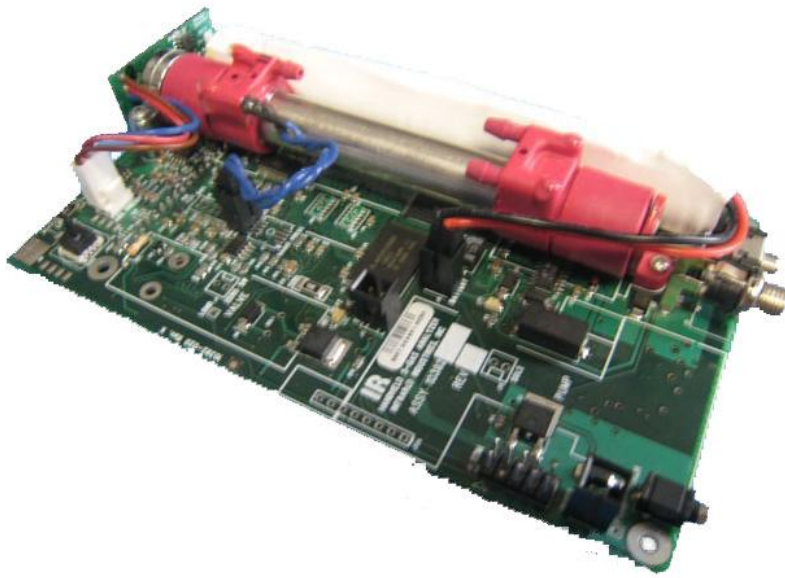


# **IR** INFRARED INDUSTRIES



## IR-510 Bench

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## **I. Product Contents**

1. IR-510 User Manual
2. IR-510 Bench
3. DC Power Jack (PN: 10390-001)
4. Analog connector housing (PN 11553-001)
5. Analog connector pins (PN 10642-001)
6. RS232 Serial Cable (included with software option)
7. CD of InfraView software (only when ordering software option)

## **II. Required Materials**

Power supply (12 Volt DC, 2 Amps)

### **Additional Materials**

1. Sample Gas
2. Lengths of Hose
3. Personal computer with RS232 interface
4. DB9 Serial cable (Male to Female, extension cable)

