ThermochronWM22 Application for Windows Mobile – Getting Started

There are six steps to the installation.

1. Install software applications on the PC. This is an automatic operation that starts with inserting the application CD into the CD drive. The installer suggests an operating folder for the software and allows modification to another existing folder. Once the folder has been accepted, the operation is done automatically.

2. Install a USB adapter for reading and writing iButtons from PC. The installer will ask if you want to install a USB adapter. If you select yes, insert the USB adapter in a USB port and follow the screen instructions. If your PC has multiple USB ports, you will have to perform the installation for each USB port that you want to use.

3. Set up Microsoft Active Sync to synchronize "Files" between your handheld and PC a synchronization folder on PC when the handheld is connected. Instructions below describe a procedure to accomplish this setup.

4. Copy the "Handheld executable folder" from the CD to the synchronization folder on PC. Microsoft Active Sync should then automatically copy the files to your handheld.

5. Establish a pairing/partnership relationship between your handheld and the Wireless iConnection. The procedure for this step will depend on your handheld. Two procedures are described below. Your handheld may require a variation on either of these.

6. Specify the Bluetooth Virtual ComPort to the Handheld ThermchronWM22 Application by using the Setup button on the opening screen. Other optional setup items are described in step 6.

Step 1: Install PC Applications

Insert the Software Distribution CD and follow screen directions

The Thermochron installer will construct the necessary directory structures and install PC programs for the Thermochron System.

Step 2: Install USB Adapter

The Thermochron Installer will ask if you want to install a USB adapter. If so, answer YES, insert the USB adapter in a USB port and follow the screen instructions. If your PC has multiple USB ports, you will have to perform the installation for each USB port that you want to use.

Step 3. Setup Microsoft ActiveSync On your PC

1. Installation on your Windows Mobile Handheld requires Microsoft Active Sync. If you have not already done so, install Microsoft Active Sync and register your handheld with Active Sync.

2. Connect the handheld you want to install the system on to your PC. ActiveSync should recognize the handheld and list its name in the ActiveSync Window. The handheld in figure 1 below is named WM_Scanning_De5.

Figure 1: _Scanning_De5 connected to Microsoft Active Sync

3. On the screen pictured above, click Tools and when the Tools window opens, select the Options tab.

The screen below should be displayed to allow you to select items to be synchronized. Be sure that the Files box is checked. You may check other selections, depending on your use of the Handheld.

Figure 2: Active Sync Options Selection Sceen

4. Click OK on the window above with the Files selection checked. ActiveSync automatically creates a synchronization folder for you keyed to the name of your handheld.

Step 4: Copy the "Handheld executable folder" from the CD to the sync folder on PC.

Drag and drop four files from the Thermochron Windows Mobile folder on the CD to this new folder. The folder should then look like Figure 3. These files are necessary for installation of the Thermochron Application on your handheld.

Figure 3 shows the contents of the synchronization folder. It shows the handheld application and three dynamic link library (dll) files required to run the application.
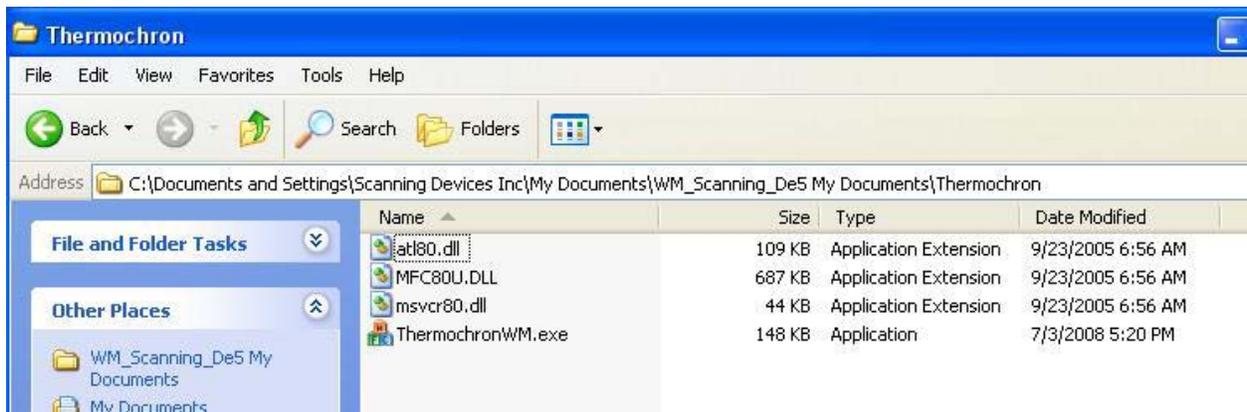
Figure 3: Active Sync - Synchronization Folder for WM_Scanning_De5

Tap the "Sync" icon on the Active Sync window. Active Sync will install the files on your handheld. Microsoft Active Sync should then automatically copy the files to your handheld.

