Heath Data Recorder

HDR 325 Series

User’s Manual & Field Installation Guide

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325 IS Series

HDR User’s Manual & Field Installation Guide

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Purpose of this Manual

The HDR 325 is a powerful device that can be assembled and programmed in a variety of configurations. The purpose of this manual is to provide information for use in instrument shop setup and field installations.

Models

325 HDR IS Portable IS        HPN 77R91-1001
325 HDR IS Wall Mount IS      HPN 77R91-1002
325 HDR IS Pipe Mount IS      HPN 77R91-1003
325 HDR IS Portable           HPN 77R91-1001-1
325 HDR IS Wall Mount          HPN 77R91-1002-2
325 HDR IS Pipe Mount          HPN 77R91-1003-3
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Heath Data Recorder (HDR) Overview

The HDR is a microprocessor based, self-contained system designed for the purpose of process monitoring using integral pressures and temperatures. Figures 1 illustrates the location of major components and user interface items.

Figure 1: General configuration of the HDR
HDR Features

- Up to three pressures (3) and two (2) temperatures (plus ambient).
- Intrinsically safe: Class I Div I Group D (without internal modem)
- Measures & records all connected sensors every second.
- Single Alkaline “D” battery provides power for up to 4 years
- Single Lithium “AA” Backup battery will provide 100% operation for up to 1 year after main battery is depleted.
- Continuous LCD displays any pressure, temp or battery voltage
- Wall mount, Pipe mount and Portable configuration options.
- Profiler data recording (up to 20 items)/ Circular log: Selectable intervals: (1 min/ 5 min/ 10 min/ 15 min/ 30 min/ 60 min). Time/ Ave/Min/Max- Pressures 1 & 2 & 3 (If equipped)/ Ave/Min/Max-Gas Temperature 1 & 2 (if equipped) & Ave/Min/Max ambient temp/ Main battery voltage & pulse inputs
- Profiler selectable memory size (50,400 up to 403,200)
- “Fastlogs”- (3) independent, high resolution event capture logs record data every second (High, Low or Delta, selectable-pressure only).
- Delta alarms can identify and record spikes in the readings
- “Watchlog”- gives circular data recording every second for 9 hours or 6 days of 16 second averaged data and generates an Excel file.
- 16 fully customizable alarms with report by exception on any or all selected alarms
- Call out upon any or all alarms
- Config Log (Records configuration changes)
- Alarm Log (Records Alarm timestamps- Set & Reset)
- Remote Communications Ready (External Direct port & Internal Remote RS232’s)
- Multi-Drop to several instruments from one modem (Up to 62)
- Protocols included: Sandia (Native)/ Modbus RTU or ASCII
- Units of measure (PSIG, Ozsi G, H2O G, kPa G or Bar G, Deg. F/ Deg. C)
- HDR Firmware can be upgraded via PC
- Non-volatile Flash memory saves Calibration, Transducer Coefficients Configuration & Site info if all power is lost
- Housing is IP64, Aluminum, Powder coated paint over chromate surface prep, lockable stainless steel hasp closure (Saltwater spray tested)
- HDR Host is compatible with Windows 7, Win Vista and Win XP
- HDR Host is very user friendly software for configuration, calibration and data processing
- Single PC Board design simplifies cabling and setup
- Compact packaging for easy transport and installation
Mounting & Installation

Housing Configuration
The HDR is available in many configurations. The maximum number of integral sensors is as follows:

- Pressure: up to three
- Temperature probes: two (plus internal case temp)

The housing type will determine whether sensor connections are made from the bottom or rear of the instrument as follows:

- Wall/Panel mount: bottom connect
- 2” pipe mount: bottom connect
- Portable: rear connect

Pressure(s) Connection
Connect up to 3 pressure inputs to the 1/4” NPT female connectors located on the bottom or back of the HDR housing. After piping is complete, check all connections to ensure that no leaks are present.

Temperature Probe(s) Installation
If equipped, up to 2 standard temperature probes (6” x 1/4” OD) may be used, and should be installed into the appropriately sized thermowell filled with a thermo conductive medium such as glycol or alcohol. Insert the temperature probes into the thermowells through the standard 1/4” inch NPT male gland (provided) until the tip of the probe reaches the bottom of the well. Secure excess armor cable length of the probe.

It will be necessary to isolate the pressure and temperature connections to the pipeline, so as not to disturb the cathodic protection system.

Electrical installation

NOTE: Refer to drawing MTM-308-1 for field wiring requirements for external power and modem connections to maintain intrinsic safety.

