

**HP 6890 Series  
Gas Chromatograph**

## **Installation Guide**

# **Single-Channel Analog Input Board**

**Accessory HP G1556A**

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HP part number  
G1556-90300

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#### Warranty

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#### Safety Information

The HP 6890 Gas  
Chromatograph meets the  
following IEC  
(International  
Electrotechnical  
Commission) classifications:  
Safety Class 1, Transient  
Overvoltage Category II,  
and Pollution Degree 2.

This unit has been  
designed and tested in  
accordance with recognized  
safety standards and  
designed for use indoors. If  
the instrument is used in a  
manner not specified by the  
manufacturer, the  
protection provided by the  
instrument may be  
impaired. Whenever the  
safety protection of the HP  
6890 has been  
compromised, disconnect  
the unit from all power  
sources and secure the unit  
against unintended  
operation.

Refer servicing to qualified  
service personnel.

Substituting parts or  
performing any  
unauthorized modification  
to the instrument may  
result in a safety hazard.  
Disconnect the AC power  
cord before removing  
covers. The customer  
should not attempt to  
replace the battery or fuses  
in this instrument. The  
battery contained in this  
instrument is recyclable.

#### Safety Symbols

Warnings in the manual or  
on the instrument must be  
observed during all phases  
of operation, service, and  
repair of this instrument.  
Failure to comply with  
these precautions violates  
safety standards of design  
and the intended use of the  
instrument.  
Hewlett-Packard Company  
assumes no liability for the  
customer's failure to  
comply with these  
requirements.

#### WARNING

A warning calls attention  
to a condition or possible  
situation that could cause  
injury to the user.

#### CAUTION

A caution calls attention to  
a condition or possible  
situation that could  
damage or destroy the  
product or the user's work.

The following safety  
instructions should be  
followed at all times:

Hydrogen (H<sub>2</sub>) is  
flammable and is an  
explosion hazard when  
confined in an enclosed  
space such as the oven. In  
any application using  
hydrogen, turn off the  
supply at its source before  
working on the instrument.

The flame ionization  
detector (FID),  
nitrogen-phosphorus  
detector (NPD), and flame  
photometric detector (FPD)  
use hydrogen gas as a fuel.  
Be sure all hydrogen gas is  
shut off to the detectors  
before shutting off the  
power to the instrument.

The oven, inlet, and  
detector zones may be hot  
enough to cause burns.  
Turn off the heated zones  
and allow time for cooling  
before working on the  
instrument.

To avoid shock hazard,  
turn off the power and  
unplug the instrument  
before removing the  
instrument's covers.

Wear safety glasses when  
using compressed gas and  
when handling glass or  
fused silica capillary  
columns. It is good practice  
to wear safety glasses at all  
times when working with  
the instrument.

The insulation on the GC is  
made of refractory ceramic  
fibers (RCF) and  
recommend the following  
safety procedures.

Ventilate your work area.  
Wear long sleeves, gloves,  
safety glasses, and a  
disposable dust/mist  
respirator. Dispose of  
insulation in a sealed  
plastic bag. Wash your  
hands with mild soap and  
cold water after handling.

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## Overview

**This section reviews the procedure for installing a single-channel analog input board on an HP 6890 Gas Chromatograph (hereafter called the GC.) With the analog board installed, you can connect non-HP detectors with 1 V of analog output to the GC. The voltage is then digitized and can be sent to a workstation or INET integrator.**

**Before following this procedure, refer to the safety information on the inside back cover.**

## Specifications

Item	Description
Input voltage	•10 mV to + 1.05V (between + and • inputs)
Input noise	5 $\mu$ V peak to peak, 0.01 to 2.5 Hz frequency
Input common mode range	$\pm$ 5 V DC (measure + or • to ground)
Common mode rejection ratio	80 db
Scaling	1 display count = 15 $\mu$ V at the input

