G3444A Logic PCA Upgrade Kit

The G3444A Logic PCA Upgrade kit provides the parts required to upgrade a 7890A GC into a 7890A+ GC. The upgraded GC will have the following additional capabilities:

- Compatible with the FPD^+ detector
- Compatible with the G3494A and G3494B Barcode Reader accessories
- 7890B MSD communications and support
- Improved Early Maintenance Feedback
- Resource Conservation
- Additional software features

However, because of hardware differences between the 7890B and 7890A GCs, the upgraded GC will **not** have the following capabilities:

- Dual multimode inlets
- Ability to install a μECD as a third detector

Parts Included in the Kit

Figure 1 G3430-61011 7890B Logic Board PCA

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Prepare for Upgrade

The logic board contains information specific to the GC and its configuration, including methods, sequences, serial number, date of manufacture, IP address (including gateway, and subnet mask), logs, oven type, AUX heater configuration(s), and so forth. These items must be reentered after the new logic board is installed.

If the GC is functional, use the keypad to view and record the following configuration and communications information:

• Configuration data: installed column dimensions, ALS syringe sizes, and column inlet/outlet connections.

• Gas types (inlet, detector, Aux EPC/PCM).

• Cryogenic cooling, if present.

• Heater assignments for any installed valve box, transfer line heaters, or other devices.

• Valve types and sample loop volumes.

• If the configuration includes non-Agilent components or a specially-ordered Agilent configuration (for example, a specific analyzer), you may need to re-enter custom heater or pneumatic PIDs. View and record this information.

• IP address, subnet mask, and gateway.

See the Agilent 7890A *Advanced User Guide* and the *7890 Series Service Manual* for details.

Remove the Existing Logic Board

1 Set the GC inlets, oven, and detectors to 40 °C. Turn off transfer line and valve box heaters, if installed. (If connected to an MSD or other instrument, prepare these instruments accordingly.)

2 When the oven has cooled, turn off the GC main power switch and disconnect its power cord.

WARNING	**Hazardous voltages are present in the mainframe when the GC power cord is connected. Avoid a potentially dangerous shock hazard by disconnecting the power cord before removing any GC panels.**

CAUTION	Components can be damaged by static electricity. Prevent electrostatic voltages from damaging the GC by using an ESD wrist strap while performing this procedure.

3 Remove the right side cover (electronics panel).

4 Disconnect the ribbon cables to the keyboard/display. See Figure 2.

Analog and power board

Ribbon cable to keyboard/display
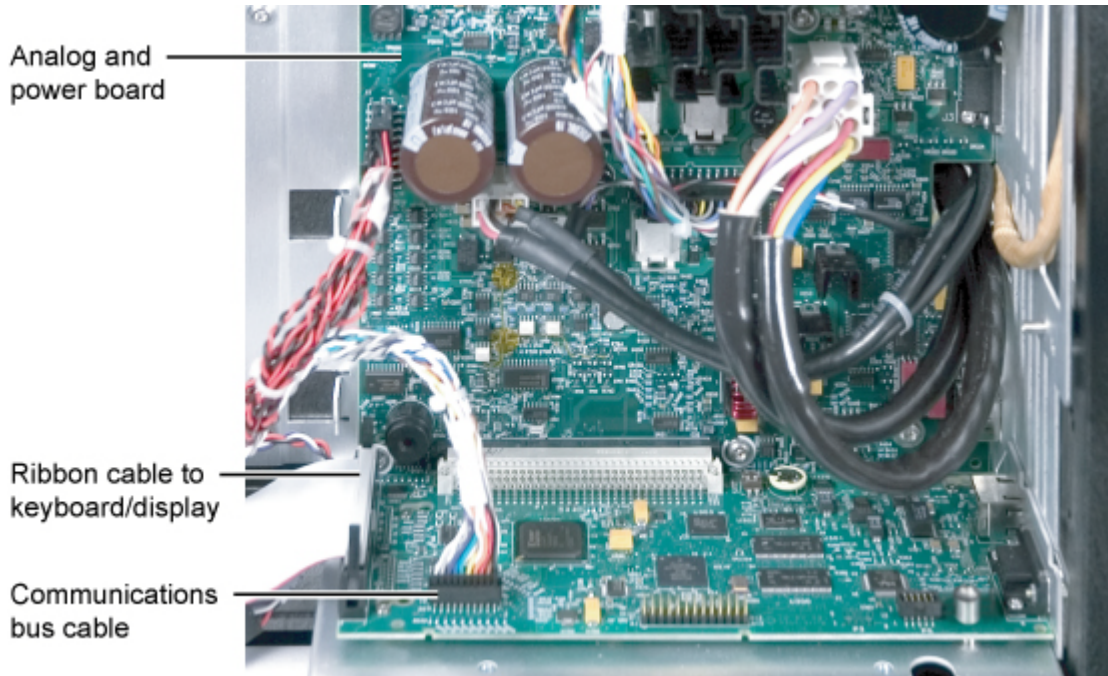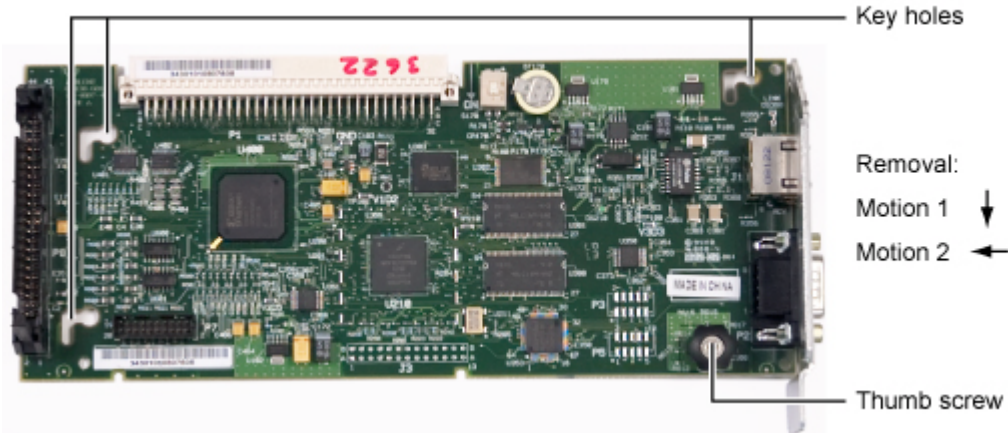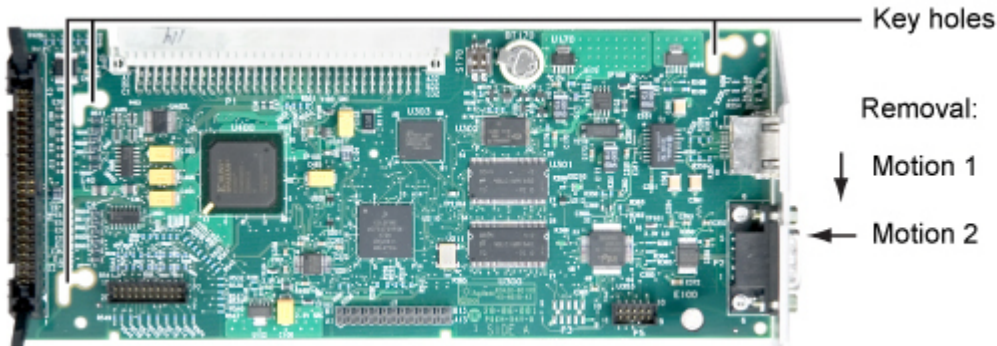
Communications bus cable

