On Hand

Inventory & Asset Tracking Software for the Palm Computing Platform

Users Guide

Version 3.6
May 2004

Introduction
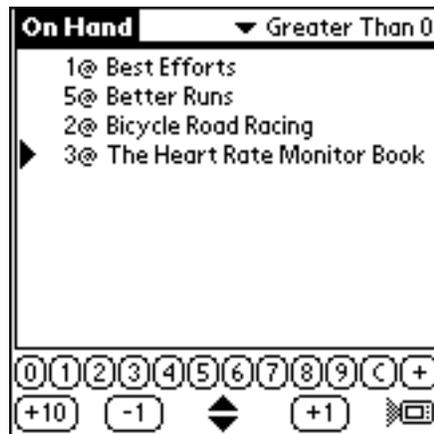
On Hand is a powerful tool for performing inventories using a Palm Computing platform handheld device. Inventories can be taken manually on a standard unit, such as a Palm III, and can also be taken using the built-in barcode scanner of the Symbol SPT 15xx/17xx/18xx, the plug-in barcodes scanners available for the Handspring Visor (the Symbol CSM150 and the PSC Momentum), or the Socket Communications SDIO scanner which plugs into any Palm handheld with an SDIO slot, including most current Zire, Tungsten, and Treo models, as well as some earlier models like the m500 and m505. The software is designed to be entirely button driven, so that a complete inventory can be taken not only without requiring knowledge of Graffiti (tm), but without even using a stylus; this allows the user to hold the device in one hand while positioning items to be inventoried with the other hand. Inventories can be taken using a catalog of items which has been downloaded into the handheld device, in which case the items will be identified by name as seen at the left, or they can be taken "from scratch," collecting barcodes (and quantities) of any items at hand. In either case, the resulting information is then HotSync'ed back to the desktop, creating a simple text file (tab-delimited or comma-separated) which can be easily imported into any existing desktop database, spreadsheet, or other business management software.

The complete software package consists of the following items:

- **OnHand.prc** is the handheld software which is installed into your Palm or Symbol unit.

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

- **OnHandCnd.dll** is a "Conduit" which is run by the Palm HotSync Manager when you HotSync the unit; it reads inventory data from the handheld unit and transfers it 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 (**OnHandCnd.dll**) is now present and must be run when HotSyncs occur.

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

- **On Hand Conduit** is a Macintosh (PowerPC only) conduit which downloads items (catalog data) into your handheld unit, and uploads inventory information back to your desktop computer. There are two different versions of the conduit, one suitable for Mac OS X, and the other suitable for Mac OS 9 (and earlier).

Installation

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 **OnHand.prc**, **OnHandCnd.dll**, and the files containing the manual) into a `On Hand` folder inside the folder which contains your Palm software (typically `C:\Palm`). **Install.exe** will also arrange for the handheld software (**OnHand.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 "On Hand". Click on that to select it, then click on **Change**. Click the radio button next to the setting which reads **Synchonize**, and also click on the **Set As Default**. 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 **On Hand** to download and upload information to and 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 **OnHand.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 `On Hand` 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 **On Hand 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 "On Hand"

listed. Double-click on it to bring up the settings window. We'll discuss the settings for the On Hand 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 **OnHand.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 **On Hand** software will be installed into the handheld unit. Next, a folder named On Hand will be created in your user directory (see below for a diagram of where this folder is located). It is in that On Hand folder that subsequent actions (uploading inventories and downloading new catalogs) will occur. Each handheld unit into which you install **On Hand** software will have its own user name, its own user folder, and its own On Hand sub-folder. *After* you install the software and the conduit and this folder has been created by the HotSync, then you'll be able to set up a "catalog" to be installed into the software as described below.

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

Licensing the Software - Entering Your Serial Number

If your software is not licensed, the handheld software is completely functional, but, when you HotSync the data, only the first five items on the list will be HotSynced back to your desktop. To license your software, select **About On Hand** from the **Configure** Menu in the On Hand software. In the screen which appears (below), enter your serial number (SN). If you enter the correct number, your software will be licensed (and you'll see this indicated if you return to the "About" screen).

Overview of the On Hand Program

Once the software (and, optionally, the catalog) is installed on your handheld unit, go to the Applications window of your handheld and look for the **On Hand** icon:

Tapping on the icon will start the application, and you'll see a screen like the one shown below. Let's review the basic controls:

In the upper right is a popup list which controls which items are displayed on screen. You select an option by tapping on the list.

- **All** displays your entire set of data on the main screen.
- **All Matching** displays only items whose location matches the current location (this method of operation is discussed below).
- **Greater Than 0**, **Less Than 0**, **Not Equal 0**, and **Equal 0** display items whose quantity fits the displayed criterion and, if the current location is not blank, also requires that the item match the current location.
- **Barcodes Only** is used for the case when you are using On Hand to collect barcodes only, and aren't interested in adjusting quantities; in this mode, all the quantity buttons on the bottom of the screen will be hidden to make the operation simpler.

The main part of the screen shows the list of items. At the very left edge may be a right-facing "highlight arrow"; if present, this arrow indicates the "active" item which will be modified by the quantity buttons. In the next column appears the quantity of the item; zeroes are omitted (all quantities will be omitted in **Barcodes Only** mode, and instead are replaced by a simple item or index number so you can see how many barcodes you have collected). The rightmost 3/4 of each line shows the name of the item (if known), or the barcode (if the name is not known).

Below the list of items are a series of buttons labelled 0 through 9 and C (for Clear) and + (for Addition). Tapping on one or more of these buttons will adjust the number of the active (highlighted) item, but as we'll see in a second, you'll rarely need to do this.

At the bottom of the screen are four buttons and two scroll arrows. Each of these buttons and the scroll arrows are "tied" to the physical (hardware) buttons which appear directly below them on the handheld unit. The "+10", "-1", and "+1" buttons, which change the quantity of the active item by +10, -1, or +1, respectively, can either be tapped on (like a normal button in the Palm operating system), or you can simply press the Datebook, Address Book, or ToDo List buttons on the case. The rightmost button is a "scan" button, which triggers the barcode scanner if the handheld has a

scanner, or allows manual entry of a barcode on non-scanning handhelds. Like the other buttons you can either tap it directly, or push the MemoPad button immediately below it on the case to trigger its action. Use of the scan button is essential if you are using a Handspring Visor with the plug-in Symbol CSM150 scanner, or a Palm device with the Socket Communications SDIO scanner, neither of which have a dedicated trigger button. If you are using a Symbol SPT15xx, SPT17xx, or SPT18xx, there are two dedicated trigger buttons on the case of the unit itself, but you may find the placement of the MemoPad button on the lower right hand corner of the case provides an even easier way to trigger the scanner.

The scroll arrows (or the hardware rocker switch below them) scroll items on the screen up and down one "screen's worth". You can also use Graffiti and enter "t" (for "top") or "b" (for "bottom") to scroll to the top and bottom of the list quickly, as long as the database is NOT sorted alphabetically.

The final element of the program are the menus, which contain a variety of settings, options, and actions. To access any menu option, first tap the **Menu** button in the lower left of the screen. Depending on which screen you are using, one or more menus will appear on the top line of the screen. In the example below, from the main screen, you see three options (**Inventory**, **Configure**, and **Print**). Usually, but not always, one or the other of these menus will be "opened" (in this example, the **Inventory** menu is opened). If the menu you want is open, just tap on the desired option. If the menu is not open, first tap on the menu title (e.g., **Configure**) to open the desired menu, and then tap on the desired option.
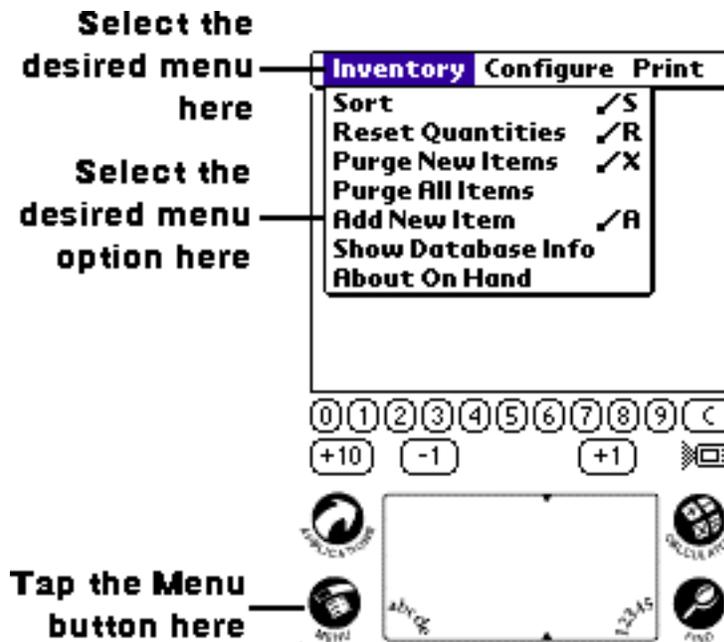
The various menu options will be discussed below, as appropriate.

The final feature of the software, which is optional, is the catalog or database of items. It isn't necessary to start with any information in the software at all; **On Hand** can be used to collect information "from scratch." There are several reasons, however, why you may want to start by downloading a catalog of items into the handheld:

- **Barcode identification.** Without a catalog, when you scan a barcode you'll just see a series of numbers on the screen. If you do have a catalog, the software can identify the item by name, and will display that name on the screen. This provides a positive feedback to the operator which can be useful.

- **Barcode restriction.** With a catalog, you can restrict scanned input to only items which are found in the catalog, rejecting any items which "don't belong." Without a catalog, you can't do this.
- **Manual selection.** With a catalog, you can select items from the list "manually" (by name, for example) in order to adjust quantities. Even if you have a barcode scanning handheld, this can be helpful if some items don't have barcodes, for example.
- **Initial quantities.** With a catalog, you can download initial quantities into the handheld, which allows you to use the software for a variety of applications, such as "pick lists", for example.

If you do want to install a catalog into the software to start, the process for doing so is described later in the manual.

Configuring the Software

Before you use the software for the first time, select **Scanning** in the **Configure** menu

```
 Inventory  Configure  Print
            Scanning        /C
            Scanner Setup
            Printer
            Header          /H
            Labels          /L
            Note/Location   /N
            Export          /E
```
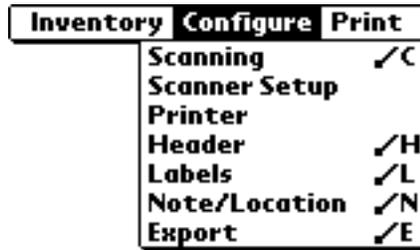
This configuration screen will appear:

```
        Configure Scanning
 ☐ Don't configure scanner
 ☐ Don't scan check digits
 ☐ Filter: Start: 1      End: -1
 ☑ Allow "Hand scanning"
 How to change count on scan:
 Increment  Find Only  Decrement
 On scanning unknown items:
 Add to list  Add & edit    Ignore
      ☐ Don't search database
 ( OK )  ( Cancel )
```
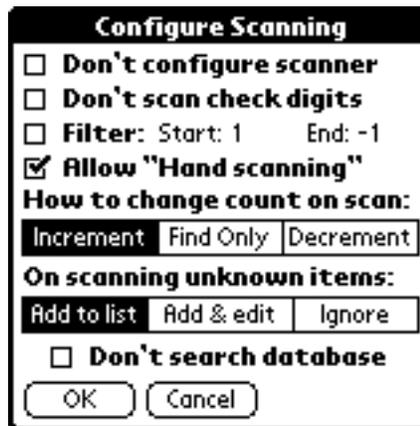
There are a number of things you can configure on this screen:

- **Don't configure scanner**: **On Hand** normally configures the scanner to scan a fixed set of barcode types (UPCA, CODE39, etc.), which should include all the common barcodes, and leaving this box unchecked allows that to happen. Some people, however, may have applications where they wish to ensure that a certain barcode type is NOT scanned (for example, there might be two barcodes on a package and you want to make sure only the one of a certain type is scanned). **On Hand** by itself doesn't let you do this. However, if you check the "Don't configure scanner" box, then the software will allow settings generated by other programs to "carry over" while you are using **On Hand**. In particular, **On Hand** is designed to work with an external scanner configuring program from **Stevens Creek Software** called **ScanConfig**. For more information about that, see the **ScanConfig** manual.

  If you have a copy of **ScanConfig** installed on your unit, you can access it to configure the scanner parameters by selecting **Scanner Setup** in the **Configure** menu. **ScanConfig** will start, and you can establish the desired configuration (as described in the **ScanConfig** manual). When you are finished, tap **Done** and you'll be returned to **On Hand** .
- **Don't scan check digits** should be checked if your catalog contains barcodes which do not include the check digit (the last digit of certain barcodes such as UPCA), and should be left UNchecked if the barcodes in your catalog are "complete" barcodes. If you have downloaded a catalog, and scanning does not seem to find the item you think it should, an incorrect setting of this checkbox may be the cause. Note: If the **Don't configure scanner** box (above) is checked, and you are using **ScanConfig** to configure the scanner, the **Don't scan check digits** checkbox is ignored; the check digit setting is

controlled by **ScanConfig**.

- **Filter** is a way of modifying the barcodes as they are read by the scanner which is more powerful than simply modifying the "check digit" setting. For example, you may be scanning UPC barcodes, but want to omit a leading "0" from the barcode, or perhaps you are only interested in capturing the 6th through the 11th digits of the barcode. To do this, check the **Filter** box and then fill in numbers in the **Start** and **End** fields. **Start** is the first character to use, so "1" means start at the first character, "2" means start at the second character (that is, omit the first character), and so on. **End** is the last character to use, so setting Start=4 and End=6 would capture just the fourth through sixth digits of the barcodes. Negative numbers count from the *end* of the barcode, where "-1" is the last character of the barcode, "-2" is the next to the last, and so on. If you know a barcode will be 12 characters long, End=11 will always omit the last character. But if the length of the barcode varies, then End=-1 will always omit the last character no matter what the length. Start and End must be less than 128 and greater than -128; "impossible" situations (e.g., setting Start greater than the length of a barcode) are checked for. Note that any barcode filtering is applied after the "check digit" setting (which is applied by the scanner itself, not by **On Hand**), that is, if **Don't scan check digits** is checked, then (using UPC barcodes as an example) the last digit (the check digit) is removed by the scanner itself, so setting End=-2 will now eliminate one more character from the end of the barcode. Barcode filtering is applied only to the "main" barcodes scanned, not to scanning on various auxiliary screens, nor to scanning of special location or serial number barcodes on the main screen.
- **Allow "Hand scanning"** lets you manually enter barcodes if for some reason you can't scan them (either the item doesn't have a barcode on it at all, or else the barcode is damaged and won't scan). If this box is checked, the bottom line of the main screen will appear slightly differently than shown above; in addition to the functions already described, there will be a new "stylus" icon (between the +1 button and the scanner icon):

When you tap the stylus icon, a special screen will appear into which you can "hand enter" a barcode, either by tapping the buttons, or by using standard Palm "Graffiti".
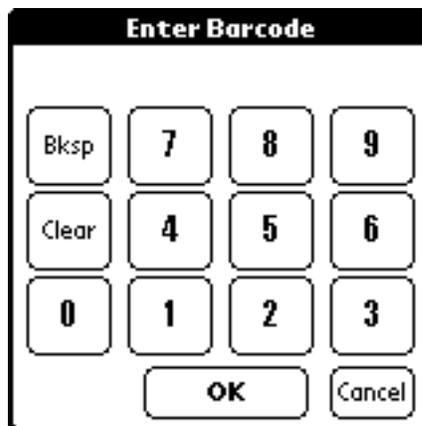
If you use the hand entry screen a second time, the previous hand-entered barcode will appear on the dotted line, highlighted. This is because often you might want to enter a barcode similar to the one just entered, so this way you don't need to re-enter all the digits, but instead can just change the digits you want to change. Because the old number appears highlighted, however, if you DO want to enter a completely new number, don't worry about erasing it, because as soon as you tap any of the number buttons or enter a number with Graffiti, the entire number will be replaced by your new number.

If you are using **On Hand** on a Palm WITHOUT a barcode scanner, "hand scanning" is ALWAYS active, regardless of the setting of this checkbox, and in that case, you access the manual entry screen by tapping the Scanner icon on the screen (there will be no stylus icon).

