

Agilent Technologies

**Tray Diagnostics
with
the G1512A Controller**

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The information contained herein is intended for use by informed individuals who can and must determine its fitness for their purpose.

Tray Diagnostics with the G1512A Controller

621

This section is intended to aid a trained service engineer in the troubleshooting process. Included is an overview of the failure indicators, a basic strategy of repair, and a detailed action list for each type of failure.

WARNING

Hazardous voltages are present in the electrical portions of this instrument when the power cord is connected. To avoid a potentially dangerous electrical shock, be certain the power cord is unplugged from its power source before removing any access panels.

WARNING

Measurements and/or tests that need to be made on electrically energized portions of the instrument should be performed only by service-trained personnel who are aware of all involved hazards.

Overview of failure indicators

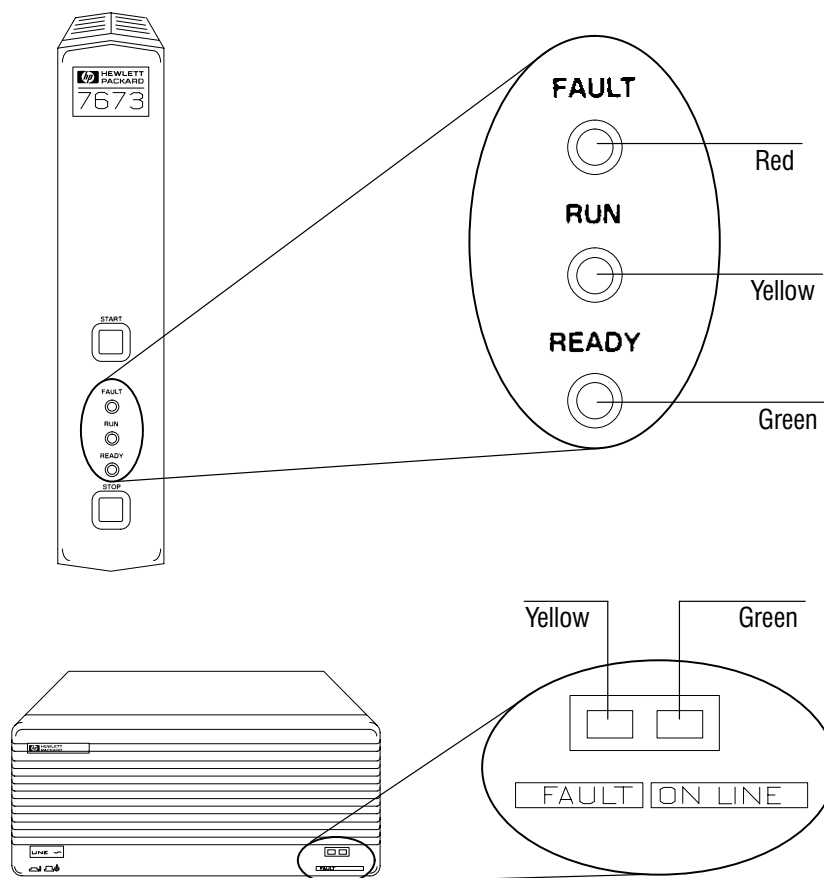
Three light emitting diodes (LEDs) on the injector indicate the status of the injector. Two LEDs on the controller module indicate the status of the controller and the tray. (See figure 621-1.)

During normal operation, the controller's green LED and injector's green LED are on. If the injector is receiving a ready signal from the GC, the injector's yellow LED is also on.

When a problem occurs on the tray or controller the yellow LED on the controller flashes and a beeper sounds in sync with the flashes.

If the automatic liquid sampler is controlled by an external device (i.e., not standalone), the controller sends error messages to the controlling device. For example, the ChemStation software displays an error message. The controller LEDs do not flash.

Figure 621-1. Location of sampler LEDs.



