UCSB Equipment Management

BARCODE SCANNER AND INVENTORY MANUAL

Departmental Instruction and Information Manual

July 2003

INTRODUCTION

Equipment Management currently has two handheld barcode scanners departments can use to perform their bi-annual physical inventories. If usage warrants, additional scanner will be purchased.

The number of days a department may use a scanner to complete its inventory will vary from a week to a month depending on the number of items on the department's inventory. The maximum loan period has not yet been determined, but cannot be open-ended given the number of departments on campus. If a department with a very large inventory signs out a scanner, it must make a commitment to dedicate time to the project so other departments can use the scanner.

Priority will be given to departments with large inventories because scanning will be most beneficial to them. Smaller departments (less than 50 items) will also have a chance to use the scanners, but only for a period of one day when a scanner is available.

Departments using the barcode scanner need to be aware of one significant difference from the "paper" physical inventory (EQ920) process. The inventory downloaded onto the scanner is current as of the day the data was downloaded onto the scanner. For example, if Department X is mailed an inventory dated December 31, 2002 and waits until May 31, 2003 to request use of a scanner, the downloaded inventory will include all items acquired during the first five months of 2003 (similarly, any pre-December 31 items disposed during that period will not be on the scanner's inventory).

When the barcode of an item is scanned, information for that item is displayed. The department may add, delete or modify information in all of the fields normally updated on the paper Departmental Equipment Registry (EQ920): manufacturer, model number, serial number, building and room number, user code and condition code. As each item is scanned, the display "counts down" the remaining unscanned items.

When the department returns the scanner to Equipment Management, the data is uploaded into the campus's Capitalized Assets Tracking System (CATS). Three reports are produced: (1) a list items scanned with all data updates; (2) an error report of invalid building/room numbers and condition codes; (3) a list of all unscanned (unaccounted for) items. The final two lists will be returned to the department for follow-up.

PROCEDURES

I. SIGNING OUT THE BARCODE SCANNER

1. The department calls Equipment Management at x7377 to schedule use of a scanner. The pick-up and return dates are determined.

2. Equipment Management downloads the department's inventory onto a scanner and prints the inventory list.

3. The department picks up the scanner and the printed inventory.

    At present, departments can pick up and return scanners to two locations: Equipment Management, located at 6950 Hollister Avenue, Suite 100 (the 2-story office building at the corner of Hollister and Storke Avenues) or the Business Services Office, 3203 SAASB.

4. The department representative signs the "Equipment Management Scanner Sign-Out and Memo of Understanding." (A sample memo is attached at the end of this document.) The memo establishes, in writing, the return date for the scanner and commits the department to reimbursing Equipment Management for the cost to replace or repair a lost, destroyed or damaged scanner. ***A scanner will not be released if this Memo of Understanding is not signed.***

II. GENERAL INFORMATION ABOUT THE SCANNER

1. The power level of the scanner battery appears at the top of the main display screen (the one that first appears when the scanner is powered up), immediately to the right of the time. The lower the power level, the further the cursor on the "fuel gauge" moves toward the left.

    Departments testing the scanner have found that the battery remains charged for up to 2 weeks, depending upon how much it is used. (The scanner goes into sleep mode within two minutes if idle: press the red button to bring it out of sleep mode.)

    The battery takes about 2 hours to recharge and the scanner must be brought back to Equipment Management or Business Services for recharging.

2. Unless you are familiar with the "graffiti" for entering alpha characters onto a Palm device, it is recommended that you use the scanner's "alpha keyboard," which can be accessed by clicking the "abc" icon at the bottom left of the input screen.

    Numbers are considerably easier to enter manually by "drawing" them with the stylus on the right hand side of the input screen. (The only "difficult" number is a 4 – enter the downward diagonal and horizontal strokes with no break – do not attempt to add the vertical stroke, or you will produce "41.") You can also use the scanner's "numeric keyboard" by clicking the "123" icon at the bottom right of the input screen.

    It is easy to toggle back and forth between the alpha and numeric keyboards when, for example, entering serial numbers.

    Incorrect information may be deleted in one of two ways. After clicking on the field that you wish to modify (you may position the cursor anywhere in the field), either make sweeping right-to-left strokes with the stylus on the input screen or use the backspace key [←] on the alpha or numeric keyboard.

3. Occasionally, a scanner may crash, freezing up and displaying a message referring to a "fatal error." ***Do not panic!*** The problem can easily be resolved:

    a. Open the latches on the battery cover located on the back of the scanner.

    b. Remove the battery cover.

    c. Press the "Reset" button located to the right of the battery.

    d. Replace the battery cover and close the latches.

    e. Log back onto the EQS Scan program (see next section for procedure).