- **How to change count on scan** tells the software what to do when you scan an item. The "normal" mode (and the way earlier versions of this software worked) is to increment the count of the scanned item. However, if you are in a shipping department, you might want the count to decrement from the initial setting; in other applications, you might simply want to locate the item on the list, but then adust the quantity (or not) by hand. The three choices here control this function.
- **On scanning unknown items** tells the software what to do when you scan an item which is not in your catalog (remember, having a catalog is optional in the first place). You have three choices - simply add the item to the list (this is the way earlier versions of the software worked) without any special fanfare, add the item to the list but automatically bring up the "Item Edit" screen (see below), or ignore the item (not add it to the list) and issue an "alarm" sound to alert the user to the error. The second mode is particularly useful if you are doing an initial inventory and you don't have an existing database of items and barcodes. You'll scan an item an up will pop the Item Editor to allow you to write in the name/description of that item, saving you an extra step for each item.
- **Don't search database** is a setting you may want to use if you are using **On Hand** for simple data collection. If this box is checked, whenever you scan a barcode, that item is simply added to your list (database). If the box is not checked, then a scan will cause first search through the existing items, and, if one is found with the same barcode, will modify that item instead of adding a new one. Of course this search will take time, and if you are simply collecting a series of items which you know will not be in the existing database, you can make things go faster by making sure the **Don't search database** box is checked.

Special Configuration: AutoRepeat Keys

The physical buttons on a Palm device (such as the MemoPad button) are normally "AutoRepeat" buttons, that is, holding them down is the same as pressing them repeatedly. In the standard configuration of On Hand, this feature is intentionally DISabled (just within the On Hand application, not permanently), so that holding the MemoPad button down will NOT cause the scanner to trigger repeatedly, or holding the ToDo button down will only increase the count by one, rather than causing the count in increment rapidly by ones as long as the button is held down. We believe most users find this default configuration desirable; if you really want to scan multiple times or increase the count multiple times, just press the button more than once. However, some users prefer the AutoRepeat capability. To re-enable AutoRepeat, while you are on the Configure->Scanner screen, enter an "a" (for Autorepeat) or an "r" (for Repeat) into the Graffiti area. You will see a message reading "AutoRepeat Keys have been enabled." Entering another "a" or "r" will turn this feature off again and display "AutoRepeat Keys have been disabled."

Configuring the **Note/Location** in the **Configure** menu can also be a critical item to do before collecting any data. The note serves many functions. One possibility is to attach individual notes to relevant items (like "damaged" or something like that). The more common use is to attach a fixed note to each item, and to do this, we must select **Note** from the **Configure** menu, which will show this screen:

Configure Note

Note: SHIP ....

....

- ☐ Copy to all items during HotSync
- ☑ Copy to items when scanned
- ☐ Date stamp scanned items
- ☐ Date, time stamp scanned items
- ☐ Use scanned SNs

(OK) (Cancel)

The contents of the note are up to you. The note might contain fixed text which is required by your desktop software (e.g., "PHYS" might indicate physical inventory), it might contain the initials of the person collecting the inventory and the date, it might contain a code representing the location of the item as discussed in the previous section of the manual, or any other relevant information. "Copy to all items during HotSync" means that when you perform the HotSync, the note you enter will be added to *every* item that is written to the `Inventory.txt` file; it will not be added to individual Note fields on the handheld database itself. The second alternative is "Copy to items when scanned"; the use of this feature is discussed below in the **MultiLocation Inventory Collection** section. "Date stamp scanned items" and "Date, time stamp scanned items" should be self-explanatory. The final option, "Use scanned SNs," is discussed below in the **Serial Number Collection** section. With any of the final three options, there is no need to enter anything in the Note section of this screen, since it will be ignored and replaced by the desired information.

Collecting Data

Also the first time you use the program, you may want to sort the inventory to make data collection easier; this is particularly true if data are to be collected by hand. To do this, select **Sort** from the **Inventory** menu, and you'll see this screen:

Select the option you prefer, and click **OK**. When you download inventory catalogs into your handheld in the future, the next time you run **On Hand** the catalog will automatically be sorted into your preferred order, even if it wasn't in that order on the desktop. An explanation of the various sort modes:

- **Sort by Name** sorts by the Name (Description) of the item, in alphabetical order.
- **Sort by Main Name** sorts by Name, but skipping over "A", "An", and "The" at the start of the name. This is useful if the items in your list are books, videotapes, etc.
- **Sort by Barcode** sorts items in barcode order. If you are selecting items by barcode scanning and you have a lot of items (1000 or more), you'll notice a significant speedup in locating the item on your list after you scan it if the items are sorted in barcode order (with only a few hundred items, it won't make much difference).
- **Sort by Note** sorts by note. If you are storing information in the note field such as the location, this setting will then group together all items in the same location, which you may find useful.
- **Sort as Originally Created** lets you control the order of items on the screen because the order will be exactly as you set up the file on the desktop. If you are taking inventory on a Palm unit manually (rather than by barcode scanning), this may be particularly useful. Enter the items on the list in "shelf order," that is, the order in which they are stored on the shelf. Now you'll just be able to walk along the shelf and proceed down the list in a systematic fashion. You should also use **Sort as Originally Created** if you are using **On Hand** for simple data collection of a series of new barcodes. This is because in this sort mode, new items are simply added at the end of the existing database; with any other sort mode, the software has to determine where the new item fits in, which of course takes time.

Now you're ready to start. If you are collecting inventories via barcode scanning, simply point the unit at the barcode and press one of the two green scan buttons on the upper left and right of the unit (these aren't present on the Handspring Visor with the plug-in scanner), tap the scan button on the lower right of the screen, or press the MemoPad button immediately below that. As you do so, items which are scanned will appear on the screen (we'll assume you have selected the **Greater Than 0** mode so that only scanned items appear, and set the quantity to increment when scanned, as shown at the right). If the scanned item is in your catalog, its name will appear; otherwise (or if you have no catalog), the barcode will appear (or not, depending on your configuration of what to do when an item is not found).

```
On Hand          ▼ Greater Than 0
    1@ Best Efforts
    5@ Better Runs
  ▶ 1@ 1565924207




 ⓪①②③④⑤⑥⑦⑧⑨Ⓒ⊕
 (+10)  (-1)   ⬍   (+1)  ▷▭
```

Once an item is scanned and highlighted, you can change the quantity in several different ways. The most convenient is to press the +1 or Address Book button (the one with the phone on it) repeatedly to increment the count (or the +10 ToDo button if the quantity is large). You can also scan the item repeatedly (note that this will drain the batteries more rapidly), use a stylus (or your fingernail) to tap the 0, +1, +10, or -1 buttons, or use a stylus (or your fingernail) to tap on the numeric buttons just below the list. These numbers act as a numeric keypad, so if you want to enter "45", just tap "4" and then "5". The only "non-standard" behavior is the **C** (Clear) button. If the display is in show **All** mode, then tapping **C** sets the quantity to 0, as you might expect. If the display is in **Greater Than 0** mode, however, setting the quantity to 0 would cause the item to disappear from the screen, which would be unexpected, so in this case tapping **C** sets the quantity to 1 (you can set the quantity to 0 by tapping the 0 button). The maximum quantity that you can enter is 32767.

If you are collecting items by hand, you will need to be in the show **All** mode, as shown below. You select an item by tapping on it, then set the quantity of that item in the ways described in the previous paragraph.

```
On Hand              ▼ All
 ▶ 3@ The Heart Rate Monitor Book
    Heart Zone Training
    High-Tech Cycling
    Hills, Hawgs, & Ho Chi Minh
    How to Train
    How to Train For and Run You
    In Fitness and in Health
    The Literary Cyclist
    The Loneliness of the Long-Di
    Long Road to Boston
 ⓪①②③④⑤⑥⑦⑧⑨Ⓒ⊕
 (+10)  (-1)   ⬍   (+1)  ▷▭
```

If the items are sorted alphabetically by name or main name (as described above) the screen will look slightly different, as shown below. In this case, just below the list of items you will see an alphabet, from A to Z. In this mode, you can scroll very quickly to any part of your catalog simply by tapping on the appropriate letter. For example, if you want to set the quantity for an item beginning with M, you could repeatedly scroll down the list with the scroll buttons, or you can use our **IntelliScroll** (tm) technology to just tap on "M" to go right there. Tapping other letters within a short time (about one second) takes you to a second (and third, and so on) level search, so if you tap "M" followed by "O" you'll go right to the items whose names start with the letters "MO".

