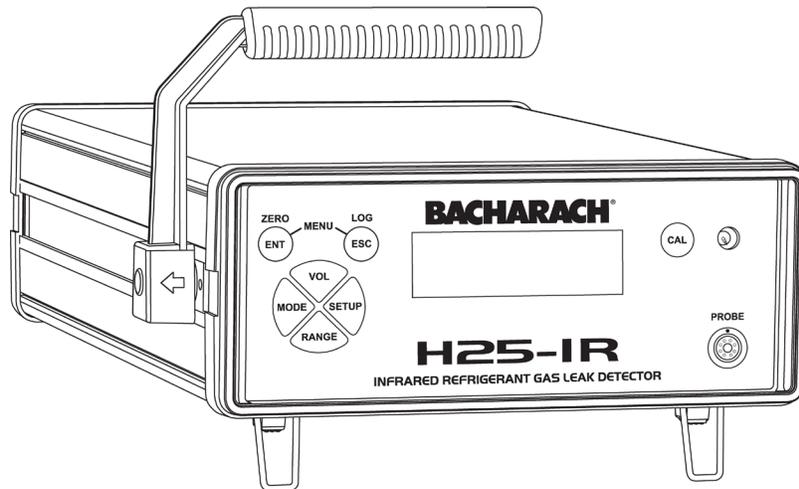


Microprocessor Module Replacement Kit for H25-IR Infrared Gas Leak Detectors

Instruction Manual



1. Scope

The Bacharach H25-IR family of gas leak detectors is designed for easy maintenance and enhancement. One element of that design is the ability to replace system programming (firmware) with a simple plug-in microprocessor module, minimizing downtime.

This instruction manual describes how to replace or upgrade the microprocessor module in your H25-IR infrared gas leak detector. It is assumed that the user is familiar with the operation of the device. If necessary, refer to the instructions for detailed operation and maintenance information for each H25-IR model.

2. Items Required

- Replacement Microprocessor Module Kit (P/N: 3015-5578)
- Medium Phillips head screwdriver
- H25-IR instruction manual (optional)



WARNING: Failure to comply with these instructions may void the warranty.

3. Procedure Summary

Although the microprocessor replacement process is straight-forward, additional steps may be required depending on the version of H25-IR firmware that is currently installed. Firmware version 1.4 is the point after which system settings and configuration changes will be automatically preserved after this microprocessor board upgrade.