Figure 4: Tap the Sync Icon to Install the Files on your Handheld.

Step 5: Establish a pairing relationship between your handheld and the wireless iConnection

The Handheld Setup Requires:

1. Establishment of a partnership/pairing relationship with the iConnection.
2. It also requires that the type of connection (Serial Port) and the virtual com port are defined.

The procedure for these setup requirements vary by handheld and WM version. Two procedures are described here. You handheld may use a variation on these two.

1. Using the Device Manager

1. From the handheld home screen, tap Start, then Settings. Locate and tap "Bluetooth" either in System or Connections, depending on your handheld.

2. Make sure Bluetooth is turned on, by tapping the Turn-on Bluetooth Checkbox

3. Select the "Devices" tab at the bottom of the screen. You should see the "Add new device..." selection highlighted. If you don't see the "Devices" tab, use the alternate procedure described starting at item 11 below.

4. Turn on the iConnection by pushing the start button and wait until the Green ready light comes on.

5. Highlight or Tap the "Add new device..." selection on the handheld. The handheld will attempt to discover the iConnection. When it finds and identifies the iConnection, it will add "iConnection" to the list of Bluetooth devices it has found. Select iConnection by name and tap next at the bottom of the screen.

6. The handheld will ask for a pass code. Enter "0000" (four zeroes without quotation marks) and tap next.

7. The handheld and iConnection exchange information on the facilities in each device. The handheld then provides a Serial Port checkbox indicating that it can use the serial port profile for communications. Check the Serial Port box followed by Finish at the bottom of the screen.

8. Tap the COM Ports tab on the bottom of the screen to identify which port to use. The Handheld displays the types of ports available, incoming or outgoing. Select "New Outgoing Port" by tapping on the words.

9. The handheld displays the Bluetooth devices registered. Select "iConnection" by highlighting it and tap next.

10. Select the Com Port you want to use. For most handhelds, selection starts at Com4 and continues to higher numbers. Make a selection, check the "Secure Connection" box and tap finished. You have set up a secure pairing relationship between your handheld and iConnection using a specific com port. You should see a display that lists iConnection and the Com Port you have selected: iConnection (COM4) for example. Remember which com port you have selected.

Setup using the Bluetooth Manager

11. From the handheld home screen, tap Start, then Settings. Locate and tap "Bluetooth" either in System or Connections, depending on your handheld.

12. Make sure Bluetooth is turned on, by tapping the Turn-on Bluetooth Checkbox

13. Select the Bluetooth Manger.

14. When the Bluetooth Manger opens, tap "Menu" followed by "Add". The screen to the right should appear.

Make sure the iConnection is powered on and the Green ready light is illuminated.

Tap the search icon to the right of the Device: edit box.

The Bluetooth manager attempts to find the iConnection.

15. When it does, it will display an icon representing the iConnection. Highlight the iConnection by tapping and holding the icon. The screen to the upper right will then re-appear, opening the virtual keyboard and asking for the pairing passkey.

16. Enter "0000" (four zeroes without quotation marks) followed by the carriage return symbol on the keyboard or the OK in the upper right corner.

The pairing relationship will be established.

17. Close the Bluetooth: Device Pairing screen to return to the main Bluetooth Manager screen.

Establishing the connection service and virtual com port (known as the shortcut).

18. From the Bluetooth manager screen, select "My Shortcuts" and tap "New". The Bluetooth manager services screen will appear. Select the "Explore a Bluetooth device".

The Bluetooth manager will attempt to determine which services are available on the paired device.

19. Make sure the iConnection is turned on and the Green ready light illuminated. Then highlight the iConnection icon and the Bluetooth manager will search for services. It will find the serial port service.

Highlight the serial port service and tap next, then tap finished when it is displayed.

20. From the opening Bluetooth Screen displayed in step 11, select the Services Tap at the bottom of the screen. Highlight the Serial Port service and tap "Advanced".

The Bluetooth Manager then displays the Virtual Com Ports in use (screen below). The ThermchronWM22 application uses an Outbound COM Port. Make a note of the Outbound COM Port that Bluetooth will use. On the screen to the right, the Outbound COM Port is Com6.
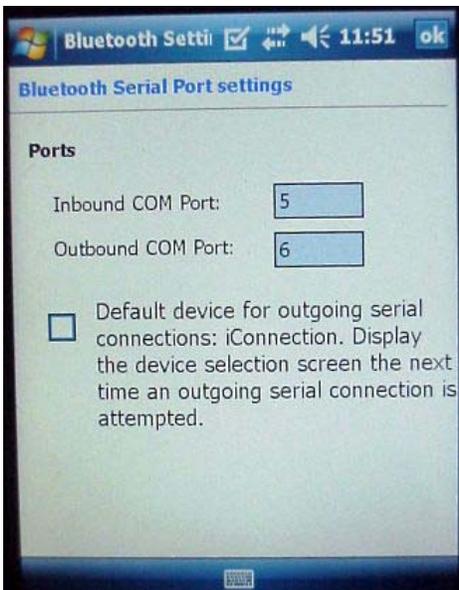
Step 6: Setup the Thermochron Application on the Handheld

Start the Thermochron System on the handheld and setup the program to work with your iConnection

1. From the handheld home screen - select File Explorer and locate Thermochron (or the name you gave to the synchronization file in step 5 of the PC setup).
2. Tap Thermochron to start the program. The opening screen should appear as in Figure 5 below. The screen contains some key selections and action buttons. The dropdown box at the top right lists four functions: Edit (shown), Read, Write, Graph Data (more on functions and function selection later).
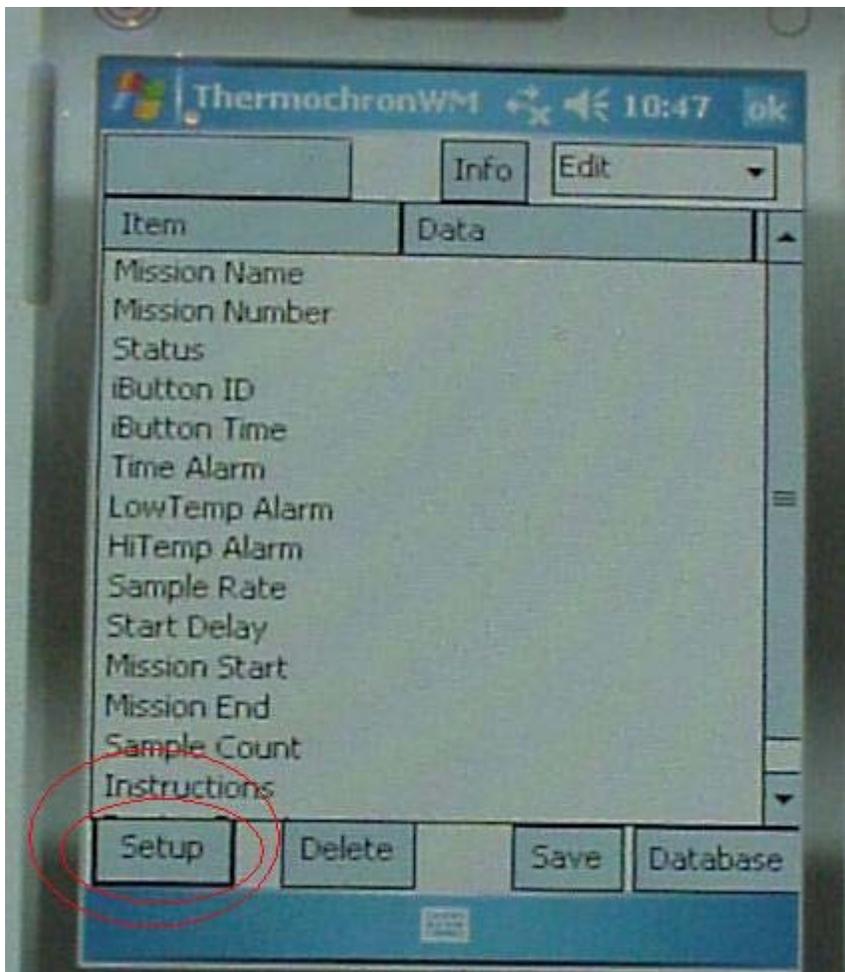
Figure 5: Thermochron Opening Screen