The HDR unit must be earth grounded to maintain safe operation and warranty.

The ground stud of the HDR (located on the bottom of the instrument) must be connected to a suitable known external earth ground (usually a dedicated ground rod and NOT AC ground). All of the major components in the HDR are bonded together and connected internally to this groundnut. It is required that grounding be performed, especially when an external modem and/or external power supply (which requires a dedicated ground rod in close proximity to the safe area) is used. All cabling connecting to the HDR must be shielded with all shields tied to case ground.
For multiple device interconnections (modems, power supplies etc.) the groundnut of the HDR must be tied directly to this same (safe area) ground rod rather than having a separate ground rod of its own.

The American Gas Association recommends grounding all electronic field devices to a driven ground rod. This will help protect the device from transients including lightning and power surges on the pipeline.

To reduce the possibility of “secondary” lightning strike damage (damage caused by static electricity fields in the immediate area), the above precautions are required. However, these precautions cannot prevent damage to an instrument that receives a “direct” lightning strike.

**Battery Pack and Back-up Batteries**

The HDR main battery is a 1.5-volt, modular battery. The pack supplied with the HDR consists of an alkaline dry cell and a protection circuit.

HDR units are shipped from the factory powered and ready to install (unless otherwise specified).

The HDR also incorporates an on board uninterruptible power supply. This consists of one factory installed “AA” lithium cell (BT1) rated at 3.6 volts. This cell is easily replaced in the field.

The HDR incorporates an on board battery (CR2032) for backup of the profiler log. This consists of a replaceable button style lithium battery (BT2) located on the component side of the PCB.

Normal battery voltage should be displayed between the ranges of 1.5 to 1.7 volts for a new battery, and when the primary power drops below .8 volts, the unit will switch to lithium backup. Under normal conditions, the main battery pack should last up to four years and the lithium backup battery should last up to 1 year without power from the main battery.

**Caution:** The maximum voltage allowed on the “Main battery” input is 2 volts DC. Only use the 1.5 volt battery pack supplied by Heath. If this voltage is exceeded, a protection fuse will blow and the warranty will be voided.

Note: If all three batteries lose power, the data that is stored in non-volatile memory will not be lost. This includes Calibration, Poly (transducer) and configuration data.

**Caution:** To maintain the Intrinsic Safe rating, use only proper replacement batteries: main battery pack HPN 77R91-1037, Lithium backup battery, HPN 77R65-8001, and coin battery, HPN 77R65-8002.

Contact Heath Consultants for replacement batteries and main battery packs. Refer to Periodic Maintenance on page 22 for replacement procedure.

**External Power**

The HDR can be connected to an external power source (6-15VDC).
External Modem

The HDR is equipped with two RS232 communication ports. The Direct Port is dedicated to local direct PC communication at 19200 baud using the HDR com cable. The Remote Port is used for connecting a modem. Remote baud rates available are 300, 1200, 2400 (default), 4800, 9600 and 19200. When configuring for a remote modem, the “Remote Modem Baud Rate” in the unit must match the baud rate of the field modem being used.

**NOTE:** When connecting the HDR to a communication modem, it is recommended to connect external power due to higher current demand.

**NOTE:** The “Remote Port” must have RX, TX, and GND connected (RTS is required for “call out upon alarm” feature).

Internal Modem

The HDR may be equipped with an internal modem and phone line surge suppressor (see Figure 1). The modem is pre-configured and pre-wired from the factory, ready for remote communication. If the HDR is equipped with the phone line suppressor, it will be connected directly into the modem’s RJ-11 connector. A 12-volt battery pack (8 “AA” batteries) is supplied, but not connected when shipped. The user must connect prior to remote communication. Assuming one two-minute call per day, every day, the battery should provide approximately 2 years of service.

The optional phone line surge suppressor will sacrifice itself to protect the equipment in the event of a destructive power surge on the phone line.

**CAUTION:** Unit must be connected to proper ground to allow the surge suppressor to operate properly.

**CAUTION:** internal modem option is not currently certified for use in hazard environments. External Modem should be used where necessary.

To connect a phone line to the modem, insert the phone cable through the wire gland on bottom of case (see Figure 1). The cable must be terminated with a RJ-11 connector. Plug into surge protector if provided; else plug directly to the modem.

