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| | |
|---|---|
| Document Contact | Kelly Sartor |
| Area | Laboratory-Blood Bank |
| Applicability | Dearborn, FH, Troy |

# Computer Inventory Policy - Blood Bank

Document Type: Procedure



## I. PURPOSE AND OBJECTIVE:

This document will provide procedure and guidance for the inventory and validation of computer hardware located in the Blood Bank.

## II. SCOPE:

The Blood Bank will maintain a Computer Inventory Binder with records of computer hardware, serial numbers, property identification numbers, validation records, hardware location in the Blood Bank.

## III. POLICIES:

A. Any equipment used to document patient data is considered a Medical Device and must be validated before being placed into use.

B. Only employees with authorized access have the ability to log onto and use the Blood Bank computers. Employees that have received adequate training and have been granted proper security clearance by the Information Technology (IT) department have the ability to access the laboratory and hospital informatics systems.

C. Beaumont Health computers will automatically lock after a predetermined period of idle time. Additionally, Beaumont Health employees are required to update their login passwords on a regular basis. This helps to prevent unauthorized access to computers and electronic records, and minimizes the risk of data breaches.

D. Blood Bank computers are maintained by the IT department. All computer software or hardware problems (including barcode scanners) should be reported to IT.

E. When faulty hardware is detected, it must be removed from the inventory until it can be

replaced or repaired. When computer hardware is defective or in need of service, received, replaced, removed from service, etc. the *Computer System Hardware Inventory Log* must be updated.

F. The blood bank staff must notify Supervisor or Lead Medical Technologist each time the IT department does software updates or replacement of hardware on a blood bank computer to assure proper computer validation in an expedient manner.

G. The Blood Bank will perform periodic audits, to assess whether the hardware is in the correct location and to verify that the hardware has been validated, as specified in the Computer Inventory Binder.

# IV. EQUIPMENT:

A. Printers

B. Barcode scanners

C. Computers

D. Keyboards

E. Mouse

# V. PROCEDURE:

A. **Receipt of new equipment**:

1. Prepare a Computer System Hardware Inventory Log for each hardware component indicating the device's location, manufacturer, model number, serial number, BH asset tag number (if assigned), item description and date installed.
2. Perform qualification checks for printers, barcode scanners and keyboards. Record Validation of hardware on the applicable validation script.
3. Record the date the hardware was added to system, your initials, and the workstation number to which the device has been on *Computer System Hardware Inventory Log*.
4. If a new device replaces a previous device with a BH asset number, indicate the change on the *Computer System Hardware Inventory Log*.

B. **Transfer of equipment to new location:**

1. Obtain the corresponding *Computer System Hardware Inventory Log* for the device being relocated. See the Attachments Section of this procedure for a listing.
2. Record the date, your initials and the workstation to which the device is being reassigned and indicate that it is in service. It is not necessary to re-qualify the device.
3. Replace its *Computer System Hardware Inventory Log* in the Computer Inventory Log binder.
4. Put the old log in the Archive Section in the Computer Inventory Log binder.

C. **Removal of faulty or archaic equipment:**

1. Obtain the corresponding *Computer System Hardware Inventory Log* for the device which is to be removed from service. See the Attachment Section of this procedure for a description.
2. If the device is faulty and needs repair service, indicate on the log what problems are being experienced with the device.
3. Physically remove the device from service and leave the *Computer System Hardware Inventory Log* for the System Manager to review.
4. If the equipment is replaced, indicate the replacement on its *Computer System Hardware Inventory Log* and file it in the Computer Inventory Log binder under the Out of Service section.

# VI. REFERENCES:


1. AABB Technical Manual, current edition.
2. AABB *Standards for Blood Banks and Transfusion Services*, current edition.
3. College of American Pathologists, *Transfusion Medicine Checklist*, current edition.
4. Symbol® LS 4208 Product Reference Guide.
5. Zebra® DS 3408 Product Reference Guide.