## Parts List

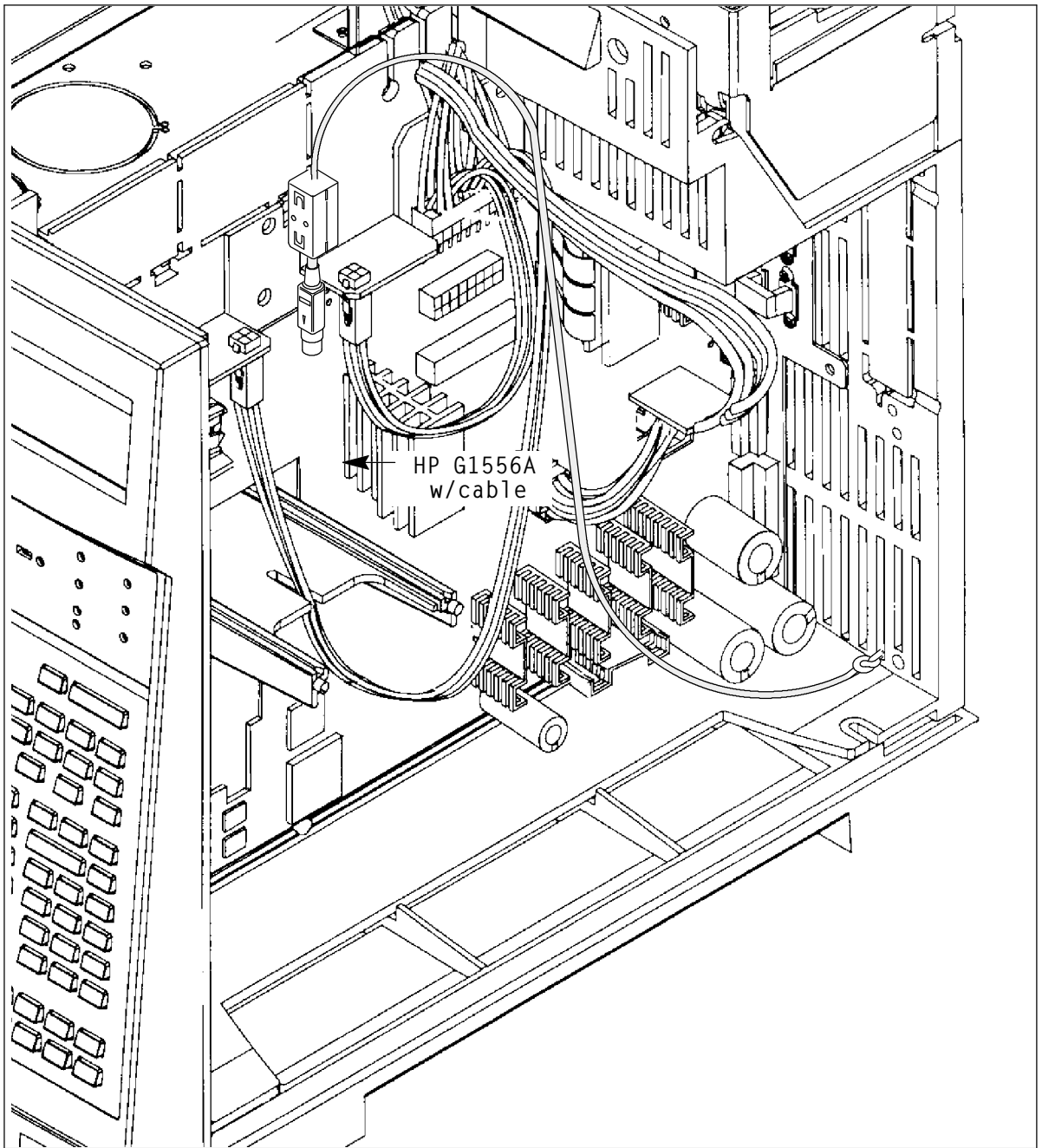
- 1 single-channel analog input board**
- 1 general-purpose analog cable**

## Required Tools

- Electrostatic protection such as grounded wrist strap (HP part no. 9300-0969 for large wrists or HP part no. 9300-0970 for small wrists)**
- T•20 Torx screwdriver**