    Function has been restored with no loss of information. (If 100 of 300 items had been scanned prior to the crash, the same progression appears when the EQS scan program comes back up: work does not have to be re-entered.)

III. LOGGING ONTO THE EQS SCAN PROGRAM

1. Power up the scanner by pressing the red button in the lower left corner.

2. Open the **ESQ Scan** program by clicking on the icon with the stylus.

3. On the **EQS StartUp** screen, click on the "Initial" field and enter your initials (two or three). Initials must be entered each time a session is initiated. If more than one person conducts the inventory, different initials can be entered at the start of each session. The "User Initials" and (Most Recent) "Date Scanned" will be carried as part of the CATS equipment record for each item of equipment scanned.

4. Click "OK."

5. The **Item List** screen appears.

   The top line records the physical inventory progression: "Items scanned: X/total number of items in inventory." As each item is scanned, X is updated: 3/124, 16/124, 97/124, etc..

   The scroll list normally displays only items that have not been scanned. If you check the "Show scanned items" box, the scroll list displays ALL items, scanned items appearing in **BOLD** to distinguish them from unscanned items.

   The scroll list displays (9 property numbers per display window) the items on the inventory, in order by property number, lowest to highest (unlike the printed EQ920, the list is not subdivided by custody code/fund number).

IV. SCANNING

A. Barcode is Scannable

1. Holding the scanner approximately 6 inches (no more than 1 foot) away from a bar-coded property tag, activate the scanning beam by pressing any one of the three yellow buttons (left, center and right) at the top of the scanner. For best results, hit the barcode straight on with the scanning beam; do not sweep the beam up or down to scan the barcode. This may take some practice.

2. If the scan is effective, and if the barcode scanned corresponds to an item on your department's inventory, the **Item Details** screen appears, displaying the property record for the item of equipment.

   The first line of the screen provides the item's Property Number and its four-digit "main department" Custody Code. The last two lines display the item's Description. Department users cannot modify these three fields.

All fields between these first and last lines can be modified.

Field Name	Comments
Manufacturer (Mfr)	No data validation. If you blank out the field, the previous data is not overwritten when the inventory is uploaded into CATS.
Model	No data validation. If you blank out the field, the previous data is not overwritten when the inventory is uploaded.
Serial Number (SN#)	Maximum 20 characters. No data validation; field may be left blank.
Building Number (Bldg)	Must be a 3-digit building number (even if an item such as a boat is not physically located in any building). If you blank out the field, an error message – "The building field must be 3 digits long" – is displayed when you click "Save" and attempt to exit the record. If this message is displayed, click "OK," enter a building number and click "Save."
	Building numbers cannot be validated on the scanner. Invalid building numbers (those not in the campus FDX system) are rejected when the inventory is uploaded; the previous building number is not overwritten. The invalid building number appears on an error report.
Room Number (Rm)	Maximum 6 characters (alphanumeric); field may be left blank.
	Room numbers cannot be validated on the scanner. Invalid room numbers are rejected when the inventory is uploaded; the previous room number is not overwritten (if previously blank, the field will remain blank). The invalid room number appears on an error report.

User	Maximum 2 characters (alphanumeric). No data validation; field may be left blank
Condition Code	2 characters (the first must be either N, E, O or R; the second must be either 1, 2, 3 or 4). Condition codes cannot be validated on the scanner. Invalid condition codes are rejected when the inventory is uploaded (this field also cannot be left blank) and the previous condition code is not overwritten. The invalid character(s) appears on an error report.

3. Enter modifications (if all fields are complete and current, none may be needed).

4. Click the "Save" button.

5. The **Item List** screen appears. The "Items Scanned" field has been updated to indicate that one more inventory item has been scanned (previously 12/125, now 13/125).

B. Barcode is not Scannable

1. The message – "Scanner Error. Error while scanning. Please try again." – is displayed when you attempt to scan a barcode.

   This message is displayed under two circumstances:

   a. the barcode on the property tag has been damaged (scratched, partially erased due to wear, etc.) and is not readable;

   b. there was a "mechanical" problem with the scan – the scanner was held too far away from the barcode or at a bad angle; the scan beam did not hit the barcode straight on; you swept the beam up/down in your attempt to scan it.

2. Clear the "Scanner Error" message by clicking "OK."

3. Scan the barcode again. If, after two or three attempts, the "Scanner Error" message continues to reappear, assume that the problem is a defective barcode.

4. Note the property number of the defective barcode. Include it on a list of "Replacement Property Tags." Turn this list in to Equipment Management at the same time as you return the scanner and new property tags will be printed and mailed to your department.

   You may also request a replacement tag if the current (readable) tag has been affixed in a location which is difficult to access and scan (for example, the back of a large piece of scientific equipment) and you wish to replace it for ease of scanning in the future.

