Description

The USB-ADP-H Serial Adapter is used with either the USB2000 or the HR2000 Spectrometer when connecting the spectrometer to a handheld PC or other serial device.

The USB-ADP-H Serial Adapter is a part of any setup that interfaces the USB2000 Spectrometer (or HR2000 Spectrometer) to a handheld PC, even when other components, such as a USB-BP Battery Pack or USB-LS-450 Light Source are included. See the table below for included hardware and details on interfacing.

<table>
<thead>
<tr>
<th>USB-ADP-H is used with . . .</th>
<th>This Required Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB-BP Battery Pack only</td>
<td>Panel screw and modified panel screw with 2 standoffs</td>
</tr>
<tr>
<td>UBB-LS-450 Light Source only</td>
<td>Modified thumb screw and modified standoff</td>
</tr>
<tr>
<td>USB-BP Battery Pack and UBB-LS-450 Light Source</td>
<td>Panel screw and modified panel screw with 2 standoffs, modified thumb screw and modified standoff.</td>
</tr>
</tbody>
</table>

See Figure 1 below for a view of all the system components.
Installation

The following installation instructions are for

- Connecting the USB2000 or HR2000 to a Handheld PC
- Connecting a USB2000 and USB-BP Battery Pack to a Handheld PC
- Connecting a USB2000, USB-BP Battery Pack and USB-LS-450 Light Source to a Handheld PC

Connecting the USB2000 or HR2000 to a Handheld PC

Figure 2: USB2000 Spectrometer Connected to a Handheld PC
**Procedure**

1. Install the USB-ADP-H Serial Adapter by plugging it into the 10-pin connector on the USB2000 Spectrometer. For the HR2000 Spectrometer, which has a 20-pin connector, use pins numbered 1–10 (see the diagram below):

   ![](image)

   When facing the 20-pin connector on the HR2000, pins 1-10 are on the right.

2. Secure the USB-ADP-H Serial Adapter in place with the included jackscrew.

3. Connect one end of the DB9 serial cable to the USB-ADP-H Serial Adapter on the USB2000 or the HR2000 Spectrometer. Connect the other end to the Jornada handheld PC.

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**Note**

When using a USB2000 or HR2000 Spectrometer in serial mode, the spectrometer requires the USB-CBL-PS 5 VDC power supply for operation.

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**Connecting a USB2000 and USB-BP Battery Pack to a Handheld PC**

![](image)

**Figure 3: Assembled USB2000, USB-BP Battery Pack, and Handheld PC**

**Procedure**

1. Secure the USB Battery Pack to the USB2000 (or HR2000) Spectrometer and with one panel screw and standoff on the left side, and one modified panel screw (4-40 tapped end) and standoff on the right side.

2. Plug in the 10-pin connector of the USB-ADP-H Serial Adapter to the USB-BP and secure in place with the jackscrew.

3. Plug the Jornada DB9 serial cable from the USB-ADP-H to the Jornada handheld PC.
Note

The Jornada handheld PC does not use the USB-BP for power. The Jornada handheld PC can either run from its batteries or it must be plugged into a power source.

Connecting a USB2000, USB-BP Battery Pack and USB-LS-450 Light Source to a Handheld PC

► Procedure

1. Secure the USB2000 (or HR2000) Spectrometer and the USB-BP Battery Pack with one panel screw and standoff on the left side, and one modified panel screw (4-40 tapped end) and standoff on the right side.
2. Secure the USB-LS-450 Light Source to the USB-BP Battery Pack with one modified thumbscrew and standoff.
3. Plug the 10-pin connector of the USB-ADP-H Serial Adapter into the USB-LS-450. Secure in place with the jackscrew.
4. Plug the Jornada DB9 serial cable from the USB-ADP-H into the Jornada handheld PC.

Note

The Jornada handheld PC does not use the USB-BP for power. The Jornada handheld PC can either run from its batteries or it must be plugged into a power source.

Figure 4: Assembled USB2000, USB-BP Battery Pack, LS-450 Light Source, and Handheld PC
## Pinouts

### USB-ADP-H DB9 Pin Outs

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>RS232 Rx</td>
</tr>
<tr>
<td>3</td>
<td>RS232 Tx</td>
</tr>
<tr>
<td>5</td>
<td>Gnd</td>
</tr>
<tr>
<td>8</td>
<td>ExtTrigIn</td>
</tr>
<tr>
<td>9</td>
<td>AnalogOut</td>
</tr>
</tbody>
</table>