
5. ACQUAINT YOURSELF WITH THE OPERATION OF THE HANDHELD TERMINAL

The MiniTrase utilizes a Palm as a handheld terminal to make measurements. In order to operate the MiniTrase correctly, we recommend that you thoroughly familiarize yourself with the standard operation of the Palm by reading the Palm Operation Manual before making measurements with the MiniTrase.

Load palm CD software (with manual) on your computer. (For your computer version you may need to download alternative palm software a www.palm.com)

To use the Palm you must be familiar with the use of the stylus and how to enter data into the Palm. There are 3 ways to enter data into the Palm: Use Graffiti writing; use the on-screen keyboard; and utilizing a PC or specialized Palm compatible keyboard. Standard MiniTrase operations will require the use of a stylus and the on-screen keyboard. We recommend that you familiarize yourself with these skills first before taking the unit out into the field.

Traseterm software

Soilmoisture has specialized software for the Palm for making measurements with the MiniTrase and for downloading the data to your PC via hotsync.

TraseTerm software may need to be re-loaded onto your Palm terminal. A companion CD with the TraseTerm software is provided and serves as a backup in case you “factory” reset your Palm for any reason. TraseTerm usually still exists with a normal reset (just pressing in button on back).

Loading Traseterm into Palm (if not installed)

1. Load Palm’s Desktop and then TraseTerm software in Personal Computer (web/CDs). (www.palm.com has the latest palm software for newer PC’s.)
2. Plug Palm into P.C., turn on, and go to the Palm’s “home page” (press home symbol)
3. Verify PC HotSync Manager is running (or start in program directory or startup directory)
4. As needed restart HotSync (you’ll initialize the HotSync connection name you want to use)
5. Turn on Palm, run Sync by clicking icon or cable button: TraseTerm transfers to Palm.

Activating the Handheld Terminal

There are many versions of the Palm, however, the main operating features are the same on all units. For simplicity’s sake we are only showing the use of the Palm Tungsten E2. If you are supplied with a different Palm model, please refer to the user’s manual with your unit. (PalmIIIxe models require a cable.)

Turn on the Palm Tungsten terminal by pressing the green ON button on the top right edge side of the unit or in the lower left corner of older units. When the Palm is first turned on, you should see the main screen (Fig. 5-1a). If not, then tap the House icon to go to the Main Screen. Using the stylus, tap on the scroll down bar to the right of your screen. Scroll down until you see the TraseTerm icon. Tap the TraseTerm icon once with your stylus to start the program.

It is recommended that you fully charge the palm. See charge symbol at top of screen. It is also recommended that you set the date and time at the Palm Preferences (Prefs) screen.

Activating the Handheld Terminal (cont.)



Fig. 5-1a

UTILIZING THE MINITRASE BLUETOOTH (INTERNAL) TO PALM CONNECTION

1. *Bluetooth Start-up**: If the *TraseTerm* program on the *Palm* is not closed, exit the program by clicking on the Palm's *home* symbol (*Exiting* the Palm *TraseTerm* program also allows the MiniTrase to *go to sleep*, saving battery energy.) (You may also turn off the Palm).
2. Switch MiniTrase power *on* and the Bluetooth power *on* by pressing upward on the two switches (*PWR* LED at right flashes and the blue light flashes in the other window about every 5 or 10 seconds (green and red may also be present with Bluetooth power).
3. Turn on Palm and click on the home symbol to select the *TraseTerm Icon* at one of the Palm's home pages. (may need to scroll down such as by clicking at right on the page).

Note: Our Palms start with TraseTerm preloaded. If it is not, see LOADING TRASETERM INTO PALM.
4. *TraseTerm*: From the *Trase Setup* page (fig. 5-3) set the *connection* dropdown arrow to Bluetooth to *discover nearby devices* (later use *All know devices*)(fig. 5-1b). Select the item for the MiniTrase (CAS...). *TraseTerm* is now ready to communicate.
5. When you initiate an action, such as *Zero*, *Sync Trase Time*, or *Measure*, if it is *not preset*, you may need to enter the password, *1234* (fig.5-1c, check box, noting it is a desired connection)
6. When initiating an action or connected, blue will stay on (*exit* program to save power).
7. For unsuccessful communication, re-do the previous steps and/or reset *TraseTerm* or the Palm as follows:
 - Pressing the Palm's home symbol and then re-enter *TraseTerm* (reaction may take a minute)
 - Use reset on Palm's bottom side. This is a soft-reset; available hard-reset is usually not needed.