## Steps

- 1. Preparing the GC**
- 2. Positioning and securing the analog input board**
- 3. Connecting the cable**
- 4. Restoring the GC to operating condition**



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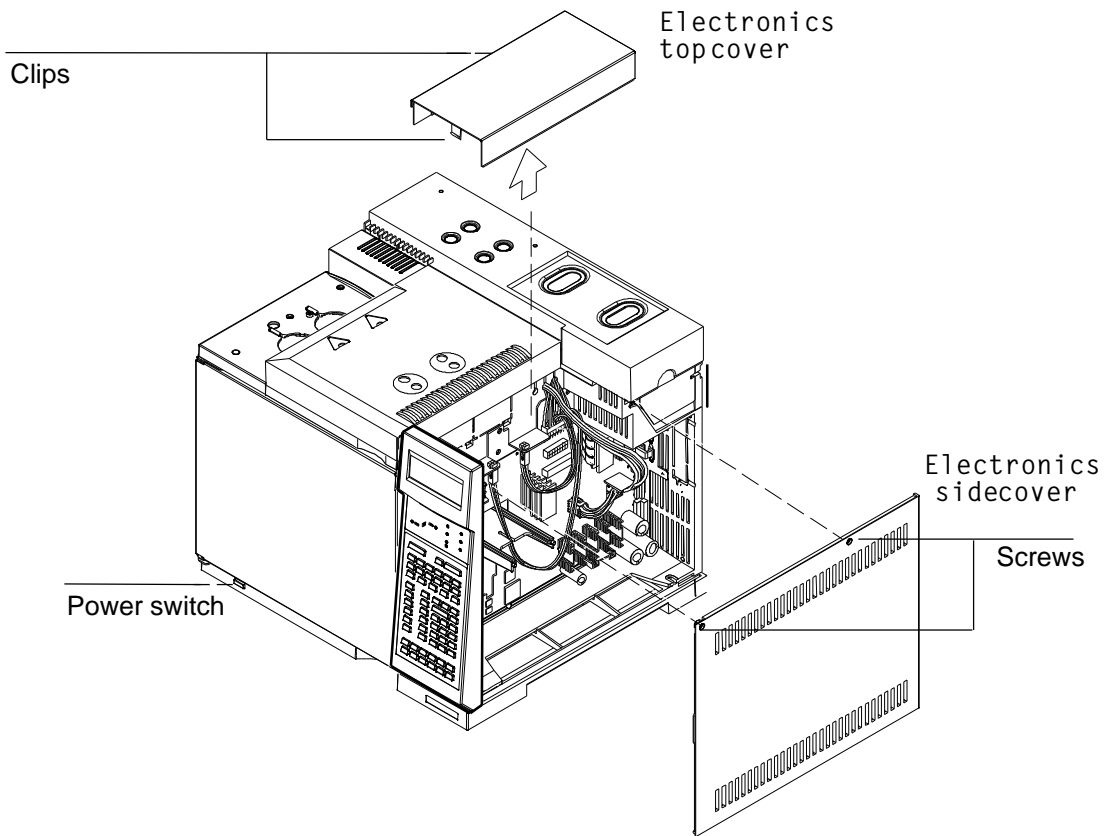
## Preparing the GC

WARNING

**Hazardous voltages are present in the mainframe when the GC power cord is plugged in. Avoid a potentially dangerous shock hazard by unplugging the power cord before removing the side panels.**

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- 1 Turn off the GC and unplug the power cord.
- 2 Remove the electronics side cover. Loosen the two screws with a T•20 Torx screwdriver, slide the cover to the right, and lift it off.
- 3 Remove the electronics top cover by disengaging the clips underneath the cover and lifting it up.



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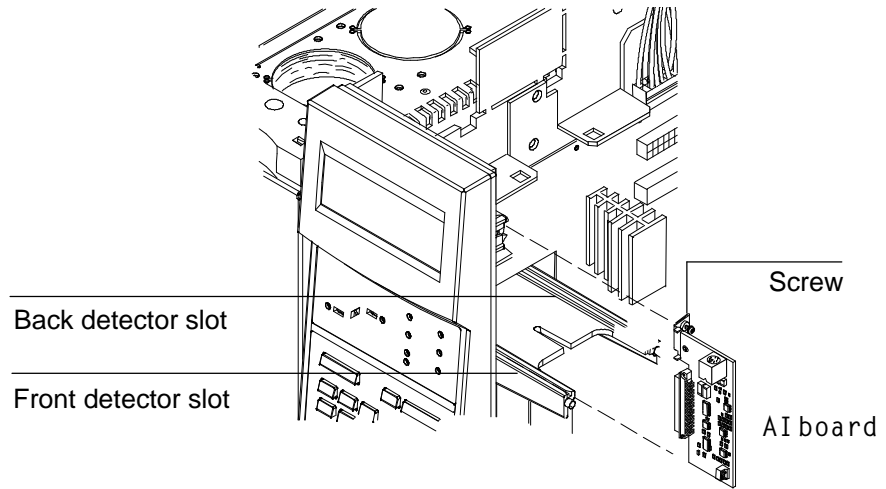
## Positioning and securing the AIB

Caution

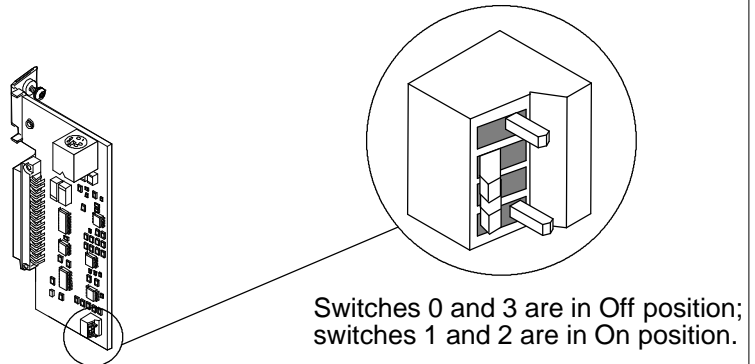
**Board components can be damaged by static electricity; use a properly grounded static control wrist strap when handling the board.**

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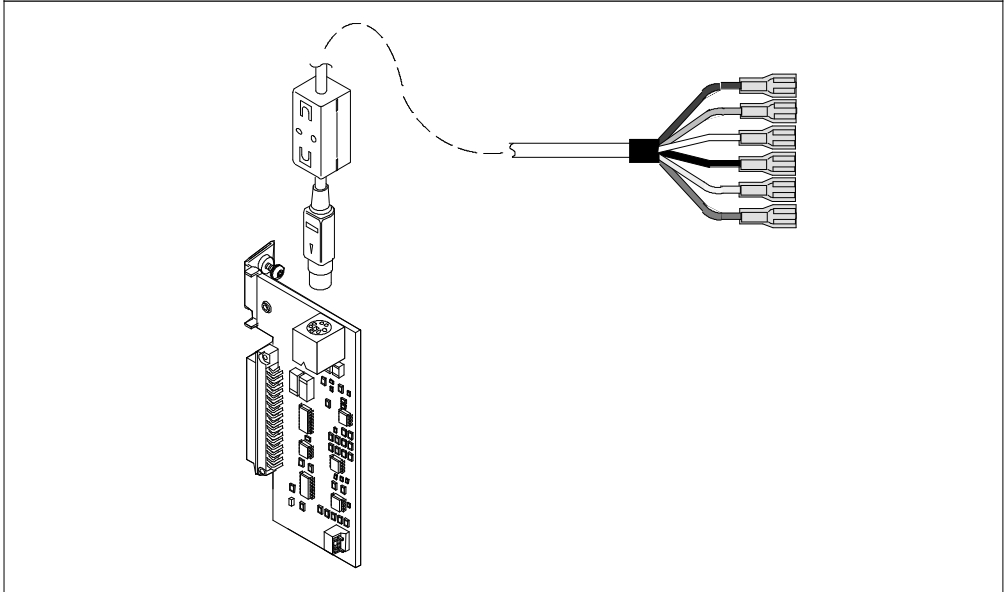
- 1 Remove the board from its static control bag and slide into the front or back detector slot on the main board until it is plugged in. Tighten the screw on the AI board bracket with a T•20 Torx screwdriver.**