There is one final way in which you can change the quantity (or other information). Once an item is the active (highlighted) item, tap on it, and this screen will appear:
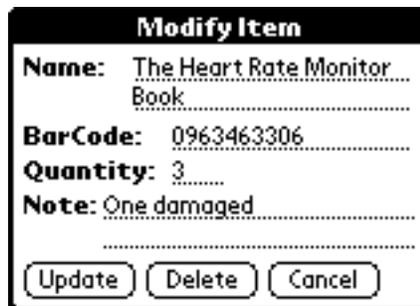
You can use this modify screen in many ways. First, you can enter the name of an item. This would be particularly appropriate if you scan the barcode of an item which does not appear in your catalog; entering its name would allow that information to be passed back to your desktop. Second, you can change the quantity (although you can usually do that more easily on the main screen). And third, you can add a note to the item, which again will be passed back to your desktop software during the HotSync. You can use this note for any purpose. Data can be entered into the four fields (name, barcode, quantity, note) in the "normal" Palm ways (Graffiti, pop-up keyboard) and also by barcode scanning. If you place the "focus" (the blinking cursor) in a particular field by tapping on the field and then scan information using the barcode scanner, the information will be written into that field, assuming it doesn't violate the limits of that field (for example, you can't enter a 6-digit number in the quantity field). The focus is automatically placed in the first blank field when the screen appears, and advances to the next blank field when information is scanned in.

Note that even though the Name and Note fields appear as two lines on the screen, they are really one long continuous line of text. You CANNOT enter either a "new line" or a tab character into either field. If you do, when you tap **Update**, the software will replace the new line or tab character with a simple space.

This feature not only allows the software to be used by personnel untrained in the use of Graffiti, but also can be used for barcode capture of known items. Let's say you have a list of items on your desktop but you don't have the barcodes in your database. Create a catalog (see above) where the barcode field is blank, and the name of the item is entered, and download it to your handheld unit. Now find (physically) each item, find the item on the list (by name), and tap on it to activate the **Modify** screen above. The "focus" will be automatically placed in the first blank field, which will be the barcode field. Now scan the barcode and it is captured; tap **Update** and then repeat for the next item. When you're done, you'll be able to upload to your desktop a list of items with matching

barcodes.

Another use for this feature is when you have different kinds of information to be entered into the **Note** field, for example, a list of possible locations. Create a page containing barcodes (CODE39 or other) containing the names or codes of the locations. Now after you scan an item to capture it on the main screen, tap on it to bring up the **Modify** screen. Since the name, barcode, and quantity will be filled in, the focus will automatically appear in the **Note** field, so you just need to scan in the location code and tap **Update** to add that information to each item.

Adding New Items

From time to time you may come to an item whose barcode will not scan, but either the item is not in your catalog or else you're not using a catalog at all. In this case, you can add the item "by hand" (or using scanned in information as described in the previous section). Tap on the **Menu** button, then on **Inventory** if it is not already highlighted, then select **Add New Item**, and you'll see the screen shown above, but entitled "Add Item" instead of "Modify Item." Enter the information and tap **Add** (or **Cancel**).

If there is an item which is similar or even identical to one already on your list, but for a variety of reasons you want to make a copy of that item, then you can first select the existing item by tapping on it, and then select **Duplicate Item** from the **Inventory** menu.The name and barcode of the item will be duplicated exactly, and the quantity is set to 0. The note field is set according to the setting in the **Configure Note/Location** menu.

At any time, you can select **Show Database Info** from the **Inventory** menu and you will see a screen which tells you the total number of different entries in your database ("Total Items"), the total number of items currently displayed, the number of items whose quantity is not zero, and the total quantity of all items in the database ("adding apples and oranges").

Transferring Data With HotSync

Whether you want to download a catalog (database) from the desktop to the Palm, or upload data from your Palm to your desktop, the first thing you must understand is the location of the HotSync folder where the data is found. To download data, you create a file and put it in that folder; when data are uploaded, they are uploaded to a different file in the same folder.

The name of the folder will always be `On Hand`, but the trickier question is where that file is located. First, you must locate your "Palm" folder, that is, the folder in which all the standard Palm software is stored. This may be called `Palm` (e.g., `C:\Palm`), or possibly something else. On Macintosh only, you next locate the folder named `Users` (this isn't present on Windows). Next, you must locate the folder within that folder which corresponds to the handheld unit to which you are installing the software.Whenever you HotSync a handheld unit to that desktop computer for the first time, a new sub-folder is created (shown here as `Boris`). If the name of the handheld unit is short, and has no spaces, the name of the folder will be exactly the same as that of the handheld unit, as in this example (Boris). This is also always true if you are using a Macintosh. However, if you are using Windows, and if the name is longer or if there are spaces, the name of the folder will be different. The folder for a handheld unit named "Natasha," for example, will be named `Natash`. The folder for a handheld unit named "John Smith" will be named `SmithJ`. So your first task is to identify the proper folder.

Macintosh	**Windows**

```
Macintosh HD                          C:
  Palm                                  Palm
    Users                                 Boris
      Boris                                 On Hand
        On Hand                               Catalog.txt/CatalogQ.txt
          Catalog/CatalogQ                    Catalog.bak
          Catalog (downloaded)                Inventory.txt
          Inventory                           Inventory01.txt...Inventory09
          Inventory01...Inventory09
```

If you are having any trouble locating the correct folder, or if HotSync "isn't working," use this technique. In your user folder (shown as `Boris` in the example above), there will always be a file named `HotSync.Log` (Windows) or `HotSync Log` (Macintosh). Use the "Find" feature of your operating system ("Find Files or Folders" on the Start button in Windows, or Sherlock on Macintosh) to search for a file by that name. If you only find one such file, the folder it is in is your user folder, and you should find a folder named `On Hand` in the same folder. If you find multiple HotSync Log files, check the date and time of the last update of the file; the most recently updated one will be the one which was changed at the time of your most recent HotSync, and will almost certainly be the correct file (and hence the folder it is in is the correct folder). To verify that, open the file (on Windows, open it with NotePad or WordPad; on Macintosh, it will open automatically with the Palm HotSync Manager). In that file you will find the date and time of the last HotSync, and you can verify that that is the correct file. Once you install On Hand software and begin using it, you will also find information written into this file like "On Hand - Uploaded 31 new entries" which will tell you exactly what On Hand did (or didn't do) during the HotSync.

You won't need to create any of these folders (shown in black) yourself. When you install your Palm (or related, e.g., IBM, Franklin, Symbol) desktop software, the main directory (shown as `Palm` above but this name may vary on your system) will be created, and, on a Macintosh, a sub-directory (or folder) named `Users` will also be created. Whenever you HotSync a handheld unit to that desktop computer for the first time, a new sub-folder is then created (shown here as `Boris`). After you perform two HotSync operations (one on Macintosh) during the install of the software as described

above, the `On Hand` folder is automatically created.

Setting up and Downloading a Catalog into the Handheld

Downloading a catalog (database) of items into the handheld unit is optional, as noted above. If you do want to start by downloading a catalog into the handheld, this section describes how to do that.

In order to set up a catalog, you first prepare an appropriate text file containing the information on your desktop. You can create this file by simply typing it in using a simple text editor (e.g., WordPad or NotePad on Windows, SimpleText on Macintosh), or, in many cases, you can export the information from an existing database or spreadsheet which already contains the information.

The text file you create must be given the name `Catalog.txt` or `CatalogQ.txt` (Windows) or `Catalog` or `CatalogQ` (Macintosh), and it must be placed in the `On Hand` folder (discussed above). This file must be a simple tab-delimited or comma-separated (CSV) text file, containing two, three, or four columns of information, one line per inventory item. The two different file names (`Catalog` and `CatalogQ`) represent two different formats. `Catalog` contains information about barcodes, product names/descriptons, and, optionally, an additional note as well. In this format, all initial quantities are assumed to be zero. `CatalogQ` adds quantity information (hence the Q) to the file, so that you can download a file with initial quantities other than zero if that better meets your needs.

If you are creating a file (CatalogQ) with quantity information, the first piece of information is the initial quantity. This must be an integer (no decimal points) from 0 to 32767 (the maximum number **On Hand** can handle). The next piece of information (or the first piece in the `Catalog` file) is the barcode. The barcode must be entered without any punctuation (spaces or hyphens), just a simple series of numbers (for most barcodes) or numbers and letters (if appropriate). Check digits are optional, as will be discussed below (the check digit is the last digit in some barcode formats, e.g., UPCA). If the product in question does not have a barcode, the barcode can be left completely blank (don't use a space or spaces instead).

Following the barcode is the name (description) of the product. There are no limits on the name, other than that it cannot contain a tab character (or, if using CSV format, the name must be enclosed in double quotation marks if it contains a comma). Following the name you have an option to include a "note" to attach to the item, which might be used for informational purposes on the handheld unit, or to indicate location in asset tracking applications, or may also be used when HotSync'ing the information back to the desktop (notes will be discussed further below).

Between each of the items on the line is a comma or tab, as you prefer (but the same format must be used throughout the file, of course!). If an item is missing, you can leave that spot ("field") blank, but you must then have a tab (or comma) at the beginning or end of the line, or possibly two in a row in the middle of the line, so that the number of spaces (fields) is constant.