**It is recommended that when Bluetooth is switched on that you attach the provided cover to the serial port (and not use the port)*

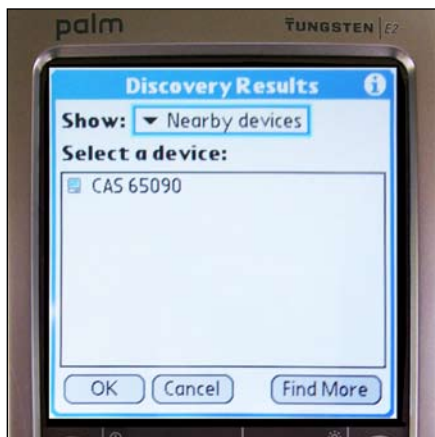


Fig. 5-1b



Fig. 5-1c

Familiarize yourself with the TraseTerm Screens

There are a total of four screens in the TraseTerm Program. The Trase Home Screen, the Trase Setup Screen, the Trase Measure Screen, and the Trase Stored Reading Screen.

The Trase Home Screen has 3 buttons: Measure, Zero, and Setup (Fig 5-2).



Fig. 5-2

Before taking moisture readings, it is necessary to set various internal operational parameters which are used in calculations and in the recording of data. To set these parameters, tap the Setup Button.

In the Trase Setup Screen there are five drop down menus for selecting the parameters for making measurements. These menus are: Waveguide Length, Waveguide Type, Window Size, Moisture Table, and Averaging. There is also a “Sync Trase Time” button in the upper right-hand corner of the screen (Fig. 5-3).



Fig. 5-3

Waveguide Length

Waveguide Length refers to the length of the waveguides being used in a particular measurement. Using the stylus pen, from the drop down menu, select the appropriate waveguide length for your measurement. You may select from the following lengths: 15 cm, 20 cm, 25 cm, 30 cm, 35 cm, 40 cm, 45 cm, 50 cm, and 60 cm. To select the desired waveguide length tap on your selection and it will be selected and display on the screen (Fig. 5-5).

There is a box marked Std. This box is always checked as a default. If you uncheck it, then you will be allowed to enter any length waveguide you wish. This is primarily used when using the Mini Buriable probe (6111) which has 8 cm waveguides.



Fig. 5-4



Fig. 5-5



Fig. 5-6

Waveguide Type

Next, you will need to select the type of waveguide. There are three types of waveguide connectors to choose from: Connector, Buriable, and Field (Fig. 5-6). The default selection set at the factory is Connector. The Connector is utilized for the standard Waveguide Connector supplied with the MiniTrase Kit; Buriable is selected for any type of buriable probe being utilized; and Field is selected when making measurements with the Slammer Heavy Duty Waveguide. To select the appropriate Waveguide Type, from the drop down menu, tap on the desired waveguide type.

Window Size Selection



Fig. 5-7

The default Window size is 10 ns. However, you may select from 10 ns, 20 ns, and 40 ns Window sizes (Fig. 5-7). Although you will not be able to view the graph on the Palm terminal, the window size you select will be important if you choose to view graphs utilizing the WinTrase software on your PC for waveform analysis. To learn more about this important function, please refer to Section 11, “Using WinTrase Software for Data Collection and Analysis.”

Note

Most measurements made in soils with waveguides 30 cm or less read very well with the default 10 ns setting. However, should you encounter a Time Measurement failure warning, check the cable or change the Window size to 20 ns and repeat the reading. You will need to perform a zero set again if using a standard Waveguide Connector or Slammer.

Moisture Table Selection



Fig. 5-8

The next field is for selecting the Moisture Table to be used (Fig. 5-8). There are 8 Moisture Tables to choose from. The type of Moisture Table to use is dependent on the type of Waveguide being used for making measurements. The default Moisture Table is CUN. The eight selections are:

- CUN Connector, Uncoated waveguides
- CCT Connector, Coated waveguides
- BUN Buriable, Uncoated waveguides
- BCT Buriable, Coated waveguides
- FUN Field, Uncoated waveguides
- FCT Field, Coated Waveguides
- SUN Special, Uncoated Waveguides
- SCT Special, Coated waveguides

Averaging



Fig. 5-9

Averaging is an optional selection for you to use (Fig. 5-9). There are 4 selections: None (default setting), 2 Readings, 3 Readings, and 4 Readings. Averaging allows the user to take either 2, 3, or 4 readings and then save only the average of those readings.

Sync Trase Time



Fig. 5-10



Fig. 5-11

Once all of the proper selections have been made from the drop down menus, and if the time and date on your palm is correct, it is recommended that you synchronize the MiniTrase time/date stamp with your Palm terminal. Using the Bluetooth connection for some models, synchronize the Palm to the MiniTrase as shown (Fig. 5-10).

With the stylus, tap the Sync Trase Time button in the top right-hand corner of the screen. Once the synchronization has completed, you will see a confirmation pop up window appear in the screen (Fig. 5-11). Synchronization prior to making measurements will ensure that all measurements taken have the correct time and date automatically recorded with each reading.