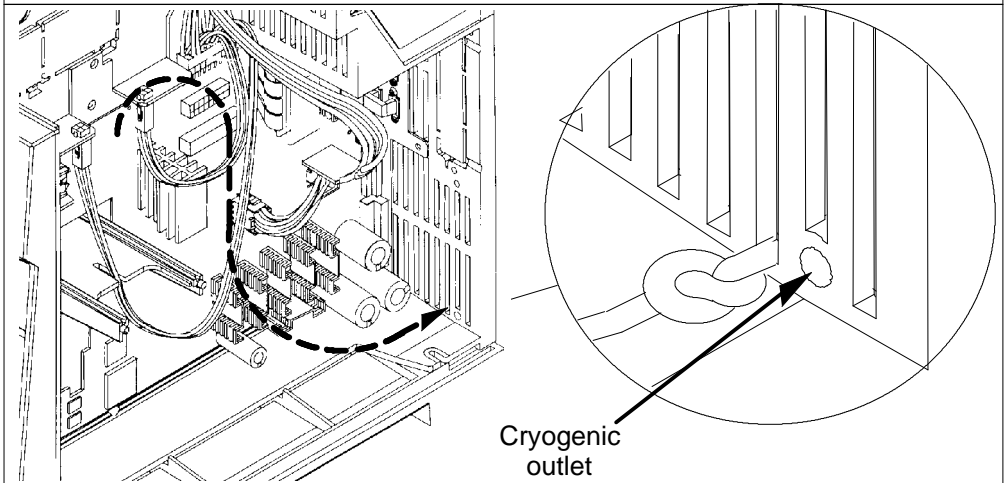
- 2 Make certain switches 1 and 2 are in the On position:**



**3 Attach the signal cable to the board.**

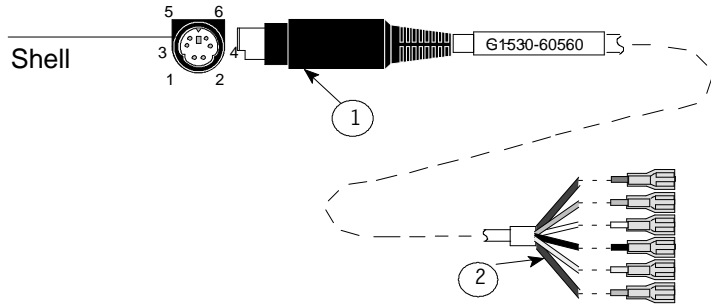


**4 Position the cable so that it runs down and out through the first slot to the left of the cryogenic tube outlet opening on the rear panel of the GC. Tie a knot on the cable at it's exit for strain relief.**



## Connecting the cable

**Connect the cable to your non-HP detector. The following are the cable pinouts. The red, brown, and blue leads are not used and can be cut off, if desired.**



Connector 1	Signal Name	Connector 2 Quick Discon- nects
1	no connection	Brown
2	1 V (•)	White
3	no connection	Red
4	1 V (+)	Black
6	no connection	Blue
Shell	Ground	Orange



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## Restoring the GC to operating condition

- 1. Replace the electronics side panel**
- 2. Replace the electronics top cover.**
- 3. Plug in the GC and turn it on.**
- 4. Press [Front Det] or [Back Det]. Observe the the Output line of the display. If the lines are connected or shorted, and a 0 Volt input is being supplied, the Output should be between -25 and + 25.**

BACK DET (AIB)	
Temp not installed	<
Output	15



**Manual Part No.  
G1556-90300**



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