The length of the items other than the quantity is not limited; the database stores the information in a variable rather than a "fixed length" format. In the handheld unit itself, the only limitation is that the display of items may be truncated on various screens if the lengths are too long; you'll need to decide whether that is important or not.

So each line may look like any of these options (where ➡ represents the tab character):

`Catalog/Catalog.txt` (file format without initial quantities)

```
1565924207 ➡ PalmPilot, The Ultimate Guide
➡ Introduction to Microsoft Visual C++ 6.0
1565925254 ➡ Palm Programming ➡ Check for missing CD
```

Or, if you prefer to use CSV format:

```
1565924207,"PalmPilot, The Ultimate Guide"
,Introduction to Microsoft Visual C++ 6.0
 1565925254,Palm Programming,Check for missing CD
```

`CatalogQ/CatalogQ.txt` (file format *with* initial quantities)

```
14 ⭢ 1565924207 ⭢ PalmPilot, The Ultimate Guide
2 ⭢   ⭢ Introduction to Microsoft Visual C++ 6.0
 0 ⭢ 1565925254 ⭢ Palm Programming ⭢ Check for missing CD
```

Or, if you prefer to use CSV format:

```
14,1565924207,"PalmPilot, The Ultimate Guide"
2,,Introduction to Microsoft Visual C++ 6.0
 0, 1565925254,Palm Programming,Check for missing CD
```

Each line in the file does not need to be the same; for example you might have barcodes next to most items, but not next to a few.

The software determines whether this is a tab-delimited or comma-separated file based on the presence (or absence) of a tab character in the very first line. If a tab is found anywhere on the first line, the software assumes this is a tab-delimited file; otherwise it is treated as a CSV file.

The order of items in the database is up to you. As you'll see below, the **On Hand** software on your handheld unit will let you sort the items in three different ways - in the way in which they were setup, alphabetically, or by barcode. If you are collecting inventory with barcode scanning, the software can locate the items most quickly if the items are in barcode order If you are collecting the inventory manually, you might, for example, want to store the items on the list in the order in which they are stored on the warehouse shelves, so that the operator can simply go down the list recording quantities of each item as they walk past the shelf. Or perhaps you might want to store them alphabetically but in groups, with items in one location first, then items in another location, etc.

Installing the Catalog in the Handheld Unit

Whenever you HotSync, the **On Hand Conduit** looks for a file named `Catalog` or `CatalogQ` (to be precise, it looks for `Catalog` first; if it doesn't find that, it then looks for `CatalogQ`) in the appropriate folder. If the file is found, the contents of that file will be downloaded into your handheld unit to serve as your catalog, either replacing any existing catalog, or being appended to it, depending on how you configure the software. The file will then be renamed as `Catalog.bak` (Windows) or `Catalog (downloaded)` (Macintosh), so that subsequent HotSyncs will *not* reinstall the same catalog, but the file is still there in case you need it. If you later create *another* file named `Catalog` in order to install new information, when *that* file is renamed, the previous backup file will be deleted.

Selecting the Conduit Mode
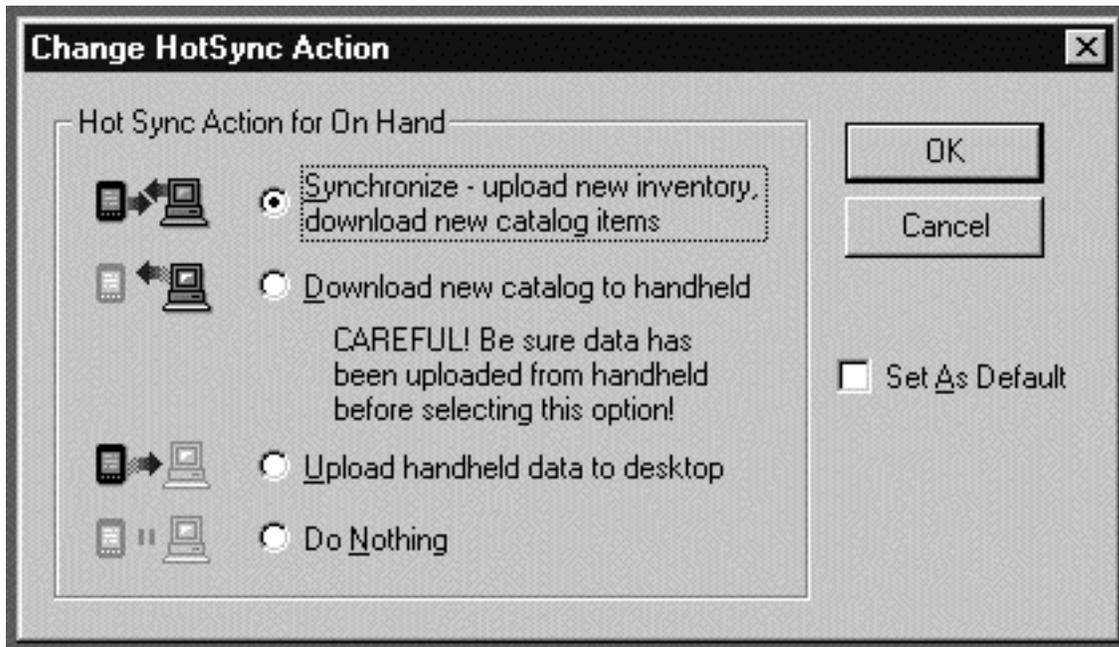
Once you have created the `Catalog` file and placed it in the folder, you need to configure the conduit settings. Run the **HotSync Manager** program, and select **Custom** (Windows) or **Conduit Settings** (Macintosh). Double-click on the On Hand conduit and you'll see a window that looks like the one above (Windows and Macintosh look slightly different).

For purposes of downloading a catalog, there are two relevant settings. **Download new catalog to handheld** (labelled **Macintosh overwrites handheld** on the Macintosh) downloads your catalog as is into the handheld unit, replacing any existing catalog (and any collected inventory information!). **Synchronize** will append the data in your desktop file to an existing catalog on the handheld unit. If you work with very large (thousands of items) catalogs, you will undoubtedly find that appending new items to a catalog is much faster than installing an entire new catalog; with smaller catalogs it won't make much difference.

Once you have selected the proper choice and clicked on **OK**, the next time you perform a HotSync the catalog will be installed in your handheld unit.

HotSyncing Collected Data Back to the Desktop

When you are ready to upload inventory from the handheld unit to the desktop, you need to configure the HotSync settings. Bring up the settings window as described in the previous section. There are two settings which are relevant. **Syncronize** uses the standard "Palm paradigm" and uploads only the information from the handheld unit which has been changed since your last HotSync. That means, for example, if you inventory 7 items, do a HotSync, and then inventory 3 more items, only the last 3 will be uploaded when your setting is **Syncronize**. The alternate setting is **Upload Handheld Data to Desktop**. With this setting, *all* the data which has been collected on your handheld unit is uploaded, whether or not it has been changed since the last HotSync. Of course, if you want to temporarily disable the conduit, you can also select **Do Nothing** from the configuration window.

In either configuration, whenever you transfer data back to the desktop, it is written into a text file named `Inventory.txt` (Windows) or `Inventory` (Macintosh), which will be located in the `On`

`Hand` folder described above. This file can then in turn be imported into your desktop inventory management software (or into any database, spreadsheet, or even word processor). Each time you HotSync, the previous file is renamed, from `Inventory` (or `Inventory.txt`) to `Inventory01` to `Inventory02` and so on up to `Inventory09`. Thus you will always have available not only the most recent inventory list but the previous nine lists as well, just for safety.

Tip: You probably will be using some other desktop software to import the information from the `Inventory` file and merge it with your corporate data. You may wish that the `Inventory` file were placed in the same folder as your other files, rather than in the `On Hand` folder where it is uploaded. The solution is simple. Just create a shortcut (Windows) or alias (Macintosh) and place that shortcut in the folder where you would like the information to be found. Because of the way the files are renamed (described in the previous paragraph), your alias will always point to the latest `Inventory` file, and you'll be able to access it as if it were in your desired folder.

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 `On Hand` 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\On Hand\Inventory.txt` (which would automatically open the newly uploaded `Inventory` 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.

Configuring the Export File

The actual data which is sent back to the desktop is controlled by the **Export** item in the **Configure** menu. Selecting that menu will display the screen below, which will allow you to configure the exported `Inventory` file in exactly the way you need it for subsequent use on your desktop. In the "What to export" section, you have two choices - exporting all items (regardless of quantity), or only exporting those items whose quantity is not zero. Next, in the "Separator" section, you can choose between having items separated by tabs or commas.

