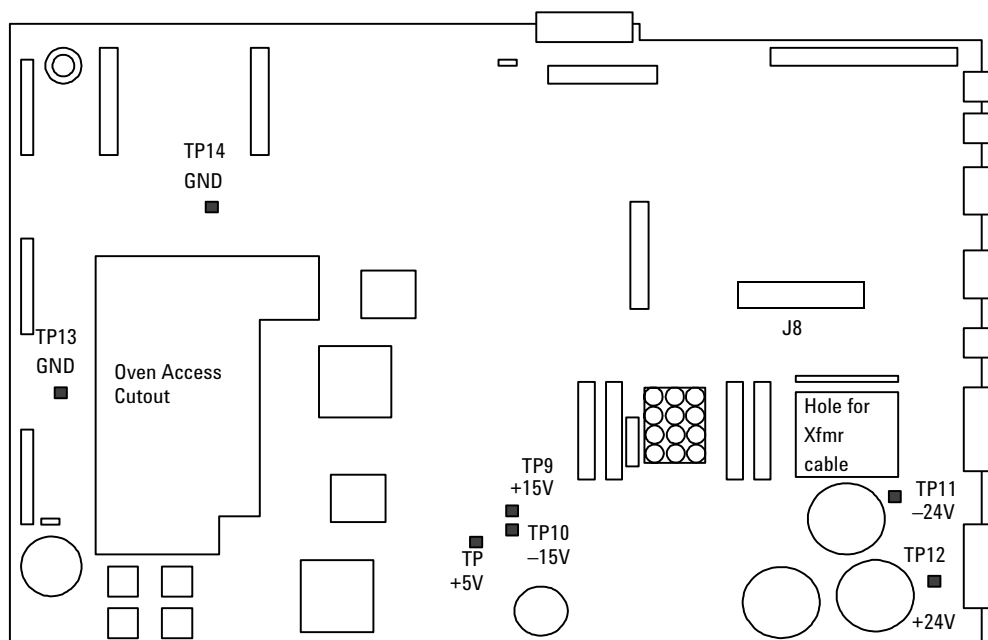


# 1220 Main Board, 6890A and 6890 Plus

## Test points

There are seven test pads on the main board that allow you to test the GC's regulated DC supplies (+24V, -24V, +15V, -15V, +5V) and to test the ground. The test pads are located on the main board as shown below:



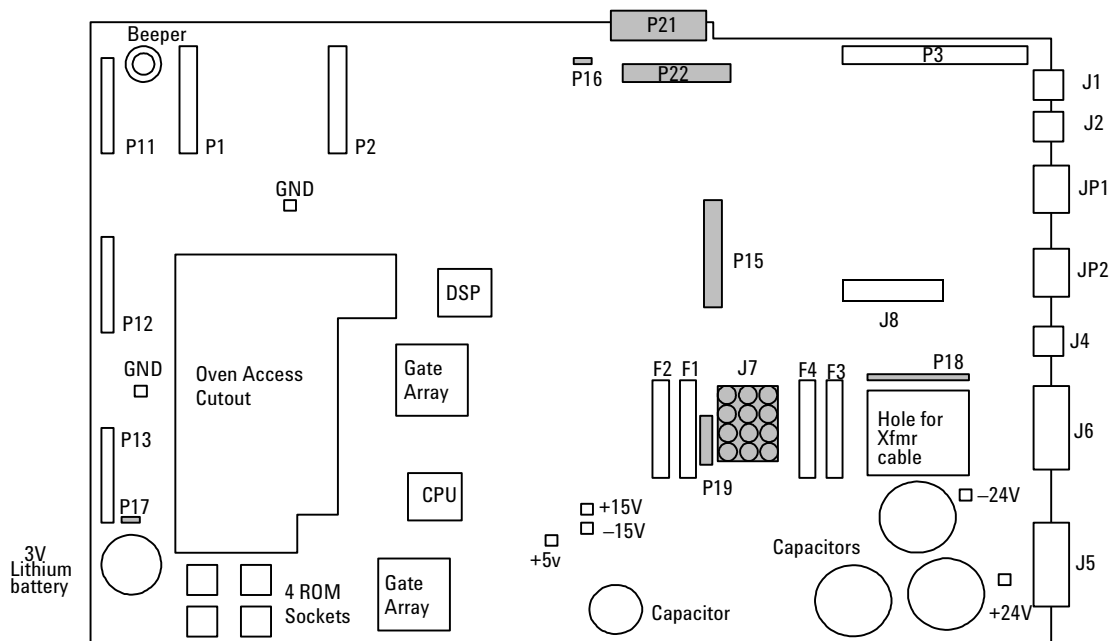
### General specifications

Supply	% tol	Rated I (FL)	System PARD V pp
+24*	±10%	4.75 A	<1 V
-24*	±10%	0.75 A	<1 V
+15	±5%	0.40 A	<250 mV
-15	±5%	0.30 A	<250 mV
5	±2%	4.5 A	<150 mV
40*	±10%	11.25 A	(1)

