Consumer Service Webpad

Problem Determination Procedures

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2.   Document Conventions

Terms that may be unfamiliar to a reader are underlined with dots the first time that they are mentioned in a section or explanation. The reader can find a brief definition of these terms in the "Term Definitions" section of this document.

Common sub-procedures that are performed as part of one or more problem determination procedures are extracted and explained in detail in the "How To…" section of this document. The names of these sub-procedures are underlined.

3.   Term Definitions

Tablet
The main system unit. Depending on context of where the term is used, it may or may not include a docked wireless barcode scanner peripheral. Because this term is used frequently, it will not be underlined each time it occurs.
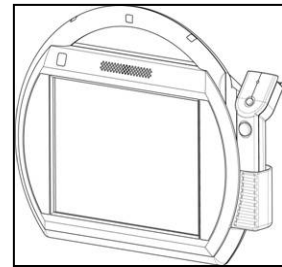
Scanner
The wireless barcode scanner for use with the tablet. Because this term is used frequently, it will not be underlined each time it occurs.
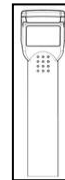
Handle LEDs
A series of green and orange LEDs spaced across the handle of the tablet.
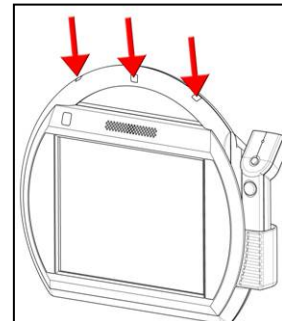
System LED
A green LED on the back of the tablet.
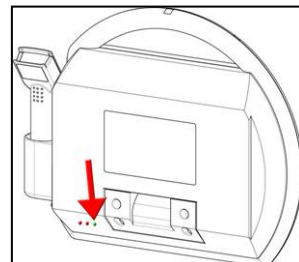
Scanner Holster
A holster attached to the tablet for the wireless scanner.
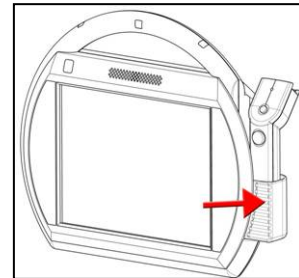
Scanner LEDs
A small green and amber LED positioned on the top of the wireless scanner.
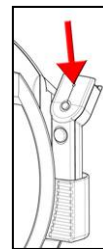
Web Application
When operating normally, the tablet accesses web application content (i.e. a website) to display media to the user and to drive the overall operation of the tablet. This web application is specially written to interact with the tablet and peripheral scanner in order to perform some retail function. When a tablet is working properly, the web application should load as soon as the tablet boots.

Log Archive
During operation, the tablet maintains a set of logs to aid in the diagnosis of problems. There are several ways in which these logs can be collected when a problem occurs (see the Collect Log Archives from the Tablet How To). The end result of collecting logs is a log archive. The log archive is a tar.gz file containing user visible content as well as an encrypted binary that can only be analyzed by IBM personnel.

Rack Slot
When it is not in use, a tablet should be cradled in a rack slot to charge. In addition to providing power to the tablet, each rack slot contains a small amount of data to uniquely identify it (i.e. store number, rack number, location id, and slot id). When a tablet is cradled, this data is transferred to the tablet so that the tablet (and its associated web application) can identify where it is cradled.

Rack
A tablet rack is a tower of nine rack slots, typically located at the front of the store for storage of tablets while they are not in use.

Scanner Beam
The scanner scans barcodes by emitting a red beam when either the "+" or "– " button on the scanner is pressed.

Partner
In order to communicate with a wireless barcode scanner, a tablet must first partner with it. The partnering process takes place when the tablet boots. During the boot process, the tablet will partner with the scanner currently docked in its scanner holster. If the tablet boots without a scanner in its scanner holster, the tablet will partner with the first scanner docked after being booted. The tablet will keep this partner and continually try to communicate with it until the tablet is powered off, rebooted, or otherwise reset.