Figure 2   Disconnect cables

5 Disconnect the communications bus cable and the ribbon cable to the keyboard and display. If present, also remove the external LAN cable from the back of the GC.

6 Loosen the logic board from the electronics carrier. There are several versions of 7890A GC logic boards.

- For the G3430-61010, G3430-60120, or G3430-60101 logic and communication board, loosen the thumbscrew in the front right corner of the board. Board G3430-60101 is shown below. Boards G3430-61010 and G3430-60120 are similar.

- If you have a G3430-60100 logic and communication board, remove the two screws that secure the logic board to the rear panel.

7 Slide the logic board toward you while using a rocking motion to unplug the board from its analog and power board receptacle.

8 Once free of the analog and power board, slide the logic board to the left and lift it out.
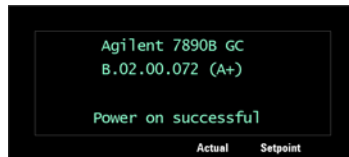
Install the New Logic Board

1 Place the new logic board over the mounting posts in the electronics chassis.

2 Slide the board to the right, then push in to insert it into the Analog & Power board and lock in place.

3 Tighten the thumbscrew in the front right corner.

4 Reconnect the cables.

5 Reinstall the right side cover.

Restore the GC Configuration

You must now restore logic board information specific to the GC and its configuration.

1 Press [**Service Mode**], scroll to **Diagnostics**, and press [**Enter**].

2 Scroll to **Instrument Status**. Press [**Enter**].

3 Press [.][.][**Mode/Type**], select the country, and press [**Enter**].

4 Press [.][.] and enter the 8-digit GC serial number; press [**Enter**].

The serial number will identify the GC as a 7890A+.


```
Agilent 7890B GC
B.02.00.072 (A+)

Power on successful

                    Actual    Setpoint
```

The firmware that will be used to update the GC will be **B** version firmware. The instrument serial number will identify itself as an A+.

5 Scroll to **Mfr date**. Press [.][.] and enter 6 digits in ddmmyy format. Press [**Enter**].

6 Next, configure all items specific to the GC:

• Aux EPC or PCM configuration (re-install them at the keyboard).

• Gas types (configuration choices).

• Cryogenic cooling types (configuration choices).

• Heater assignments for the valve box, MSD transfer line, and so on.

- • Valve types and sample loop sizes.
- • For non-Agilent components re-enter custom heater or pneumatic PIDs.
- • IP address, gateway, and subnet mask.

Refer to the *7890 Series GC Service Manual* and *7890B Operation Manual* for details.

7 Check the Agilent web site for the latest firmware version and install it if needed. Press [**Status**][**Clear**] to see the firmware version currently installed on the GC.

Zero the GC Flow and Pressure Sensors

The zero offsets for the flow and pressure sensors are stored on the logic board rather than in the EPC modules. You must now zero all sensors.

1 Press [**Options**], scroll to **Calibration**, and press [**Enter**].

2 Scroll to the sensor to zero and press [**Enter**].

3 Set the EPC module flow or pressure:

- • For **flow** sensors, verify that the flow is set and turned on.
- • For **pressure** sensors, turn off the flow, then disconnect the gas supply line at the back of the GC. (Turning off the flow is not adequate.)

4 Scroll to the desired zero line.

5 Press [**On/Yes**] to zero or [**Clear**] to cancel.

6 Repeat for all gas flows.

7 Reconnect any gas lines as needed and check for leaks.

Configuring New Features

Refer to the *7890B Installation and First Startup* manual and the other 7890B GC manuals to set up the new features of the GC, including MS communications.

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Updating Other Device Firmware

Support for the enhanced Early Maintenance Feedback (EMF) features available in the 7890A+ requires the following minimum firmware revisions, as applicable:

- GC ALS controller: A.02.13
- G4513A Injector (7693A): A.10.08
- G4567A Injector (7650A): A.10.02

Warranty

G3444-90010