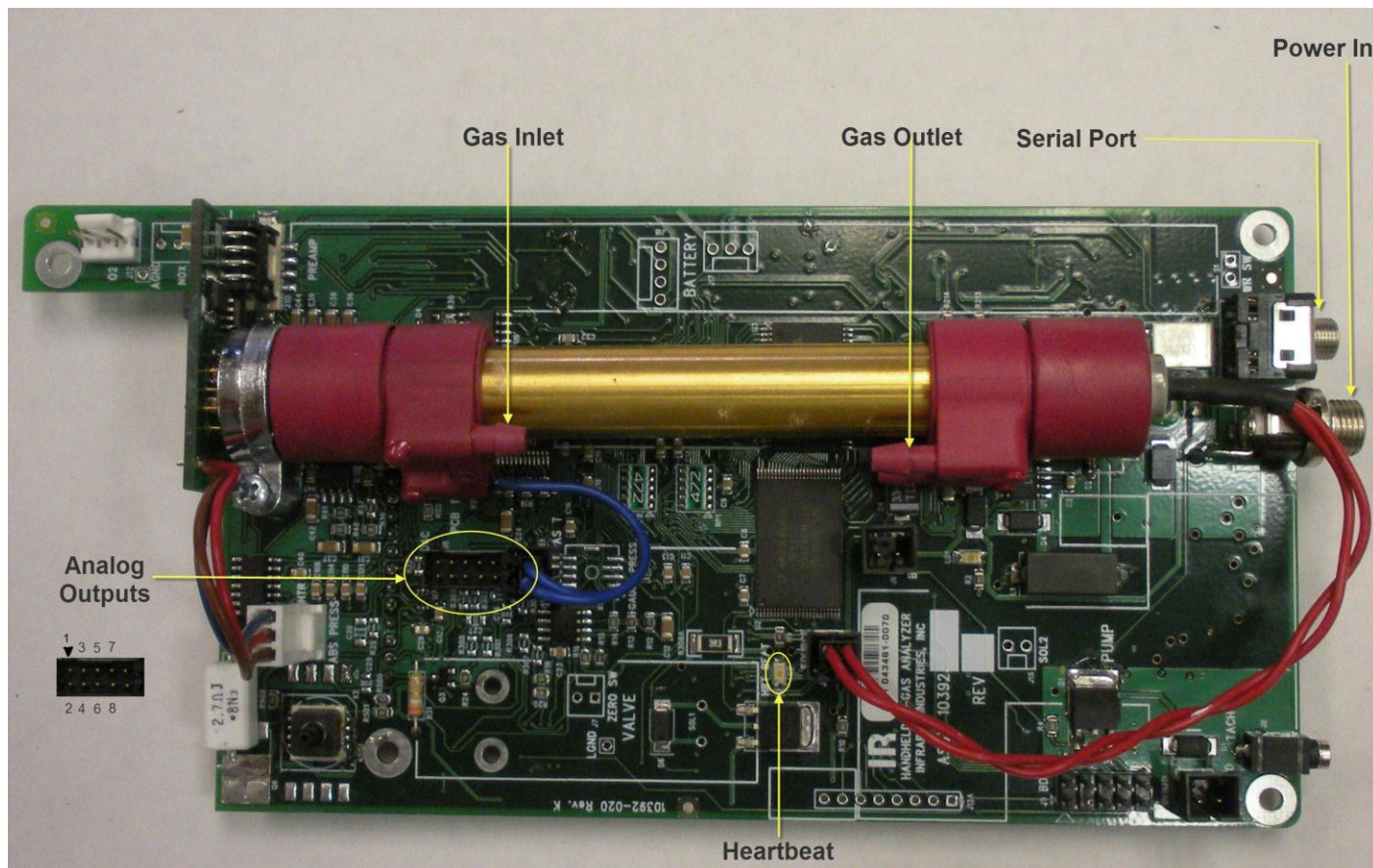
## **III. Overview**

The IR-510 Gas Analyzer bench employs NDIR technology for the measurement of multiple gases in a sample stream. Additional inputs allow for the usage of one or more chemical cell sensors, and the output will provide integrated information on all measured gases. The control and command communication for functions such as configuration and zero function as well as to display measurements is via RS232. Infrared Industries (IRI) provides a software program for display, communication, and control, or provides a protocol reference and sample code so that you can develop your own program.

Data can be logged in onboard memory and replayed on command. Analog outputs for connection to other display or recording devices is provided (up to 8 analog outputs are available). The range of analog output is configurable from 0 – 100mVDC up to 0 – 10VDC.

## IV. Bench Layout

This section provides a description and the set-up of the bench. Before setting up the bench for the first time, check for any damage or loose parts that may have occurred as a result of shipping. Contact IRI with any questions.



**Figure 1: Processor Board Diagram**

**Power In:** Input power for the bench. The bench operates from DC power; the input voltage is 12VDC and 2 Amps. The power connector is at the far right side of the bench as pictured below. It is labeled on the circuit board as 12V IN.

**Serial Port:** RS232 interface used to connect to a PC.

**Gas Inlet:** Sample gas enters here and flow should not exceed 2 liters per minute. Tubing should be maximum of 1/8" ID.

**Gas Outlet:** Sample gas exits system here and should be vented as appropriate. Tubing should be 1/8" ID minimum.

**Analog Outputs:** Pins 1 – 8 are analog output lines. Common ground are pins 9 and 10.

**Heartbeat:** LCD which flashes while bench is operating.

## **V. Hardware setup of the Bench**

1. Connect serial cable between the bench and your PC. (optional)
2. Connect analog outputs to your system if used.
3. Connect gas input.
4. Connect power to bench. A DC power jack is provided in case your power source does not have the correct jack.

## **VI. Testing the basic functionality of the Bench**

Upon applying power allow approximately 5 minutes for the bench to warm up (actually the source and the detector temperature compensation circuit require this warm-up). The warm-up time may vary depending on the analyzer's temperature. The heartbeat LED should flash. This shows that the bench is correctly powered.

Listen for five beeps, which indicate the bench has correctly started and loaded its configuration.

## **VII. Software**

There are two optional software packages for displaying and controlling the bench from a computer. IRI Display was designed for automotive applications and InfraView is customizable software for other applications. Demonstration versions of the software packages are available at [www.infraredindustries.com](http://www.infraredindustries.com) under Support->Tools. Videos showing how to use the software are also available on the website.

NOTICE TO BUYER AND/OR USER:

Exclusion of warranties and limitation of damages and remedies

This product is warranted against defects in materials and workmanship under normal use and service for one year from the date of delivery to the original purchaser.

The sole obligation of the seller and/or manufacturer under this warranty is limited to repairing or replacing as the seller or manufacturer may elect, free of charge at the place of business of the seller or manufacturer, any parts that prove, in the seller or manufacturers judgment, to be defective in materials or workmanship within one year after delivery to the original purchaser.

This warranty shall not apply and is void if, in the opinion of the seller and/or manufacturer, the product or any component thereof has been damaged by accident or other causes not arising out of defects in materials or workmanship.

**WARRANTY EXCLUSIONS**

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