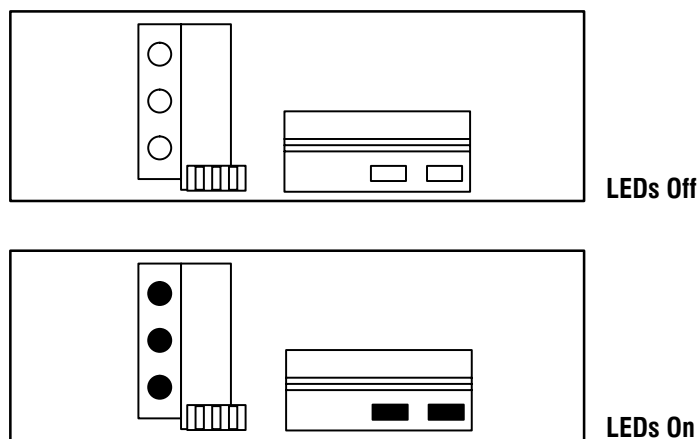
Basic strategy of repair

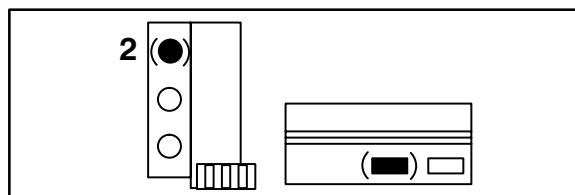
The troubleshooting strategy is to identify the failure, isolate the defective part, and replace it.

Carefully observe the operation of the failing module. Since the operations are so integrated, much can be learned by observing not only what is non-operational, but also by what areas are working correctly. The sequence of normal functions for each module is described in other sections of this manual.

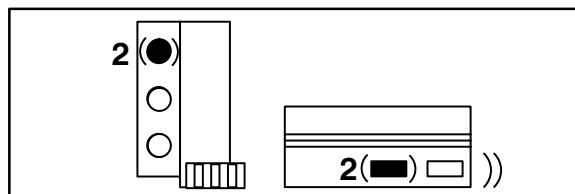
Types of failures

Throughout the rest of this section, an icon is used to represent the pattern of the fault lights and beeps used to identify failures. The following are examples of the four basic LED patterns. A number indicates the number of flashes that occur between the pauses. For example, the number two indicates that the red injector LED flashes twice, then pauses, then flashes twice, and repeats this pattern until the fault is cleared or the controller is turned off.





Red and yellow LED flashing



LEDs flashing and beeping

Responding to the fault lights

Use Table 621-1 to identify the LED pattern on the injector and controller. Then turn to the corresponding page for more information and try the actions suggested there.

Some error conditions can have more than one cause. The most frequent/simplest cause is listed first, with other possibilities listed second or third. If possible, use the diagnostic mode to isolate the problem to one of the causes and follow the steps for troubleshooting that cause.

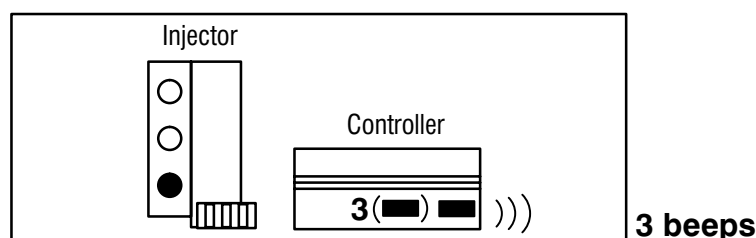
Each action list contains several things for you to check. Go through each step in order, and stop when you have found the failure. You may not necessarily complete all the actions in the list. After you have repaired the failure, retest by running a normal sequence of movement or using the diagnostics mode.

Table 621-1. LED error codes

TRAY ERRORS

| Injector LED | Controller LED | Description | Page |
|-----------------|--|--------------------------|------|
| Green On Steady | Yellow, 3 Single Flashes/ Green On Steady/3 Beeps | Bottle In Gripper Error | 5 |
| Green On Steady | Yellow, 4 Single Flashes/ Green On Steady/4 Beeps | Hard Tray/Injector Error | 6 |

Bottle in gripper error



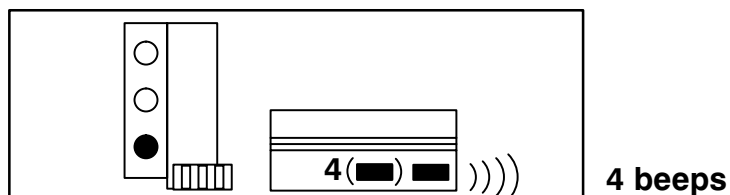
Probable Causes

- The sample vial was not delivered properly and stayed in the tray gripper

Suggested actions

1. Remove the vial and return it to its position in the tray.
2. Ensure that the tray quadrants are snapped into place.
3. Is the injector plugged into the correct connector on the back of the controller (front or back)?
4. Check the “deliver to” location for the vial and verify that the location is empty and free from obstructions.
5. Press the STOP button on the injector to clear the fault indicators. Restart the sequence.

Hard tray/injector error



Probable Causes

- Tray not able to move
- Injector not responding to signals from controller

Suggested actions

1. Remove any obstructions from the tray that might keep the arm from moving through its full motion.
2. Press the STOP button on the injector to clear the fault indicators. Restart the sequence.