Alarms

All alarms can be reset manually by holding the scroll button closed for more than 4 seconds. They can also be configured and reset by using the HDR Host. An active alarm will be indicated by the LCD display “flashing”.
**HDR Host Operating Software**

HDR Host is the companion software interface to the HDR instrument. The application program provides for configuration, calibration, local and remote communication, interrogation, data collection and data processing. The program is supplied on CD ROM media. The self expanding executable “setup” file will guide the user through the installation process.

This install will work in Windows operating systems for Win XP, Win Vista and Win 7.

**NOTE:** HDR Host must be on each workstation, in a network, that utilizes it. The data can be sent to a network drive and be shared by other workstations that have HDR Host installed. Remember to change the “Data Paths” of each workstation to use the same network drive and directory. DO NOT INSTALL THIS SOFTWARE DIRECTLY ONTO THE NETWORK SERVER DRIVE.

**Software Installation**

To install, locate the file “HDRHostSetup.exe”. Double-click the file to install. Follow the instructions to complete the installation process. After the software is installed, you may need to configure the com port to directly connect to the instrument. Com 1 is very common; however, many newer computers are not equipped with a 9-pin connector for direct connect with the standard com cable. A “USB to Serial adapter” may be required. Follow the instructions included with the USB to serial adapter. After the adapter is installed and connected to the PC, go to “Start”/ Control Panel/ System/ Hardware/ Device Manager/ “Ports” (click the “+” to the left of “ports”) Look for “USB to Serial Bridge (com xx)” Enter this port number in the HDR Host (Host Setup/ Configure Host)/ “Direct”. Any port from 1-255 can be chosen. Note: Only the available ports will be listed in HDR Host/ Host setup “Name” dropdown.

**NOTE:** HDR Host requires a screen setting of at least 800 X 600. The bottom of the window may sometimes be out of view.
Quick Start Guide

1. Run “HDRHostSetup.exe” to install the HDR Host software from the CD software disk provided.
2. After first time running of the software- message: Verify PC time is correct (“Check” to remove if needed or leave to remind).
   a. Setup “Host Setup” (Com 1, 19200, Direct, is most common). If your com port is different than com 1 (or you are using a USB to serial adapter, find out the port number and select it). Make sure to use the same USB port every time.
   b. Click “OK” to save the Host Setup.
3. Connect the communication cable from the PC to the instrument.
4. Using the HDR Host software, Select “Display/ Display1 Live Readings” to confirm connection.
5. To set up device naming conventions or enable devices: Select “Configure/ User friendly names”. Customize the names and enable devices as appropriate. (If no names are chosen, default values will be used).
6. To customize site information: Select ”Configure/ Site Info” and enter site address in lines 1 – 3.
7. Initialize the “Profiler” to record pressures, temperatures, battery voltage etc. over time. Select: “Configure/ profiler", then select the items you wish to record from, and select the record interval from 1 to 60 minutes. To maximize the data storage time, select long record intervals and the least record types necessary. Select smaller record intervals for short term but very detailed data.
8. Configure the following as desired: Set up the alarms – Configure/ Alarms; Configure Fast logs: Configure/ Fast logs.
   Configure Watch log: Configure/ Watch log.
9. To retrieve data or directly print a report: Select “Data”, and then select the desired download or report to view or print.
DOWNLOADING AND PRINTING DATA

To download data follow the steps below:

1. Run the HDR Host software.
2. Go to the “Data” column & select “Downloads”
3. Select the reports to download (or click the “select all” button).
4. (Optional) Enter custom filename all reports will use.
5. Click “OK” button to save files.

To print Profiler data follow the steps below:

1. Run the HDR Host software.
2. Go to the “Data” column/ Choose “Print Profiler”.
3. Select the report to print: “High Granularity” “Daily” or “Monthly”.
4. Choose the filename of file to report.
5. Choose the time span to report on the calendars.
6. Select “Send output to”:
   a. Console (Creates text file and you can view the file on your screen).
   b. Printer (Prints report on the printer that is attached to the computer).
   c. File (must type a filename for a text document that will be created. Example: Monthly.doc).
   d. Spreadsheet (data will drop into Excel automatically)

To print IOR (Instrument Operational Report) data follow the steps below:

1. Run the HDR Host software.
2. Go to the “Data” column.
3. Select the report to print: “Print IOR Snapshot”.
4. Choose the filename of file to report.
5. Choose the time span to report on the calendars or choose “Last Report”.
6. Select “Send output to”:
   a. Console (Creates text file and you can view the file on your screen).
   b. Printer (Prints report on the printer that is attached to the computer).
Configuring for use with an IP modem

1. Select “Host Setup – Configure Host”.

2. Click the “Network” Port Selection and then click “OK”.

4. Click on the “New IP Addr” button.
5. Enter the IP address, Port Number and choose a Name/Location for the installation. In the COM Selection drop-down box, click on “Select 4 – TCP/IP” and then click “OK”. Click “OK” back on the Master Dialing Directory window to accept the information. The screen shown below is an example using the Heath engineering HDR instrument.

6. To begin using the IP modem it must be wired correctly, configured properly and powered up. The HDR modem port baud rate must match the IP modem baud rate. Refer to the IP modem manufacturer’s users manual for further information on its use and configuration. Heath provided IP modems will be pre-configured at the factory.
7. Select “Comm – Network – Start Session” to begin a network session.

8. Double-click the IP modem’s site name or single click the site name and then click “OK”. Editing is also available with this screen if needed.
9. While connecting to the IP modem a status window will appear. The IP address and Port shown below are an example only. The actual values will differ.

![Network Session Window](image)

10. Once connected, the Host screen will indicate the connected IP address in yellow at the bottom of the window.

![Host Screen](image)
11. Select “Security – Logon Instrument” to logon to the remote HDR. When successful, “Logged ON” will be indicated in green at the bottom of the window. **NOTE:** Please be patient while logging onto the remote HDR. It can take several seconds to logon due to network traffic and delays.

12. To illustrate remote IP modem communication, select “Display – Display 1 Live Readings”.
13. The Live Readings window will appear after the data has been gathered and communicated.

14. Remote HDR IP modem communications are available for use using the HDR Host. When finished, exit remote IP modem communications by selecting “Comm – Network – End Session”. The remote HDR will be logged off and the network session will end.
# HDR Specifications

## Mechanical

**Housing:** Aluminum  
**Housing Dimensions:** 7.25” x 6.25” x 4.25”  
**Weight:** 5 lbs (including battery and on pressure transducer)  
**Mounting:** Wall, Pipe or Portable  
**Pressure Connections (X3):** ¼” NPTF  
**Temperature Probe (X2):** ¼” O.D. x 6” probe x 6’ armor; ¼” NPTM slip fitting  
**Coating:** IP64, Aluminum, Powder coated paint (Heath blue) over chromate surface prep  
**Display Scroll:** Push button switch  
**Security:** Stainless steel padlock hasp

## Electrical

**Primary Power Pack:** 1.5 volt; 1 D cell alkaline battery with IS protection board.  
**Back Up Power:** 3.6 volt field replaceable lithium cell  
**Transducer:** 10 millivolt per volt excitation; 12 point polynomial compensation  
**Temperature Sensor (gas and air):** Integrated circuit type  
**Display:** LCD continuous eight digits  
**Communication:** Two RS 232, multi-drop addressable, native Sandia and modbus ASCII and RTU

## Performance

**Accuracy:** +/- 0.5% of reading inclusive of linearity, hysteresis, repeatability, long term drift & temperature  
**Temperature:** -40°F to +170°F  
**Humidity:** 5 – 95 % non-condensing  
**Primary Power Pack Life:** Up to 48 months based on 1 minute wake-up interval  
**Back-Up Power Life:** Up to 12 months based on 1 minute wake-up interval

## Options

**Inputs:** Digital pulse input with electronic recording of counts  
**Outputs:** Pulse out upon alarm or pulse counting/ repeating  
**Communication:** Internal 2400 baud “land line” modem, Multi-drop harnesses, Radio modem, Cell modem, IP Modem, surge protection.

## Certifications

**Intrinsic Safe:** UL 913 and CSA C22.2, Class I, Division 1, Group D  
**CE:** EMC directive EN 61326-1  
**Corrosion Resistance:** MIL-STD-810F
**HDR Maintenance & Troubleshooting**