The bottom of the screen offers a series of checkboxes which lets you specify up to four items per line which will be saved to the `Inventory` file. In the example at right, for example, the user has chosen to save the quantity, barcode, and name in that order (omitting the fourth item). Putting the checkbox in column 3 opposite the word "Blank" would export only two items per line (quantity and barcode). Putting the check in column 1 opposite "Barcode" and the check in column 2 opposite

"Quantity" would save the same two items, but in the opposite order on each line. In some cases, the desktop software into which the `Inventory` file is later imported will be able to deal with any possibility, but if not, this screen allows you to configure the export exactly as needed.

Note that if you have the boxes checked as shown in the example above, or the box in column four opposite "Note" instead of "Blank", the `Inventory` file which is uploaded will be in exactly the same format as the `CatalogQ` file which can be downloaded later, so you can restore into the unit a previous inventory (perhaps the one taken last month) just by renaming the file.

For "normal" inventories, you'll probably only need to export the quantity and barcode (you can of course export the item name as well, but chances are that the barcode will be sufficient information for your desktop database). For serial number inventories, you'll almost certainly want to export the note which will contain the S/N (the quantity might not be necessary in this case, since it may always be 1). For multi-location inventories, the note will also be essential, since it records the location. And finally, for asset tracking, the barcode and note are probably all you want to export.

There is one additional optional item that is written into the `Inventory` file during the HotSync process - a "header." Select **Header** in the **Configure** Menu and you'll see this screen:

```
┌─────────────────────────────────┐
│         Enter Header            │
├─────────────────────────────────┤
│ 5/19/99 ........................ │
│ ............................... │
│ ............................... │
│ ............................... │
│ ( Date Stamp ) ( Date, Time Stamp ) │
│ (   OK   ) ( Cancel )  (  Clear  ) │
└─────────────────────────────────┘
```
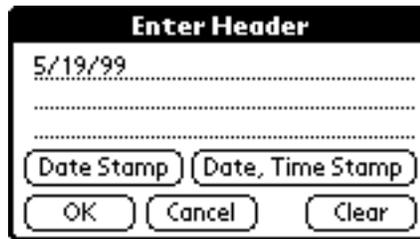
If the header is anything but blank, the information on these lines (80 characters maximum) will be written at the top of your `Inventory` file. This allows you to label the inventory with any information you choose - the date, the time, the operator, the location, etc. You'll notice that buttons on this screen allow you to quickly enter the date or date and time without having to write them in; any other information will need to be entered in the "normal" way (using Graffiti or the pop-up Palm keyboard). You can also fill in this field by barcode scanning. When this screen is active, any information captured by the scanner will be entered into this field. This feature allows personnel untrained in the use of Graffiti to scan "canned" barcodes to enter appropriate information.

Resetting and Purging the Data

After you perform a HotSync, and before you perform the next inventory collection, there are two options, both contained in the **Inventory** menu:

```
┌──────────────────────────────────┐
│ Inventory Configure  Print       │
├──────────────────────────────────┤
│ Sort                    ✓S       │
│ Reset Quantities        ✓R       │
│ Purge New Items         ✓X       │
│ Purge All Items                  │
│ Add New Item            ✓A       │
│ Duplicate Item          ✓D       │
│ Show Database Info               │
│ About On Hand                    │
└──────────────────────────────────┘
```
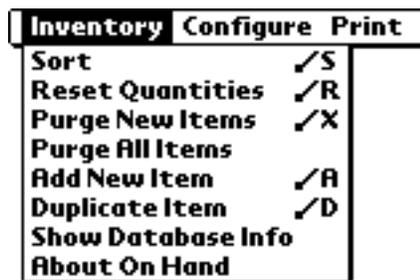
Reset Quantities sets the quantity of all items in the database (on your handheld unit) to zero. It also removes any notes which have been automatically added to any items in your database; these would include locations added using the "Copy to items when scanned" feature, and serial numbers added using the "Use scanned SNs" feature. **Purge New Items** removes any items which have

been added to the database since you downloaded a database into your handheld unit from the desktop. New items are added to the database under three circumstances. First, when you scan any item whose barcode is not in the database, it is added. Second, when you perform serial number collection, the first serial number for any item is added to the original entry in the database, but if you scan a second or more SN for the same item, new items are added to the database to hold those SNs. And third, when you perform multilocation inventory collection and the same item is found in multiple locations, the second (and additional) times the same item is inventoried, an entry is added to the database. All of these added entries can be removed using **Purge New Items**. Alternatively, you can select **Purge All Items** to purge the entire catalog from your handheld unit.

In many circumstances, you will want to do both of these operations, but they are not linked, so that you may wish to first select **Purge New Items**, and then **Reset Quantities** (or vice versa, the order doesn't matter).

Both **Reset Quantities** and **Purge New Items** will require that you confirm your request, in order to give you an opportunity to change your mind.

Automatic Reset

The alternative to manually resetting the data (either resetting the quantities or purging the entries) is to do so automatically at the end of the HotSync process (that is, after the collected information has been safely uploaded to the desktop). At the bottom of the **Configure Export** screen (shown above) are two checkboxes in the "After Export" section of the screen: **Reset Quantities** and **Purge All**.Checking the first box will automatically set all quantities back to zero after the upload; checking the second will remove all the items from the handheld unit after upload.

There is one more important aspect associated with the **Reset Quantities** checkbox. When this box is checked, after uploading the data to the desktop, the quantities are first reset to zero. But then, if there is a `CatalogQ.bak` file (`CatalogQ (downloaded)` on Macintosh), it will then be renamed as `CatalogQ.txt` (`CatalogQ` on Macintosh). If the conduit is set to **Synchronize**, one more thing will happen, which is that the catalog will be purged (not just reset) on the handheld. The result of this will be that the catalog will be re-downloaded to the handheld unit, thus resetting the quantities not to zero but to some "standard" quantity contained in the `CatalogQ` file. The next section describes an important application for this feature.

Using On Hand for Re-Stocking

One common need is to use **On Hand** to generate an order for re-stocking. Here's how to do that: First, use the `CatalogQ.txt` file to download into the handheld unit a list of all items with quantities; the quantities being the desired stock level of that particular item. Next, use the **Configure Scanning** screen to configure the software to **Decrement** the count when you scan an item. This means that if you start with a count of 5, and scan the 2 items left on the shelf, the count shown will be 3, which is the correct re-order amount. Next configure the **Configure Export** screen to upload **Non-Zero Only**. After you collect, and upload the data, the `Inventory.txt` file on your desktop will contain a list of items which need to be reordered, along with the correct re-order quantity. To reload the handheld unit immediately, select **Reset Quantities** after Export on the **Configure Export** screen and set the conduit to **Synchronize**. Now after uploading the collected data, the catalog will first be reset, then purged from the handheld unit, and then immediately replaced with new data taken from the old `CatalogQ.txt` file (which was renamed `CatalogQ.bak` after the previous download, but will be automatically renamed), ready for the next reorder process.

MultiLocation Inventory Collection

In some situations your inventory is in one place, or perhaps any particular item is in one place. In other situations, however, you may be taking inventory in multiple locations of the SAME item. **On Hand** can handle this situation, as described here. First select **Note** from the **Configure** menu as shown above. Select "Copy to items when scanned," and enter a note which describes the first location, for example STORE1 (note that this can be done with Graffiti or the pop-up keyboard, but also can be done by scanning in the information from a printed card, making it more suitable for use by personnel untrained in the use of Graffiti). Now every time you scan an item, STORE1 will be inserted in the Note field of that item. After you're done with the first inventory, select **Note** from the **Configure** menu again, and change the note to STORE2. If you now scan an item which was *not* found in the first location (STORE1), STORE2 will simply be inserted in the Note field of that item. If you scan an item which *was* found in the first location, **On Hand** will add a copy of that item to the database, and mark it as STORE2 in the Note field. There is no limit to the number of locations you can inventory at once in this way.

If you use the CatalogQ format to download data into your Palm with starting quantities, it's perfectly ok to download multiple instances of the same item, each with the same barcode but a different note field (STORE1, STORE2, etc. in this example). Now when you scan the item, the software will require a match in both the barcode field and the note field, as you might expect.

