CVS System 7 Installation Manual

(Version 3.1)
7/20/19

PURPOSE

The purpose of this document is to provide an abridged overview of the CVS Self Checkout installation process to be used as a quick reference guide to insure all required installation steps are followed to insure the customer is provided a quality installation.

ESCALATIONS/ASSISTANCE

The Toshiba PMO will be the primary contact for all issues. They will then direct you to the appropriate customer or Toshiba technical support contact.

CONTACTS

Toshiba PMO – Jason Justice (412-352-6821)
Technical Lead – Will be identified on a weekly basis
Installation Manager – Ron Fritz (813-352-9141)
CVS Support Contact (STS) - 401-770-7666, Option 2, Option 1
Rollout Operation Center (ROC) - 1-888-401-4601, Option 9, Option 2

TOOL LIST

Cordless Drill (12V minimum)
Basic socket set (SAE and Metric)
22MM open end wrench (2)
DVM (digital volt meter)
Weight for load cell calibration ***
Philips and slotted screw drivers (various sizes)
Hammer
Torx key kit – full kit but T10 is required
Torpedo level or multidirectional level
Hex key kit (SAE and Metric) – Full kit but 3MM is required)
USB keyboard
Installation Report
Spring clamp to hold open cash module latch

Key tools to have are 10MM and 5/16" sockets/wrench, 3MM allen wrench/hex key, T10 Torx key/bit, various Phillips head and flat head screw drivers, and a spring clamp to hold open cash door latch

***** (Must be a weight of approximately 10 lbs. in which the exact weight is known. A 10 lbs. dumbbell or plate weight from a sporting goods store will work. You must weigh it on an accurate scale (super market produce scale) to get the exact weight. Once the exact weight is known, use a permanent marker to record the exact weight for future reference when performing the load cell calibration.**

CHECK IN

Upon arrival at the location, notify the PMO teams that you are on site by sending an email to the following email addresses: PMO_Team_Projects@toshibagcs.com, paul.beringer@toshibagcs.com, and ron.fritz@toshibagcs.com.

The installations are part of two different projects. On some sites you will be contacting the ROC and on others the STS. Directions on who to contact should come from the PMO team prior to your install.

INVENTORY

There will typically be a combination of one or two cash lanes and one cashless lane. The lanes will come shipped one lane per pallet and will be wrapped in packing paper and shrink wrapped with all components included on the individual pallet. There will also be one box that contains a folding ramp to assist in removing the cash module (cash handling components) off the pallet.

Inventory

- Lanes on pallets
- Wooden ramp for cash module removal
- Flatbed scanner USB cables (Not currently used – please hand over to store POC))
- One box of Shopper assist (SA) cards (Please hand over to store POC)
- Power connector (pig tail cables)
- Lane keys
- BNR keys
- BCR keys
- Document set with CD

Each lane will have a set of unpacking instructions taped to the outside of the lane

Figure 1 – Palletized Lane

Figure 2 – Opened ramp box

Follow the instructions below on unwrapping/unpacking the lanes

Figure 1 & **2** illustrates the unit shipping with 4 wood blocks bolted to the 2x6.

Figure 3

Figure 3 calls attention to the "Do Not Grab" label as well as the unpackaging instructions right below the display.

Figure 4

Figure 4 illustrates safe places to handle via "Grab Here Only" labels.

Figure 5

Figure 6

Figure 5 & 6 careful removal of the stretch wrap and polybag.

Once you have the lanes unwrapped, inventory the components to make sure all expected components are included. If you find that equipment is missing, please contact the PMO team noted in *Contacts* information section.

Dispose of all packing material as directed by the customer POC. Always keep the work area clean and organized.

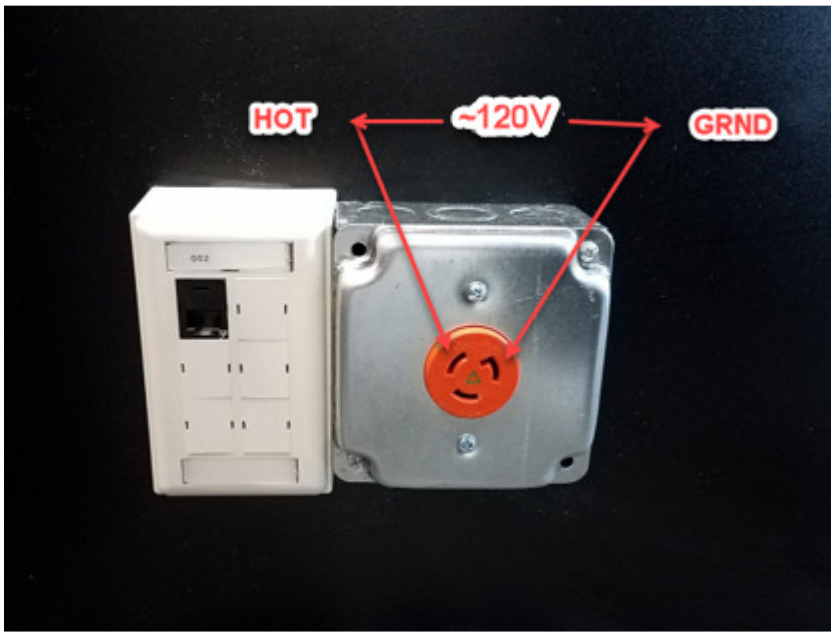
After inventorying all equipment, count and record the number of keys received and retain in a safe location until the installation is complete at which point you will turn over to the store POC. Have the POC sign the Installation Report validating key count and receipt at that time.

NOTE: On the cash lane, the cash module is not yet physically attached to the core the module so be careful when moving the lane as the cash module could roll off the pallet.

SITE PREPARATION VALIDATION

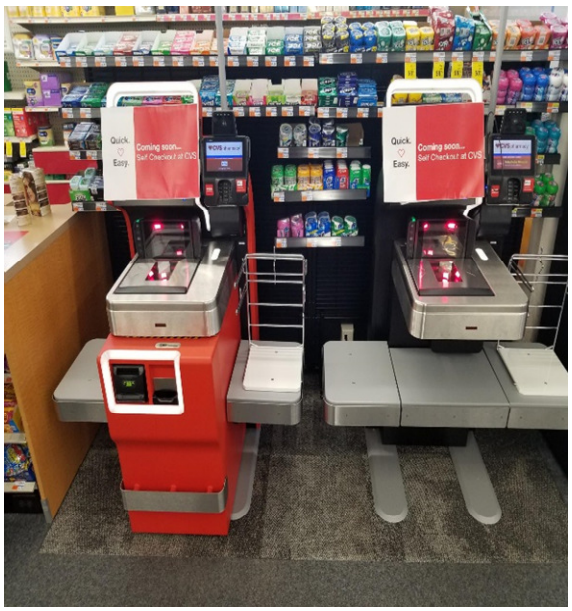
Verify the front end is set for lane placement. Verify power and data have been completed and are correct. There should be one data jack and one twist lock receptacle for each lane. Escalate to the PMO team if the site preparation is not completed.

CVS utilizes a NEMA L5-15 twist lock power plug. Make sure the receptacles are twist lock as shown below. Verify power is ~120V using a standard DVM measuring between the GRND and HOT terminals. Record the voltage on your Installation report for each lane.



Below is a typical CVS front end set up for two SCO lanes.

NOTE: There may be candy racks against the wall that the lanes will slide in between (right picture)



LANE PLACEMENT

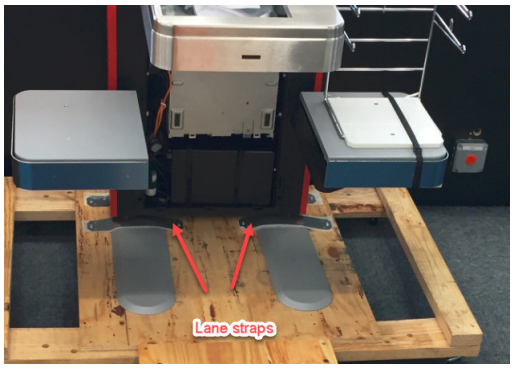
Once the site preparation has been verified, the lanes can now be placed in the appropriate locations on the front end. **Always start with installation of the cash lane first as this will need to be completed first to allow store training.**

NOTE: Cash lane should be placed closest to POS counter when there is a POS counter nearby. If there is not a POS counter, place the cash lane according to lane orientation as noted below:

a) Left hand lane (stand in front of lane, if bag rack is on the left, it is a left hand lane) - place the CASH lane in the first position on the RIGHT
b) Right hand lane (stand in front of lane, if bag rack is on the right, it is a right hand lane) – place the CASH lane in the first position on the LEFT.