The following may serve as a quick troubleshooting guide if you encounter problems in operating the HDR 325 Heath Data Recorder:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will not log on</td>
<td>• Verify that proper com port is selected on computer. (Com 1 is standard on most laptops)(If a Serial to USB adapter is used, find out the proper com port selection in the “Device Manager”)&lt;br&gt;• If error “Com not ready to send” check to see that only 1 session of HDR Host is running and that no other program is competing for the selected com port. After correcting problem, it may be necessary to reboot the computer.&lt;br&gt;• Make sure that “Default Sandia ID“ in “Host Setup” is set to 63.&lt;br&gt;• Verify correct password&lt;br&gt;• Check Com Cable&lt;br&gt;• Check battery voltage&lt;br&gt;• Call factory for assistance</td>
</tr>
<tr>
<td>Will not scroll</td>
<td>• Check battery voltage&lt;br&gt;• Test scroll switch with ohmmeter&lt;br&gt;• Restart instrument. Remove main power connector and then remove the lithium jumper on the PCB. Wait 5 minutes, reconnect the main power first (with good battery), then re-connect the lithium jumper (No data will be lost after restart).</td>
</tr>
<tr>
<td>Display is blank</td>
<td>• Check Main battery voltage (if good, skip to step 4).&lt;br&gt;• Check lithium voltage&lt;br&gt;• Check lithium jumper is installed&lt;br&gt;• Restart instrument. Remove main power connector, and then remove the lithium jumper on the PCB. Wait 5 minutes, re-connect the main power first (with good battery), then re-connect the lithium jumper (No data will be lost after restart).&lt;br&gt;• Call factory for assistance</td>
</tr>
<tr>
<td>Not responding to applied pressure</td>
<td>• Check connections of transducer wires.&lt;br&gt;• Send the original “Calibration file” into the unit and verify calibration, Config column/ Auto Config/ “Restore Instrument” Example filename: 32501234. PCF&lt;br&gt;• Call factory for assistance</td>
</tr>
<tr>
<td>Not responding to temperature</td>
<td>• Check connections of temperature probe wires.&lt;br&gt;• Send original calibration file into the unit and verify calibration.&lt;br&gt;• Retest with a different known good temperature probe.&lt;br&gt;• Call factory for assistance</td>
</tr>
</tbody>
</table>
When calling the factory or your area representative for further troubleshooting, please have the following information ready:

Customer Information
  1. Name(s)
  2. Company
  3. Phone Number(s)
  4. Location (site I.D.)

Hardware Information
  1. Model of Instrument
  2. Instrument Firmware Version
  3. Battery Voltage
  4. Instrument Serial Number
  5. Date of Manufacture
  6. Transducer Serial Number(s) (If Applicable)
  7. Any externally connected devices
  8. Phone Number (If Applicable)
  9. Most Recently Printed IOR Report (If Applicable)
Periodic Maintenance

Annual Checks

1. Verify calibration and recalibrate if required.
2. Verify proper battery main voltage (1.2 - 1.5 volts).
3. Verify proper battery Lithium backup voltage (3.4 - 3.6 volts).
4. Change batteries if necessary.
5. Check for corrosion at wire terminations.

NOTE: Heath Consultants recommends annual checks on these instruments.

Maintenance Procedures

1. Pressure or Gas Temperature Calibration: Go to the HDR Host/“Calibrate” column/“Calibration Wizard”/Select “Single point” or “Two point” calibration. Follow the steps to complete calibration.
2. Main battery change procedure: Make sure the lithium backup battery voltage is 3.5-3.6v. If an alarm is active, the display will be blinking (once a second). If an alarm is active, press the scroll button to display the alarm description. The lithium battery alarm display will read: [Al lith]. If no alarms are displayed, pull the main battery connector off and remove the main battery. Connect the new main battery and route the battery wire away from the index. Secure the battery with o-ring.
4. Configuration Restore procedure: Using HDR Host, select the “Configure” column, select “Auto Configure”, select “Restore Instrument”, select “Restore”, select the file to restore, Select only the items to restore or choose “All the above”.

Back-up Battery Replacement Procedure

This procedure describes how to replace the lithium back-up battery BT1 (HPN 77R65-8001) and the profiler back-up coin cell battery BT2 (HPN 77R65-8002). It is recommended to replace both batteries at the same time. If configured, the instrument will alert the user of a low lithium back-up battery on the LCD and via being connected to the instrument either by direct RS-232 or modem.

Replacing the lithium back-up battery: Warning – make sure the main battery voltage is at least 1.2 Vdc!

1. Remove the metal shield from the PCB. Take care not to lose the hardware.
2. Locate BT1 in the lower middle part of the PCB. Refer to the photos below:
3. Lightly push down on the center retainer clip and use a small, thin bladed screwdriver to gently pry the latches on the retainer clip free from the holder.

4. Remove the lithium battery and retainer clip from the holder.

5. Remove the retainer clip from the lithium battery.
6. Observe the correct polarity of the lithium battery in the holder and insert the new lithium battery into the holder.

7. Install the retainer clip over the lithium battery and verify both latches seat properly onto the holder.
Replace the CR2032 coin cell back-up battery per the following:
Warning – make sure the main battery voltage is at least 1.2 V$_{dc}$!