On starting the application for the first time, go right to the **Setup Menu.**

3. Tap Setup to open the Thermochron Setup screen.

See figure 6 for an illustration of the Setup Screen. Several setup parameters are available, but only one is required.
1. Very Important - ComPort - select the same com port that you chose in handheld setup item 10 or 20. Drop down the list of available com ports and highlight one to select it.
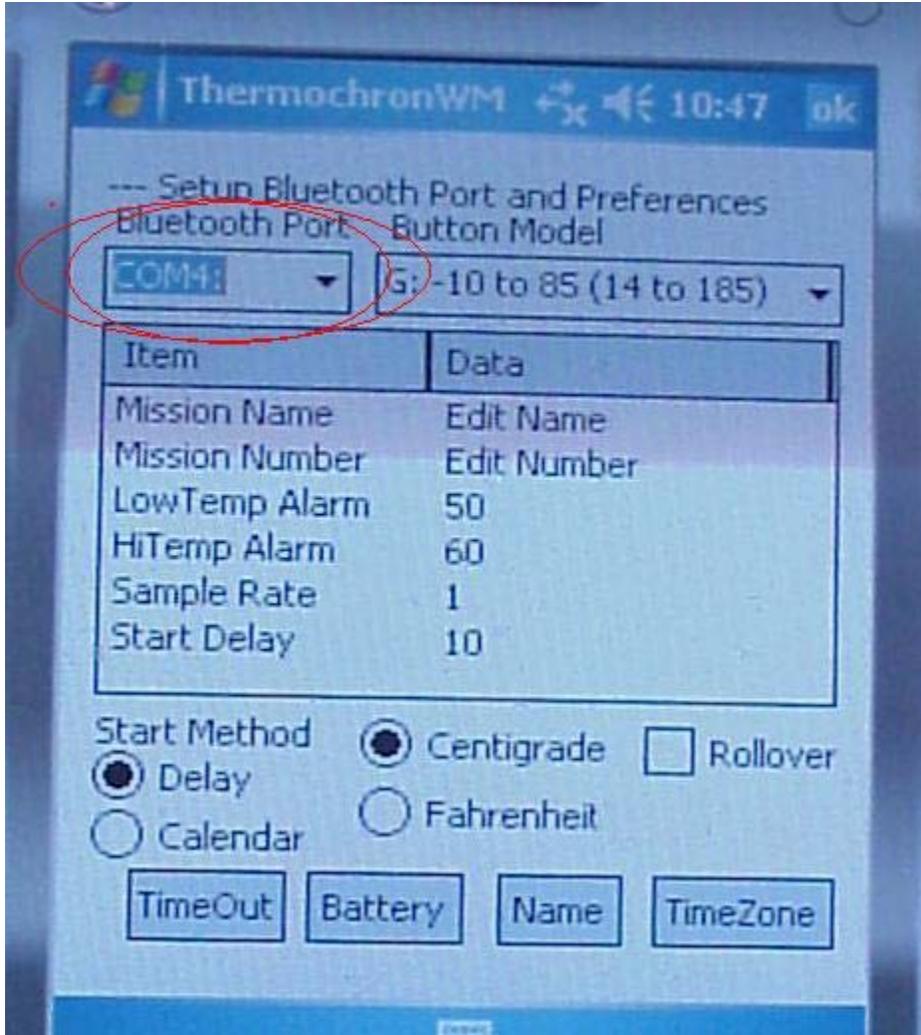
Figure 6: Thermochron Setup Screen with Bluetooth Port Selection Highlighted

Other setup parameters shown above are available. Here is a quick review.

2. Default iButton Model - this Thermochron application version supports six iButton models in the DS1921/DS1922/DS1923 series. The six vary by temperature range, resolution, sample capacity and function. When you open a new mission for editing, the default model selected

here is the starting point for preparation.   Model G selection is shown in figure 6. Drop down the list to make a selection.

3. Six parameters for missions: Name, number, low and high temperature alarm limits, sample rate and start delay. These can be edited on the setup screen. They provide the starting point for constructing new missions. Tap on the identifying label "Mission Name" for example, to open an editing screen for that value.

4. Start Method - relative (Use Delay) or absolute (Use Calendar). The relative selection starts logging the number of minutes in the start delay variable after loading the iButton. Absolute uses the date and time you select. When to use each? If you want to start logging now, set start delay at zero and select the "Use Delay" option. As soon as you load an iButton, logging starts (at the next minute transition of the iButton clock). If you have a number of iButtons that you want to start at the same time, "Use Calendar". Load them all with the same date and time. They will start in unison.

5. Temperature Units - select your preferred units for data display.

6. Rollover - the iButton memory capacity for saving samples is limited. When the memory is full, a check in the Rollover box instructs the iButton to continue logging, saving new samples by replacing the oldest. Sample memory contains the most recent data. Leave the Rollover box unchecked and the iButton stops logging when the sample memory is full.

Additional Setup Screens

Time Zone - Windows Mobile devices do not all support time the same way. In order to synchronize time with your PC, you must specify your time zone and use of daylight savings time. Windows PC's use a combination of Greenwich Mean Time (Gmt), time zone and daylight savings time as the time base. This selection synchronizes the handheld with your PC.

Timeout - To preserve its battery life, the iConnection has a timer that measures the duration in which no wireless traffic is observed. If the timer reaches a preset programmable time, 1, 2, 4, or 8 minutes without traffic, the iConnection will be powered down. You can set this timeout period from the Setup Menu.

Battery - interrogates the iConnection battery and provides a status display. Warns of low battery conditions in the iConnection.

When you close the Setup Screen with the OK in the upper, your preference selections are saved in the handheld. You are now ready to read and write iButtons