## Attachments

Computer Inventory Policy SOFTBank Keyboard Validation Script

Computer Inventory Policy Barcode Printer Validation Script

Computer Inventory Policy Computer Hardware Inventory Log

Computer Inventory Policy SOFTBank Barcode Programming Guide

Computer Inventory Policy SOFTBank Barcode Scanner Validation Script

Computer Inventory Policy SOFTBank Transfusion Tag Validation Script

## Approval Signatures

| Step Description | Approver | Date |
|---|---|---|
| | Jeremy Powers: Chief, Pathology | 6/7/2022 |
| | Vaishali Pansare: Chief, Pathology | 6/6/2022 |

| | | |
|---|---|---|
| | John Pui: Chief, Pathology | 6/3/2022 |
| | Ryan Johnson: OUWB Clinical Faculty | 6/3/2022 |
| Policy and Forms Steering Committe (if needed) | Kelly Sartor: Supv, Laboratory | 6/3/2022 |
| Policy and Forms Steering Committe (if needed) | Gail Juleff: Project Mgr Policy | 6/3/2022 |
| | Karrie Torgerson: Supv, Laboratory | 6/3/2022 |
| | Teresa Lovins: Supv, Laboratory | 5/27/2022 |
| | Kelly Sartor: Supv, Laboratory | 5/27/2022 |
| | Kelly Sartor: Supv, Laboratory | 5/27/2022 |

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# SoftBank Keyboard Validation Script

| Keyboard Qualification Script | |
|---|---|
| **Keyboard Serial Number:** | |
| Tested by: | Date: |
| Results Reviewed by: | Date: |
| Results Approved by: | Date: |
| ☐ Accepted ☐ Rejected | By: |

**Keyboard Qualification**
When a new keyboard is installed or moved to a new location, the accuracy of the keystroke entries must be verified.

**OBJECTIVE**
1. Prepare hardware inventory documentation.
2. Perform Installation Qualification (IQ) of keyboard.
3. Perform Operational Qualification (OQ) of keyboard.
4. Perform Application Qualification (AQ) of keyboard.

**SETUP**
1. Computer System Hardware Inventory Log
2. Blood Bank Computer.

**SECURITY LEVEL**
1. Security equivalent to Technologist (MT).

**PROCEDURE**

**Installation Qualification**
1. Record keyboard information on the Computer System Hardware Inventory Log.
2. Record keyboard serial number in the space provided at the top of this script.
3. With the computer powered off, connect the keyboard.
4. Turn the computer on.

| | | |
|---|---|---|
| **VERIFY 1 -** The computer recognizes the keyboard is present (no keyboard error message). | **Accepted:** Yes ☐ No ☐ | **Initials**: |

**Operational Qualification**

1. Press the Caps Lock and Num Lock keys on and then off.

| | | |
|---|---|---|
| **VERIFY 2 -** Caps Lock and Num Lock lights turn on and off as lock keys are pressed. | **Accepted:** Yes ☐ No ☐ | **Initials**: |

2. Log into the computer at the Ctrl-Alt-Delete screen.

| VERIFY 3 - The computer permits access when valid username and password are entered. | Accepted: Yes ☐ No ☐ | Initials: |
|---|---|---|

**Application Qualification**

1. Log in to SoftBank TEST2
2. Enter the MRN of Test Patient
3. Order Type and Screen on TEST patient
4. In Patient/Order/Modify, add order comments (F8)
5. With Caps Lock off, starting with top left corner of keyboard and working to the right to the end of the same row, depress each of the character, number and letter keys.
6. Press enter to start a new line.
7. Repeat step 10 for the second row of keys. Press enter to start a new line.
8. Repeat step 10 for the third row. Press enter to start a new line.
9. Repeat step 10 for the bottom row. Press enter to start a new line.
10. Depress and hold the Shift key down, repeat step 10 for the first row. Press enter to start a new line.
11. Depress and hold the Shift key down while depressing each of the last 3 keys in the second row. Press enter to start a new line.
12. Depress and hold the Shift key down while depressing the semi-colon key and the apostrophe key in the third row. Press enter to start a new line.
13. Depress and hold the Shift key down while depressing the comma, period, and question mark keys. Press enter to start a new line.
14. Put the Caps Lock on and repeat steps 10-14.
15. Press ENTER to start a new line.
16. Put the Num Lock on and depress each key on the numeric key pad.
17. Visually inspect the display for accuracy. The completed validation should look like the example on the following page.

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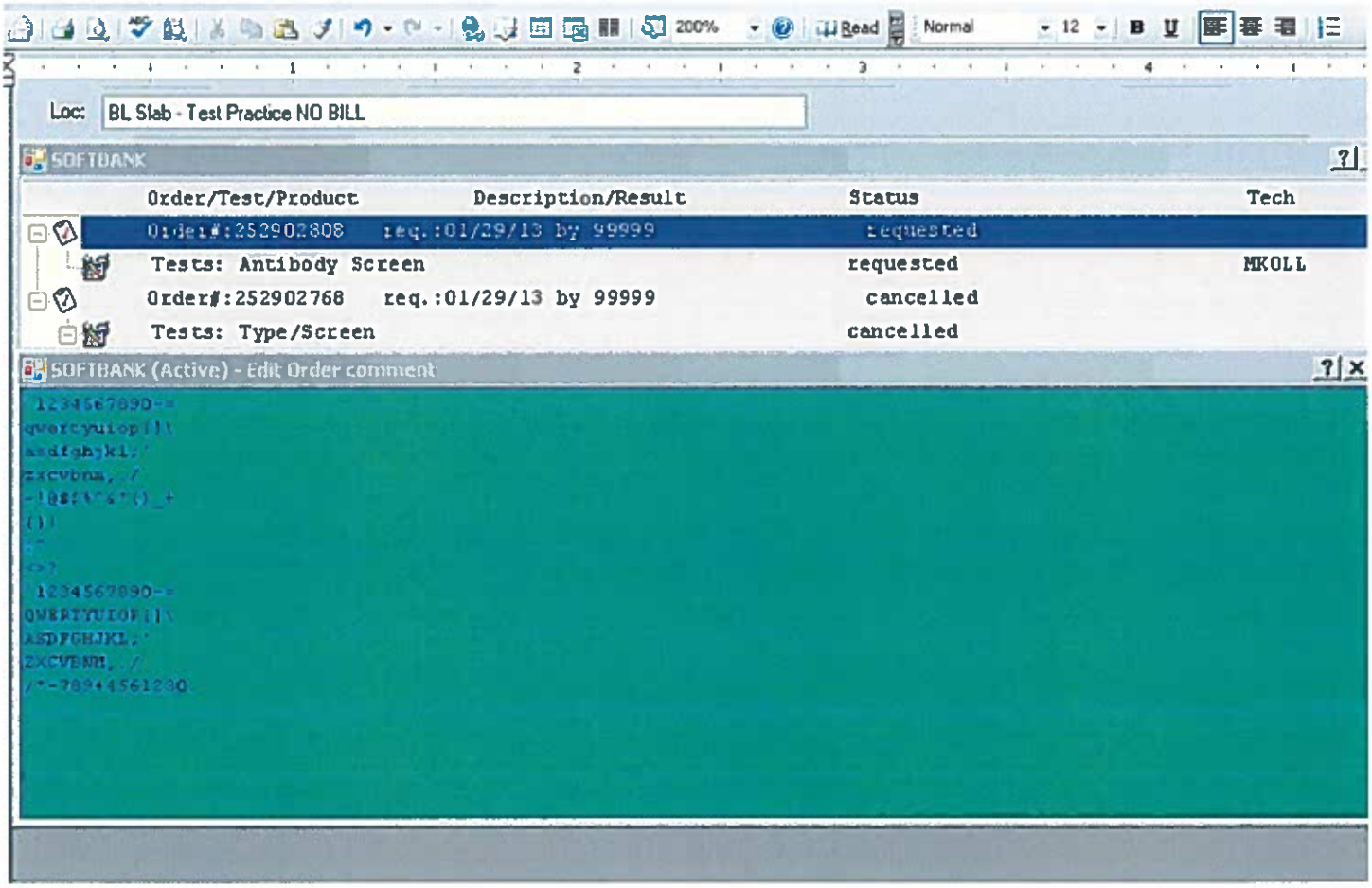
# SoftBank Keyboard Validation Script




| | | |
|---|---|---|
| **VERIFY 4 -** Each key accurately transmits the correct character both in lower and upper case. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

23. Print Screen the order comment document and attach to its Computer System Hardware Inventory Log.
24. Erase the comment and click F12-Accept to cancel the comment.

| If keyboard is functioning | Then | Notes |
|---|---|---|
| **Accurately** | 1. Put a checkmark in the Qualification test completed box on the Computer System Hardware Inventory Log and date the form.<br>2. Sign and date the "tested by " field at the top of the script.<br>3. Give all paperwork to the Lead or supervisor for review. | |
| **NOT accurately** | Notify the Lead or the supervisor | Keyboard may need to be replaced |

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# SoftBank Keyboard Validation Script

| Keyboard Qualification Script | |
|---|---|
| **Keyboard Serial Number:** | |
| Tested by: | Date: |
| Results Reviewed by: | Date: |
| Results Approved by: | Date: |
| ☐ Accepted ☐ Rejected | By: |

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When a new keyboard is installed or moved to a new location, the accuracy of the keystroke entries must be verified.

**OBJECTIVE**
1. Prepare hardware inventory documentation.
2. Perform Installation Qualification (IQ) of keyboard.
3. Perform Operational Qualification (OQ) of keyboard.
4. Perform Application Qualification (AQ) of keyboard.

**SETUP**
1. Computer System Hardware Inventory Log
2. Blood Bank Computer.

**SECURITY LEVEL**
1. Security equivalent to Technologist (MT).

**PROCEDURE**

**Installation Qualification**
1. Record keyboard information on the Computer System Hardware Inventory Log.
2. Record keyboard serial number in the space provided at the top of this script.
3. With the computer powered off, connect the keyboard.
4. Turn the computer on.

| | | |
|---|---|---|
| **VERIFY 1 -** The computer recognizes the keyboard is present (no keyboard error message). | **Accepted:** Yes ☐ No ☐ | **Initials:** |

**Operational Qualification**

1. Press the Caps Lock and Num Lock keys on and then off.

| | | |
|---|---|---|
| **VERIFY 2 -** Caps Lock and Num Lock lights turn on and off as lock keys are pressed. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

2. Log into the computer at the Ctrl-Alt-Delete screen.

| | | |
|---|---|---|
| **VERIFY 3 -** The computer permits access when valid username and password are entered. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

**Application Qualification**

1. Log in to SoftBank TEST2
2. Enter the MRN of Test Patient
3. Order Type and Screen on TEST patient
4. In Patient/Order/Modify, add order comments (F8)
5. With Caps Lock off, starting with top left corner of keyboard and working to the right to the end of the same row, depress each of the character, number and letter keys.
6. Press enter to start a new line.
7. Repeat step 10 for the second row of keys. Press enter to start a new line.
8. Repeat step 10 for the third row. Press enter to start a new line.
9. Repeat step 10 for the bottom row. Press enter to start a new line.
10. Depress and hold the Shift key down, repeat step 10 for the first row. Press enter to start a new line.
11. Depress and hold the Shift key down while depressing each of the last 3 keys in the second row. Press enter to start a new line.
12. Depress and hold the Shift key down while depressing the semi-colon key and the apostrophe key in the third row. Press enter to start a new line.
13. Depress and hold the Shift key down while depressing the comma, period, and question mark keys. Press enter to start a new line.
14. Put the Caps Lock on and repeat steps 10-14.
15. Press ENTER to start a new line.
16. Put the Num Lock on and depress each key on the numeric key pad.
17. Visually inspect the display for accuracy. The completed validation should look like the example on the following page.

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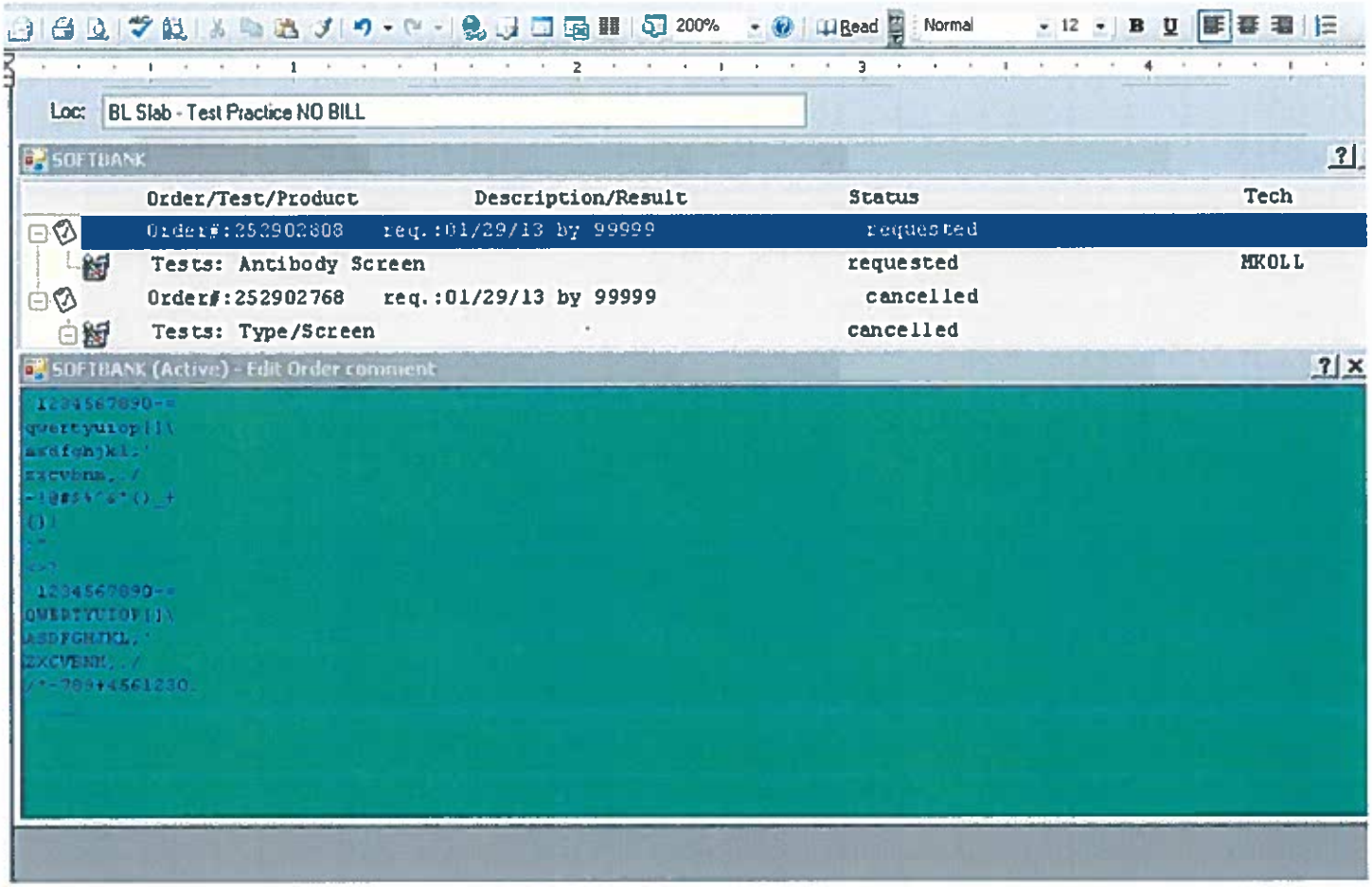
# SoftBank Keyboard Validation Script

## Beaumont Laboratory




| | | |
|---|---|---|
| **VERIFY 4 -** Each key accurately transmits the correct character both in lower and upper case. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

23. Print Screen the order comment document and attach to its Computer System Hardware Inventory Log.
24. Erase the comment and click F12-Accept to cancel the comment.

| If keyboard is functioning | Then | Notes |
|---|---|---|
| **Accurately** | 1. Put a checkmark in the Qualification test completed box on the Computer System Hardware Inventory Log and date the form.<br>2. Sign and date the "tested by " field at the top of the script.<br>3. Give all paperwork to the Lead or supervisor for review. | |
| **NOT accurately** | Notify the Lead or the supervisor | Keyboard may need to be replaced |

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## Beaumont Laboratory

# Barcode Printer Validation Script

| Barcode Printer Qualification | Software Release Version: |
|---|---|
| Reviewer's comments: Barcode printer models are qualified for use with the application by the vendor. | Printer S/N:<br><br>Printer Name: |
| Tested by: | Date: |
| Results Reviewed by: | Date: |
| Results Approved by: | Date: |
| ☐ Accepted ☐ Rejected | By: |

**BARCODE PRINTERS**

**Barcode Printer Qualification**

**OBJECTIVE**

1. Prepare hardware inventory documentation.
2. Perform Installation Qualification (IQ) of printer.
3. Perform Operational Qualification (OQ) of printer.
4. Perform Application Qualification (AQ) of printer.

**SETUP**

1. Computer System Hardware Inventory Log
2. Products for modifying (changing) and/or pooling.

**SECURITY LEVEL**

Security equivalent to technologist or higher including the ability to:

a. Receive blood products
b. Modify and thaw products.

**Scenario Specific Data**

1. Obtain a test patient with a current Type and Screen and an order for one plasma.
2. Receive 1 FFP (product codes must be in system) that are compatible for the test patient.

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# Barcode Printer Validation Script

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**PROCEDURE**

**Installation Qualification**

1. Record printer information on Computer System Hardware Inventory Log.
2. Record printer's serial number in box at top of Script.
3. Set up and load printer with label stock according to type of label to be printed. (See User Guide for instructions.)
4. Turn printer on.
5. Verify printer settings. Adjust printer settings as needed to match the table below. (See User Guide for instructions.) Settings may be site specific

| Darkness | Print Speed | Print Mode | Media Type | Sensor Type | Sensor Select | Print Method | Print Width |
|---|---|---|---|---|---|---|---|
| 10.0 or > | 2 IPS | Tear-Off | Non-Continuous | Web | Auto Select | Direct Thermal | 105 |

| | | |
|---|---|---|
| **VERIFY 1 -** Printer settings match and/or have been adjusted to recommendations. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

**Operational Qualification**

1. Perform printer Media Calibration for selected label stock according to User Guide.

| | | |
|---|---|---|
| **VERIFY 2 -** Printer recognizes label qualities and no error messages are displayed. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

2. Print a Configuration label and a Network Configuration label.

| | | |
|---|---|---|
| **VERIFY 3 -** Configuration and Network Configuration labels print. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

3. Initial and date labels and apply to reverse side of the Computer System Hardware Inventory Log.

**Application Qualification** –perform in test system

1. In Inventory, Edit -Change
2. Change one plasma to thawed and print to an ISBT label printer.
3. Label Verify the printed labels.
4. Go to Inventory-Edit-Label and reprint full face labels to printer and perform the label verification step.

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# Barcode Printer Validation Script

| | | |
|---|---|---|
| **VERIFY 4 -** Labels print correctly and are visually accurate and legible. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

| | | |
|---|---|---|
| **VERIFY 5 -** ABO/Rh, Product Code, and Expiration Date /Time scan correctly.<br>**Comment:** Time will scan as 23:59. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

| If printers are functioning | Then | Notes |
|---|---|---|
| **Accurately** | 1. Put a checkmark in the Qualification test completed box on the Computer System Hardware Inventory Log and date the form.<br>2. Sign and date the "tested by " field at the top of the script.<br>3. Give all paperwork to the Lead or supervisor for review. | |
| **NOT accurately** | Notify the Lead or the supervisor | |

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# Computer System Hardware Inventory Log

Location: _____

- ☐ Computer
- ☐ Monitor
- ☐ Mouse
- ☐ Keyboard
- ☐ Barcode Reader
- ☐ Printer

Manufacturer: _____

Model number: _____

Serial number: _____

☐ Qualification test completed
Tech/Date

BH Asset number:

| Date | Tech | Action | Workstation | Problem | Service # |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Action Key:
1. Placed in Service
2. Removed from Service
3. Moved to new location
4. Replaced

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## Beaumont Laboratory

# SOFTBANK BARCODE SCANNER PROGRAMMING GUIDE

The scanner is attached directly to a USB port on the computer. No additional power supply is required.

Scan the following barcode in the order listed below.

1.

***North American Standard USB Keyboard**

2.

**Scan Suffix**

3.

**7**

4.

**0**

5.

**0**

6.

**9**

7.

**Scan Options**

8.

**<DATA> <SUFFIX>**

9.

**Enter**

10.

**Override Caps Lock Key (Enable)**

11.

**Enable Codabar**

12.

***Enable ISBT 128**

13.

**Code 39 - Any Length**

14.

***No Case Conversion**

15. Scanner Beep Volume is defaulted to HIGH. If you want to adjust the volume, select one of the following options:

**Low Volume**

**Medium Volume**

***High Volume**

16. Perform Barcode Scanner Validation using SOFTBANK Barcode Scanner Validation Script.

## Beaumont Laboratory

| Transfusion Tag Printer Qualification | |
|---|---|
| Printer S/N:<br><br>Printer Name: | |
| Tested by: | Date: |
| Results Reviewed by: | Date: |
| Results Approved by: | Date: |
| ☐ Accepted ☐ Rejected | By: |

**Transfusion Tag Printer Qualification**

**OBJECTIVE**

1. Prepare hardware inventory documentation.
2. Perform Installation Qualification (IQ) of printer.
3. Perform Operational Qualification (OQ) of printer.
4. Perform Application Qualification (AQ) of printer.

**SETUP**

1. Computer System Hardware Inventory Log,
2. Patient for Crossmatching
3. RBC and Tissue
4. Standard printer settings

**SECURITY LEVEL**

Security equivalent to technologist with ability to:

a. perform type and screen and crossmatch
b. receive blood products and tissues
c. perform donor confirmatory types

**Scenario Specific Data**

1. Patient with current completed Type and Screen and orders for product(s) corresponding to the printer to be validated (RBC).
2. Compatible in-date RBC
3. Computer System Hardware Inventory Log

**PROCEDURE**

**Installation Qualification**

1. Record the printer information on the Computer System Hardware Inventory Log
2. Record printer's serial number in box at top of Script.
3. Set up and load printer with transfusion tag paper stock.
4. Plug the printer into power supply and network connection.
5. Turn the printer on.

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| | | |
|---|---|---|
| **VERIFY 1 -** Printer lights come on. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

**Operational Qualification**

1. Enter the Menu mode for the printer.

| | | |
|---|---|---|
| **VERIFY 2 -** Printer goes into Menu mode. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

2. Print the menu settings.

| | | |
|---|---|---|
| **VERIFY 3 -** Current menu settings are printed. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

3. Date printer menu settings report and attach report to F-069.

| | | |
|---|---|---|
| **VERIFY 4 -** Current menu settings agree with printer standard. | **Accepted:** Yes ☐ No ☐ | **Initials:** |

**Application Qualification**

If validating RBC, FFP, PLT or CRYO printer:

1. In Soft, crossmatch (select) the RBC product to the test patient. Print transfusion slip to the Transfusion tag printer.

| | | |
|---|---|---|
| **VERIFY 5 -** Red Cell transfusion slip prints correctly and legibly, with all pertinent data. | **Accepted:** Yes ☐ No ☐ NA ☐ | **Initials:** |

2. Repeat for other products:

| | | |
|---|---|---|
| **VERIFY 6-** FFP, PLT, and Cryo transfusion slips print correctly | **Accepted:** Yes ☐ No ☐ | **Initials:** |

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## Beaumont Laboratory

### SoftBank Transfusion Tag Printer Validation Script

| If printers are functioning | Then | Notes |
|---|---|---|
| **Accurately** | 1. Put a checkmark in the Qualification test completed box on the Computer System Hardware Inventory Log and date the form.<br>2. Sign and date the "tested by " field at the top of the script.<br>3. Give all paperwork to the Lead or supervisor for review. | |
| **NOT accurately** | Notify the Lead or the supervisor | |