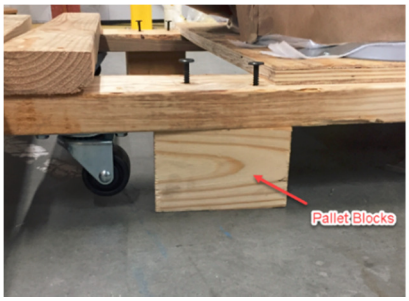
The pallets are designed to either be used with a pallet jack or they can be rolled on the attached wheels. **If the store is carpeted, you cannot use a pallet jack to bring the lanes out to the front of the store.**

NOTE: Do not remove the straps securing the lane to the pallet until the lane has been transported to the front of the store.



If the floor is **not** carpeted, slide the pallet jack fully under the pallet to engage both side of the pallet on the pallet jack forks. Using the pallet jack carefully roll the lanes out to the appropriate location on the front end.

If the floor is carpeted, use a 5MM allen wrench to remove the two screws from the blocks on each corner. This allen wrench should be taped to the lane. Using a hammer, you can then tap the blocks from under the pallet to allow the pallet to sit on the wheels. After the blocks have been removed, carefully roll the pallet to the front of the store.



After transporting the lanes to the front of the store, bring the folding pallet ramp to the front as well to facilitate unloading the cash module from the cash lane. The ramp is not required to remove the cash lane from the pallet.

Folding ramp

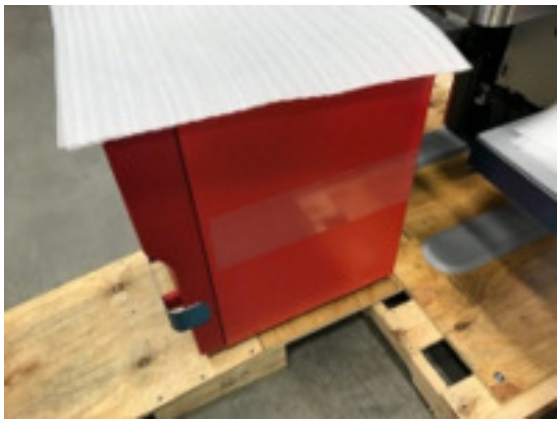
Position the pallet to allow the ramp to be attached to the front of the pallet.

NOTE: The cash module has already been removed from the core module and is just representative of pallet placement for removing the cash module.

Set the ramp in place on the front of the pallet. Align the holes in the ramp with the matching fastener on the pallet. Utilizing two of the allen head screws that secured the blocks to the pallet, secure the ramp to the pallet to prevent ramp from sliding off the pallet.

NOTE: 1” wood screws screwed through the ramp into the pallet can also be used if there are any alignment issues with the allen head screws.

Carefully slide the cash module down the ramp and place away from the work area.

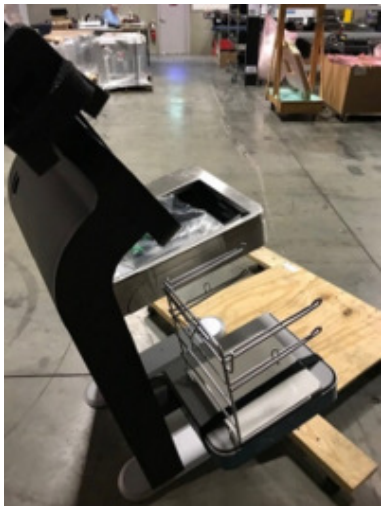


Remove the ramp from the pallet. If there are other cash lanes to be installed, you can leave the ramp up front. If there are not, the ramp can be taken to the rear of the store. The ramps will not be returned/reused so the customer can dispose of the pallet.

Reposition the pallet to allow access to the rear of the lane. Remove the four straps that secure the lane to the pallet.

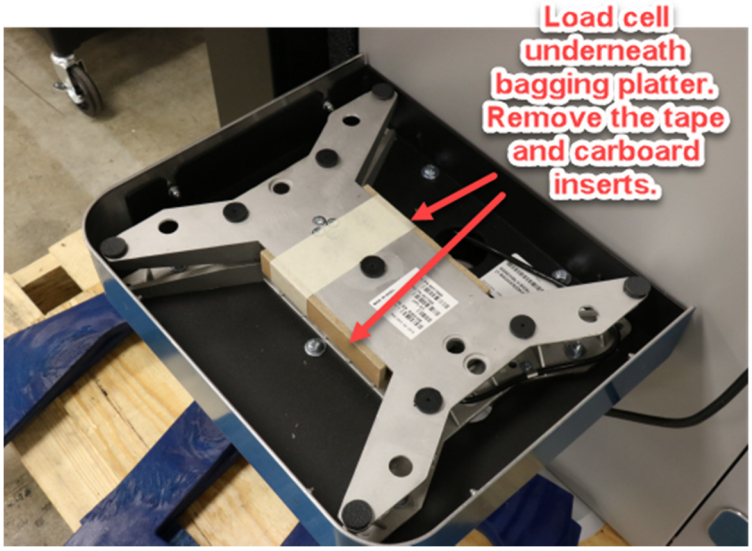
NOTE: DO NOT use the lane light assembly as a hand hold for the lane removal or placement process. Even though it looks like a nice handle to grab on to, it is not made to do so.

Grip the side of the core unit and gently slide back and forth to carefully ease it off the pallet. Once the back feet of the system are on the ground it can be slowly lowered to the floor.



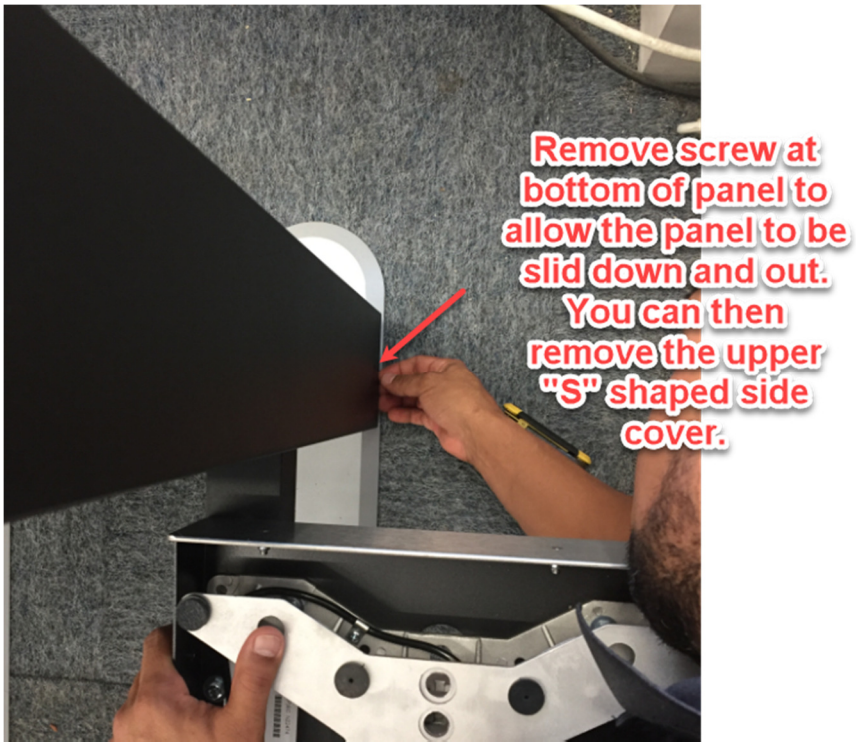
Once the core unit is off the pallet, you can “walk” the lane into position by sliding back and forth. Leave the lane away from the wall to allow room to work on the lane.

Remove any remaining packing straps, stainless plastic wrap, and load cell shipping inserts (picture below) from the lane and dispose of trash from the production floor.



SIDE PANEL REMOVAL

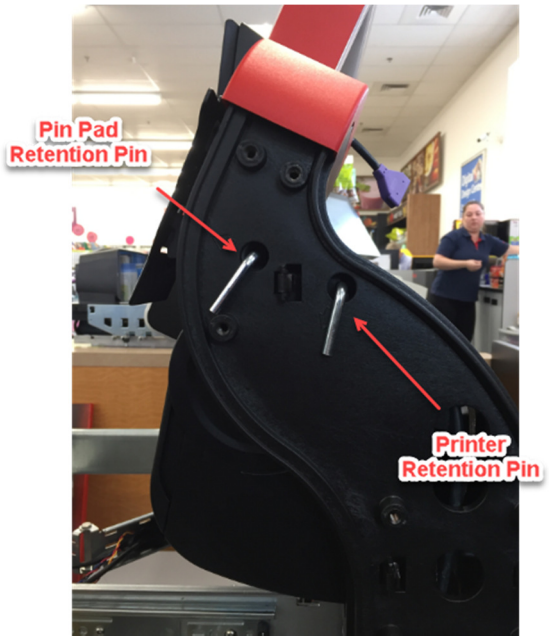
You may have to remove the side panels to access the cabling or possibly the leveling bolts. In order to access side cabling areas of the left and right side panels of the core module, you must remove the screw at the bottom. This will allow you to slide the long panel down and out. You can then remove the upper “S” shaped panels up top.



TRANSACTION AWARENESS LIGHT INSTALLATION (TAL)

The TAL will be packaged in a cardboard tube wrapped with the palleted lane. To install the TAL, you will need to remove the pin pad and printer.