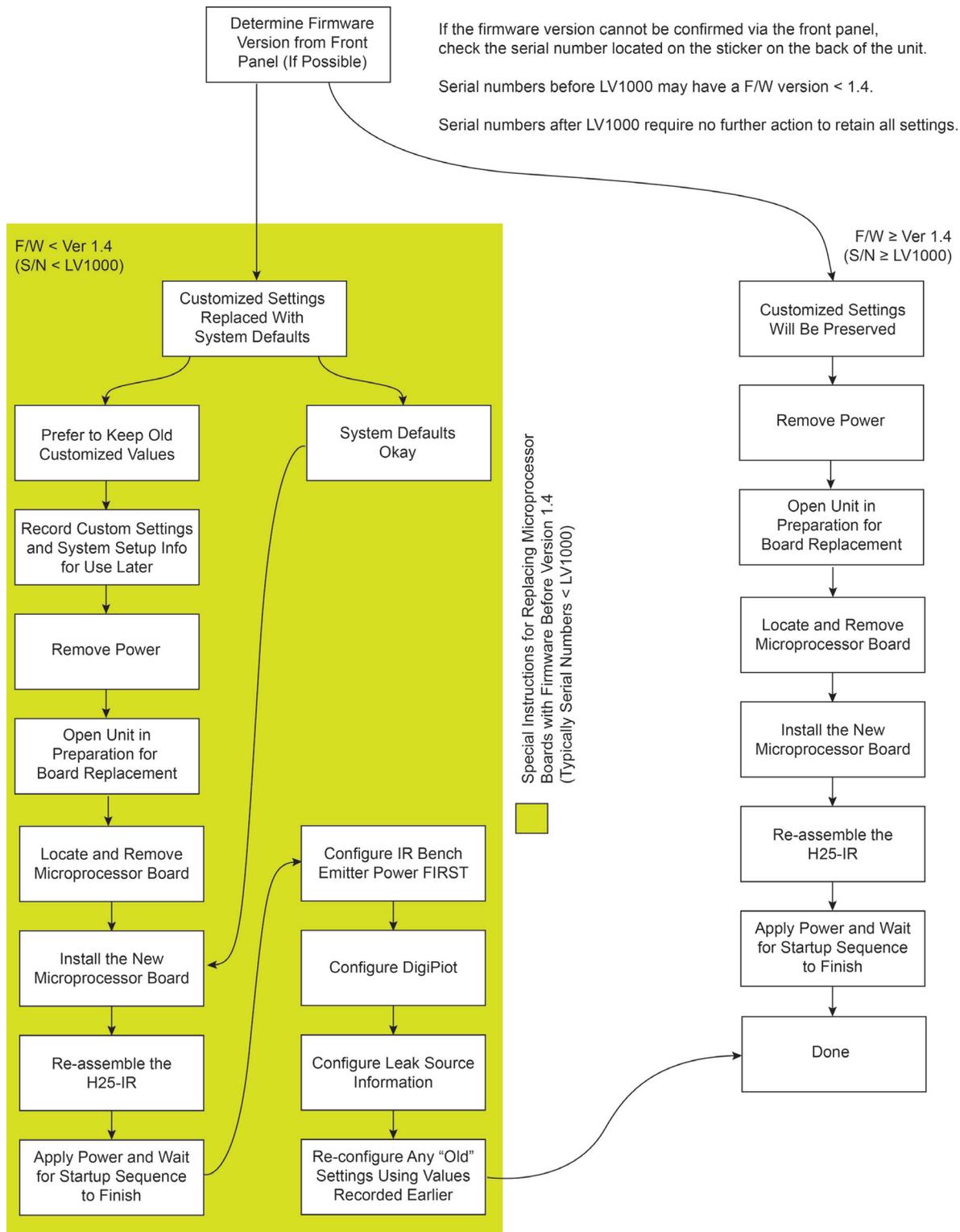


Figure 1. H25-IR Microprocessor Board Replacement Procedure Summary

For H25-IR units using firmware *prior to* version 1.4, all system settings and configuration settings will be returned to factory default values after this upgrade. In such cases, you may choose to manually record your system settings and configuration values *prior to* performing this upgrade, and then re-configure those settings afterwards. Regardless, a pre 1.4 upgrade will require at a minimum:

- Reconfiguration of the IR bench emitter power setting
- Reconfiguration of the DigiPot setting
- Reconfiguration of the leak source information (i.e., leak rate and leak temp).



NOTE: In lieu of using firmware version numbers, you may choose to use the H25-IR serial number (located on a sticker on the back of the unit) to *estimate* which firmware version your H25-IR has installed (pre 1.4 or post 1.4). Generally, serial numbers *before* LV1000 are likely to have pre version 1.4 firmware and require special handling, while serial numbers *after* LV1000 will have firmware version 1.4 or newer. (The exception to the serial number rule is if you have previously updated your pre version 1.4 firmware to version 1.4 firmware or newer.)

Review the preceding procedure flowchart before beginning the replacement process. Most steps in this microprocessor board replacement procedure are explained in this document, however, you may need to refer to the H25-IR Instruction Manual originally shipped with your unit for additional detailed information (e.g., configuring the IR bench's emitter power, adjusting the DigiPot, etc.). If you no longer have the manual that shipped with your device, the standard H25-IR manual may be downloaded from the Bacharach website at www.mybacharach.com. If you have any questions, you may contact Bacharach's Customer Service Department.

4. Remove the H25-IR's Top Cover

To gain access to the microprocessor board follow the procedure below.

1. Unplug the instrument from all power sources (including external batteries if so supplied).
2. Remove both the front and rear bezels by first disengaging the plastic tabs on the right and left sides of the bezel, and then pulling the bezel straight out.
3. Remove the two top screws that secure the front panel.
4. Remove the Relay, RS-485, and 4–20mA connectors from the rear panel. DO NOT remove any connector on the interior side of the rear panel.
5. Remove the four screws that secure the rear panel.
6. Drop down the rear panel far enough to allow the top cover to clear, being careful not to stress the cables attached to the inside of the panel.
7. Remove top cover by carefully lifting along one edge and releasing the cover from the base unit.

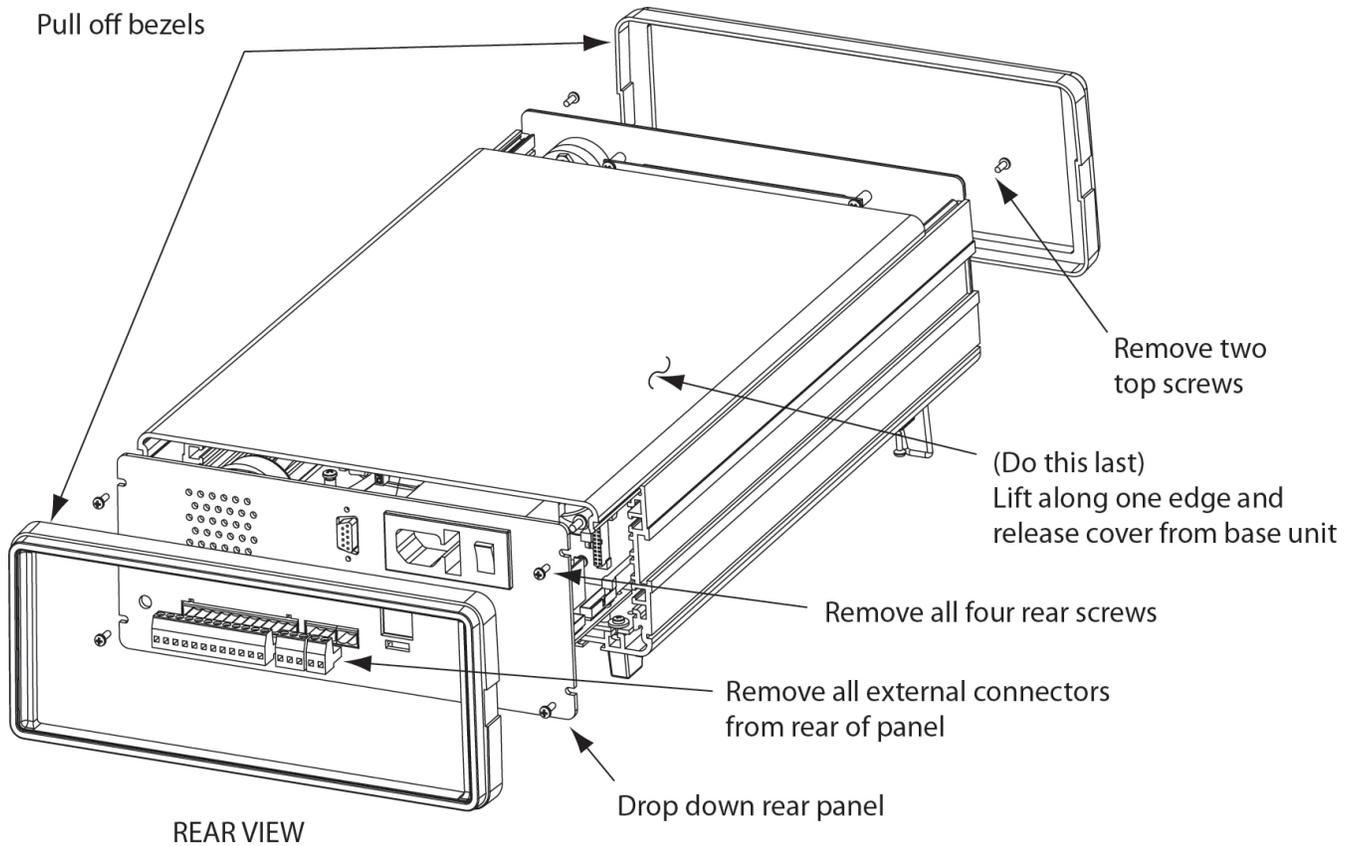


Figure 2. Removing the H25-IR Top Cover and Rear Panel

5. Remove the Microprocessor Board

Prepare to remove the old microprocessor module by following the steps below.



NOTE: For firmware versions 1.4 and newer, user-defined system settings are maintained as part of this upgrade. However, for older firmware versions (before 1.4), custom settings will be reset to default values in this process, so you may want to record them prior to beginning so you can reenter them after you're done. Users having pre version 1.4 firmware must adjust IR bench emitter, DigiPot, and leak source settings. For details on these processes, refer to your H25-IR manual or contact Bacharach support.

1. Ground your body by touching an area of bare metal.



WARNING: Failure to touch a metal grounding area on the product can allow static electricity on your clothing or body to damage the monitor or modules. Such damage is not covered under warranty.

2. Locate the red microprocessor module, socketed on the bottom right side of the main circuit board. Refer to Figure 3.
3. Note the orientation of the module, specifically the gold tab and hole oriented on the bottom left of the board. Refer to Figure 4.

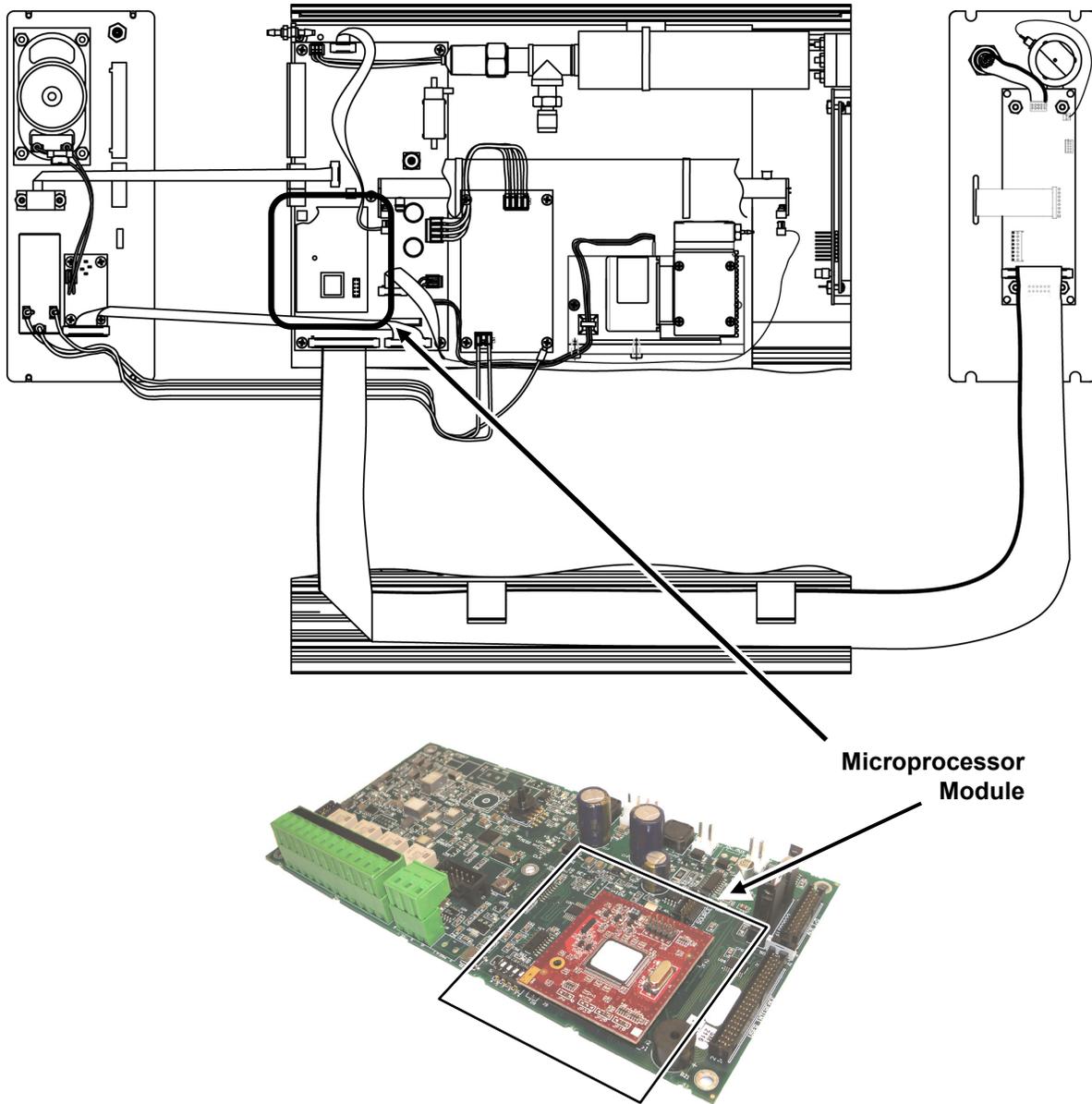


Figure 3. Location of Microprocessor Module Inside the H25-IR Housing

Note Position of Gold Tab and Hole (Bottom Left)

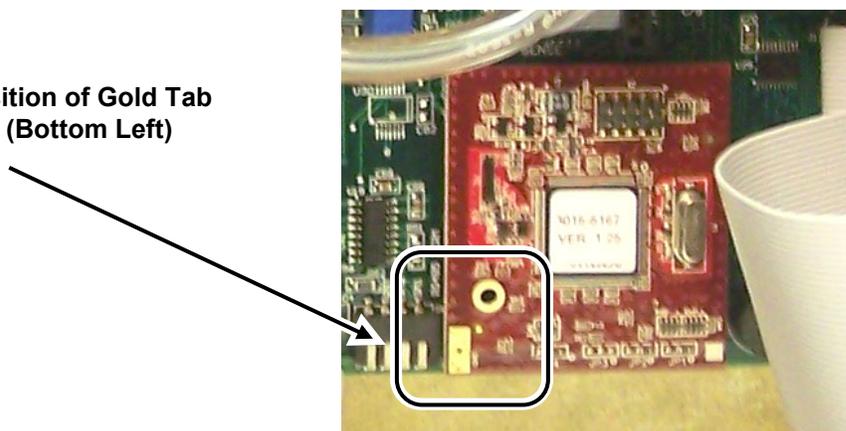


Figure 4. Orientation of Microprocessor Module

4. Grasp the left and right edges of the microprocessor module and gently pull straight out while rocking left to right, until it comes free of the socket.
5. Dispose of the removed microprocessor module in accordance with local regulations for electronic equipment.

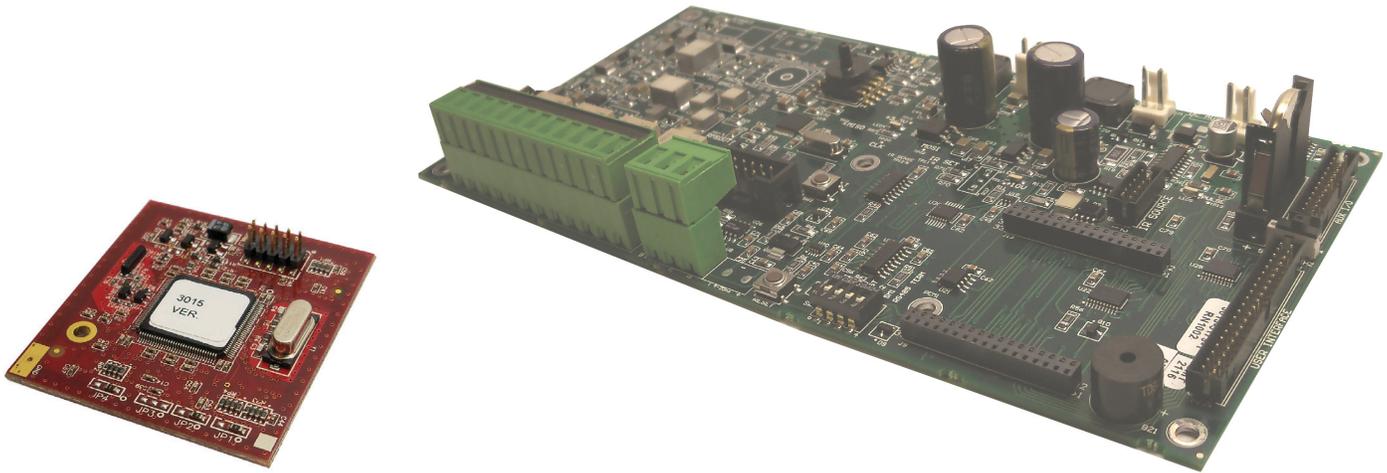


Figure 5. Microprocessor Module Removed from H25-IR Main Board

6. Installing the New Microprocessor Module

Install the new microprocessor module by following the steps below.

1. Remove the new microprocessor module from its packaging, being careful to handle the board by the edges only.
2. Orient the new microprocessor so the gold tab and hole are at the bottom left corner (refer to Figure 4).
3. Align the two rows of pins on the back of the microprocessor board with the mating sockets on the main circuit board in the H25-IR.



NOTE : As a guide, align the larger hole on the microprocessor module with the identically-sized hole on the H25-IR main board. If aligned properly, you can see the bare metal of the chassis through the holes when viewed head-on.



WARNING: Be sure not to skip or offset the pins to the socket.

4. Ensuring that the pins are properly aligned, press the microprocessor module firmly into the socket.
5. Replace the rear panel and associated connectors by reversing the steps done earlier.
6. Apply power to the H25-IR and verify that it performs its initialization procedure.

7. Reconfiguring the H25-IR (Replacement of Pre Version 1.4 Modules Only)



NOTE: Customized system settings are automatically maintained on units that had newer firmware (version 1.4 and newer). However, these settings are reset to their factory default values when replacing the microprocessor board on units with older firmware (before version 1.4). This section ONLY applies if you started with an H25-IR having a firmware version prior to 1.4.



IMPORTANT: A reset to factory defaults occurs automatically on the first boot up with the new module. Afterwards, the factory menu will be enabled to facilitate the reconfiguring of previous system settings that were lost as part of the pre 1.4 microprocessor upgrade.



IMPORTANT: Prior to adjusting settings in the Factory menu, you MUST first adjust the Emitter Power and DigiPot settings (in that order) in the Diagnostics menu. Then adjust leak source information, followed by the optional reconfiguration of any other settings that you may have recorded earlier.



NOTE: Refer to the H25-IR Instruction Manual originally shipped with your unit for additional detailed information about configuring the IR bench's emitter power, DigiPot, and leak source settings. If you no longer have the manual that shipped with your device, the standard H25-IR manual may be downloaded from the Bacharach website at www.mybacharach.com. If you have any questions, you may contact Bacharach's Customer Service Department.

1. Adjust the IR bench emitter power first. Refer to the H25-IR manual for details.
2. Adjust the IR bench DigiPot setting. Refer to the H25-IR manual for details.



NOTE: Following the reset after the microprocessor replacement, the factory menu will automatically be enabled. Access the factory menu and perform the following steps.



NOTE: For H25-IR models with an internal leak source, the leak source parameters for the installed leak source will need to be entered following the reset. These parameters (leak rate and leak temp) are printed on the ID tag attached to the leak.

3. Adjust the LEAK RATE value to match the internal leak rate in grams per year. This information can be found on the tag attached to the internal leak source.
4. Adjust the LEAK TEMP value to match the internal leak temperature in degrees C.
5. Restore any additional setup and/or system settings as needed. Refer to the appropriate H25-IR manual for details.
6. At this point the reconfiguration is complete.





Headquarters:

621 Hunt Valley Circle, New Kensington, PA 15068-7074

Toll Free: 1-800-736-4666 • Tel: +1-724-334-5000 • Fax: +1-724-334-5001

Website: www.MyBacharach.com • E-mail: help@MyBacharach.com