Tablet Pinhole Controls
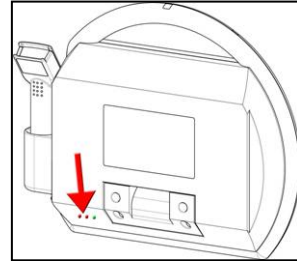There are two pinhole controls on the back, lower left of the tablet. They are accessible only by a thin, straight instrument such as a straightened out paperclip. If a paperclip is inserted ¾ of an inch into one of the holes, it will depress a button hidden within the tablet. The two buttons accessible by this means are the reset control (the symbol ® is visible above this pinhole) and the power control (the symbol Ⓘ is visible above this pinhole).

Scanner Pinhole Control
There is one pinhole control on the wireless scanner. It is accessible only by a thin, straight instrument such as a straightened out paperclip. If a paperclip is inserted ¾ of an inch into the hole, it will depress a button hidden within the scanner. If the button is depressed for less than 1 second, the scanner LEDs will illuminate and the scanner will reset. If the button is depressed for several seconds, the scanner will power off and the scanner LEDs will turn completely off.
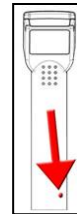
Access Panel Release Pinhole
There is one pinhole control on the back right of the tablet. It is accessible only by a thin, straight instrument such as a straightened out paperclip. If a paperclip is inserted into the hole, it will depress a latch hidden within the tablet which will loosen the access panel cover. The access panel can then be removed by pulling it away from the tablet.
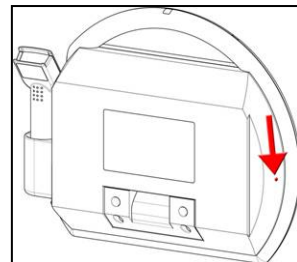
Settings Panels
The tablet exposes many of its critical settings through a website it hosts. This website is referred to as the tablet's settings panels. The settings panels allow you to view and alter the settings for a tablet as well as view information about the tablet. There are two methods of accessing the panels for a given tablet:

1. Use another system on the same network.

Point a web browser to the URL "http://<IP>/settings" where <IP> is the IP address of the target tablet.

2. Navigate to the settings panels using the target tablet's browser.
   Remove the tablet access panel. Attach a USB keyboard to the now exposed USB port. Press Alt+L (alt key and L key at the same time) on the keyboard to bring up the tablet control bar and browser URL bar. In the URL bar, type "http://localhost/settings" and press enter. This will bring up the settings panels for the tablet.

To navigate the settings panels, use the settings category buttons on the left side of the screen. Pressing one of these buttons will display all the available settings under the selected category on the right side of the screen.
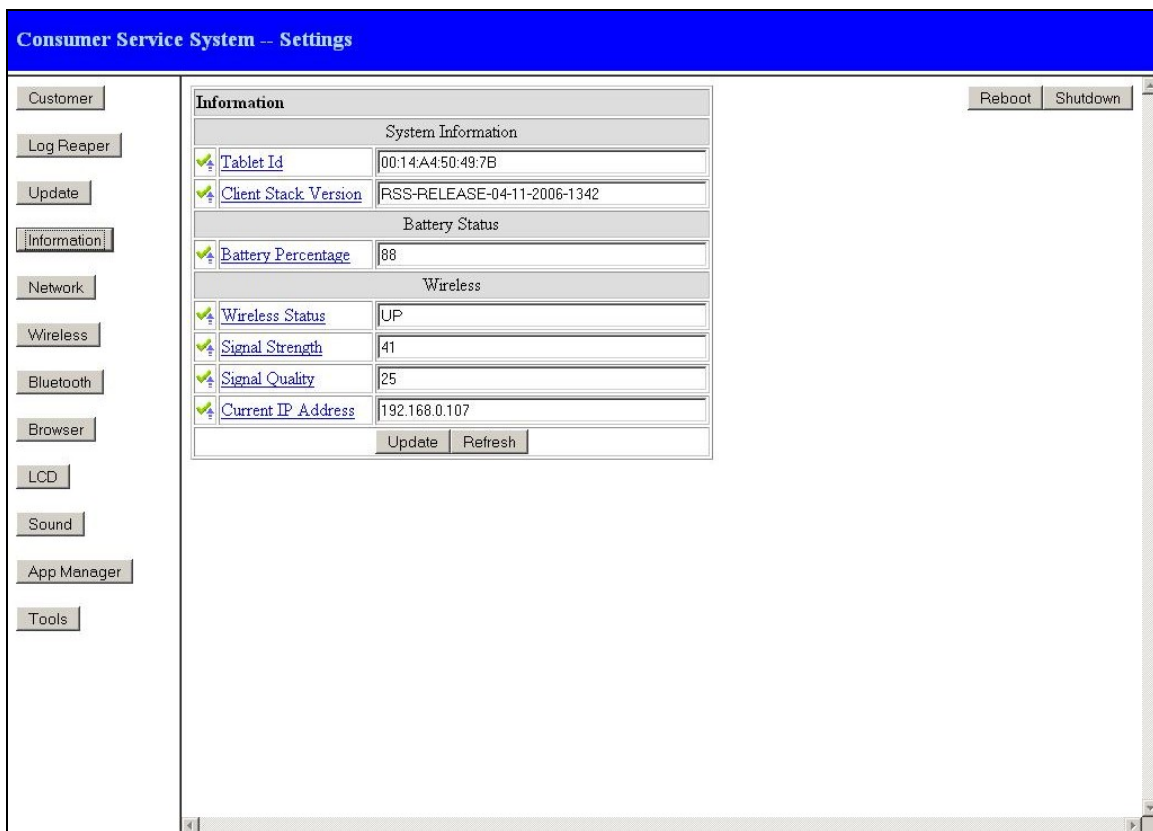
To change settings, alter the fields next to the respective setting names and then press the 'Update' button. The icon next to the setting will change to reflect the update (ignore the content of the field after the 'Update' button is pressed). The meaning of the icons is as follows:

Update successful
Update successful but a reboot is required

Note that many settings require that the tablet be rebooted before they take effect, so take careful note of the icon after pressing the 'Update' button. To verify that the change has been committed, press the 'Refresh' button. If a setting requires that the tablet be rebooted, do so using the 'Reboot' button near the upper-right hand corner of each settings panel.

4.   How to…

This section details sub-procedures that you may be called on to carry out during problem determination procedures described in the What If… section.

Power on the tablet
There are two tablet pinhole controls on the back of the tablet. Each hole has a symbol over it indicating its purpose. The power button has the symbol ① above it. A paperclip must be inserted, straight in, about ¾ of an inch into the hole to depress a button hidden within the tablet. When this button is depressed, the tablet will immediately turn on if it was off and if it has sufficient battery charge to power on.

Power off the tablet
There are two tablet pinhole controls on the back of the tablet. Each hole has a symbol over it indicating its purpose. The power button has the symbol ① above it. A paperclip must be inserted, straight in, about ¾ of an inch into the hole to depress a button hidden within the tablet. When this button is depressed, the tablet should power off. If the tablet does not power off, depress the button for 5 seconds to force the tablet off.

Reset the tablet
There are two tablet pinhole controls on the back of the tablet. Each hole has a symbol over it indicating its purpose. The reset button has the symbol ® above it. A paperclip must be inserted, straight in, about ¾ of an inch into the hole to depress a button hidden within the tablet. When this button is depressed, the tablet will immediately reset. If the tablet has entered a state in which it cannot be reset, power off the tablet and then power on the tablet.

Remove the tablet access panel
Insert a paperclip into the access panel release pinhole in order to loosen the panel. Grip the exposed edge of the panel and pull back to fully remove it.

Reseat the tablet memory card
Power off the tablet. **It is critical that the tablet is powered off as the following procedure may otherwise result in damage to the tablet**. Remove the tablet access panel. Directly above the USB port exposed by removing the access panel is a memory card. Above the memory card is a small, rectangular, black button used to eject this card from its slot. If the button is flush with the visible edge of the memory card, press the button once. This will cause the button to no longer be flush with the card. Once the button is no longer flush with the card, press the button once again in order to eject the memory card. Pull the card a small ways (1/2 inch) from the slot (it is not necessary to remove it completely). Then, firmly press the card back into the slot. Eject and reseat the card firmly two additional times to ensure good contact is being made between the pins and memory card.

Power off the scanner
There is a single scanner pinhole control about ½ of an inch from the base of the scanner (about where the tip of the pinky finger falls when gripping the scanner with your right hand). A paperclip must be inserted, following the angle of the pinhole, about ¾ of an inch into the hole to depress a button hidden within the scanner. Depress this button for about 3 seconds or until the scanner LEDs turn off and stop blinking.