Reference the drawing to the right to understand which pins retain the pin pad and printer



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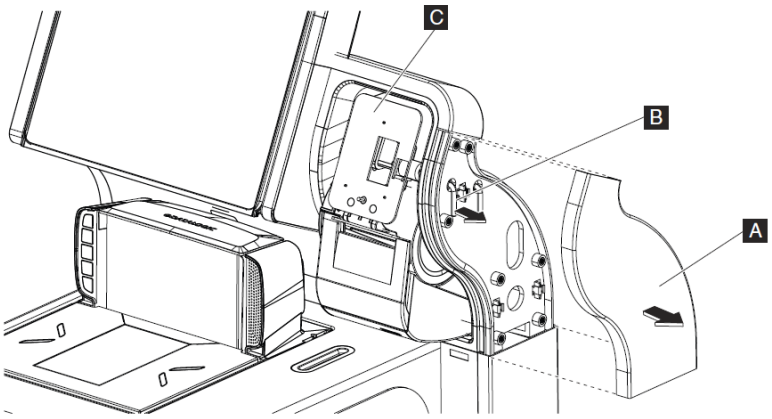


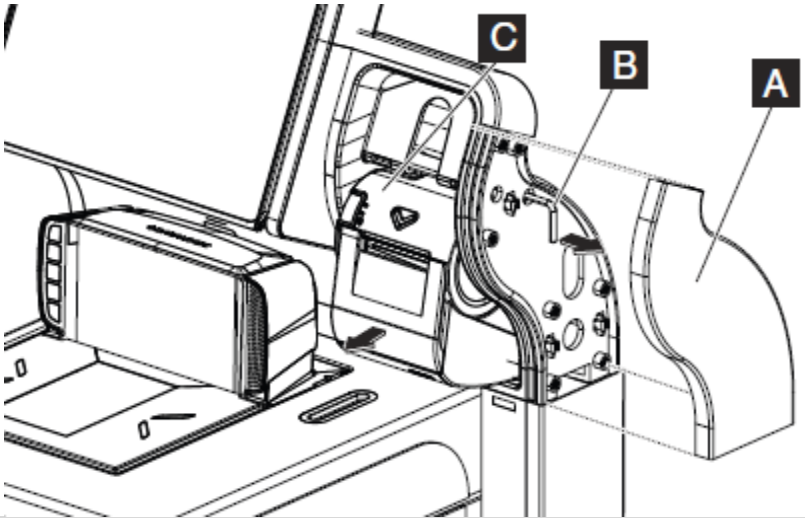
Figure 52. Pin pad mount removal

Figure 52: In order to remove the pin pad, you will need to remove the upper right side cover “A“ by gripping it firmly and pulling it away from the core unit.

While holding the pin pad/mount “C” in one hand, pull the pin pad retention pin “B” from the core unit.

After removing the pin pad/mount from the core unit, you can now remove the printer.

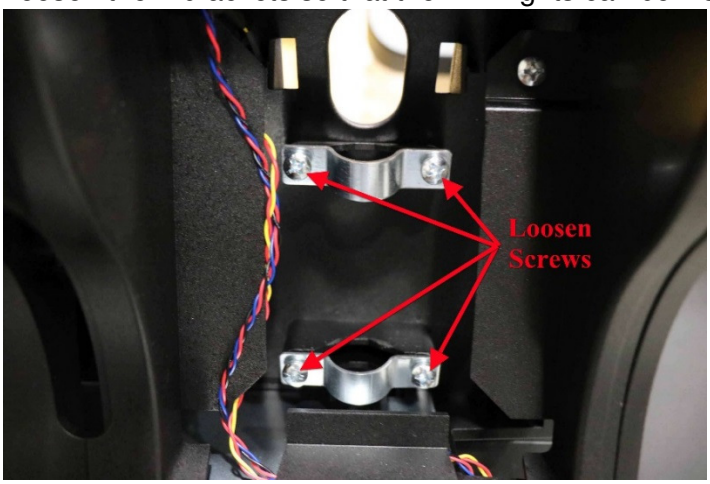
While holding the printer securely in one hand, remove the printer retention pin “B” from the side of the core unit.



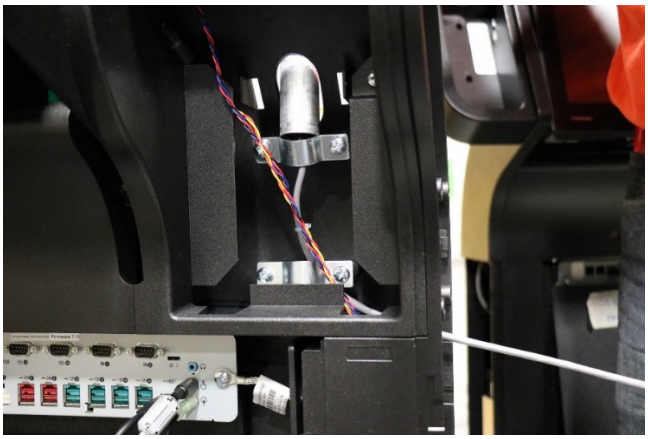
You can now install the TAL following the instructions below.

1. Insert TAL cable through TAL cover and position on the bottom of the pole. T

2. Loosen the 2 brackets so that the TAL lights can be inserted.

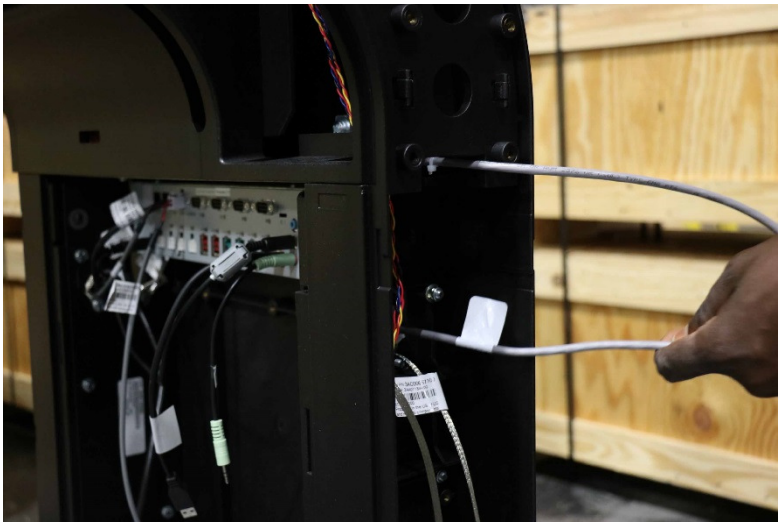


3. Route the cable through the opening in the back of the cabinet and through the 2 brackets as shown below.

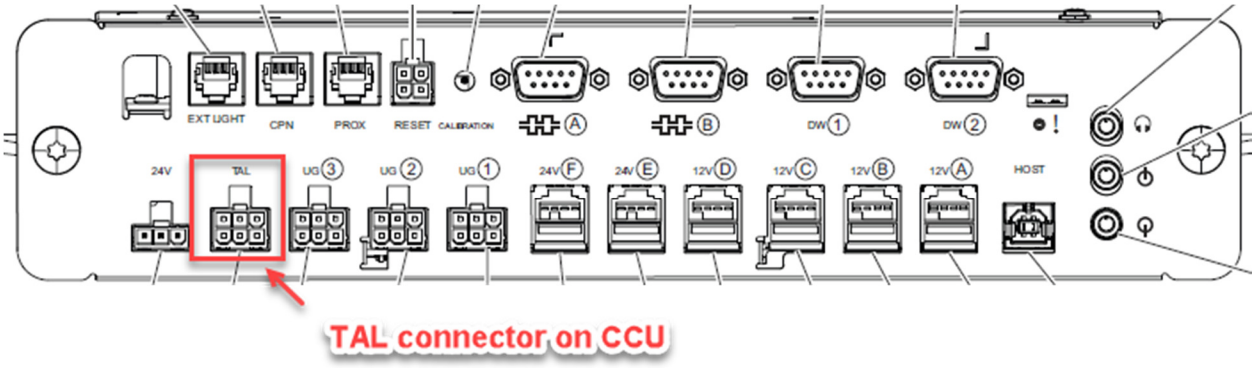


4. Insert the pole through the brackets and tighten screws.

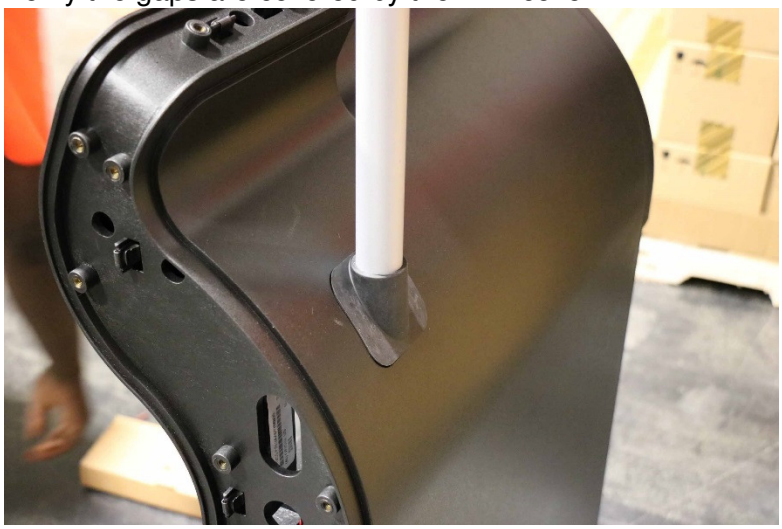
5. Route the cable into the core unit.



6. Slide out the scanner scale to allow access to the CCU. Plug the cable into the TAL connector on the CCU.



7. Verify the gaps are covered by the TAL cover.



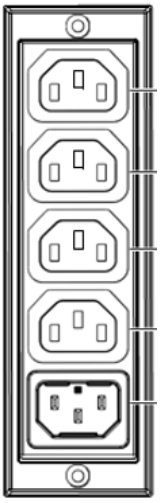
8. Reinstall the printer and pin pad by reversing the removal steps identified earlier.

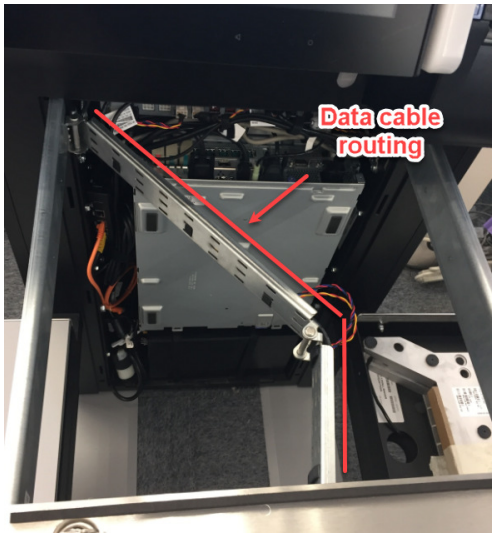
FLATBED SCANNER INSTALLATION

The flatbed scanners should be installed at manufacturing. However, there may be times that you will have to install on site if they were not shipped installed. **The flatbed scanners should currently be installed in serial configuration.**

NOTE: Even if the cable is pre-run from manufacturing, please verify cable connectivity to avoid unnecessary troubleshooting delays if issues are encountered.

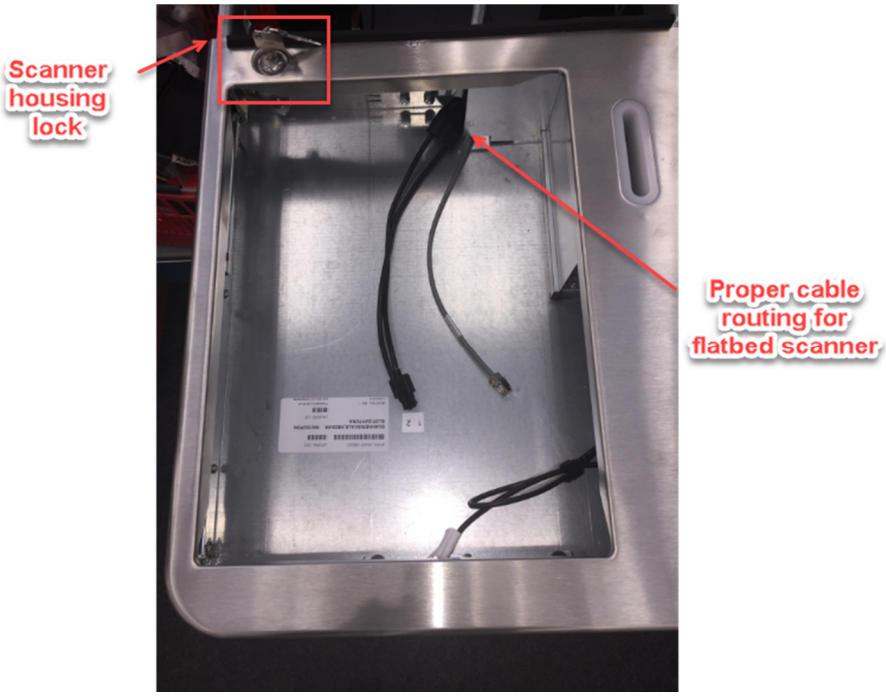
If the scanner power/data cables are not preinstalled from the factory, you will need to remove the left side panel and place power brick there. Plug the power brick into PDU (Center picture below) using a supplied pig tail. The data cable will have to be routed along the scanner scale articulating arm and held fastened with the included Velcro.





Complete the following procedure to install the scanner/scale.

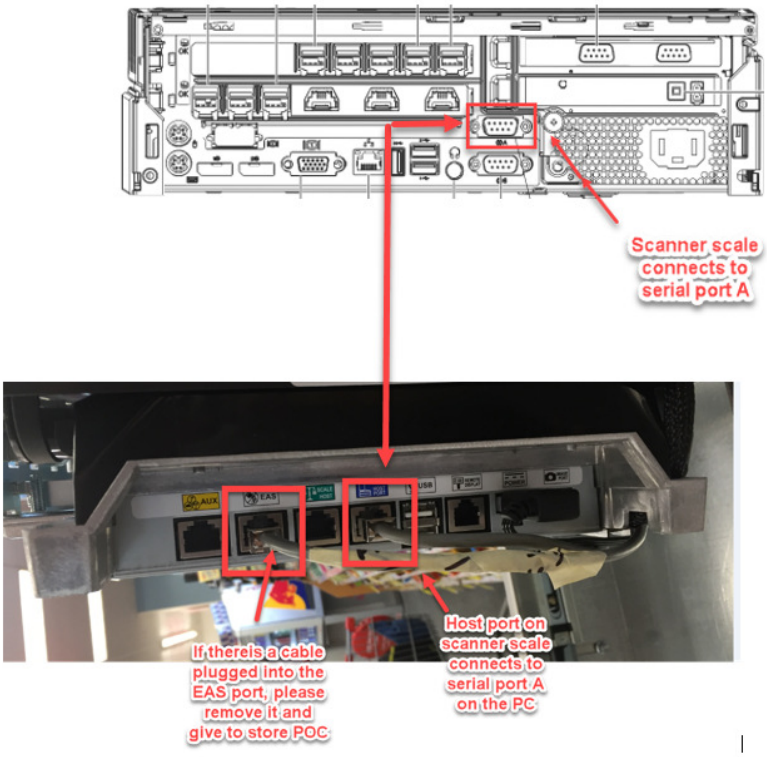
1. Unlock and open the scanner unit by pulling away from the core.



2. If present, remove the platter from the scanner/scale.
3. Place the scanner/scale onto the edge of the scanner/scale cabinet and connect all cables to the scanner.

Connect or verify the cable from **serial port A** on the PC to **Host** port on the flatbed scanner.

If the EAS cable is plugged into the scanner, please unplug the cable and leave coiled up in the scanner well. Checkpoint will come in after the install to complete Checkpoint installation requirement. If the cable is not installed, please hand off to the store POC.



4. Using the lift points (see Figure 195), lift the scanner/scale and place it into the scanner/scale cabinet.

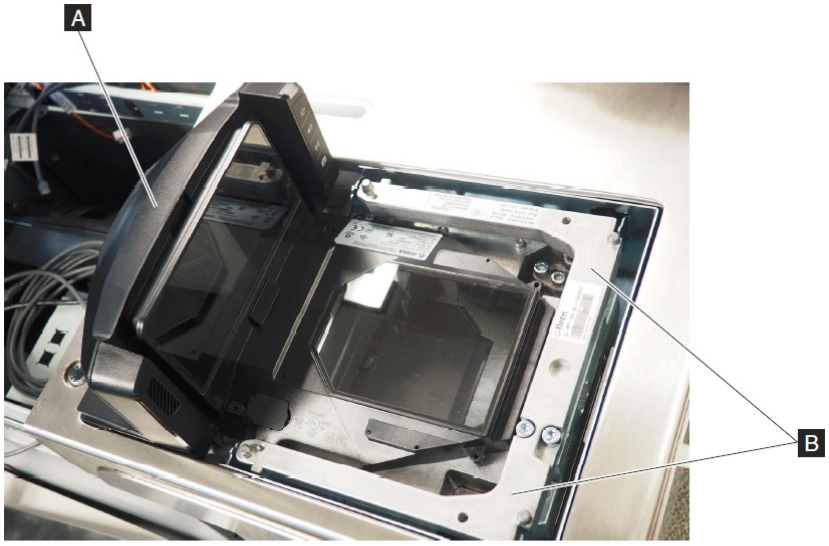


Figure 195. Scanner/scale lift points

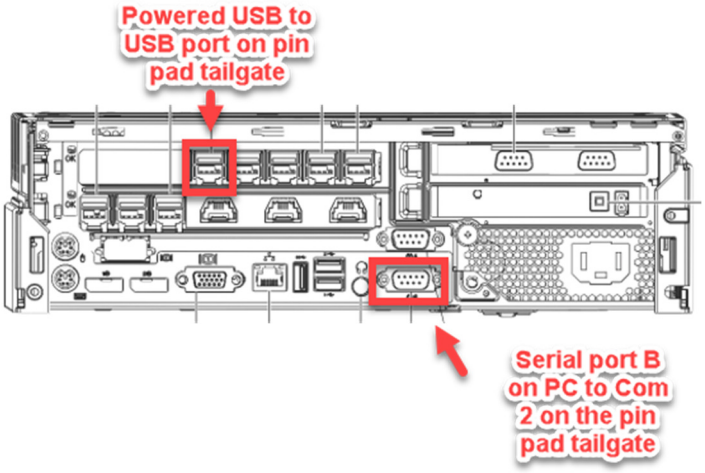
Grasp the scanner/scale by lift point **A** and the lift point **B** closest to you and lift the scanner/scale out of the cabinet.

5. Using a torpedo level, test for level front to back and side to side and make sure the scanner is stable. If necessary, adjust the four leveling screws on the flatbed scanner from the top side as illustrated below.

PIN PAD INSTALLATION

The pin pad cabling should be installed at manufacturing. However, there may be times that you will have to install on site if they were not shipped installed. The actual pin pads will be on site at the customer location and will need to be installed.

Verify pin pad serial connection on the pin pad tailgate in the core unit module. **Confirm that the serial cable is plugged into COM port 2 on the pin pad tailgate and serial port B on the back of the lane PC. The pin pad tailgate will be powered through a 12v USB connection via powered USB on lane PC to USB port on tailgate.**



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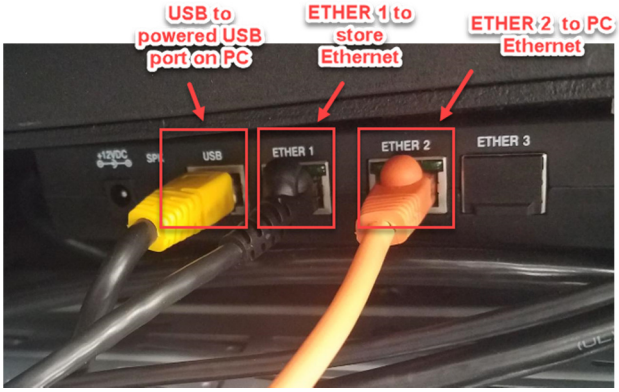
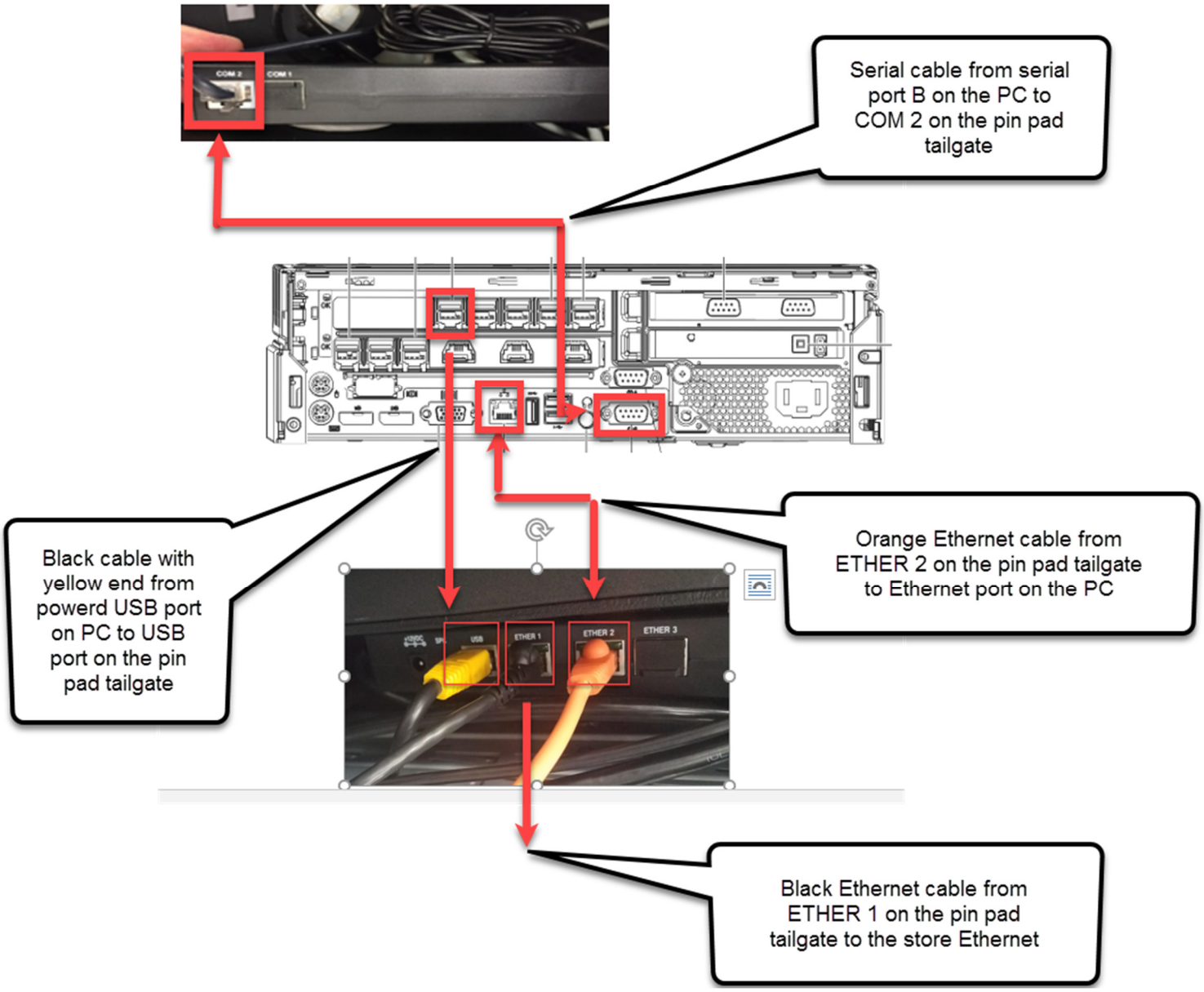
Data (Internal to the SCO Lane)
Data cabling internal to the lane will need to be completed by installer. The installer will run a Cat5 cable from the pin pad tailgate ETHER 1 to the data demarc (demarcation point or data biscuit) in the bagging area labeled “Register” or “POS.” The installer will run a Cat5 cable from pin pad tailgate ETHER 2 to the lane PC.



Additional connectivity information for pin pad and Ethernet connectivity.



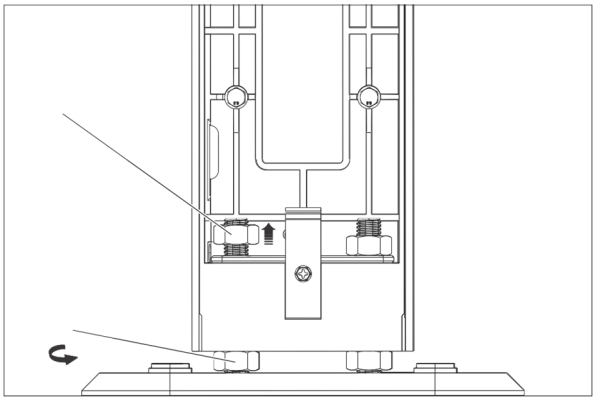
FINAL LANE PLACEMENT

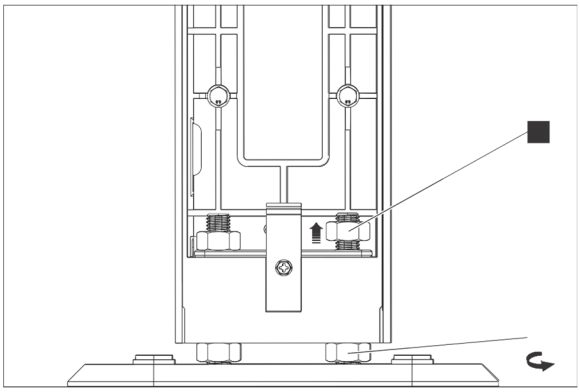
After all connectivity has been completed, you can plug in the main power cord from the lane into the store wall outlet and also plug in the network cable from the pin pad tailgate to the network jack on the wall. You can then slide the lane back into its final position.

LANE LEVELING

Leveling and stabilizing each system is critical to load cell/scale accuracy and stability of the system. Once the core unit is positioned and secure, the core unit must be leveled. Using a torpedo or multidirectional level, level the core unit before attaching the cash cabinet (Model 110) or bagging unit (Model 100 and 110).

Verify the core unit is level side to side and front to rear. If the core unit is not level, follow the instructions below.





NOTE: Only small adjustments in leveling can be made on CASH lanes or mating the cash module to the core module will be affected. This procedure should not need to be performed very often and with only slight adjustments if necessary. On CASHLESS lanes, you may adjust as necessary without negatively affecting alignment.

Complete the steps below to level the self checkout system:

6. Remove the left and right lower side panels from the core unit by removing the screw at the bottom of the panel, grasping the recess beneath the bottom edge of the panel and pulling to unsnap the bottom of the panel. Then slide the panel downward 25mm (1") and off. Some older units do not have a recess at the bottom. For those units remove the panel by pushing firmly downward 25 mm (1") and then pulling away from the side of the core unit. Loosen the locking nuts on the leveling studs.

7. Level the core unit by adjusting the leveling nuts at the bottom of the cabinet. Level the side of the cabinet first and then level the front of the cabinet. Once level, tighten the locking nuts, and reinstall the side panels.

   When leveling the unit to the front (or back), the stud nearest to the front (or back) needs to be locked and the bottom nut opposite to that nut needs to be raised. See Figure 28 for an example of leveling the unit to the front.

Figure 28. Leveling unit to the front

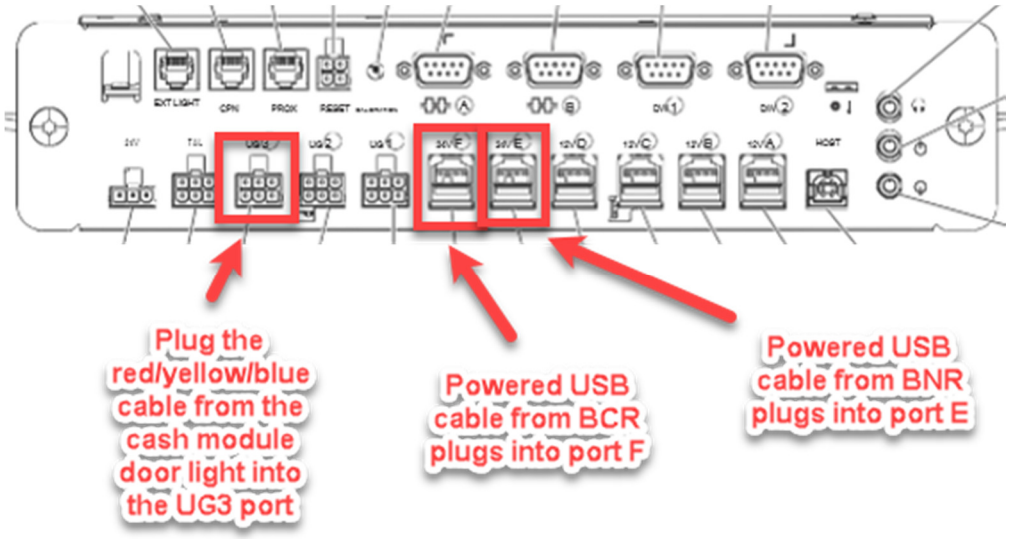
8. For Models 100 and 110, check that the top of scanner/scale unit is level. If not, loosen the bolts connecting the unit to the core, level the scanner/scale and retighten the bolts.
9. Use a 7/8 in. (22 mm) socket to tighten the locking nuts against the threaded holes in the core cabinet. The bagger locking nuts require a ¾ in. (19mm) socket. Failure to lock down the levelers in this way can cause weight instability.

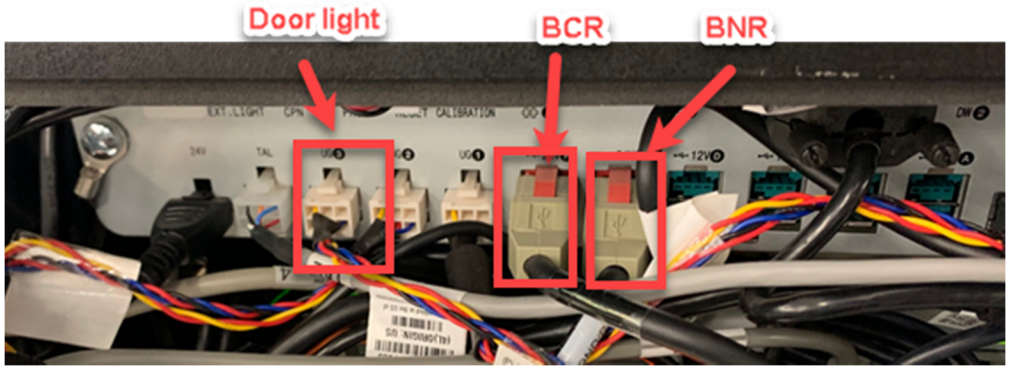
10. Repeat steps 1 through 4 for each lane to be installed.

LANE ASSEMBLY (CASH AND CASHLESS)

CASH LANE

Plug the BCR (bulk coin recycler) and BNR (Bank Note Recycler) into the appropriate ports on the CUC as identified below.





Squeeze the clamp on the cash module latch to allow the cash module to slide into place and mate with the core module. As shown at right, a simple spring clamp can assist in holding the latch open to assist in this capacity.

Follow the steps below to install the cash cabinet.

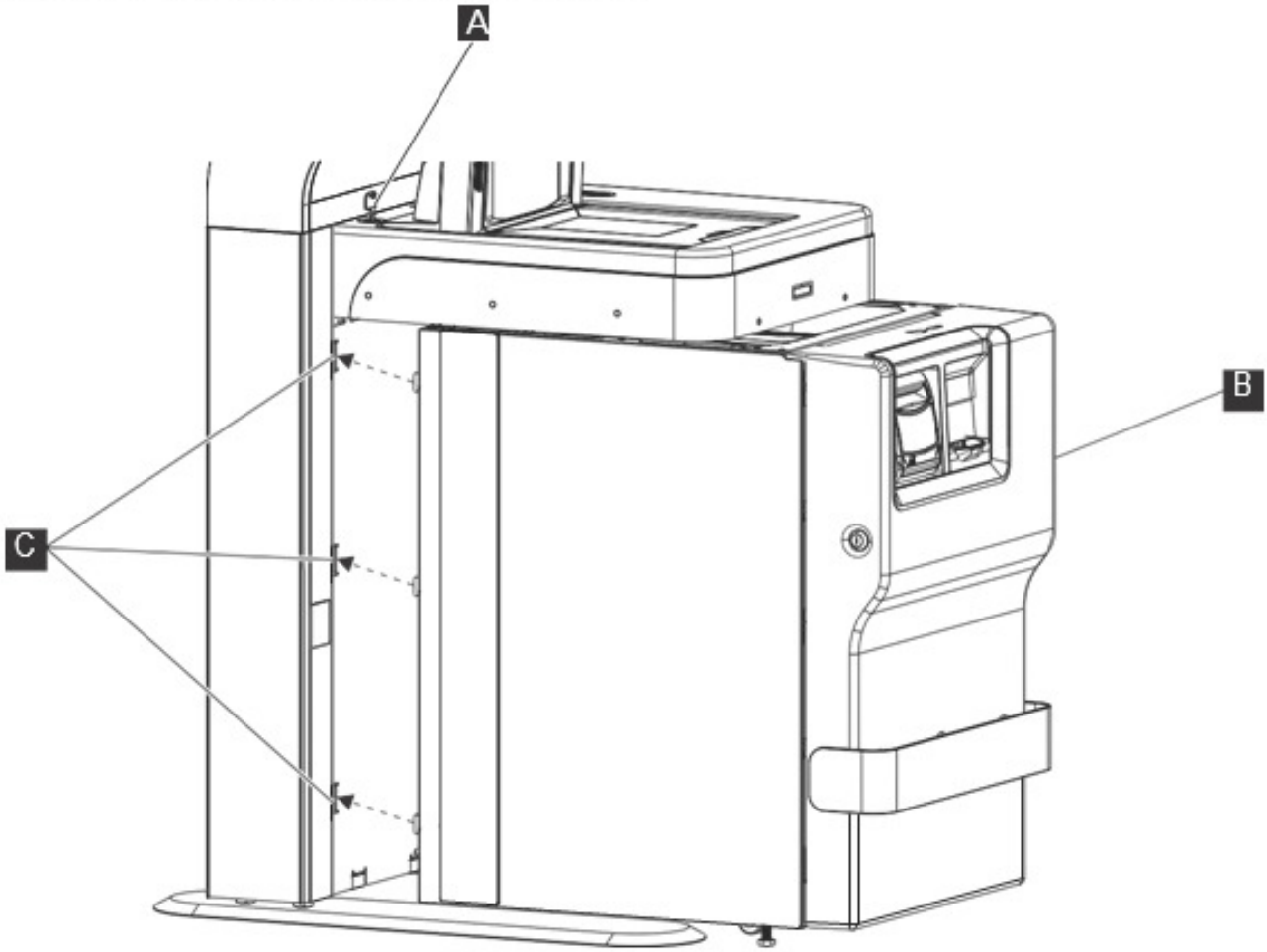
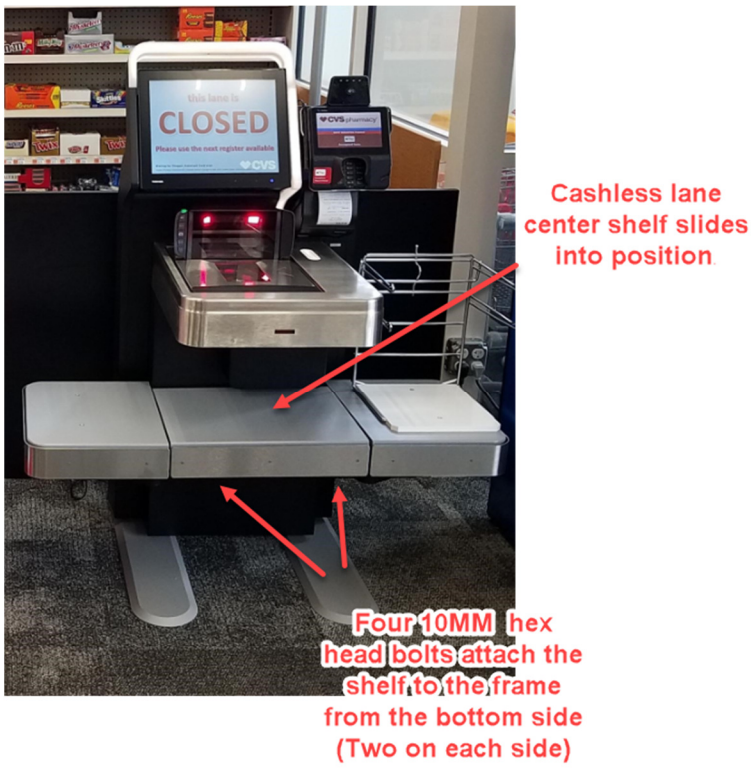


Figure 30. Cash cabinet

1. Unlock and open the scanner/scale cabinet (**A**).
2. Connect the coin recycler (RCH), bill recycler (BNR), and cash door cables to the core unit controller. Connect the ground strap between the cash cabinet and the core unit.
3. Position the cash cabinet **B** beneath the scanner/scale cabinet and back against the front of the core unit.
4. Check that the guide pins at the lower rear of the cash cabinet are aligned with the holes **C** on the face of the core unit.
5. Lift the latch mechanism at the upper rear of the cash cabinet and push the cash cabinet fully back against the face of the core cabinet. Lower the latch to engage the two cabinets.

CASHLESS LANE

After completing all cabling, install the center cabinet section that covers the internal equipment. Then install the center shelf using the four 10MM bolts.



POWER ON PROCEDURE

After plugging the main lane power cord into the appropriate outlet, perform the following procedure to turn on the lane.

1. Locate the green Reset button under the right corner of the touch screen monitor.
2. Press and hold the green Reset button or until you hear the lane components powering on.

Note:

- If you turn off power to the lane, wait at least 90 seconds to allow attached devices, such as the scanner-scale, to shut down before you try to power on the lane again.
- If the lane PC does not power on, open the front panel of the core unit (Model 1K0) or open the scanner/scale unit (Model 100 and 110) and manually power on the lane PC. The power button can be found on the right top side of the PC.
- Make sure the UPS is also turned on.

FLATBED SCANNER PROGRAMMING

Once the lane is powered on, follow the programming instructions below.

Note: The lanes will be shipped with USB cable that are not being used at this time as they are using serial/RS232 connectivity. Please give these cables to the CVS POC when you turn over the keys, shopper assistant cards, etc.

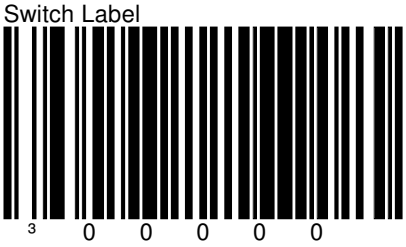
NOTE: Make sure you cover all barcodes except the one you are trying to scan to prevent any crossover unwanted scanning. If you do not hear the tones as indicated, the scanner is not accepting the barcode. It could be a print quality issue. Please contact the PMO team if this occurs

- Scan the Programming label below to put the Magellan into the **RS232 Standard Interface**.
    - Scanner will beep three (3) times, enter programming mode, set the interface, exit programming mode and reset.

Interface = RS232 Standard (Dual Cable)

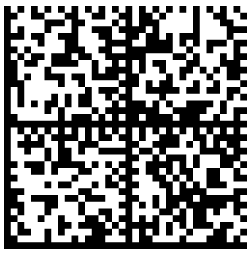
- Scan the **Switch Label** below to enter Programming Mode
    - Scanner will beep **one (1) time** putting the scanner into Programming Mode.
    - **Green LED** on the Bonnet is flashing.

Switch Label



- Scan the **Composite Label** below.
    - Scanner will beep three (3) times, exit programming mode and reset.

Composite Label



- Scan the **Switch Label** below to enter Programming Mode
  - Scanner will beep **one (1) time** putting the scanner into Programming Mode.
  - **Green LED** on the Bonnet is flashing.

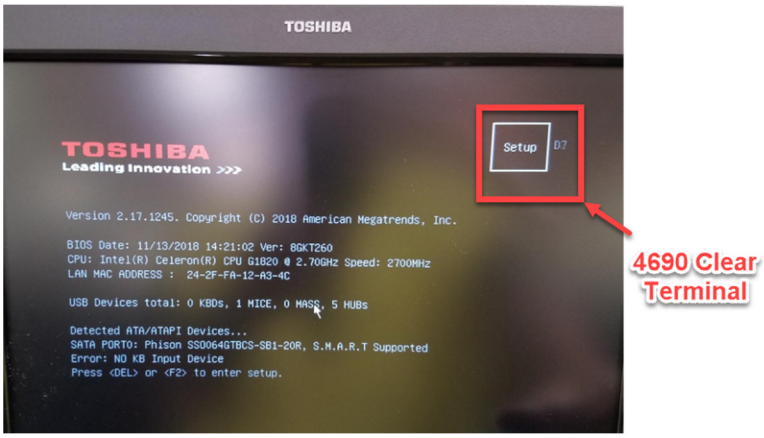
Switch Label

- Scan the **Composite Label** (PDF4517 barcodes for the Extra Care Cards)
  - Scanner will beep three (3) times, exit programming mode and reset.

BIOS

Set or validate the BIOS is set as follows:

1. Power on or reboot the PC.
2. Press the **DEL** key to enter the BIOS set up. As an alternate option, you can press the "Setup" button on the



3. Load the default settings. An option is displayed on the BIOS screen that allows you to load the default settings.
4. **Configure the *Boot Mode Select* under the "Boot" tab to LEGACY**
5. Configure the *Fixed Boot Order* under "Boot" tab as follows:
   a. USB Floppy
   b. USB KEY
   c. USB Hard Disk
   d. USB CD/DVD
   e. CD/DVD
   f. Hard Disk
   g. Network
6. Edit the power management settings to ensure that the computer is automatically turned on when power is restored to the system. This setting is called "After Power Failure" on the 4900-786. The power management settings should be set to the following:
   a. **Last State** for Model 6800 Lanes
   b. The setting for the "Power Button Mode" is the default value.
7. Complete the following steps:
   a. Go to "SATA Mode" under "Devices". Press **Enter** at this option.
   b. Press **Enter** on "IDE Mode".

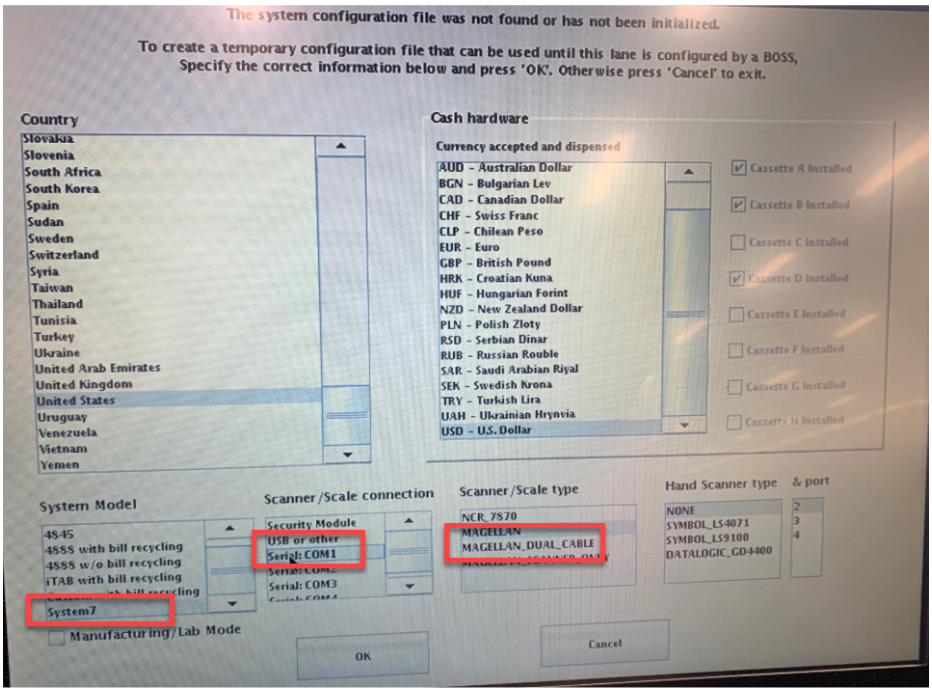
HARDWARE DIAGNOSTICS

Insert the USB diagnostics into the lane PC and reboot the lane. Make sure you choose Test all hardware functionality by following the instructions in Appendix B of this document.