Figure 1220-1 Mainboard test pads

## Connector electronics

The table on the following page shows the pinouts for some of the internal connectors on the main circuit board that can be probed for diagnostic purposes. These connectors are shaded on the diagram below. These connectors are used for communications within the instrument. All connector pinout drawings are viewed from the component side of the board.



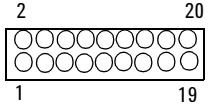
**Figure 1220-2 Main board connectors**

Table 1220-1 Main Circuit Board Pinouts

J7-AC Power			P21-Inl/Det Htd Zones, man split valves		
1	Heater 40 VAC (VIOLET)		1	Sensor GND	<p>Connects to: G1530-60640 (Inlet/Detector harness)</p>
2	unused		2	Sensor GND	
3	Heater 40 VAC (ORANGE)		3	Sensor GND	
4	unused		4	Sensor GND	
5	Heater Center Tap (GRAY)		5	Heater GND	
6	unused		6	Heater GND	
7	unused		7	Heater GND	
8	Heater Center Tap (WHITE)		8	Heater GND	
9	unused		9	+24 Volts	
10	20 VAC (YELLOW)		10	+24 Volts	
11	20 VAC Center Tap (BLUE)		11	FRONT INJ SENSOR	
12	20 VAC (YELLOW)		12	BACK INJ SENSOR	
<b>P16-Oven sensor</b>			13	FRONT DET SENSOR	
1	Oven sense		14	BACK DET SENSOR	
2	Ground		15	FRONT INJ HEATER	
<b>P17-Oven door switch</b>			16	BACK INJ HEATER	
1	Oven door		17	FRONT DET HEATER	
2	Ground		18	BACK DET HEATER	
<b>P18-Inlet fan, oven flap, oven cryo</b>			19	FRONT INJ +24V VALVE	
1	Oven Flap Drive (WHITE)		20	BACK INJ +24V VALVE	
2	Oven Flap Drive (BLACK)		<b>P22-Valve box, Aux heated zones</b>		
3	Oven FLAP +24 V (WHT/BLU)		1	AUX 1 SENSOR	
4	Oven FLAP +24 V (WHT/BLK)		2	AUX 2 SENSOR	
5	Oven Flap Drive (BLUE)		3	HEATER GND	
6	Oven Flap Drive (RED)		4	HEATER GND	
7	Inlet Fan +24 V (ORANGE)		5	+24 Volts	
8	Inlet Fan Drive (YELLOW)		6	+24 Volts	
9	Oven Cryo +24 V (GRAY)		7	+24 Volts	
10	CO2 Cryo Installed (VIOLET)		8	+24 Volts	
11	N2 Cryo Installed (GREEN)		9	SENSOR GND	
12	GND		10	SENSOR GND	
13	Oven Cryo Drive (WHT/RED)		11	AUX 1 HEATER	
<b>P19-AC board control</b>			12	AUX 2 HEATER	
1	Oven Relay Drive		13	VALVE #1	
2	Oven Triac Drive		14	VALVE #2	
3	+24 Volts		15	VALVE #2	
4	common w/ pin 2		16	VALVE #4	
5	common w/ pin 1				
				<p>Connects to: G1530-60660 (Auxiliary Zone/Valve Box harness)</p>	

**Table 1220-1 Main Circuit Board Pinouts (continued)**

<b>J8—ALS Interfaceboard</b>	
1	+5V
2	-15V
3	+5
4	DSRB
5	GND
6	+5V
7	GND
8	NC
9	GND
10	GND
11	GND
12	GND
13	APG[1]
14	NC
15	RXD
16	+15V
17	TXD
18	DTR
19	CTS
20	RTS



Connects to:  
G2612-60510  
(6890 ALS Controller Bd  
cable)

## Fuses

There are four identical glass fuses on the main board.

