

INSTRUCTIONS FOR DOWNLOADING STORED
DATA USING WINDOWS 98
Rev. 4

CREATING THE CONNECTION DESCRIPTION

Data from the AM400 is downloaded using the HyperTerminal program which comes with the Windows operating system. Prior to the first data download, a "connection description" must be created for the AM400. This task should be performed in an office environment prior to taking the notebook computer into the field. The connection description is created as follows:

Click on the Windows **Start** button.

Select in order: 1) **Program** menu, 2) **Accessories** menu, 3) **Communications** menu.

Click on **HyperTerminal** on the **Communications** menu.

Double click on the **HyperTerminal** icon.

In the **Connection Description** window, enter AM400 in the **Name** field and then select an icon from the menu. This icon will be used in the future to select the AM400 connection description prior to downloading data.

Click on **OK**.

In the **Connect To** window, select **Direct to Com1** in the **Connect Using** field.

Click on **OK**.

In the **COM1 Properties** window, enter the following:

Bits Per Second:	9600
Data Bits:	8
Parity:	NONE
Stop Bits:	1
Flow Control:	NONE

Click on the **Advanced** button and make sure that the **Use FIFO Buffers** box is checked.

Click on **OK** two times.

Close the **AM400 - HyperTerminal** window.

Click on **Yes** to disconnect.

Click on **Yes** to save the session.

SETUP PRIOR TO DATA DOWNLOAD

Because it is difficult to read a notebook computer screen in sunlight, the setup procedure just prior to data download should be carried out in a shaded area such as a pickup cab. The setup procedure is as follows:

Make sure that the notebook system date and time is correct.

Click on the Windows **Start** button.

Select in order: 1) **Program** menu, 2) **Accessories** menu, 3) **Communications** menu.

Click on **HyperTerminal** on the **Communications** menu.

Double click on the **AM400** icon.

Hit any key to turn on the COM port.

Select the **Transfer** menu.

Click on **Capture Text**.

Click on the **Browse** button in the **Capture Text** window.

In the **Select Capture File** window, use the **Save In** field to specify the directory where the data file is to be placed.

In the **File Name** field specify the name of the data file in which the captured data is to be stored. A new data file name must be used each time data is downloaded.

Click on the **Save** button but DO NOT click on **Start** in the **Capture Text** window until after the serial cable has been connected to the AM400 and the AM400 has been powered up.

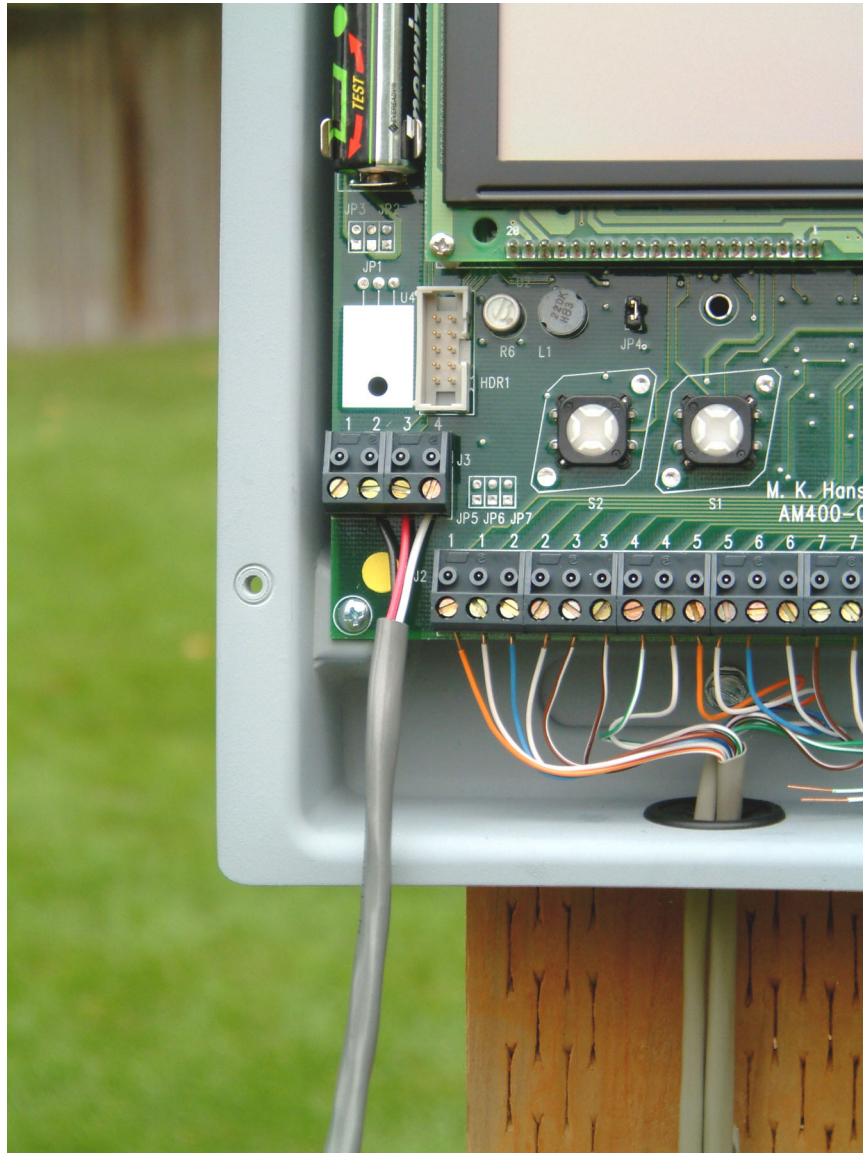


Figure 1 - AM400 with serial download cable attached

DOWNLOADING DATA

After the setup of the notebook computer has been completed as per the previous instructions, the data download is carried out as follows:

Remove the AM400 front cover.

Connect the serial cable from COM1 of the notebook computer to J3 on the AM400 printed circuit board as shown in Figure 1. Make sure that the white wire connects to pin 4 of connector J3.

Power up the AM400 by pressing S1 on the printed circuit board.

Click on **Start** in the **Capture Text** window on the notebook computer.

Press S1 on the AM400 printed circuit board to begin the download. At this point you should see text scrolling down the screen on the notebook computer.

When the text stops scrolling, close the **Text** window.

Click on **Yes** to to disconnect.

FILE FORMAT

Data files downloaded from the AM400 are in comma delimited ASCII format. Each file consists of records made up of eight numbers. The numbers within each record are separated by commas. Records are separated by carriage returns. A record contains the data recorded at a specific eight hour interval. The first six numbers in each record provide soil moisture readings in centibars. The first reading corresponds to sensor number 1, the second corresponds to sensor number 2 and so on. The seventh and eighth numbers correspond to soil temperature readings in degrees Celsius from thermistors connected to channels seven and eight respectively. Records are downloaded in time order with the most recently recorded data first. When viewed using a text editing program, the most recently recorded data appears at the top of the file.