5. Call up the item record by using the following Manual Scanning procedure.

C. "Manual" Scanning

If a barcode will not scan, or if the property tag is so old that it does not include a barcode, or if the piece of equipment is at a remote location such as a research station, you can display its record by clicking on it on the **Items List** screen. If your inventory is long, the property number can be located two different ways:

1. Use the up/down scroll arrow to the right of the display window. Position the stylus on the arrow and slowly drag it down (or up, if you overshoot) until the property number appears, then click on the record with the stylus. You can also advance up or down one screen by clicking the scroll bar.

2. Use the "Find" field below the display window:

   a. Click on the "Find" field.

   b. Using either the stylus or numeric keyboard, begin to enter the property number. As each number is entered, the scroll list advances: write a 9 and it displays the first property number on your inventory with a 9 in the first position; write a 7 and it displays the first property number with 97 as the first two positions. If your inventory is long, you may need to enter most of the positions before reaching the property number: 9780022, for example, in order to retrieve 978002258.

   c. Click on the property number whose record you wish to update and enter the modifications.

   d. The "Find" field is automatically cleared once you click "Save" on the **Item Details** screen.

      NOTE: Due to a programming flaw, the "Find" field is not cleared if you click "Cancel" on the **Item Details** screen. In this case, the "Find" field can quickly be cleared and a new find initiated.

D. Wrong Item Record Displayed

When using the stylus to retrieve a record, it is possible to click on the wrong property number and display the record for a printer, for example, when you wish to update the record for a computer. If this occurs, click the "Cancel" button on the **Item Details** screen and you are returned to the **Item List**, where you can select the correct property number and record.

If the "Cancel" button is clicked (whatever the circumstances), the incorrect item is not recorded as having been scanned and the "Items Scanned" field is not updated (if it was 45/167 prior to the incorrect record being selected, it remains 45/167).

E. Item Not on Inventory Scanned

1. The message – "The item is not in the database" – is displayed when you scan a barcode.

   This message is displayed under several circumstances:

   a. the item belongs to another department; this can occur in large labs in which equipment from different departments is housed, in cases where the P.I. has a shared appointment, or if departments have not informed Equipment Management of a transfer so the custody has not been updated;

   b. the piece of equipment is in disposed status, an EIMR having previously been processed to record its status as destroyed (cannibalized for parts, but the shell with the property tag was kept) or lost/unable to locate;

   c. the barcode was not removed from a piece of equipment with a value of less than $1500 whose record was purged from CATS in April 2000;

   d. a discrepancy between the number printed on the property tag and that encoded in the barcode; for example, it was discovered, several months into 2002, that the barcodes provided to the campus contained such an error – new property tags were distributed, but not all of the incorrect tags may have been replaced.

2. If the "Item is not in the database" message is displayed and you believe that it is in error, verify its accuracy by manually scanning the Item List for the property number.

3. <u>If the property number is on the Item List</u>, note the property number of the defective barcode. Include it on your list of "Replacement Property Tags." Proceed with the manual scan of the item.

4. <u>If the property number is NOT on the Item List</u>, mark the piece of equipment (post-it, etc.) for follow-up with Equipment Management to verify its status (belongs to another department, in disposed status due to a previous report of loss or destruction, worth less than $5000 and non-inventorial) and determine the appropriate action (if any) to be taken.

F. Item Scanned More Than Once

1. The message – "This item is already scanned. Continue to modify?" – is displayed when you scan or manually select a property number that has already been scanned and the record saved.

2. If you deliberately re-scanned the barcode (perhaps you remembered, after clicking "Save," that you forgot to update the room number), click the "Modify" button and proceed to update the record.

3. If you accidentally re-scanned the barcode, click the "Cancel" button.

V. EXITING THE EQS SCAN PROGRAM

The program automatically goes into "sleep" mode if inactive for more than two minutes, but it is recommended that you exit the program if you plan to take an extended break and not resume inventorying immediately. You should also exit the program before returning the scanner to Equipment Management.

1. You can exit the EQS Scan Program from any screen. Simply click the "Home (House)" icon at the lower left of the display screen. You are returned to the main scanner screen.

2. Turn the scanner off by pressing the red "Power" button.

VI. RETURNING THE BARCODE SCANNER

1. When you complete the inventory, return the scanner and (if applicable) a list of "Replacement Property Tags" to Equipment Management.

   A memo, signed by the department chair or director, certifying that the department has completed and updated its inventory via use of the barcode scanner, must be returned at the same time. This memo will be attached to the Equipment Management copy of the printed inventory produced at the time that the inventory was downloaded onto the scanner, together with copies of the three reports listed below. A sample memo is attached at the end of this document.