**Table 1220-2 Replaceable fuses on the AC power board**

<b>I.D.</b>	<b>Description</b>	<b>System</b>	<b>Power Rating</b>	<b>Part no.</b>
F1	Glass/Type F	Zone	8A/250 V	2110-0036
F2	Glass/Type F	Zone	8A/250 V	"
F3	Glass/Type F	±24 Volt	8A/250 V	"
F4	Glass/Type F	±24 Volt	8A/250 V	"



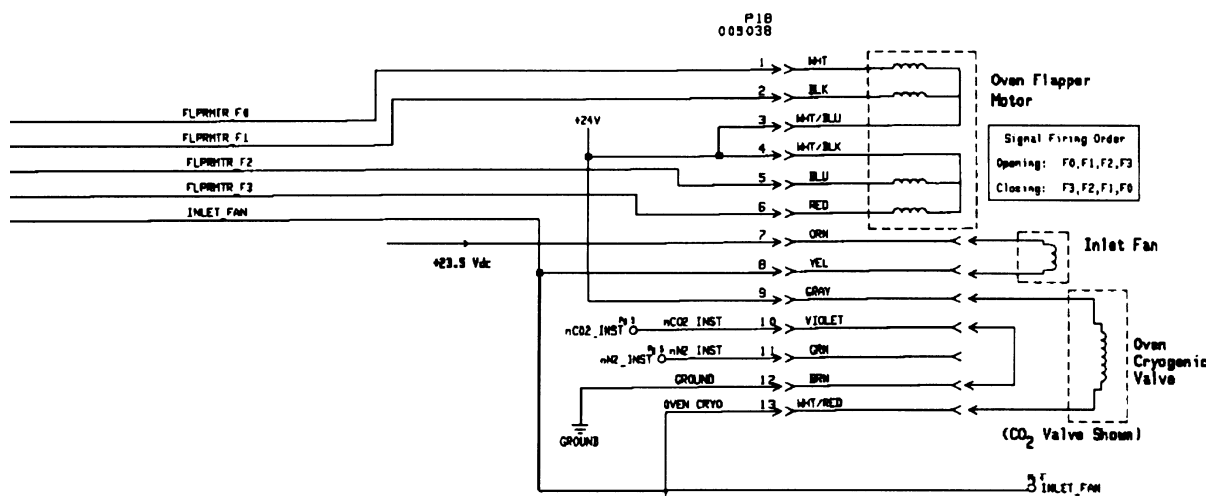
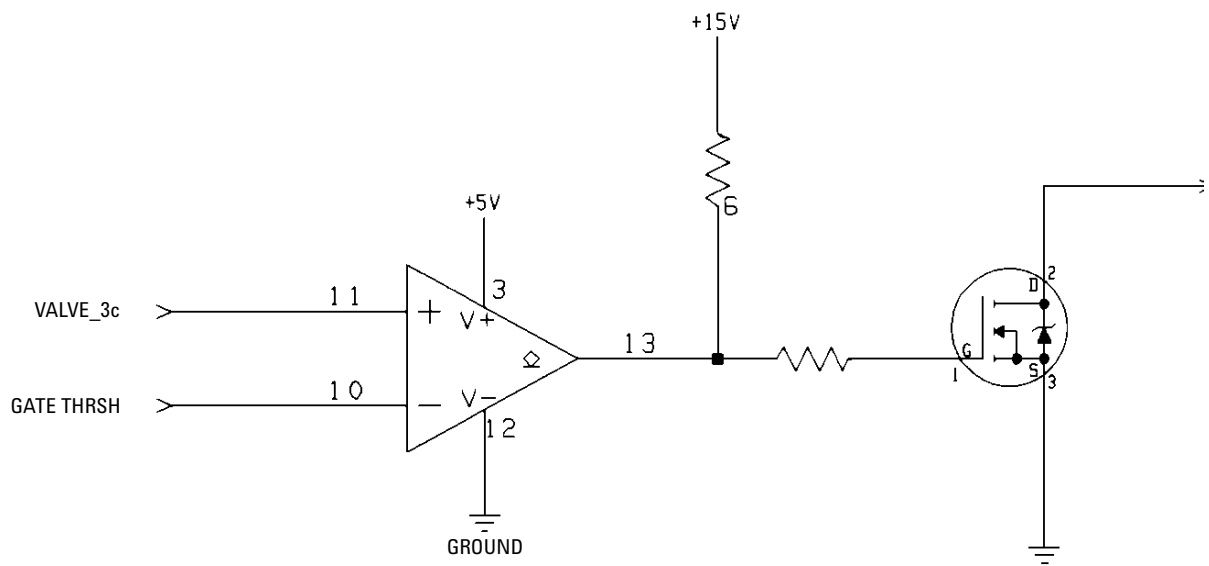


Figure 1220-4 Inlet fan, oven flap, oven cryo circuitry



**Figure 1220-5 Valve driver circuitry**