1. Locate BT2 in the lower left corner of the PCB.

![Image of BT2 and coin cell](image1)

2. Insert a small, thin bladed screwdriver into the gap on the left side of the battery and gently pry the left side up.

![Image of battery with screwdriver](image2)

3. Remove the old battery. With the “+” of the new CR2032 coin cell battery facing up and at an angle, insert the battery under the two clips on the right hand side of the holder.

![Image of battery insertion](image3)

4. Push down on the new CR2032 coin cell battery until it snaps into its holder.

![Image of battery pressed down](image4)

5. Install the metal shield back over the PCB with its hardware.

Note: To clear all alarms, hold the scroll button closed for more than 4 seconds.
### Spare Parts & Accessories

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PART#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Cable (6’/9pin)</td>
<td>77R61-0070</td>
</tr>
<tr>
<td>325 Battery Pack</td>
<td>77R91-1037</td>
</tr>
<tr>
<td>Spare Internal Modem Battery Pack</td>
<td>77R61-9370</td>
</tr>
<tr>
<td>325 Temp Probe (6”)</td>
<td>77R91-1035</td>
</tr>
<tr>
<td>Lithium Back-up Battery</td>
<td>77R65-8001</td>
</tr>
<tr>
<td>Telephone Surge Protector</td>
<td>77R61-9366</td>
</tr>
<tr>
<td>Coin Battery</td>
<td>77R65-8002</td>
</tr>
<tr>
<td><strong>Retro Kits</strong></td>
<td></td>
</tr>
<tr>
<td>Internal Modem Assembly Retro Kit)</td>
<td>77R61-9360</td>
</tr>
<tr>
<td>(does not include surge protector)</td>
<td></td>
</tr>
<tr>
<td><strong>Spare PC Boards</strong></td>
<td></td>
</tr>
<tr>
<td>Spare 325 PCboard</td>
<td>77R65-9320</td>
</tr>
<tr>
<td>Spare Internal/External Modem PCboard</td>
<td>77R65-9216</td>
</tr>
<tr>
<td><strong>Spare Transducers</strong></td>
<td></td>
</tr>
<tr>
<td>Contact factory</td>
<td></td>
</tr>
</tbody>
</table>
Service Information: Warranties and Warranty Repair

The HDR is warranted to be free from defects in material and workmanship for four (4) years from date of shipment (exclusive of the batteries).

The warranty on authorized repairs in the Houston Factory Service Center (FSC) is ninety (90) days for materials and labor. This repair warranty does not extend any other applicable warranties.

Our warranty covers only failures due to defects in materials or workmanship. It does not cover failure due to damage which occurs in shipment, unless due to improper packing.

It does not cover failures, which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, or service other than the Houston FSC or other authorized repair center.

Batteries and damage from battery leakage are excluded from this warranty.

HEATH's responsibility is expressly limited to repair or replacement of any defective part, provided the product is returned to HEATH FSC or an authorized FSC, shipped pre-paid, and adequately insured. Return shipping and insurance will be at no charge to the purchaser.

HEATH does not assume liability for indirect or consequential damage or loss of any nature in connection with the use of any HEATH product.

There are no other warranties expressed, implied, or written except as listed above.

Obtaining Service

To expedite the repair of your instrument, please follow the following procedure:

1. Contact HEATH Customer Service at 1-800-HEATH-US to obtain a Return Authorization tracking number. Repairs can be significantly delayed until authorization is obtained.
   a. Specify your complete shipping and billing address.
   b. Specify the person and contact information to be contacted for repair and shipping authorization.
   c. Specify the instrument product name and serial number.
   d. Include a brief description of the problem you are experiencing.
   e. Specify the person and contact information to be contacted for additional information regarding the symptoms of the failure.

2. Package and ship the HDR to the appropriate location.

3. Please specify the tracking number, product name, and serial number on all correspondence.
Configuration Worksheet

Complete this worksheet prior to leaving the meter shop to facilitate field configuration and documentation.
Always remember to download the IOR Snapshot or Configuration Log reports as a record of instrument configuration.

Site and Modem Information:

Site Address: ________________________________________________
Unit Serial #: _________
Site ID: ____________
Baud Rate: __________

Pager 1 Phone #: ____________
Pager 2 Phone #: ____________
Pager 3 Phone #: ____________

User Friendly Names

Profiler Setup

P1: ________________________ Sample Interval: ____________
P2: ________________________ Fields: ____________
P3: ________________________
T1: ________________________
T2: ________________________

Alarms

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Technical Support

1-800-HEATHUS
(1-800-432-8487)

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