2. Equipment Management uploads the completed inventory into CATS. Three reports are produced:

   a. a list of all updates made, item-by-item and field-by-field;

   b. a list of all data errors or rejected updates (invalid building or room numbers and condition codes, blank manufacturer or model number fields);

   c. a list of all items that were not scanned.

      This final report is very important: it provides the department with a list of items whose location has not been verified. The items may be located during a thorough follow-up search (either on or off campus). Or it may be determined that their disposal (destroyed/ cannibalized for parts, traded in, etc.) was not reported to Equipment Management, or that items may be lost and cannot be located. In either of the last two cases, EIMRs need to be prepared and submitted to Equipment Management in order to remove the items from the department's inventory.

      For this reason, it is imperative that departments NOT falsify their inventory by selecting items that were not located and clicking "Save" for each of them. If this is done, the "phantom" items will continue to appear on the department's inventory and the department will attempt to locate them when the next inventory is conducted.

3. Equipment Management makes copies of the three reports, attaching the originals to the inventory package which includes the copy of the original inventory and the department certification memo and providing the department with copies for its own files and for any required action (see the following section).

VII. FOLLOW-UP

1. Equipment Management works with the department to correct the data errors. Certain errors (forgetting a leading zero on trailer rooms – entering 106 instead of 0106, for example) can quickly be corrected by Equipment Management without input from the department. Other errors may require investigation by the department: perhaps a room number was rejected because the building number was not updated at the same time.

2. The department works on the list of items that were not scanned, removing items from the list in two ways:

    a. reporting subsequently located items to Equipment Management via email or memo (this should be done by submitting one consolidated list, not item by item);

    b. reporting disposed items to Equipment Management via EIMR (preferably, the on-line EIMR); items transferred to another department or institution may also be reported via EIMR.

3. During the week following uploading of inventory data from the scanner into CATS, Equipment Management prints out a copy of the department's inventory from the Datawarehouse. The inventory is sorted and a list of (recently acquired) items with incomplete information (missing serial numbers, rooms and users, etc.) is sent to the department in the form of an Excel spreadsheet attached to an email. Equipment Management follows up with the department, which may update the data itself, inputting it directly into CATS, or may provide the information to Equipment Management via return of an updated version of the spreadsheet.

    COMPLETING AN INVENTORY INVOLVES MORE THAN JUST ACCOUNTING FOR ALL OF THE ITEMS ON IT – THE RECORD FOR EACH ITEM, ESPECIALLY THE SERIAL NUMBER – IS ALSO SUPPOSED TO BE COMPLETE AND CURRENT.

ATTACHMENT A
SAMPLE MEMO OF UNDERSTANDING

EQUIPMENT MANAGEMENT SCANNER SIGN-OUT
AND
MEMO OF UNDERSTANDING

The XXX DEPARTMENT acknowledges that it has been loaned a Symbol 1800 Scanner by Equipment Management for the purposes on conducting its Physical Inventory (EQ920).

The Department agrees to reimburse Equipment Management for the cost – currently $925 – of the Symbol 1800 Scanner (or a like model, if this model has been discontinued) if the scanner is lost, damaged beyond repair, or destroyed while in the Department's possession. If the scanner is damaged but repairable, the Department agrees to reimburse Equipment Management for the cost of repairs.

The Department agrees to return the Symbol 1800 Scanner to Equipment Management on or before XXXX DATE, unless Equipment Management has granted it a written extension.

XXX DEPARTMENT

_____
Printed Name

_____
Signature

_____
Date Scanner Loaned

_____
Date Scanner Returned

ATTACHMENT B
SAMPLE INVENTORY CERTIFICATION MEMO
(To be modified as the circumstances merit)

Date:

To: Equipment Management

From: YYY, CHAIR
        XXX DEPARTMENT

This memo certifies completion of XXX DEPARTMENT's bi-annual physical inventory through use of Equipment Management's barcode scanner.

My signature certifies:

- that the records of all scanned items have been updated to include current locations and condition codes and that all serial numbers have been entered. (If not updated directly on the scanner, such information has been entered by the department directly into the CATS database.)

- that any items that were not located have NOT been checked off of the list in order to avoid reporting their loss or the inability to locate them. I understand that maintaining accurate inventory records is vital to the University's reporting and audit controls systems and that all my department will not be penalized for reporting unable to locate items, especially those that are obsolete.

- my department's commitment to conducting a thorough follow-up to account for all items that have not been located, and to account for them by (1) notifying Equipment Management, in writing, that they have subsequently found or (2) preparing and submitting Equipment Inventory Modification Request (EIMR) forms to record the disposal of items trashed without paperwork being prepared, lost items which cannot be located, or items otherwise disposed or transferred to other departments or institutions.

- my department's commitment to provide Equipment Management with missing serial numbers for recently acquired items, if subsequent data verification reveals that a large number of them are missing from the inventory.

Print Name:

Signature: