



PocketTimer

for the Palm Computing Platform

Users Guide

Version 3.2
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Chapter 1: Installing PocketTimer

The complete software package consists of the following items:

- **Timer.prc** is the handheld software which is installed into your Palm handheld unit.

For **Windows**, the following two additional files are used:

- **PTConduit.dll** is a "Conduit" which is run by the Palm HotSync Manager when you HotSync the unit; it allows you to upload recorded times to a file on the desktop where it can be read by existing desktop software.
- **Install.exe** is a special program which must be used just once to install the software, and to notify the HotSync Manager that a new conduit (**PTConduit.dll**) is now present and must be run when HotSyncs occur.

For **Macintosh**, the following one additional file is used:

- **PocketTimer Conduit** is a Macintosh (PowerPC only) conduit which uploads recorded times to a file on your desktop. **Note that use of this software requires use of version 2 of the Palm MacPac software.**

Installing PocketTimer in Your Palm Handheld Unit

Windows:

1. Verify that the standard Palm desktop software, including the "HotSync Manager" software, is installed on your computer. If the HotSync Manager is running, you should see a small red and blue icon in the lower right hand corner of your computer screen, showing two arrows in a circular pattern. **If HotSync Manager is not installed or running, do not proceed**, but return to the manual that accompanied your Palm, Symbol, or Handspring handheld unit, and follow the instructions there to properly install the desktop software.
2. Double-click on **Install.exe** to run it. This program will copy all the contents of the folder it is in (including **Timer.prc**, **PTConduit.dll**, and the files containing the manual) into a **PocketTimer** folder inside the folder which contains your Palm software (typically C:\Palm). **Install.exe** will also arrange for the handheld software (**Timer.prc**) to be installed in your handheld unit at the time of the next HotSync, notify the HotSync manager that a new conduit has been installed (you'll see the HotSync manager icon disappear and then reappear as part of this process), and automatically open this manual file when it finishes.
3. Verify that the conduit is properly installed by clicking on the small HotSync icon in the lower right of your Windows desktop (the HotSync icon is a circle with a blue and red arrow facing in opposite directions). From the menu which appears, click on **Custom**. A window will appear listing all of the Conduits which are active on your system. One of these should be "PocketTimer". Click on that to select it, then click on **Change**. We'll discuss the possible settings later; for now, click on **OK**, then click on **Done**.
4. Now put the handheld unit in the cradle and perform a HotSync. This will install the software into your Palm handheld device.
5. When the HotSync process is finished, press the HotSync button *again* and perform a *second* HotSync. This HotSync will create the necessary folders which will be used by **PocketTimer** to upload information from the Palm (this will be discussed below).
6. If you need to install the handheld software in additional Palms (which requires that you purchase multiple licenses for the software), use the standard Palm "Install Tool" (accessed

from the Install button inside your Palm desktop software) to install **Timer.prc** in one or more additional Palms.

If you should ever wish to deinstall the conduit, you'll find a program named **SCS Conduit Uninstaller.exe** inside the `PocketTimer` folder which contains the conduit. Run (by double-clicking) the uninstaller and the conduit will be uninstalled.

Macintosh:

Verify that the standard Palm desktop software, including the "HotSync Manager" software, is installed on your computer. **If HotSync Manager is not installed or running, do not proceed**, but return to the manual that accompanied your Palm, Symbol, or Handspring handheld unit, and follow the instructions there to properly install the desktop software.

Drag the file **PocketTimer Conduit** into the `Conduits` folder inside your `Palm` folder (or wherever your Palm software is stored). Now start the **HotSync Manager** application (most typically using the "instant Palm menu" on the right end of your menu bar). In **HotSync Manager**, select **Conduit Settings** under the **HotSync** menu. You should now see the conduit named "PocketTimer" listed. Double-click on it to bring up the settings window. We'll discuss the settings for the PocketTimer conduit below. Verify at this time that the "Install" conduit is set to "Install files". Close the **Conduit Settings** window by clicking on the close box in the upper left corner.

Now select **Install** from the **HotSync** menu, click on the **Add To List** button, and use the file browser to locate the file **Timer.prc**, and click on **Add File**. Close the **Install Handheld Files** window by clicking on the close box in the upper left corner.

The next time you HotSync your handheld unit, two things will happen. First, the **PocketTimer** software will be installed into the handheld unit. Next, a folder named `PocketTimer` will be created in your user directory (see below for a diagram of where this folder is located). It is in that `PocketTimer` folder that subsequent actions (uploading recorded times) will occur. Each handheld unit into which you install **PocketTimer** software will have its own user name, its own user folder, and its own `PocketTimer` sub-folder.

To de-install the conduit, simply drag it out of the `Conduits` folder.

Starting the Application

From the **Applications** window on your Palm handheld device, look for the icon labelled **PocketTimer** which looks like this:



Entering Your Serial Number/Unlocking the Application

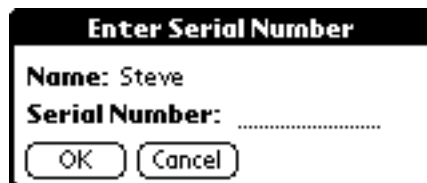
When you start the application, you'll see this screen:



After you tap on the **OK** button, you'll see the main screen of the program, which will look like this:



Tap on the word ***Unlicensed*** in the upper right, and you'll see this screen:



Use Graffiti (or the on-screen keyboard) to enter your serial number (supplied to you by Stevens Creek Software); when you're done, tap on the **OK** button. If you have entered the serial number correctly, the word **"*Unlicensed*"** will *not* appear on the upper right of the main screen. If you

enter an incorrect number, the software will let you know. If necessary, tap on the **Cancel** button to dismiss the Enter Serial Number screen.

If you have purchased the site license version of **PocketTimer**, the **Name** field in the **Enter Serial Number** window shown above will be underlined and will accept data entry. You should first enter the name of the licensing organization in the **Name** field, and then enter the supplied serial number in the **Serial Number** field. Of course you'll need to do this on all Palm handheld units on which you are installing a copy of **PocketTimer**.

If you run into a problem, this probably means that when you provided your Palm User name to Stevens Creek Software, you did so incorrectly. The name is shown in the **Enter Serial Number** window as shown above. Make sure to write it down exactly (including case, i.e., whether the letters are upper-case letters like THIS or lower-case letters like this) and [email it to Stevens Creek Software technical support \(supportmail@stevenscreek.com\)](mailto:supportmail@stevenscreek.com) and wait for a new serial number to be provided to you.

Chapter 2: Recording Times

Starting the Timer

When you start **PocketTimer** (once it has been licensed; see Chapter 1) you'll see one of these two screens; the one on the left on "normal" Palm handheld units, the one on the right on units made by Symbol Technologies with built-in barcode scanners or Handspring Visors with a plug-in scanner (these latter units let you scan barcodes to record finishers rather than or in addition to recording them by hand) :

PocketTimer™									
Time:					Pace:				
Bib#:					Place:				
0	1	2	3	4	0	1	2	3	4
5	6	7	8	9	5	6	7	8	9
Last#	Start				s.t.				
Uncertain #		Backspace			Clear				
Show	Swap Last 2		Del. Last Time						

PocketTimer™									
Time:					Pace:				
Bib#:					Place:				
0	1	2	3	4	0	1	2	3	4
5	6	7	8	9	5	6	7	8	9
Last#	Start				s.t.				
Uncertain #		Backspace			Clear				
Show	Swap Last 2		Del. Last						

We'll discuss configuring the timer in Chapter 3, but for now we'll assume it has been set up correctly, and you're ready to start timing. To start the timer, tap on the **Start** button (!). The **Start** button will now change to read **Record**, and you're ready to start recording times once the finishers start arriving.

Hot tip!

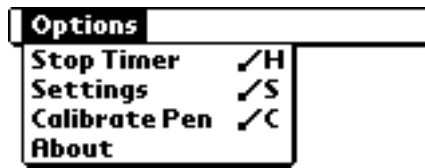
Like the buttons on most computers, the **Start** button in **PocketTimer** only activates when you lift the stylus **up**, not when you tap the pen down. Starting the timer by moving the stylus down and then up is therefore a two-step, slow process. For extremely accurate timing (in our experience, within 0.02 seconds or so), just before the start of the race (like when the countdown begins), tap the stylus on the **Start** button and **hold it down**. The button will "invert" (turn to white letters on a black background) to indicate this. When the gun goes off, lift the stylus (in most cases, your arm will naturally jerk back at the start anyway) and the timer will start.

Stopping the Timer If You Make a Mistake

There is no button to stop the timer, because we don't want you to do this accidentally. However, suppose there is a false start in the race, or you simply press the **Start** button too soon. Here's what you need to do:

1. Tap on the **Menu** button (the one which is permanently silk-screened on the window) in the

lower left of the Palmscreen. This menu will appear:



2. Tap on the **Stop Timer** menu option. A dialog will appear asking you if you are sure; tap on **OK**.
3. The **Start** button, which was labelled **Record**, is now labelled **Reset**. Tap on **Reset** to reset the timer. The button should now once again be labelled **Start**.

Recording Times

During the event, the Palm screen will constantly display the elapsed time and the current pace. As a racer approaches the finish line (or other location where you are stationed), you can enter the bib# of the racer in advance. You do so by tapping on the large number buttons on the screen. For example, if racer #458 is approaching, tap first on the **4** button, then on the **5** button, and then on the **8** button. As you do so, the bib# you are entering will be displayed. When the racer crosses the finish line (or other line), tap on **Record** and the bib# and time is captured. The "place" is incremented so it is always displaying the place of the *next* racer to pass. The bib# is erased and the timer is ready for you to enter the next number. Note that whether you are recording numbers manually or with a barcode scanner, the maximum bib# is 32767; numbers larger than that cannot be recorded.

If you have a unit with a barcode scanner, you simply scan the barcode, which records the number on the tag, and simultaneously records the time. You can either use the "built-in" scan buttons (on the Symbol SPT15xx/17xx/18xx), or the MemoPad button immediately below the on-screen scan icon if you have a plug-in CSM150 scanner for the Handspring Visor (this also works with the SPT15xx/17xx/18xx).

At times, the density of racers will be such that it is impossible for you to record all the bib#'s. In this case, you skip the step of entering the bib#, and only use the **Record** button to record the time by itself (the bib #'s can be filled in later). The software will record your taps as fast as you can enter them, which is approximately ten taps per second, so when a lot of racers approach, forget about looking at the bib #'s, and just concentrate on counting the racers so you can record the correct number of times (although if you miss one or more, that too can be corrected later).

Also, if you cannot read the bib# (or the person doesn't appear to be wearing one), just tap on **Record**, and record the time for that finisher.

PocketTimer™

Time: 35:20 **Pace:** 5:41.2

Bib #: 506 **Place:** 3

0 1 2 3 4

5 6 7 8 9

Last# **Record** s.t.

Uncertain # Backspace Clear

Show Swap Last 2 Del. Last Time

As you can see, there are a number of other buttons on the screen which you can use when you are entering information. None of these are absolutely essential, but they may come in handy in certain situations. These are:

Last#: This button lets you enter the number of the last (previous) finisher. This occurs most commonly when someone finishes whose number is not visible (perhaps on their back). As they finish, tap **Record** to record the time. Then enter the bib# and tap **Last#**. This will NOT record an additional finisher, but instead will modify the previous entry (which at the time you recorded it had no bib#) by entering the correct #. You can also use this to correct the number of the previous finisher, as long as no other finisher has yet been recorded. In other words, if you tap "4-1" and then **Record**, and then quickly realize it was actually "4-7", you can (if there is time before the next finisher) tap "4-7" and then **Last#** to correct the error.

s.t.: This button lets you record someone as having the same time ("s.t.") as the previous finisher. So if two (or more) finishers are approaching the line for a tie (or in any case the "same time" as the term is used in bike racing), enter one bib# and tap **Record** as the group crosses the line. Now enter the second bib# and instead of tapping **Record**, tap **s.t.** which will record a second finisher with the same time as the first; repeat for any additional finishers at the same time. Or, if there isn't time or you don't remember the other bib #'s, just tap **s.t.** by itself multiple times (one for each additional finisher) to record the fact that there was a finisher at the same time, without recording their bib#.

Uncertain #: If you think you can read the bib#, but aren't absolutely certain, you can record it as an uncertain #. After entering the number (by tapping on the number buttons), but before tapping on record, tap the **Uncertain #** button. A ? will appear just to the right of the Bib# in the display, to indicate that you aren't sure. If, before you tap on the **Record** button, you suddenly become certain, tap on **Uncertain #** again and the ? will be removed. Remember, if you can't read the number at all, don't bother to enter it, just tap on **Record** to record the time without any bib# number at all.

Backspace: This button erases the last digit you entered.

Clear: This button erases the enter number you are currently in the process of entering.

Show: This button will take you to a display of the recorded information which will be discussed in Chapter 4. Unless there is a large gap between racers, you should *not* press this button while the race is in progress.

Swap Last 2: Sometimes it will happen that two racers are approaching the finish line. Enter the first number, then press **Record**, then the second number, then **Record**. However if a last minute sprint to the finish surprises you and the second racer passes the first, after you have entered both numbers you can press **Swap Last 2** to reverse the order of the last two finishers. If you don't

catch this, don't worry, it can be corrected later.

Del. Last Time: It is possible that you might hit the **Record** button by accident. Another thing that happens is that someone finishes, you press Record, and then you realize the person was a "bandit" (a person without a number who wasn't really entered in the race). If you realize this immediately, before anyone else has finished, tap on **Del. Last Time** to remove that time from the list of recorded finishes. If someone else is coming, don't worry, it can be corrected later.

Using the "Hard Buttons" on the Case

Palm handhelds have four "hard buttons," which typically are assigned to the DateBook, Address Book, To Do list, and MemoPad applications. When you are running **PocketTimer**, however, they serve different functions. The central two buttons (Address Book and ToDo List), which appear more or less beneath the Record button, can be used to record times as finishers cross the line. The outer two buttons are simply disabled to prevent accidental exit from the software while the timer is running (the only way to exit from the application is to use the "Home" button silkscreened to the left of the Graffiti area).

Using a Keyboard

If you have a Palm with a keyboard, you can use the keyboard for recording. Pressing 0-9 on the keyboard does the same as tapping the 0-9 on-screen buttons, and pressing the Enter (Return) key on the keyboard does the same as tapping the **Record** button. All keys are inactive when the timer is not running, *except* the Enter (Return) key, which can also be used to start the timer.

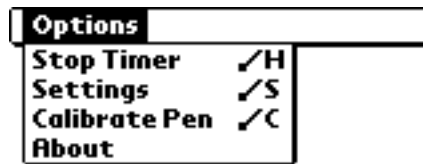
On some Palm keyboards, for example the one on the Tungsten/C, the number keys are on the same keys as certain characters. So that you don't have to press the special numeric key at the same time as pressing the other key, the software also recognizes the keys 'q', 'w', 'e', 'r', 't', 'y', 'u', 'i', 'o', and 'p' as being the same as 1-9 and 0, respectively.

Stopping the Timer At the End of the Race

At the end of the race, tap on the **Menu** button and select **Stop Timer**. The **Record** button changes to **Reset**. Do *not* press the **Reset** button until you have saved the results (unless you don't want to save the results).

Chapter 3: Configuring PocketTimer

If you tap on the Menu button on the Palm from the main timer window, you'll see this menu:



If you now tap on **Settings**, you'll see this screen which lets you configure the software:



Here's what the various settings are for:

Mode: In Fast Mode, the timer has 0.01 second resolution; in Slow Mode, the timer has 1.0 second resolution. You might think you should always use Fast Mode, but there is an important side effect. In Slow Mode, **PocketTimer** maintains the correct time even when you turn the Palm off (with the green on/off switch), and you are free to exit the application while the timer is running and use the other Palm applications. In Fast Mode, in order to maintain the correct time, **the Palm must be left on**. PocketTimer automatically disables the "AutoOff" feature of the Palm (which turns off the unit after 1-3 minutes of inactivity), and warns you if you try to turn the unit off with the off button.

The third mode is "Time of Day". This mode is also a "slow" mode (1.0 second resolution), but in addition, when you start the timer, the start is calibrated so that the displayed (and recorded) times correspond to the time of day (on a 24-hour clock). This mode is used for races where you may have timers scattered over a wide area, who can't all start their timers at the same time. However if you first synchronize the built-in Palm clock of their units (you can do this using **TimeAdjust** software from Stevens Creek), then they can start their unit at any time, since all of them will be recording the exact time of day.

If you do turn the power off to the Palm (intentionally or accidentally) while the timer is running in Fast Mode, **PocketTimer** resets itself when you turn the power back on so that the absolute time is correct to the nearest second. From that point on, *relative* times will be correct to 0.01 seconds (that is, if you start recording splits, the difference between them will be correct to 0.01 seconds), but the absolute time (compared to the time you pressed the **Start** button) are only accurate to the nearest second. If you have an independent way to determine one of the times (say, with a stopwatch or sports watch), you can adjust the times so that they agree - see Chapter 4 for more discussion of this point.

Distance: The distance, which you can enter in miles, kilometers, yards, meters, or feet, is the distance to the point at which you are doing the timing (the finish line or some intermediate point). If the distance is entered, the pace which is displayed on the main timer window will be calculated according to that distance. If you don't want to display the pace, or if the pace doesn't apply (for example if you're timing transitions in a triathlon), just clear the distance field.

Pace Units: The pace can be calculated and displayed in minutes per mile, minutes per kilometer, miles per hour, kilometers per hour, minutes per hundred yards, or minutes per hundred meters.

Starting Place: If you are using a single Palm for timing, the first racer will be in first place. It's also possible to use two (or more) Palms for timing, using one to time the first N finishers and the second one to start timing with finisher N+1. The Starting Place setting lets you set the second unit so that the place number is correct.

Max. Digits: Let's say you're timing a race which is using race #'s from 1 to 999. The maximum number of digits in the race numbers is three. If you set Max. Digits to that number (3), then if you ever attempt (by accident, presumably) to enter more digits before hitting the Record button, **PocketTimer** will beep a warning at you and refuse to enter the additional digits. Max. Digits can be set anywhere from 1 to 5, but **note that if Max. Digits is set to 5, the maximum bib number that can be recorded is NOT 99999 but rather 32767.**

AutoRecord: If all the bib numbers have the same number of digits (for example, you're timing eight runners in eight different lanes on a track), you can set the program to AutoRecord. In this mode, **PocketTimer** automatically records the time after you have entered the maximum number of digits, without requiring you to press the Record button. In other words, if runners are finishing on a track, you can just press (for example) 1,3,4,6,2,5,7,8 to record the times of the runners in lanes 1,3,4 etc., rather than having to press 1, Record, 3, Record, 4, Record, etc.

AutoRecord mode *can* be used if racers have different numbers of digits on their race numbers, but this can be a confusing way in which to work. For example, if Max. Digits is three, then if a three-digit racer is approaching, the time will be recorded when you press the third digit, and you should *not* press the Record button as well. If a two-digit racer is approaching, then you *must* press the Record button to capture the time. In general this can be tricky, and is not a recommended mode of operation.

Enable Hard Button Record: If this box is checked, the central two "application" buttons (the Address Book and ToDo List buttons) function as "Record" buttons, that is, pushing those physical ("hard") buttons has the same effect as tapping the on-screen **Record** button (this is only true when the timer is running; the physical buttons cannot be used to start the timer). If this box is UNchecked, then pushing the hard buttons has no effect.

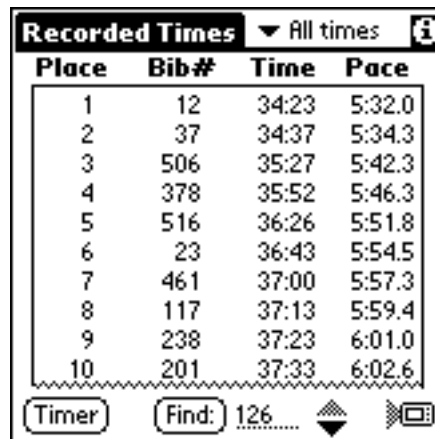
Export: You can transfer data to the MemoPad, printer, or desktop computer from **PocketTimer**. This collection of four "switches" lets you turn on or off the different pieces of information. As configured on the sample screen above, for example, the software will export the Bib# and the Time, but will not export the Place and the Pace columns. Tap on an "unhighlighted" box to highlight it to cause it to be exported; tap on a highlighted box to unhighlight it and remove it from the list of items to be exported.

Separator: When the results are uploaded to your desktop computer (or transferred into the MemoPad) for incorporating into race timing software, the columns of information (place, bib#, time, and pace) can be separated by tabs or commas, whichever is more easily read by your desktop software.

Chapter 4: Reviewing and Editing the Recorded Information

The Recorded Times Window

In the bottom left of the timer window is the **Show** button. Tapping on the **Show** button produces this screen:



Place	Bib#	Time	Pace
1	12	34:23	5:32.0
2	37	34:37	5:34.3
3	506	35:27	5:42.3
4	378	35:52	5:46.3
5	516	36:26	5:51.8
6	23	36:43	5:54.5
7	461	37:00	5:57.3
8	117	37:13	5:59.4
9	238	37:23	6:01.0
10	201	37:33	6:02.6

Note that if you have a unit with a barcode scanner, you'll see the small scanner icon in the lower right, indicating to you that you can also record times by scanning directly on this screen, rather than on the main screen. The advantage of doing so is that on this screen, you'll see the recorded numbers as you scan them, whereas on the main screen, they'll immediately disappear. On the other hand, on the main screen, you have the ability to record numbers by hand (those which won't scan, for example) as well as by scanning, whereas on this screen, you'll ONLY be able to record numbers by scanning. Which approach works best for you will depend on your situation. You cannot record any times on this screen "by hand"; you can ONLY record times on this screen if you have a scanner.

If you need to return to the Timer screen (to record an approaching racer, for example), tap on the **Timer** button in the lower left. If there are more than ten recorded results, you'll see a "torn tape" either at the bottom or the top of the window, or both. Tap on the scroll arrows in the lower right to scroll the tape up or down to see more results. The pop-up menu in the upper right which reads "All Times" will be explained in the next chapter. Tapping on the information icon in the extreme upper right will bring up a window of "Tips" reminding you of how this window operates.

Please note: this "internal Find" is different than the "global Find" provided by the Palm "Find" button (the silkscreened button in the lower-right corner of the screen showing a magnifying glass). Pressing on this "internal Find" button searches only the PocketTimer database for a particular bib#. Entering the same number in the "global Find" window will search your Address Book, Datebook, MemoPad, and ToDo List for that same number, but will NOT search the PocketTimer database.

Sorting

The results are by default displayed in place order. The words **Place**, **Bib#**, and **Time** at the top of the first three columns are actually buttons which you can tap on to change the display order. Tapping on **Place** sorts by place; tapping on **Bib#** sorts by Bib#, and tapping on **Time** sorts by time. Place and time are obviously very similar; they only differ if two finishers have been recorded with exactly the same time but successive places. Sorting by Bib# is of value if you want to post a list of finishers by Bib# (which makes it easier for people to search for themselves), or if you want to get a good view of which racers have finished and which have not. To search for a particular racer, you can use the **QuickSearch** feature described next.

QuickSearch - Finding a Particular Entry

In the lower right of the window is the **QuickSearch** (tm) field. If you enter a number (using Graffiti) on that line, and then tap on the **Find** button (or use the Graffiti "return" or "newline" stroke), if that bib# has been recorded, the "tape" will automatically scroll so that that racer is on top of the screen. You can also enter a "t" (lower-case or upper-case) into the QuickSearch field; pressing the Find button in that case will scroll to the top of the recorded times (first finisher). A "b" will scroll to the bottom (if you display the Recorded Times window while the timer is running, it starts out by automatically scrolling to the bottom, since experience shows that the most recently recorded times will usually be the ones you're interested in).

Editing the Recorded Information

After the race is finished, or even while it is going on, you may review the torn-off bib tags and want to edit the results for any number of reasons:

- You have numbers you entered incorrectly
- You have times entered without any bib# at all
- You missed some finishers
- You recorded some extra times by mistake

To edit the results, you must be in **All times** mode (see next chapter), and also the displayed information must be sorted by place (if it isn't, tap on **Place** to sort them that way). Now tap on the entry to be modified with the stylus, and you'll see this screen:

The screenshot shows a screen titled "Editor". At the top, it says "Bib#:" followed by a small icon of a person and a dotted line for text entry, and a checkbox labeled "Uncertain". Below that, it says "Time:" followed by "32:27" and a dotted line. The main part of the screen is a numeric keypad with buttons for digits 0-9, a decimal point ".", a colon ":", a "Backspace" button, and a "Clr" button. At the bottom, there are three buttons: "Update", "Update, Next", and "Cancel".

The software displays the recorded bib# and the recorded time. Since it is assumed that if you are editing the entry that you probably know the correct information, the "Uncertain" box is unchecked even if the entry in your list was actually marked as uncertain (if you want to leave it as uncertain,

you'll need to check that box).

To modify the entry, use the number buttons (or Graffiti if you prefer), in conjunction (if necessary) with the **Backspace** and **Clr** (Clear) buttons, to enter the new number onto the screen. Notice that when the screen first appears, the contents of the Bib# field are highlighted. Because of this, if you enter a new number (by tapping a button or using Graffiti), the new number will replace the old number, rather than simply modifying it. Note that the "." and ":" buttons will be inactive when you are modifying the Bib# field (also note that if you have your Palm set for number preferences which use the comma as a decimal separator, this button will be labelled with a comma and not a period as shown above).

If you need to modify the time, you can also do so. The use of the color (":") key (or Graffiti) is optional. Thus if you need to enter "1:04:23" you can enter exactly that, or you can enter "10423" and let the software fill in the colons for you. The software will allow one or two decimal places (e.g., 36:23.3 or 36:23.32 but not 36:23.321) but the decimal places are optional, thus, if the time you want to enter is 36:23.0, entering "36:23" (or "3623") is sufficient; you don't need to waste time entering the ".0" at the end.

When you are finished correcting the entry, you have three choices. If you tap on the **Update** button, the entry is updated, and you are returned to the Recorded Times window. If you tap on the **Cancel** button, you are also returned to the Recorded Times window, but without modifying the entry. And finally, if you tap on the **Update, Next** button, the entry is updated, and the next entry down the list is brought up on the Editor screen for modifying. This last option allows you to edit a whole series of entries without having to return to the Recorded Times window each time.

To delete the entry, tap on the **Delete** button.

To insert a new entry, enter a new bib# and time, then tap on the **Insert** button. The entry will be automatically sorted by time into your list of recorded times. This allows you to enter racers you missed; a common situation is that you may have recorded the last few "stragglers" by hand while you used the Palm for scoring the race, and need to add them in later to complete the record.

Offsetting the Time (Synchronization)

Under some circumstances, the time on the **PocketTimer** won't be correct. Perhaps the start and finish of the race were at different places, for example, and you weren't able to start the timer correctly. Or perhaps you started the timer in FastMode but inadvertently turned the power off during timing. In any case, if you have an independent measurement of just one of the times that you have recorded with PocketTimer (for example, measured with a sports watch or stopwatch), you can adjust all the recorded times (and the current elapsed time, if the timer is still running) by tapping on the **Menu** button and selecting **Offset** from the menu:

Recorded Times	Edit
Offset	✓O
Renumber	✓R
Convert to Lap Times	
Remove Duplicates	
Erase	✓E
<hr/>	
Transfer to Memo Pad	✓M
Beam	✓B
Print	✓N

You'll see the following screen:

Enter Time Offset

Hours:
 Minutes: ...42
 Seconds: 3.07

Add Subtract

☐ **Time Trial Offset**
Bib# of First Starter:

OK Cancel

Enter the hours, minutes, and seconds that you want to adjust the times into the appropriate fields, and indicate whether you want to add or subtract that amount of time from all the recorded times. When you tap on OK, all the recorded times are adjusted, and, if the timer is still running, the current elapsed time (and, therefore, all times which are recorded subsequently) as well.

There is only one subtle feature of time synchronization. Even if you are running the timer in Slow Mode, you can enter a time offset in fractions (down to hundredths) of a second. These fractions will not show up (at first) in the **Recorded Times** window. After the timer is stopped, however, if you return to the **Settings** screen and select Fast mode, now when you return to the **Recorded Times** window the times will display in hundredths (although the times will still only be precise to the nearest second, so the value of doing this is questionable).

Checking for Duplicates

One of the worst things you can do when recording times with **PocketTimer** is to record an incorrect number. If you record a number which doesn't correspond to any entry in your database of entrants, then if you use **RaceBase** scoring software it will flag that finisher as an "unknown person" and you'll be able to correct the error later. But if you record the *same* number twice, more serious problems can occur. Let's say you record #27 twice, once very high in the standings and once much later. If the first one was the real #27, and your scoring software (**RaceBase** actually offers you both options) takes the later time, then #27 will be cheated out of an award. On the other hand, if the second one was real, and your scoring software takes the earlier time, now #27 may get an undeserved award.

To help avoid this problem, **PocketTimer** lets you check for duplicate Bib#s. On the **Recorded Times** screen, use the selector in the upper right



to select **Duplicates**. The display will then change to hide all results which have only a single entry for a particular Bib#, and show only those entries which are duplicated, as shown here:

Recorded Times ▼ All times ⓘ			
Place	Bib#	Time	Pace
1	23	34:08	5:29.6
2	17	34:17	5:31.0
3	45	34:28	5:32.8
4	18	34:36	5:34.1
5	15	34:45	5:35.5
6	23	34:51	5:36.5
7	41	34:57	5:37.5

Timer Find:

Recorded Times ▼ Duplicates ⓘ			
Place	Bib#	Time	Pace
1	23	34:08	5:29.6
6	23	34:51	5:36.5

Timer Find:

By some means or other (typically, by checking the tags pulled off the racers at the finish line, or some other "backup" system), you need to figure out which is the "real" entry, and which entry has the incorrect Bib# (and what the correct Bib# is). Note the finishing place for the entry with the incorrect #, then, after returning to the **All times** display, find that entry again and edit it as described above.

Merging

There may be times in which you wish to merge times recorded with different copies of **PocketTimer** running on different Palms onto a single Palm. To do this, use the **Beam** menu to beam some or all of the recorded times from one Palm to another. When you select that menu, you'll see this screen:

Beam Setup	
Places:	<input checked="" type="checkbox"/> All
	<input type="checkbox"/> From 1..... to 7.....
OK	Cancel

Select either **All** of the times to be beamed from this Palm to the other one, or a certain range of places. Note that the range of places retains its values as long as you don't exit from the **PocketTimer** program. This means that if you beam places 1 through 7 (as in the example above) from one Palm to another, and then record more times on this Palm, and then later want to beam just the new times to the second Palm, you won't have to remember that you have already beamed the first seven, because when you choose **Beam** again, the **Beam Setup** screen will still show 1 to 7, so you can then easily change it to, say, "From 8 to 23" (or whatever).

If you do merge values from one set of data into another, it is possible that they will no longer be "in order" (since the times may overlap), and also, the recorded places may not be correct (unless you were careful in using the "starting place" feature, both Palms may have recorded a first-place finisher, second-place, etc. If either of these situations occurs, select **Renumber** in the **Recorded Times** menu; this will sort the recorded times by time, and then number them consecutively.

Even if you are not merging results, you can use **Renumber** if you want to change the **Starting Place** (i.e., number of the first finisher) after you have recorded some (or all) of the results. Let's say, for example, that you are using two Palms, one to record the first bunch of finishers and a second to record the rest. When unit #2 is put into place, you won't have time to note how many finishers have been recorded on unit #1 and to use the **Settings** window to set the **Starting Place** appropriately. Later, when the pressure is off, you can look at unit #1, see how many times were recorded, then use **Settings** on unit #2 to set the **Starting Place** to that number plus one. Now go

to the **Recorded Times** window and select **Renumber** and the displayed places will be correct.

Beaming times from one Palm to another is an extremely valuable feature when used in conjunction with our race scoring software, **RaceBase**. If you have use of two or more Palms, you can dedicate one for running **RaceBase** (and **PalmPrint**), and another one (more or more) to running **PocketTimer**. Now after a portion of the field has finished, at a time when there is a "gap" in the finishers of 15 seconds or so, you can quickly **Beam** the times from the "timing Palm" to the "scoring Palm" and then resume timing finishers, while the scoring Palm is used at a leisurely pace to score the race and print out the results. Later, after more of the field has finished, you can repeat the process, beaming either just the new times from the "timing Palm" to the "scoring Palm," or else beam all the times (after first erasing the previous times from the "scoring Palm."

If there will not be a gap of 15 seconds or so in the field, or you don't want to take a chance, then you'll need two (or more) "timing Palms." Use one up to a point and then immediately start timing with the second (or perhaps you were timing all along with the second as a "backup" timer). Now you can take "timing Palm #1" over, beam the times to the "scoring Palm." Later, "timing Palm #1" can return to timing and "timing Palm #2" can beam its new times to the "scoring Palm" to add in more finishers to the results.

Similarly, you can use multiple timing Palms, one to time each lane of a multi-lane finish chute; and again, at the end, beam *all* the times (one Palm at a time!) to the "scoring Palm" where they are merged and the scoring is done.

If you are using the **Beam** functionality to beam times to a copy of **PocketTimer** on a "scoring Palm" which is used to run **RaceBase** software, the copy of **PocketTimer** on that Palm (the "scoring Palm") does *not* have to be licensed. Licensing of **PocketTimer** is *required* if you are going to use the software to *record* times, but if you are only using it to receive times recorded on another Palm, and then to have those times fed into **RaceBase**, you are explicitly authorized to use an unlicensed copy of **PocketTimer** for that purpose. The unlicensed software will be fully functional for an indefinite period of time for that purpose only.

If you use the merge function, either because you were using two Palm alternately (as described above) to record times and then beam them to a third "scoring" Palm, or because you are using multiple Palms simultaneously to record densely finishing finishers in one or more lanes, you may end up with actual duplicates, that is, the same finisher recorded twice as finishing at exactly the same time (because you inadvertently beamed the same times twice from one Palm to another) or at a slightly different time (because two different recorders using two different Palms recorded the same finisher). In either case, you can use the menu **Remove Duplicates** from the **Recorded Times** menu to solve the problem to eliminating the duplicates. When you do, you will see this screen:



If the duplicates are identical (because you beamed them twice from one Palm to another), then you can set the number of seconds to 0 which will remove only absolutely identical duplicates. If, however, you recorded the same finisher on two different units, then you should set the number of seconds to whatever is the maximum possible difference between the two. In this case, the software will eliminate the *longer* of the two times, on the assumption that the longer time represents a slower reaction time on the part of one recorder, and the shorter time will always be the more accurate.

Chapter 5: Multi-Lap Events and Time Trials

There are two special kinds of events you can time with **PocketTimer** - multi-lap events, and time trials (events in which individual entrants start at separate times, separated by a fixed amount). Recording times for these events proceeds normally, but after the results are recored, their are some special manipulations for examing and processing the results.

Multi-Lap Events

Recording times on multi-lap events is no different than recording regular events - **PocketTimer** lets you record any number of times for a single Bib#. After the times are recorded, you might see a display like this:

Recorded Times			
▼ All times ⓘ			
Place	Bib#	Time	Pace
1	32	5:39	21.24
2	34	5:41	21.11
3	33	5:46	20.81
4	37	5:47	20.75
5	38	5:51	20.51
6	34	10:57	10.96
7	32	10:58	10.94
8	37	11:11	10.73
9	33	11:12	10.71
10	38	11:32	10.4

Timer Find:

Now of course you notice that the "Place" column is bogus, since the "first place finisher" is actually someone finishing the first lap of a two-lap event; the first "real" finisher is listed here in place #6. No problem. Using the pop-up menu on the top line of the screen, select **Last lap** mode:

Recorded Times			
▼ Last lap ⓘ			
Place	Bib#	Time	Laps
1	34	10:57	2
2	32	10:58	2
3	37	11:11	2
4	33	11:12	2
5	38	11:32	2

Timer Find:

The place column is now correct. Note that the last column no longer displays Pace (speed), but is instead used to display the number of laps which were recorded for each finisher. Of course if you miss someone in one of the laps, they will be shown as having finished fewer laps, which may not be true.

To return to a display of all recorded times, use the pop-up menu to return to **All times**.

Another alternative when recording multiple laps, is to display not the cumulative times but rather the

individual lap times. In the above case, the result would look like this:

Recorded Times ▼ Lap times ⓘ			
Place	Bib#	Time	Pace
1	32	5:39	21.24
2	34	5:41	21.11
3	33	5:46	20.81
4	37	5:47	20.75
5	38	5:51	20.51
6	34	5:16	22.78
7	32	5:19	22.57
8	37	5:24	22.22
9	33	5:26	22.09
10	38	5:41	21.11

Timer Find:

When you display individual lap times like this, and then use the **Print** or **Transfer to Memo Pad** menus (see next Chapter), the times transferred will be the lap times as shown. However if you use HotSync to transfer the recorded data to the desktop (also see next Chapter), the times will be the "full" (cumulative) times. If you want to be able to transfer the lap times to the desktop, use the **Convert to Lap Times** menu, which will change not just the displayed times (as when you select Lap Times as shown above), but the actual recorded times. When you are in this mode, you can no longer re-sort the recorded data, nor can you renumber them. You can return to cumulative times by using the **Unconvert Lap Times** menu (which will appear in place of **Convert to Lap Times** once you have converted the times to lap times).

Recorded Times Edit	
Offset	✓O
Renumber	✓R
Unconvert Lap Times	
Remove Duplicates	
Erase	✓E
.....	
Transfer to Memo Pad	✓M
Beam	✓B
Print	✓N

If you have recorded times and converted them to lap times, you will be warned about the situation when you go to reset the timer. Normally, it is permissible to start the timer with previous recorded times still existing in the database; this doesn't cause a problem. However, if you have previous recorded times in the database which have been converted to lap times, then if you re-start the timer, the software will no longer recognize those times as lap times but will instead regard them as cumulative times (which will, of course, be incorrect). So if you do convert times to lap times, you'll want to either erase them or convert them back to cumulative times before proceeding.

Time Trials

In a time trial, the first participant starts at time "zero" (the time when **PocketTimer** is started), and subsequent participants start at fixed intervals after that. If you assign Bib #s so that all participants have successive numbers, then you can use the time trial correction built into **PocketTimer** to correct all the times and sort the finishers correctly. As currently configured, **PocketTimer** requires that you do this when the clock is stopped, that is, when the event is finished and all participants have been recorded. At this point, select **Offset** from the menu, and enter the information as in this example:

Enter Time Offset

Hours:
Minutes:1
Seconds:

Add Subtract

☒ **Time Trial Offset**
Bib# of First Starter:100

OK Cancel

First, check the **Time Trial Offset** box, which tells PocketTimer that the time offset you enter is not an overall offset (as described in the previous chapter), but rather the differential offset, that is, the time separating the starting time of each participant. Enter the separation time above in minutes and seconds, and finally, enter the Bib# of the first starter on the bottom. In this example, racer #100 is assumed to have started at the same time as the clock, so his or her time will be left as recorded. Racer #101 started one minute later, so one minute will be subtracted from his or her time (note that you don't have to click on **Subtract**; this is assumed once you check the **Time Trial Offset** box).

The one tricky thing that can occur is a last minute scratch. If, for example, racer #103 scratches after the numbers have been assigned, you should *not* start racer #104 one minute after racer #102; that would prevent **PocketTimer** from performing the correct calculation. Instead, just skip a time, and start racer #104 two minutes after #102, as would have been the case if #103 had not scratched.

Unlike the overall time offset, which can be "undone" if you add an incorrect offset, the time trial offset cannot be undone, so be sure you want to proceed before you tap on **OK**. Once you do, the results will be adjusted, as in this example:

Raw

Recorded Times ▼ All times ⓘ			
Place	Bib#	Time	Pace
1	100	15:26	29.16
2	101	16:17	27.64
3	102	17:30	25.71
4	103	18:43	24.04
5	104	19:16	23.36

Timer Find:

Raw results from a time trial, as recorded at the finish line. Note that the order is the order in which the finishers actually crossed the finish line.

Adjusted

Recorded Times ▼ All times ⓘ			
Place	Bib#	Time	Pace
1	104	15:16	29.48
2	101	15:17	29.44
3	100	15:26	29.16
4	102	15:30	29.03
5	103	15:43	28.63

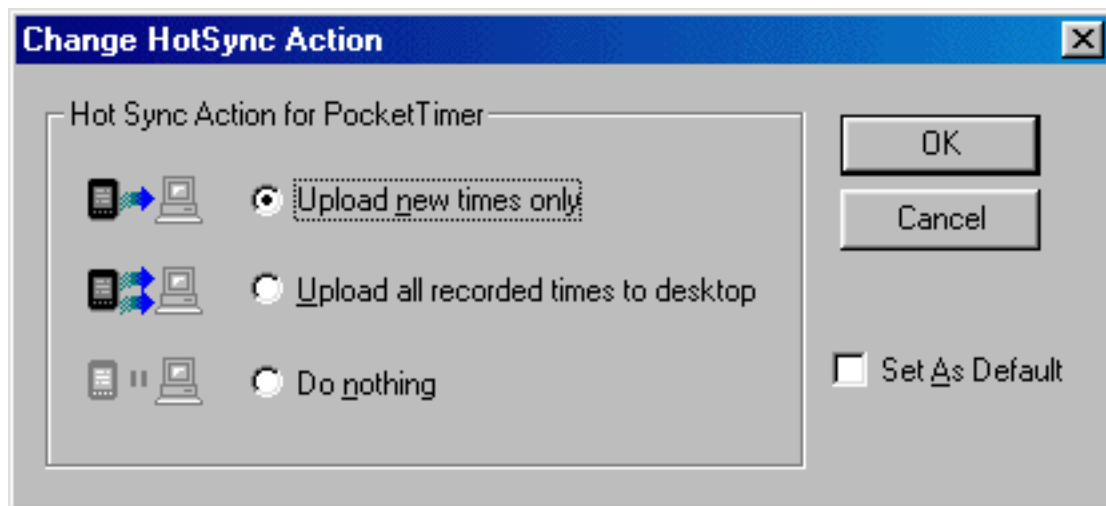
Timer Find:

Results after adjusting with the time trial offset function. Note that the finishers have been re-sorted, and now they are listed in true order, that is, in order of their individual times, corrected for their different starting times.

Chapter 6: Transferring Recording Information to the Desktop

Uploading to a file using the conduit

Run the **HotSync Manager** program, and select **Custom** (Windows) or **Conduit Settings** (Macintosh). Double-click on the **PocketTimer** conduit and you'll see a window that looks like this (Windows and Macintosh look slightly different):



For purposes of uploading your recorded times to the desktop, there are two relevant settings. **Upload new times only** and **Upload all recorded times to desktop** (of course, you can also disable the conduit by selecting **Do nothing**). The former will only upload times recorded since your last HotSync, while the latter will always upload all recorded times in **PocketTimer**.

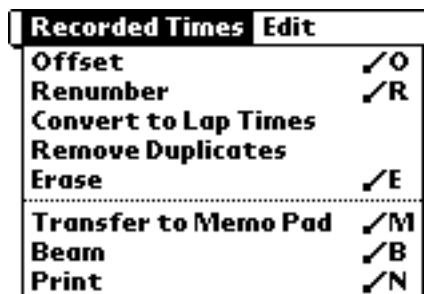
In either configuration, whenever you transfer data back to the desktop, it is written into a text file named `Times.txt` (Windows) or `Times` (Macintosh), which will be located in the **PocketTimer** folder described above. This file can then in turn be imported into your desktop race scoring software (or into any database, spreadsheet, or even word processor). Each time you HotSync, the previous file is renamed, from `Times` (or `Times.txt`) to `Times01` to `Times02` and so on up to `Times09`. Thus you will always have available not only the most recent time list but the previous nine lists as well, just for safety. Note that the information which is written into the file is controlled by the **Export** section on the **Settings** screen, as described above in Chapter 3.

Automatic Program Execution

Yet another feature of the conduit allows you to automatically execute a program (Windows) or AppleScript (Macintosh) following the upload of the data. On Windows, create a file named `OnUpload.txt` inside your **PocketTimer** folder. The contents of that file should be a single line of text, containing a typical Windows command line (such as might be entered using **Run**), for example, `Notepad C:\Palm\Natash\PocketTimer\Times.txt` (which would automatically open the newly uploaded `Times` file using the Notepad application). Of course, if you want to execute more than one command, you can simply make a batch file of commands, and use your one command to execute the batch file. On a Macintosh, the file is named `OnUpload` and should be an executable AppleScript file; anything you can do with AppleScript can be used in this file. The creation of suitable batch files and AppleScripts is left as an exercise for the reader.

Transferring to the MemoPad

For historical reasons, **PocketTimer** also lets you use the standard MemoPad application built into the Palm to transfer its information to your desktop Windows or Macintosh computer. From the Recorded Times window, tap on **Menu** and select **Transfer to MemoPad** from the menu:



PocketTimer will move all the information over to the MemoPad, and will inform you (with a pop-up dialog) when it is finished doing so. If you switch over to the MemoPad application (by pressing the MemoPad "hard button" on the lower right of the Palm case), you'll see new memos which have been created, entitled "Recorded times (Batch #1)", followed by the information copied from **PocketTimer**. Because of limitations in the size of memos, and depending on the size of your event, PocketTimer may create a series of these memos (subsequent ones are entitled, as you might expect, "Batch #2", "Batch #3", etc.), each containing 100-200 entries. As described in Chapter 3, you can control what information is exported or printed (place, bib#, time, and/or pace) and the separator character (tab or comma) used to separate the information.

Manipulating Information on Your Desktop

Once the recorded information has been transferred to MemoPad, it will be uploaded to your desktop computer the next time you put the Palm in its cradle and press the HotSync button. Your next step is to open the Palm Desktop application and view the memos. Now you have several options, depending on what you are doing with the information. You can select the memos containing the recorded information from **PocketTimer**, and then select **Export selected items...** from the **File** Menu, saving the relevant memos as text files. Alternatively, you can open each memo and use the Cut and Paste feature of your operating system to transfer the information either to a separate file or directly to your race scoring software.

Printing Information

If you have a copy of our [PalmPrint](#) software, then you can **Print** the results from **PocketTimer** directly to a printer. You configure the printing using **PalmPrint** (things like the type of printer, baud rate, etc.), so all you need to do within **PocketTimer** is to select **Print**.

When you select **Print** (or **Transfer to MemoPad**), you'll see this screen:



This screen lets you specify that you want to print all the recorded times, or just a selection (based on finishing place). Note that the information which is printed is controlled by the **Export** section on

the **Settings** screen, as described above in Chapter 3.

The value of printing the information to a printer should be self-evident; we need not expand on it here. If you have a serial Palm (such as an older Palm III), and not a USB Palm, then you can use this same function to transmit information to another computer rather than to a printer. The HotSync process, described above, is not only time-consuming, but also requires that you have a computer set up for HotSync'ing, that is, one which has the Palm software installed on it. But perhaps you want to transmit the information to a computer which does not have Palm software on it, maybe even a DOS computer. This isn't a hypothetical situation by any means, since many people run race timing software on old DOS computers. If your computer has some sort of terminal emulation software on it, which is the case for many computers, all you need to do is to run that software, connect the serial port of your computer to your Palm with an appropriate cable, configure **PalmPrint** appropriately, select **Print** in **PocketTimer**, and then capture and save the information on your computer. If you need any more guidance than this, we suggest you consult the instructions accompanying the terminal emulation software you are using, as well as the step-by-step instructions in the **PalmPrint** manual.

Erasing the Recorded Information

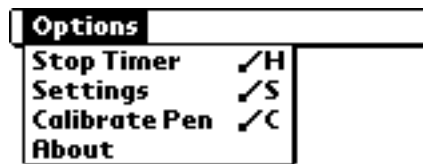
Once you are done accessing the recorded information, and have transferred it to MemoPad and/or to your desktop, you'll need to erase the information before performing your next timing. **Erase** in the **Recorded Times** menu in **PocketTimer** does this for you. Because this is a critical operation, you will be asked for not just one but two separate confirmations that you really want to do that.

Chapter 7: Operating Tips

Raceday Preparation

One thing that can go "wrong" when you are recording times is that your screen is improperly calibrated (which means that the handheld unit incorrectly senses where you tap the stylus, which may cause you to "miss" a button or even in the worst case to trigger the wrong button). Calibration is generally fairly stable, but it can be temperature sensitive, so if you've been using your unit indoors and then show up on race morning on a cold (or hot) day, it can easily be incorrect. We strongly recommend that one of the first things you do on raceday is calibrate the screen; if you're timing a race which starts in the cold early morning and gets much hotter later in the day, you might even want to re-calibrate during the course of the race.

One way you can access the screen calibration is to tap the **Applications** button on your handheld unit, find the **Prefs** application, select **Digitizer** from the popup list in the upper right hand corner, and tap on the screen following the on-screen instructions. To make this even easier, you can access this functionality directly from within **PocketTimer**. From the main screen, tap the **Menu** button,



and choose **Calibrate Pen** from the **Options** menu. The standard **Digitizer** screen will appear (the same one you would see if you used the **Prefs** application), and after you finish calibrating the screen you will be immediately back to **PocketTimer** with everything just as you left it. You can even do this with the timer running, if you feel like the calibration is changing as the temperature is changing during the day. It only takes a few seconds to recalibrate the screen, and if it helps you to record numbers more easily or accurately it will be well worth it.

Once the screen is calibrated you can use **PocketTimer** with confidence.

Recording Times Most Accurately

Like the buttons on most computers, the **Start** button in **PocketTimer** only activates when you lift the stylus **up**, not when you tap the pen down. Starting the timer by moving the stylus down and then up is therefore a two-step, slow process. For extremely accurate timing (in our experience, within 0.02 seconds or so), just before the start of the race (like when the countdown begins), tap the stylus on the **Start** button and **hold it down**. The button will "invert" (turn to white letters on a black background) to indicate this. When the gun goes off, lift the stylus (in most cases, your arm will naturally jerk back at the start anyway) and the timer will start.

Capturing Bib #'s

The most common cause of "error" with **PocketTimer** is missing bib#'s, and this almost always results because you can't read the bib# at all. Some racers have them covered over with a T-shirt, others have them facing backwards, etc. You will minimize the number of missed bib #'s if you station an assistant perhaps 100 yards away from the finish, whose task is to shout "show your bib #" to anyone approaching without a visible bib#. Most people *want* to be timed correctly, and will make sure their number is visible as long as they are reminded.

Capturing All the Times

When a group of people approaches at once, it will be impossible to record all the bib #'s with **PocketTimer**. If you are doing finish line timing, then in most races the racers will have some kind of "tear-off tag" on their bib# which will be collected at the end of the finishing chute, which will show the order of the finishers. Since you can use these numbers later to enter the bib#'s into **PocketTimer**, the most important thing is to record the *times* of the finishers. The best way to do this is when you see a group approach, enter the bib# of the lead racer in the group (but don't tap on **Record** yet), then start counting the number of people. When the group reaches the finish line (or other point at which you are timing), tap on the **Record** button once to record the bib# of the lead racer along with the time, then tap on the **Record** button by itself as many times as necessary to record the times of the rest of the racers in the pack. It *is* important to try to get the first bib# correct, as this will help immensely in editing the results later, but if you don't, don't worry about it.

Dealing with "Bandits"

If a racer without a number approaches you, they may be a bandit (someone who is racing without paying the entry fee), or they may be a legitimate racer whose number is hidden (or fell off). You should assume the person is legitimate, and tap on **Record** to capture the time of the person. However, if *before* the next finisher has come in, you realize the person *was* a bandit, just tap on the **Del. Last Time** button to delete that entry. If there is any doubt at all, leave the result alone; you can always delete it after the race is done.

If you are *sure* the person is a bandit as he or she approaches you (for example, they pull off the race course before reaching the finishing chute), you shouldn't record their time.