Reset the scanner
There is a single scanner pinhole control about ½ of an inch from the base of the scanner (about where the tip of the pinky finger falls when gripping the scanner with your right hand). A paperclip must be inserted, following the angle of the pinhole, about ¾ of an inch into the hole to depress a button hidden within the scanner. Depress this button for 1 second. Take care not to depress the button for too long or the scanner will power off. When this button is depressed, the scanner LEDs will turn solid on.

Collect logs from the tablet
Tablet log archives can be collected using one of several methods. The method used will vary with the tools available. However, the end result of capturing logs will always be a log archive of the tar.gz file format with the filename 41XXXXX.tgz where 41XXXXX is the serial number of the tablet from which the logs were collected.

The available log collection methods are listed below:

1. **Using a memory key**
   If you have the tablet physically present and a memory key available
   ▪ Remove the tablet access panel.
   ▪ Insert the memory key into the tablet USB port.
   ▪ The handle LEDs should begin to blink orange.
   ▪ Allow several minutes for the handle LEDs to stop blinking.
   ▪ If the handle LEDs end in a solid green state, the collection was successful and the log archive will have been stored in the root directory of the memory key.
   ▪ If the LEDs end in a solid orange state, the collection was not successful and another means of collecting the logs must be used.

2. **Using a HTTP utility**
   Each tablet hosts a small website from which its logs can be downloaded. In order to download the logs, you must know the IP address of the tablet (which can be found in the tablet settings panels under the "Information" category OR through the Wireless Network systems management MBean) and have another system on the same network as the tablet. The URL of the log archive on the tablet is "http://<IP>/logs.tgz" where <IP> is the current IP address of the tablet. Save the content of this URL to a filename 41XXXXX.tgz where 41XXXXX is the serial number of the tablet from which the logs are being collected. An ideal utility to download the archive is 'wget' which downloads the content of a given URL into a local file.

   Example syntax: **wget http://192.168.0.207/logs.tgz -O 4110314.tgz**

Where 192.168.0.207 is the IP address of the tablet and 4110314 is the serial number of the target tablet. You should also be able to enter this URL into a web browser on the non-tablet system in order to download the file.

3. **Using a FTP site**
   The tablet can be instructed to upload its log archive to a FTP site. In order to use this method, the IP address, username, password, port, and remote destination directory must be known prior to attempting the collection. There are two means to use this method.

   a. Using the tablet settings panels (requires a USB keyboard or another system on the tablet network)
      Access the tablet settings panels. Select the 'Log Reaper' button from the menu on the left side of the display. This will bring up a set of fields on the right side of the screen. Enter the destination FTP site information into these fields.

Field	Example
Server hostname	192.168.0.2
Destination path	/home/csw/logs
Server port	21
Username	myuser
Password	mypassword
The examples above would combine into the following destination URL: ftp://myuser:mypassword@192.168.0.2:21/home/csw/logs/41XXXXX.tgz Where 41XXXXX is the serial number of the tablet.	

   Once this information has been entered, press the 'Update' button beneath the fields to commit the changes. The icons next to each field should change. Press the 'Refresh' button and verify that all of the settings have been applied. If the settings are correct, press the button to the right of the text 'Reap logs now'. The tablet will attempt to upload its logs to the FTP site specified using the entered credentials and information. During this activity, the tablet handle LEDs will blink. The handle LEDs will eventually display a solid color when the operation ends. Solid green LEDs indicate that the logs were successfully uploaded. Solid orange LEDs indicate that the tablet could not upload the logs. Press the 'Refresh' button once more to see the result of the last operation field explain in detail the outcome of the last operation (i.e. it will explain that the operation succeeded or why it failed).

   b. Using systems management (requires systems management infrastructure)
      This mechanism is nearly identical to performing the task through the settings panels (method (a.) above), but it can be performed remotely using systems management software without any physical contact with the tablet. The MBean which exposes the attributes explained above is called 'LogReaper' and the action to start the process of uploading logs is 'reapLogsNow'. Refer to the systems

management documentation for the tablet to learn more about its systems management functionality.

Program the rack slot

Remove the tablet access panel. Attach a USB keyboard to the USB port. Press Alt-L on the keyboard to bring up the tablet control bar and browser URL bar. In the URL bar, type "file://localhost/charging-rack/index.html" and press enter. This should bring up the charging rack programming utility. There are several buttons on the left side of the screen that a user should select depending on their task.

Utility/Task	Meaning
Rack Program	If every rack slot in a rack must be programmed, this utility will walk the user through this process. It may also be used to program a single rack slot with information if the 'Slot Replacement' utility (described below) is not appropriate.
Slot Repair	Each rack slot contains a backup of information in case the primary copy is corrupted. This utility will walk the user through trying to recover this backup copy (thereby fixing the primary copy).
Slot Replacement	If a rack slot needs to be completely replaced, this utility will walk the user through the process of initializing the new rack slot within information appropriate to its rack.

Unstick the rack slot pogo pins

There are five copper colored pins at the back of each rack slot. These pins are spring loaded and, on occasion, they can become stuck in a position that stops the rack slot from working properly. Run a finger tip over the pins to compress and release each pin's spring several times to free any temporarily stuck pins. Also, as a part of this procedure, check for any debris or grime blocking the pins from making good contact with the tablet. Clean the pins if necessary.

Send the tablet log archive

Your help desk representative should have instructions for providing log archives to the web application providers or to IBM.

Return the tablet

Power off the tablet and power off the scanner. Verify this by ensuring the tablet system LED and scanner LEDs are off. Attach a written description of the problem and the procedure followed during its diagnosis. Your help desk representative should have instructions for shipping the tablet and scanner to the IBM depot for service. If the problem determination procedure calls for a log archive to be provided as well, send the tablet log archive.

5. What if…

If the problem is..	Here is what to do.

Orange, handle LEDs are blinking.	1. Ensure that the tablet has booted fully. During the boot process, blinking handle LEDs simply indicate the current tablet battery charge. If the tablet is fully booted, continue to the next step.
	2. Determine whether the handle LEDs are blinking continuously or if the blinking is segmented with 5 second periods of inactivity. If there are 5 second periods of inactivity, the tablet is displaying a blink sequence to communicate a problem.
	3. Count the number of pulses in the blink sequence.
	   ▪ There is a 5 second delay between each blink sequence.
	   ▪ \<blink>\<blink>..5 seconds..\<blink>\<blink>.. corresponds to a 2 pulse blink sequence.
	4. Follow problem determination steps below for the specific blink sequence.
	5. If there is never a 5 second delay between blinks, the tablet may be performing an operation that should terminate. For example:
	   ▪ Updating the software stack (5 to 30 minutes).
	   ▪ Updating hardware firmware (10 minutes or less).
	   ▪ Collecting a tablet log archive (5 minutes or less).
	   ▪ Booting (2 minutes).
	
	If the tablet should not be performing any of these operations, the web application also has control of the handle LEDs and may be causing them to blink.

3 pulse blink sequence (3 quick pulses separated by 5 second intervals).	Indicates that wireless communication between the tablet and scanner may be unreliable due to delays or failures in establishing consistent communication. The blink sequence should clear itself in 10 minutes regardless of whether communication has been successfully established with the scanner. 1. Reseat the scanner in the tablet scanner holster. 2. Ensure that the scanner is firmly docked. 3. Cradle the tablet in a rack slot. 4. While docked in a tablet that is cradled in rack slot, the scanner should charge. Allow the scanner to charge for two hours. 5. Remove the tablet from the rack slot. 6. Reset the tablet. 7. If the condition persists, collect logs from the tablet. 8. Return the tablet along with the collected log archive.

4 pulse blink sequence (4 quick pulses separated by 5 second intervals).	Indicates that the tablet is unable to determine the MAC address (i.e. a unique identifier necessary for wireless communication) of a scanner to partner with. 1. If the tablet does not have a scanner in its scanner holster, dock a scanner in the holster and reset the tablet. If the tablet already had a scanner docked, continue to the next step. 2. Note whether the scanner LEDs are blinking. If they are not, use the "Scanner appears off" problem determination procedure. If they are blinking, continue to the next step. 3. Clean any debris or grime from the tablet scanner holster contacts and the contacts at the base of the scanner. 4. Reseat the scanner in the tablet scanner holster. 5. Ensure that the scanner is firmly docked. 6. Cradle the tablet in a rack slot. 7. While docked in a tablet that is cradled in a rack slot, the scanner should charge. Allow the scanner to charge for two hours. 8. Remove the tablet from the rack slot. 9. Reset the tablet. 10. If the condition persists, collect logs from the tablet and return the tablet along with the collected log archive.
5 pulse blink sequence (5 quick pulses separated by 5 second intervals).	Indicates that the tablet has been unable to establish a viable wireless network connection since it was booted. After several minutes of this condition, the tablet will reboot itself in an effort to rectify the problem. 1. If all tablets in the area are displaying the same blink sequence, ensure that the wireless network (including DHCP, if it is being used) is operational. 2. If the blink sequence is isolated to a single tablet, continue to the next step. 3. If the tablet had previously been working and has not been reconfigured, return the tablet. 4. If the tablet is new to the environment or may have been reconfigured, it must be configured correctly for the wireless environment. The wireless settings can be verified or configured in the tablet settings panels, but this is beyond the scope of this document.

7 pulse blink sequence (7 quick pulses separated by 5 second intervals).	Indicates that the rack slot in which the tablet is cradled contains invalid data. Each rack slot contains location information (e.g. store #, slot #). If this slot information has not been programmed, has been corrupted, or cannot otherwise be read, a cradled tablet reports its inability to use the data by displaying this blink sequence.
	1. Reseat the tablet in the rack slot. If the condition persists, continue to the next step.
	2. Try to unstick the rack slot pogo pins.
	3. Reseat the tablet in the rack slot. If the condition persists, continue to the next step.
	4. Remove the tablet from the rack slot.
	5. Insert a different tablet into the rack slot.
	6. If the second tablet displays the same blink sequence, the rack slot is defective or must be reprogrammed.
	▪ Program the rack slot.
	▪ If the rack slot cannot be programmed, replace it.
	7. If the second tablet does not display the same blink sequence. Return the original tablet back to the rack slot.
	8. If the condition persists, collect logs from the tablet.
	9. Return the tablet along with the collected log archive.
8 pulse blink sequence (8 quick pulses separated by 5 second intervals).	Indicates that the tablet does not detect a scanner docked in its scanner holster while it is cradled in a rack slot. This is not considered a hardware error. The tablet displays this blink sequence as a warning because an incorrectly docked scanner will not charge (and thus may discharge before its next attempted use).
	1. If the tablet does not have a scanner in its scanner holster, dock a scanner in the holster and the blink sequence should stop. If the tablet already had a scanner docked, continue to the next step.
	2. Clean any debris or grime from the tablet scanner holster contacts and the contacts at the base of the scanner.
	3. Reseat the scanner in the tablet scanner holster.
	4. Ensure that the scanner is firmly docked.
	5. Cradle the tablet for at least 5 seconds in the rack slot.
	6. If the problem persists, collect logs from the tablet and return the tablet along with the collected log archive.

Tablet displayed "Communication Error" page and then reloaded the web application homepage.	The "Communication Error" page is triggered when a resource cannot be downloaded from a web server hosting a web application. This is commonly due to a temporary interruption in wireless communication. After a tablet displays this page, it will attempt to load the configured web application homepage after 10 seconds in order to recover from the failure. • If this problem is encountered frequently, there may not be adequate wireless network strength and quality for the tablet to operate normally. • If this problem happens infrequently and on isolated occasions, this is not considered a hardware problem. • If the "Communication Error" page does not clear itself (by loading the web application homepage) when brought into range of the wireless network, follow the "Tablet displays persistent Communication Error" problem determination procedure.
Tablet unexpectedly reloaded web application homepage	The tablet web browser can crash like any complex software system. If the browser does crash, the browser will be restarted and the web application homepage will be reloaded. The tablet should be completely operational after the web application initializes (just like after a reboot). To collect information on these events. 1. Collect logs from the tablet. 2. Send the tablet log archive for analysis.

Tablet displays persistent "Communication Error" page and does not reload the web application homepage.	The "Communication Error" page is triggered when a resource cannot be downloaded from a web server hosting a web application. This is commonly due to a temporary interruption in wireless communication. After a tablet displays this page, it will attempt to load the configured web application homepage after 10 seconds in order to recover from the failure. If the page is displayed for longer than 10 seconds, the problem is more severe than a temporary communication interruption. 1. If all tablets in the area are displaying the "Communication Error" page, ensure that the wireless network (including DHCP, if it is being used) is operational. 2. If the network is working properly and the condition is limited to a single tablet, continue to the next step. 3. Collect logs from the tablet. 4. Reset the tablet. 5. If the web application loads properly (i.e. the Communication Error page is no longer displayed), return the tablet to circulation and send the tablet log archive for analysis. 6. If the Communication Error page continues to be displayed, return the tablet along with the collected log archive.
Web application does not respond to scanned barcode.	This indicates a failure somewhere along the line of communication from the scanner hardware to the web application. 1. Record information about the barcode to which the application did not respond. 2. Collect logs from the tablet immediately. 3. Reset the tablet. 4. After allowing the tablet to boot and the web application to load, ensure that scanning barcodes has the expected effect on the web application. 5. If the web application is now responding to the scanned barcode, return the tablet to circulation and send the tablet log archive along with the scanned barcode label data for analysis. 6. If the web application continues to not respond, determine whether other tablets respond to the barcode being tested. 7. If other tablets respond similarly to the failing tablet, the problem exists within the web application. 8. If the problem is isolated to a single tablet, return the tablet along with the collected log archive and barcode data.

Web application does not respond as expected to scanned barcode.	This may indicate that a barcode is successfully being delivered to the web application, but it is not being decoded as the web application expects. 1. If the web application does not respond at all to the barcode, follow the "Web application does not respond to scanned barcode" problem determination procedure. 2. If the web application responds to the scanned barcode, but does not respond as expected, record the barcode label and collect logs from the tablet immediately. 3. Send the tablet log archive along with the scanned barcode label data for analysis. 4. Reset the tablet. 5. After allowing the tablet to boot and the web application to load, determine whether scanning the barcode now has the expected effect on the web application. 6. If the scanned barcode has the expected effect, return the tablet to circulation. 7. If the unexpected effect continues to occur, ensure that a second tablet does not produce the same effect when scanning the same barcode. If two tablets create the same effect (e.g. an error reported by the web application), the problem likely exists within the web application itself. 8. If the problem is isolated to a single tablet, return the tablet along with the details gathered above.
Tablet displays "Tablet Error" page.	The "Tablet Error" page indicates that the web application is unable to communicate with a scanner partner. For example, this may result if the tablet does not successfully partner with a scanner during boot. This message is likely accompanied by a blink sequence. See the "Orange, handle LEDs are blinking" problem determination procedure to learn how to identify and address blink sequences. If there is no blink sequence active. 1. Collect logs from the tablet. 2. Send the tablet log archive for analysis. 3. Reseat the scanner in the tablet scanner holster. 4. Ensure that the scanner is firmly docked. 5. Reset the tablet. 6. Allow the tablet to boot and load the web application. 7. If the condition persists and the behavior is isolated to only one tablet, return the tablet.

Tablet LCD backlight does not turn off when cradled in a rack slot. Or **Tablet LCD backlight flashes when cradled in a rack slot**.	1. If the tablet LCD is on solid (i.e. not flashing) when cradled in the rack slot, note whether all tablets cradled in the rack have their LCD backlights on. If they do, the rack is likely not powered. Check the rack power source and plug. 2. If only one tablet is demonstrating the problem, reseat the tablet in the rack slot. 3. If the condition persists, remove the tablet from the rack slot. 4. Place a second tablet in the suspect rack slot. 5. If the LCD of the second tablet does not demonstrate the problem, return the tablet that did demonstrate the problem. 6. If the LCD of the second tablet also demonstrates the problem, try to unstick the rack slot pogo pins. 7. If, after this procedure, the tablet LCD still does not fully turn off when cradled in the rack slot, the rack slot is either not powered or otherwise damaged. 8. Check for a green LED at the back of the slot. If it is off, check the power supply/connection for the slot. 9. If the LED is on, the slot is powered, but not working. Replace the slot.
Tablet does not respond to touch. Or **Tablet displays partial web application content**. Or **Tablet displays white screen**.	1. If web application content can be recognized, record any available information that can be discerned (i.e. what was displayed at the time of failure). 2. Collect logs from the tablet immediately. 3. Send the tablet log archive for analysis 4. Reset the tablet. 5. If the condition persists or reoccurs consistently on the same tablet, return the tablet.

Tablet has black screen.
Or
Tablet has black screen with some text.
	1. Check the state of the system LED on the back of the tablet.
	2. If the green LED is on or flashing, reset the tablet. Allow the tablet for boot for two minutes.
	    ▪ If the tablet boots successfully, return the tablet to circulation, but monitor the tablet for reoccurrences of the problem. If the problem reoccurs, return the tablet.
	    ▪ If the tablet enters the same state, reseat the tablet memory card. After following this procedure, boot the tablet again. If the problem persists, return the tablet. If the tablet boots successfully, return the tablet to circulation, but monitor the tablet for reoccurrences of the problem. If the problem reoccurs, return the tablet.
	3. If the green LED is off, cradle the tablet in a rack slot.
	4. After cradling the tablet, note the state of the tablet handle LEDs.
	5. If the green LEDs on the tablet handle are active (solid or blinking), remove the tablet from the rack slot and monitor it. If the tablet does not boot successfully (e.g. it stops on a black screen), return the tablet.
	6. If there is no activity from the LEDs when it is inserted into the rack slot, return the tablet.
	7. If the orange LEDs on the tablet handle are active (solid or blinking), the tablet needs to be charged.
	8. Take the tablet out of circulation, cradle it in a rack slot, and allow it to charge for at least 4 hours.
	9. Remove the tablet from the rack slot and power off the tablet.
	10. Cradle the tablet again and note the state of the orange handle LEDs.
	11. If the orange LEDs still blink, return the tablet.
	12. If the orange LEDs no longer blink, reassess the state of the tablet and return it to circulation if it is operational.

Scanner beam does not turn on when "+" or "–" button is depressed and the <u>scanner LEDs</u> are blinking.	1. If only one of the "+" or "– " buttons is working and the other is failing, <u>return the tablet</u> for scanner repair. If both are failing, continue to the next step. 2. Ensure that the <u>scanner LEDs</u> (green or amber) on top of the scanner are blinking. This indicates that the scanner is on. If the scanner is not on, follow the "Scanner appears off" problem determination procedure. 3. Ensure the scanner's tablet <u>partner</u> is powered on, that the <u>web application</u> is loaded, and that the web application is at a normal point of operation where the scanner should be enabled. Navigate to such a point in the web application, if necessary (e.g. the customer login screen). 4. If the <u>scanner beam</u> still does not turn on when the scanner buttons are depressed, continue to the next step. 5. <u>Collect logs from the tablet</u>. 6. <u>Reset the scanner</u>. 7. If the scanner beam still does not work when the scanner buttons are depressed, <u>return the tablet</u> along with the collected <u>log archive</u>. 8. If the scanner beam does work after resetting the scanner, scan an item and note whether the web application reacts to the scanned barcode. <u>Send the tablet log archive</u> for analysis along with these details. 9. If the application does not react to the scanned barcode, firmly dock the scanner in the tablet <u>scanner holster</u>. 10. <u>Reset the tablet</u>. 11. Allow the tablet to boot fully and the web application to load. 12. If the scanner is operational and the web application is behaving as expected, return the tablet to circulation. <u>Send the tablet log archive</u> for analysis. 13. If the scanner continues to fail, <u>return the tablet</u> along with the collected <u>log archive</u>.

Scanner appears off. Or Scanner LEDs are not blinking.	1. Firmly dock the scanner in a tablet scanner holster. 2. Cradle the tablet in a rack slot. 3. As soon as the tablet is docked, the scanner LEDs should begin blinking. If they do not, return the tablet. 4. If the LEDs do begin to blink, the scanner battery may be low. 5. While docked in a tablet that is cradled in a rack slot, the scanner should charge. Leave the scanner docked in the cradled tablet for two hours to allow the scanner to charge. 6. Remove the scanner from the tablet scanner holster and press the "+" button on the scanner. 7. If the scanner LEDs show no activity, return the tablet. 8. If the scanner LEDs begin to blink, return the scanner to the tablet scanner holster. 9. Reset the tablet. 10. Allow the tablet to boot and the web application to load. 11. Follow the problem determination procedure for any new scanner behavior.
Tablet reboots continuously.	1. Note whether the tablet boots fully before rebooting. If the tablet boots fully (i.e. displays an error screen or web application content), it is likely displaying a blink sequence prior to rebooting. See the "Orange, handle LEDs are blinking" to learn how to identify and address blink sequences. 2. If the tablet is rebooting prior to booting fully, there is a more severe problem. Return the tablet.