There is a way you can change the location (the fixed note) which is completely barcode-controlled, not requiring use of menus, buttons, or Graffiti. First create barcodes which read LOC_XXX (if using CODE128 barcodes) or LOC-XXX (if using CODE39 barcodes), where "XXX" is the actual location. For example, if you were using **On Hand** to capture items on a loading dock, some of which were being shipped and others received, you could have two printed barcodes, LOC_SHIP and LOC_RCV. Now when you want to capture an item to be shipped, first scan the LOC_SHIP barcode and the location will be changed to SHIP. You'll know this because "SHIP" will appear on the upper left of the screen in place of the words "On Hand" (if you scan a long location name, only the first 7 characters will appear in the upper left, but all of them will be part of the location). You can scan as many of these as you like, there is no need to scan the LOC_SHIP for each item. Only when you need to switch to "receive" mode do you scan LOC_RCV and the note (location) will be changed accordingly. If you are taking inventory in multiple stores, or multiple departments of the same store, just prepare a series of these LOC_XXX barcodes and put them in a convenient place (a laminated plastic sheet works great), ready to use when you start collecting inventory at a new location.

When the software is in "Copy [note] to items when scanned" mode, the **Greater Than 0**, **Less Than 0**, **Not Equal 0**, and **Equal 0** display modes work in conjunction with the note. That is, if the fixed note (location) is STORE1, the **Greater Than 0** mode will display only those items whose quantities are greater than one AND whose note fields reads STORE1; the **Equal 0** mode will display only those items whose quantities are equal to zero AND whose note fields reads STORE1.

Serial Number Collection

There are two ways to collect serial numbers, which might be appropriate when taking inventories of items such as PalmPilots or cellular phones where each individual serial number is to be recorded. The first alternative is appropriate when you are collecting a SINGLE type of item, and only need to record the serial numbers (SNs) themselves, not the associated barcode. To do this, you simply take advantage of the fact that when you scan a barcode, if that barcode is not found in your catalog (which it presumably won't be if it's a serial number code), then a new item is added corresponding to the new barcode. So if you simply scan in fifty serial number barcodes, you'll end up with 50 items in your catalog, each with quantity one.

A second alternative involve selecting **Note** from the **Configure** menu, which will show this

screen:
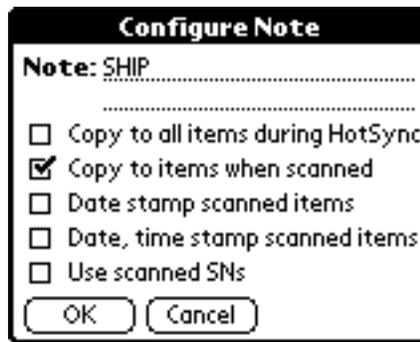
If you select "Use scanned SNs", you will now be able to scan in both the regular barcode and the serial number for an item. Scan the barcode first and the item will be located in your catalog (if it is there) and identified by name. Now scan the serial number and the number is added to the most recent item. To scan subsequent copies of the same item, you do NOT have to scan the barcode again, just keep scanning the serial numbers for each item. As you do, new items will be added to your list, each with the originally scanned barcode and the new serial number. The serial numbers you are scanning in this way (alternative #2) are added to the "Note" field of the database, not the barcode field, so when you configure the HotSync (see below) you'll need to be sure to configure it to transfer the note back to the desktop.

For purposes of the "Use scanned SNs" mode, a barcode is identified as a serial number if it is a CODE128 or a CODE39 type barcode. Any other barcode type is considered a product identifying barcode, and will be used by the software to identify a new item for the inventory, rather than to add a serial number to the previously scanned item.

If items from which SNs are to be collected do not have regular product identification barcodes (e.g., UPC codes) on them, you can still select the item from your database list by hand (you'll need to be in "Show All" mode, of course), and then scan in the SN barcodes.

Pick Lists

Pick List applications can be accomplished by combining features in a different way. Let's say you have three jobs to be picked. Create a `CatalogQ` file on the desktop, containing a list of items from all jobs, with the job (e.g., `JOB1`, `JOB2`, `JOB3`) in the note field, and download them to the handheld. Set the note/location to `JOB1`, the mode to **Greater Than 0**, and the scan mode to **Decrement**. The display will show everything on your list of items to be picked for `JOB1`. As you scan items on the list, their quantities will decrement; when the quantity goes to zero, the item will disappear from the list, and list will gradually show fewer and fewer items until all items have been picked and the list is empty. Now set the note/location to `JOB2` and repeat the process.

Asset Tracking

By combining the last two features, Serial Number capture and location recording, **On Hand** can be used for the purpose of asset tracking in addition to its other functions. To do this, you'll be using the Note field of the software to record the location (as described in **MultiLocation Inventory Collection**), and the barcode field to record the serial number. There should be no need to download a catalog into **On Hand**. First use the Note menu to select "Copy to items when scanned." Now start at the first location, record the location using the **Note** menu, then scan the S/N barcode of each item at that location. Go to the next location, change the location using the **Note**

menu, and scan the S/N barcodes of those items.

Date, Time Stamping

There is one more possibility for using the note field on **On Hand**, and that is for date and or date/time stamping collected items; this option is set by checking the appropriate box in the **Configure Note** screen. Note, however, that the note field can be used for only one thing, so if the note field is already going to be used to record location or serial number, it cannot also be used for date/time stamping.

# Configuring Multiple Handheld Units

If you have multiple licences for **On Hand**, and want to configure multiple units identically, there is a special way provided to do that. First, install the software on one unit, and configure it as you wish, including any and all of the settings described above. Now, configure the conduit on the desktop to **Upload Handheld Data to Desktop**, and perform a HotSync. In the `On Hand` folder in the user folder for that handheld unit, you will now find a file named `Preferences (from Palm)`. This file contains an "image" of the preferences. Next, install the software on all other units, and perform a HotSync which creates the individual `On Hand` folders within the user folders for each of the other handheld units. Now copy the `Preferences (from Palm)` file from the original user `On Hand` folder into each of the other user's `On Hand` folder, and rename it `Preferences` (removing the "`(from Palm)`" part of the name). Finally, set the conduit for each of the remaining users to **Download new catalog to handheld**. When the next HotSync is performed, the preferences settings will be copied into the new handheld unit and you will be assured that they are identical to your "standard" without having to individually configure that unit.

Printing and Serial Data Transfer

For some applications you'll need to print results in the field after the information collection process is done. **On Hand** supports this, providing you also have a copy of Stevens Creek Software's **PalmPrint** or **SCS Print Server** application installed on your handheld unit.

If you have a copy of **PalmPrint** (or **SCS Print Server**) installed on your unit, you can access it to configure the printing parameters by selecting **Printer** in the **Configure** menu. **PalmPrint** (or **SCS Print Server**) will start, and you can establish the desired configuration (as described in the **PalmPrint** manual). When you are finished, tap **Done** and you'll be returned to **On Hand** .

Once you have configured **PalmPrint** (or **SCS Print Server**) for printing to your printer, you simply need to select **List** from the **Print** menu to print a list of your items.

```
┌─────────────────────────────────────┐
│ Inventory  Configure  [Print]        │
│              ┌──────────────────┐    │
│              │ List             │    │
│              │ Barcode Label    │    │
│              │ Multiple Labels  │    │
│              └──────────────────┘    │
└─────────────────────────────────────┘
```
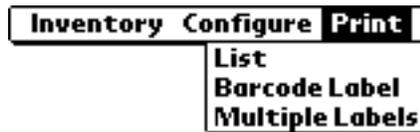
What you print is governed by what appears on the screen. The printing format is governed by the export format, so which elements (quantity, barcode, name, and/or note) print and in what order is up to you. If the export format is set to comma-separated, printing will also use commas between elements. If the export format is set to tab-delimited, the software automatically determines the needed width for each column and prints in a "fixed-format" output of the appropriate width, truncating first the name and then the note if the necessary width is wider than the number of available columns on your printer. In all cases, if you have created a header in **On Hand**, it will print at the top of the inventory.

In addition to actual printing, this feature of **On Hand** has another use. Perhaps you wish to transfer the captured information to a computer which is not running Palm's HotSync software. This might be a customer's PC on which HotSync software is not installed, or even a Unix workstation for which HotSync software is not available. In either case, if you have some sort of terminal emulation software running on the other computer, you can connect the Palm or Symbol unit via its serial port to the serial port of the other computer, and "print" the data (you'll want to configure **PalmPrint** to "Plain Text" output so no special printer "control codes" are sent).

Printing Bar Code Labels

As an extra feature, **On Hand** allows you to print bar code labels from items in its catalog (or items it simply scans) to barcode printers (most receipt printers have barcode printing functionality, and there are also dedicated barcode printers).

The "User-Friendly" Way - Handy Label

Handy Label is a separately-sold program from **Stevens Creek Software** which takes the hard work out of generating labels. Using **Handy Label**, you specify the particular barcode label printer you are using, the size of the label (width/height), the size of the barcode you want to print, the text (if any) you want to print on the label along with the barcode, the number of labels, etc. If you have a registered copy of **Handy Label** installed on your Palm, and if the **Configure Label** format (see below) is blank, then when you want to print barcode labels, **On Hand** will work in conjunction with **Handy Label** to determine the exact sequence of special "control codes" that need to be sent to your printer.

To actually print the labels, you have two choices:

- Select an item from the on-screen display (the selected item is marked by the little arrow to its left) and then select **Barcode Label** from the **Print** menu.This will print a label (or multiple labels, if so specified in the **Handy Label** settings) for that item
- Select **Multiple Labels** from the **Print** menu. Every item in the inventory with a quantity of 1 or greater will have a label printed, with the quantity of each label printed equal to the quantity. Thus if you want to print 10 labels for an item, simply select the item (manually or by barcode scanning an existing label), set the quantity to 10, the select **Print Barcode Labels**.

The "Roll Your Own" Way - Entering Your Own Control Codes

If you don't want to use **Handy Label**, or you want more flexibility than **Handy Label** provides, you have the option to enter your own "control codes" to configure the label the way you want it. Each label is printed in a format which is specified by the user using the **Configure Label** menu (if this format is blank, the software automatically uses **Handy Label** - if present - to generate its label configuration). Selecting the **Configure Label** menu displays this screen:

The first thing to understand about the format is the notation used. "Regular" material, to be printed as is, appears in a normal way, like the word "ITEM:" in the example above. Many of the characters which are required to print barcodes, however, are "non-printing characters" (like the "Escape" character) which you can't enter directly using Graffiti. These characters are enclosed in a special notation, surrounded by double angle brackets as shown in the figure (**Note:** the "«" and "»" are a SINGLE character each - ONE "double less than" or "double greater than" character, not TWO "less than" or "greater than" characters). Three of the most common non-printing characters, **ESC** (character 27), **GS** (character 29), and **FF** (Form feed), are inserted into the label by tapping on the corresponding button at the bottom of the window. Any other non-printing character is inserted using the # button, which inserts the beginning and end double angle brackets and leaves the insertion point in the middle of the two, where you can enter any number that is needed.

Four of the remaining buttons insert special codes into the label which substitute in pieces of information from the collected data when the label is printed. **Name** prints the name of the item, **Note** prints the contents of the note field, **Barcode** prints the complete barcode, and Barcode without Check Digit (**Barcode w/o Check Dig.**) prints the entire barcode except the last (check) digit. Since most barcode printers calculate their own check digit, they expect to be sent a barcode to print which does not include the check digit, so the second of these two barcode choices will probably be the most common.

OK, **Cancel**, and **Clear** should be self-explanatory.

Below are some examples for specific printers, showing sample text you'll want to enter into the Label Format field for printing UPC barcodes. Note that these are examples only. Some of the specifics in the examples control such things as the height of the barcode, whether the barcode is centered on the page, etc. Details on how to control each of these things can be found in the programming manual corresponding to each printer, obtainable from the printer manufacturer (often downloadable from their Web site).

Datamax E-3202:

```
«ESC»a«1»«GS»H«2»«GS»h«100»
«GS»k«65»«11»«BarcodeNCD»
```

Monarch 6015:

```
«ESC»z4«12»«50»«Barcode»
```

Monarch 9460: (note that | is the "vertical bar" character, and that the quotation marks on the sixth line are essential)

```
{I,B,0,0,0,0|}
{F,1,A,R,M,254,508,"Fmt 1"|
B,1,12,F,77,254,1,4,100,8,B,0|
}
{B,1,N,1|
1,"«Barcode»"|
}
```

O'Neil Microflash: (note that | is the "vertical bar" character)

```
«ESC»EZ
{PRINT:
@0,95:UPC-A,H15,W1|«Barcode»}
{AHEAD:200}
```

Seiko DPU-3445:

```
«GS»h«100»«GS»H«2»«GS»P«1»
«GS»k«0»  «BarcodeNCD»«0»
```

Zebra Encore 4:

```
! U1 CENTER
! U1 BARCODE UPCA 1 1 79 0 0 «Barcode»
```

Zebra/Eltron (various models, e.g., P2242): [Note - this format starts and ends with a "return" and has a return (new line) after each command - these are essential. Also note that the quotation marks in the third line which are also essential.]

```
N
JF
B75,140,0,UA0,2,6,120,B,"«Barcode»"
P1
```

Appendix I: Notes on the Socket Communications SDIO Scanner

There are several special things to note about the use of **On Hand** in conjunction with the Socket Communications SDIO scanner.

Requirements

The SDIO scanner works on all Palm OS 4.1 and higher devices (through 5.x; not including the as-yet-unreleased PalmOS 6.x at this time). It requires a Palm handheld device with an SDIO slot, which include (as of this writing) the following Palm devices: Zire 31, Zire 71, Zire 72, Tungsten C, Tungsten E, Tungsten T, Tungsten T2, Tungsten T3, Tungsten W, Treo 600, m125, m130, m500, m505, m515, and i705. Some of these devices (e.g., the m-Series) were originally released with PalmOS 4.0; they must be upgraded to PalmOS 4.1 before attempting to use the SDIO scanner (this update is available at no charge from Palm).

Insertion of the Scanner

Different Palm devices have differing orientations of the SDIO slot. In the newer devices, like the Tungsten T3 shown below on the left, the slot is "normal", and the SDIO scanner is inserted as shown in the picture, with the word "Socket" facing the user. Some of the older devices, like the m505 shown below on the right, have a "reversed" slot, so the SDIO scanner must be inserted with the word "Socket" facing *away* from the user. Also, depending on the physical characteristics of the individual device, it will be preferable on some (as shown on the T3 below left) to include the rubber "collar" on the SDIO scanner; on others, as on the m505 shown below right, it is essential to *remove* the collar, because with it in place the scanner will not fully insert into the slot.

Left: Tungsten T3 with Socket Communications SDIO scanner inserted in the "normal" configuration
Right: Palm m505 with SDIO scanner inserted as required in the "reverse" configuration

Scanning Tips

Here are some tips provided by Socket for obtaining the best scanning performance from the SDIO Scanner. Note in particular the non-intuitive suggestion #4.

1. The SDIO scanner is not a laser, it's a camera. While users of laser scanner are used to sweeping the laser beam across the bar code, the red aiming beam of the SDIO ISC must be held reasonably steady on the target for a short period of time while the camera focuses and captures a clear image. This time should not be more than a quarter to a half of a second.

2. The red light from the SDIO scanner is simply an aiming beam - it doesn't add any auxiliary lighting to the the target bar code. Like any camera, the target must be fairly well lighted by

ambient lighting in order to get a clear picture. The SDIO ISC works better when the target bar code is well lighted.

3. Like all cameras, the SDIO ISC has a "focal length" (minimum and maximum distance from the target) where the captured image will be clearer. While the focal length of the laser is quite large, the focal length of the SDIO scanner is pretty small by comparison. For best results scanning 'normal' sized bar codes, the SDIO scanner should be held from about 4 to 7 inches (10 to 18 cm) from the target.

4. Just like the laser scanner, the SDIO scanner should **NOT** be positioned at exactly 90 degrees (perpendicular) from the target bar code, but at least 15 degrees above or below the target.

Configuring the Scanner

As of this writing, our **ScanConfig** program does not work with the Socket SDIO scanner. However, Socket provides a somewhat similar program (with more limited functionality) called **SocketScan**. If you want to override the default barcode choices of **On Hand**, use the Configure->Scanning menu in **On Hand** and check the "Don't Configure Scanner" box. In that case, the configuration you set up with **SocketScan** will remain in effect when **On Hand** is operating. Note, however, that regardless of the "scan trigger" you select in **SocketScan**, **On Hand** will override that choice, because it is "hard-coded" so that the MemoPad button is used to trigger the scan (you can also tap the on-screen button if you prefer).

Technical Support

If you need technical support for **On Hand**, you should first check our support web page, http://www.stevenscreek.com/palm/support.html, where we have tried to assemble answers to all the most commonly encountered problems with downloading, installing, and using our software. If that doesn't solve your problem, we encourage you to do so by email at supportmail@stevenscreek.com. You can also call Stevens Creek Software technical support at 1-408-725-0424 during regular business hours (9 a.m. - 5 p.m. Pacific time, M-F).