board or the EOC- Relay Board in the event of a motor that does not rotate.

UPPER OVEN CIRCUIT ANALYSIS MATRIX	On Relay Board							On Display Board
	ELEMENTS							Door Switch P8-3 / P8-5
	Bake P9	Conv P11	Broil P7	Oven Light J3-6	Door Motor J3-5	Conv Fan J3-4	DLB L2 out P1	
Bake	X	X	X			X	X	
Broil			X				X	
Convection Bake	X	X	X			X	X	
Clean	X	X	X				X	
Locking / Unlocking					X			
Light				X				
Door Open				X				
Door Closed								X



LOWER OVEN CIRCUIT ANALYSIS MATRIX	On Relay Board					On Display Board
	ELEMENTS					Door Switch P10-1 / P10-3
	Bake P10	Broil P8	Oven Light J4-7	Door Motor J4-6	DLB L2 out P2	
Bake	X	X			X	
Broil		X			X	
Clean	X	X			X	
Locking / Unlocking				X		
Light			X			
Door Open			X			
Door Closed						X

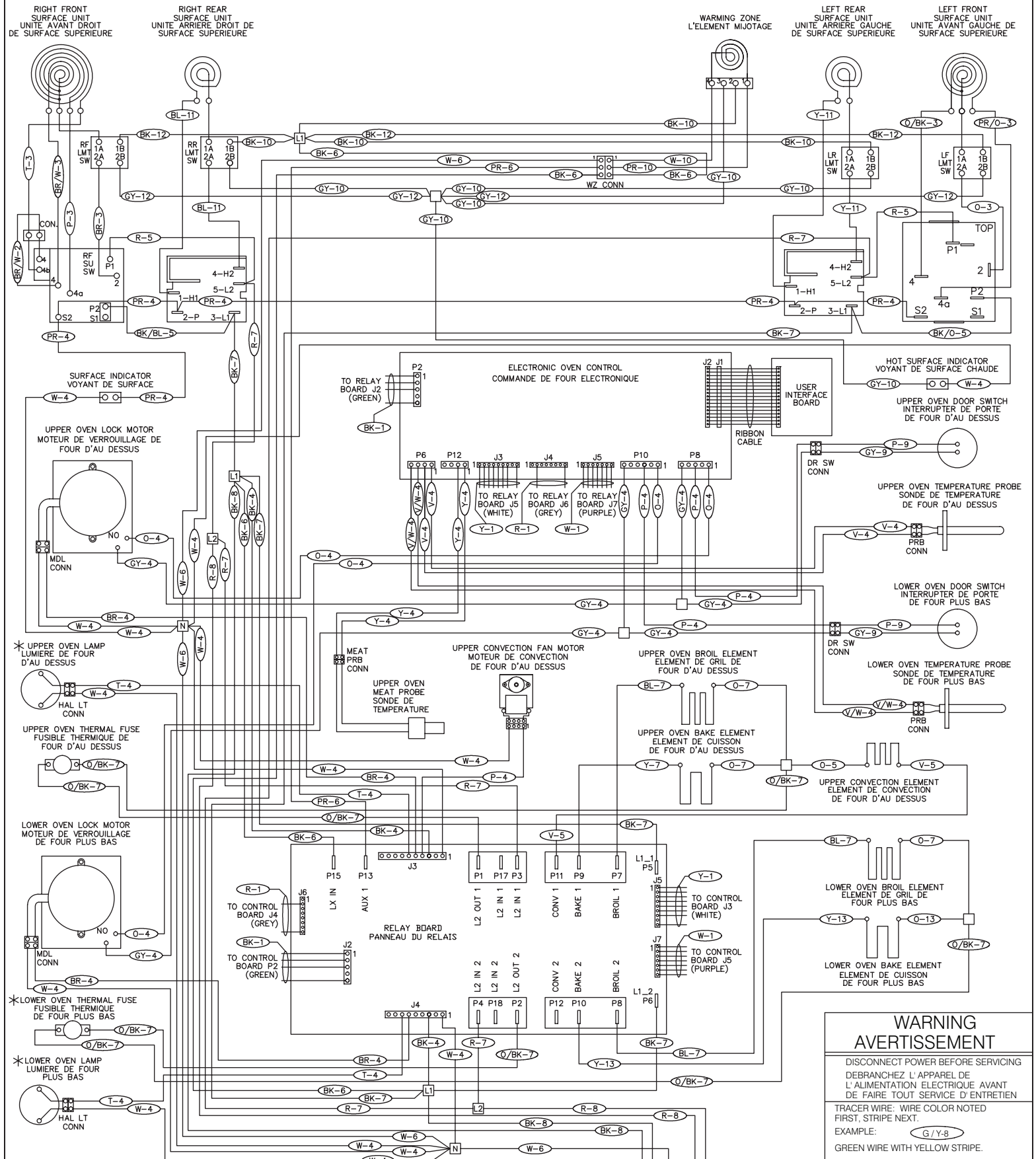
RTD SCALE	
Temperature °F (°C)	Resistance (ohms)
32 ± 1.9 (0 ± 1.0)	1000 ± 4.0
75 ± 2.5 (24 ± 1.3)	1091 ± 5.3
250 ± 4.4 (121 ± 2.4)	1453 ± 8.9
350 ± 5.4 (177 ± 3.0)	1654 ± 10.8
450 ± 6.9 (232 ± 3.8)	1852 ± 13.5
550 ± 8.2 (288 ± 4.5)	2047 ± 15.8
650 ± 9.6 (343 ± 5.3)	2237 ± 18.5
900 ± 13.6 (482 ± 7.5)	2697 ± 24.4
Probe circuit to case ground	Open circuit/infinite resistance



NOTES:  
1. CIRCUITS SHOWN WITH ALL CONTROLS SET TO OFF.  
2. COMPONENTS WITH \* DO NOT APPEAR ON ALL MODELS.

NOTES:  
1. ILLUSTRATION DE CIRCUIT AVEC TOUTES LES COMMANDES REGLEES A OFF. PORTE DE FOUR FERMEE ET DEVERROUILLEE  
2. LES ITEMS POURVUS D'UN \* NE SONT PAS COMPRIS DANS TOUTS LES MODELES.

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13	14	200	3071
12	18	250	3252
11	16	200	3122
10	18	200	3122
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8	12	150	3321
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6	18	150	3321
5	16	150	3321
4	20	150	3321
3	16	150	3252
2	16	105	1015
1	22	150	10109
WIRE	AWG	TEMP °C	UL STYLE

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AVERTISSEMENT**

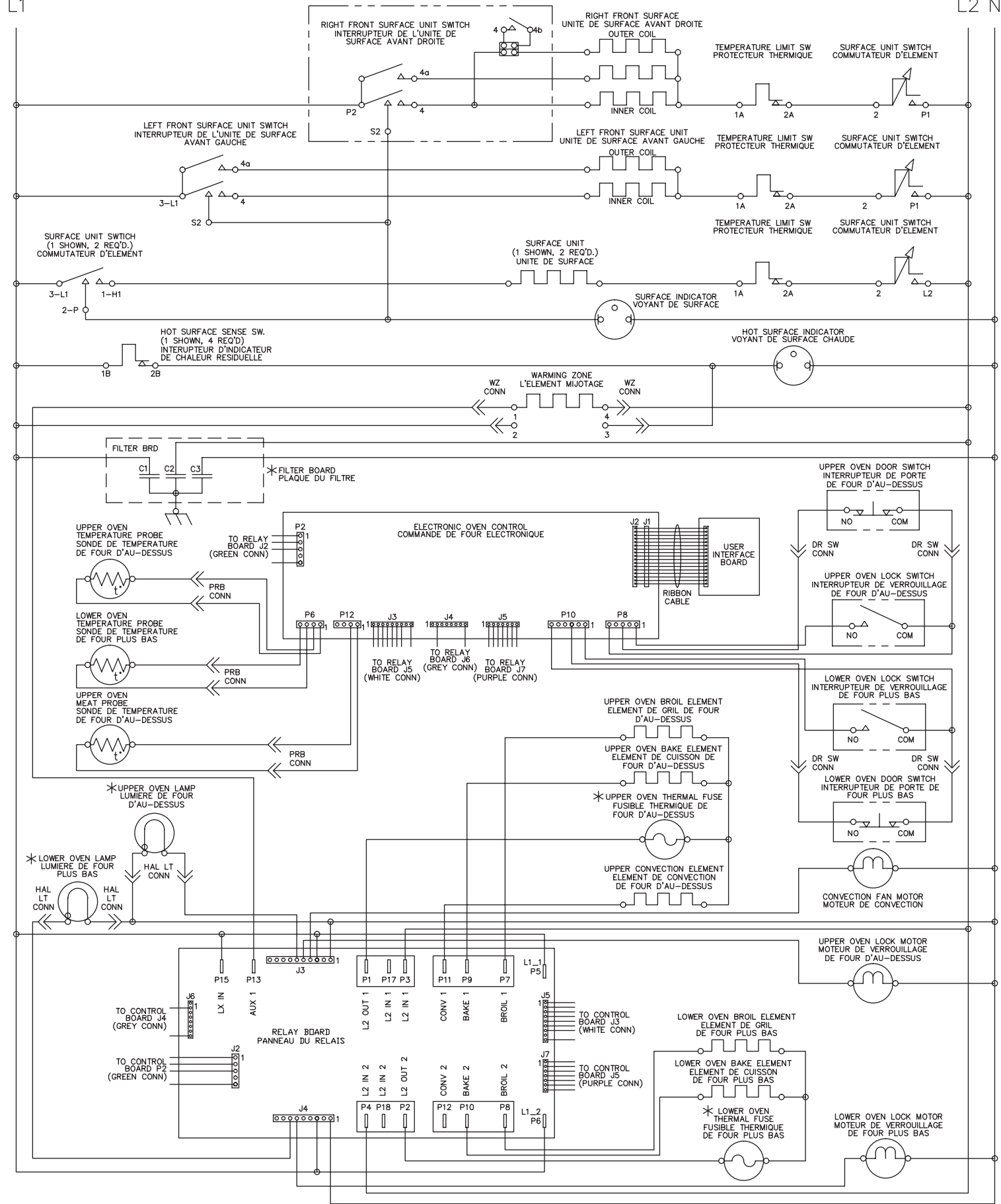
DISCONNECT POWER BEFORE SERVICING  
DEBRANCHEZ L'APPAREIL DE L'ALIMENTATION ELECTRIQUE AVANT DE FAIRE TOUT SERVICE D'ENTRETIEN

TRACER WIRE: WIRE COLOR NOTED FIRST, STRIPE NEXT.  
EXAMPLE: (G/Y-8)  
GREEN WIRE WITH YELLOW STRIPE.

LEGENDE DE FILAGE: LA COULEUR DU FIL EN PREMIER, SUIVE DE CELLE DE TOUTE BANDE.  
EXAMPLE: (G/Y-8)  
FIL VERT AVEC BANDE JAUNE.

COLOR CODE / CODE DES COULEURS	
BK / BLACK / NOIR	P / PINK / ROSE
BL / BLUE / BLEU	PR / PURPLE / POURPRE
BR / BROWN / BRUN	R / RED / ROUGE
C / COPPER / CUIVRE	T / TAN / BRUN CLAIR
G / GREEN / VERT	V / VIOLET
GY / GRAY / GRIS	W / WHITE / BLANC
O / ORANGE	Y / YELLOW / JAUNE

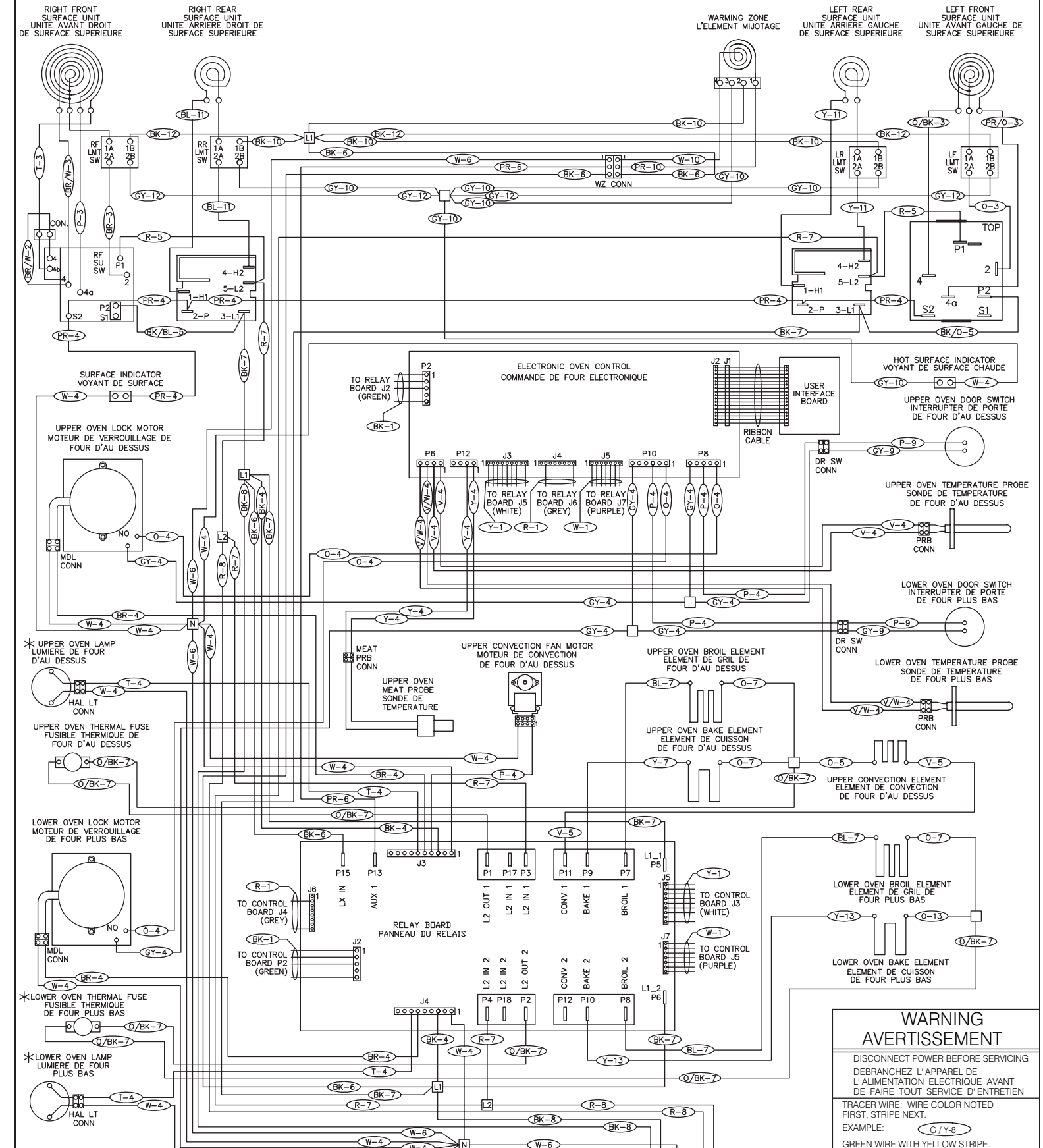




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