When the PC boots into diags, choose OK to the licensing question

On the four menu option screen, choose the SCO diags.

When you reach the screen to the right, set up as **System 7**, **COM 1**, and **MAGELLAN DUAL CABLE**



NOTE: After completing diagnostics, don't forget to remove your diagnostic key from the USB port before proceeding to the next section on flatbed scanner programming. Basically, the scanner can be programmed anytime there is power applied so this was moved up in the process in case there is trouble with the software load.

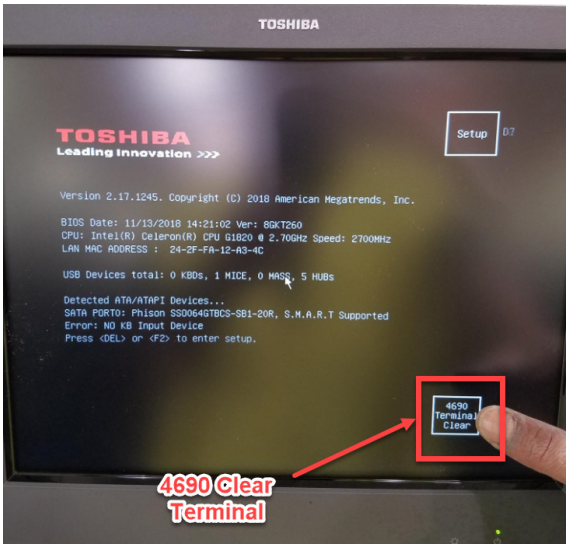
CONFIGURE THE LANE AND LOAD SOFTWARE

Follow the following process to load the lane application software.

The lanes will be configured using the 4690 POS numbering system. Please reference

1. Power on or reboot the PC and the lane will load to a Z001 screen and display a number pad.

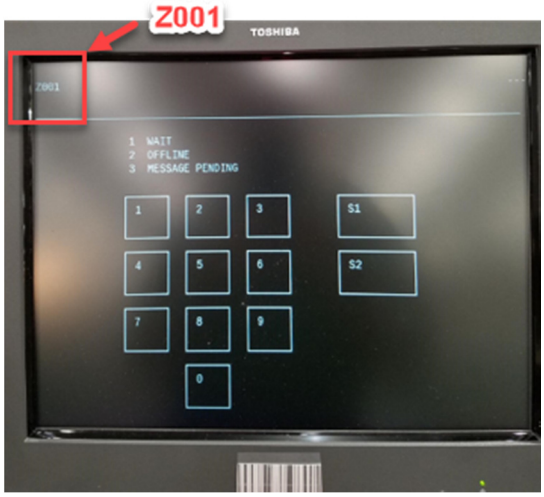
NOTE: Prior to loading to the Z001 screen, the **Terminal Clear** button will flash on and then off and then on again for a period of about 10 seconds. If for any reason the lane needs to be **reloaded** (corrupt load not allowing lane to come up, lane ID'd as wrong terminal, etc.) you can press **4690 Terminal Clear** button on the display during the boot process. This will clear the load and allow the lane to load to the Z001.



2. When the display shows **Z001**, enter the terminal number **1xxx** (xxx= actual terminal number as identified in the *Terminal Numbering Options* diagram below and then press **S2**.

NOTE: DO NOT DOUBLE TAP S2 AT THIS TIME OR THE LANE WILL NOT FORMAT THE HDD AND THE LOAD WILL NOT COMPLETE CORRECTLY.

As a general guideline, CVS terminals should be numbered per the following format. The cash lane closest to the conventional lanes should be Lane 1/Terminal 017 and then should progress towards the door, Lane 2/Terminal 018, Lane 3/Terminal 008, etc. The highlighted terminal numbers below will cover most store lay outs

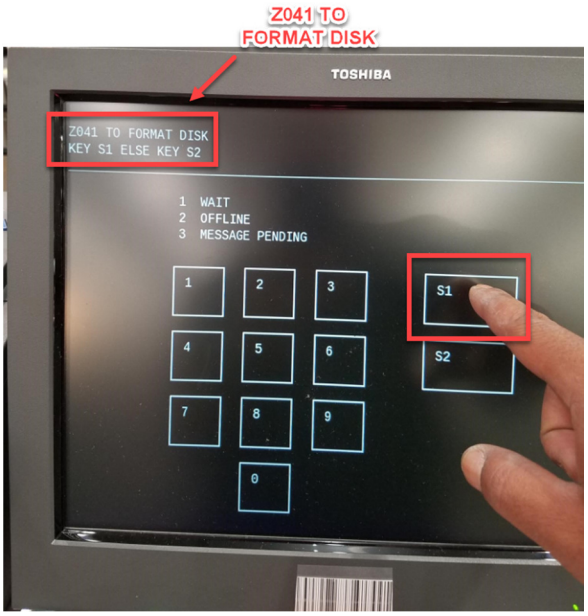


TERMINAL NUMBERING

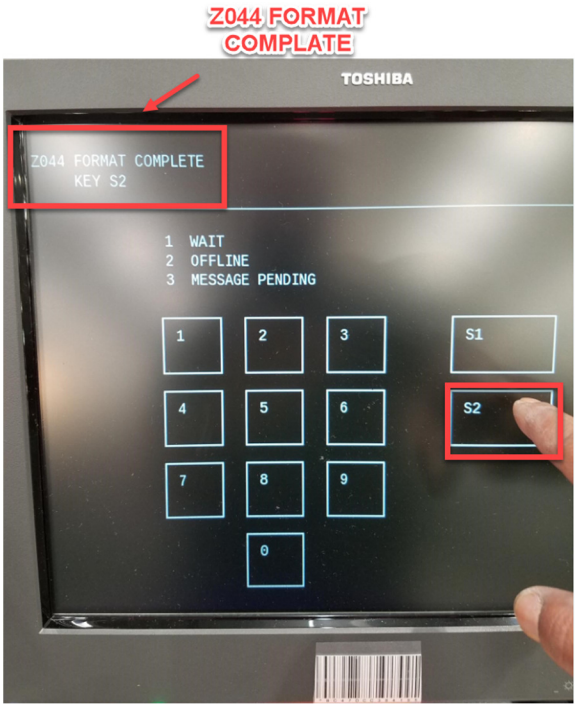
Lane 1 = Terminal 017 = 1017 – 1st cash lane
Lane 2 = Terminal 018 = 1018 – 1st cashless lane
Lane 3 = Terminal 008 = 1008 – 2nd cashless lane
Lane 4 = Terminal 009 = 1009 – 2nd cash lane
Lane 5 = Terminal 010 = 1010
Lane 6 = Terminal 011 = 1011
Lane 7 = Terminal 012 = 1012
Lane 8 = Terminal 013 = 1013

General rule: EVEN Terminal ID numbers are CASHLESS and ODD Terminal ID numbers are CASH

4. At the **Z041 TO FORMAT DISK** message prompt, press **S1** on the screen to format the hard drive **(DO NOT DOUBLE TAP).**



5. At the **Z044 FORMAT COMPLETE** message prompt, press **S2** on the screen **(DO NOT DOUBLE TAP).**



a. The system will reboot and begin the loading process. This could take anywhere from 20-40 minutes depending on network speed and bandwidth.

b. Software installation is complete once lane comes up to a “Closed” screen on the SCO lane.

FUNCTIONAL VALIDATION

Have the store POC open the lane and scan an item to validate operation.

CLEANUP

Before you can acquire the final sign-off, you will need to police your work area and remove all trash generated from your install. This is to be removed to the customer disposal area. Make sure you have given all keys, shopper assistant cards, flatbed scanner USB cables, and any additional unused equipment to your CVS POC and had them sign off on quantity and receipt.

Move all debris and pallets to rear of the store per the POC/store manager's direction

INSTALL CHECKLIST SIGN-OFF

Fill out the Installation Report (separate document) and have the POC sign the report when all the above activities are completed. The on-site portion of this installation is complete. Retain the Installation Checklist and submit per the process below.

Record any relative comments and/or open issues (defective or missing parts) on the installation report. If there are any open issues, make sure they are reported verbally to the PMO contact indicated at the beginning of the document.

TAKE A PICTURE OF THE LANES TO SHOW THE STATE OF COMPLETION. THE LANES SHOULD ALL BE LOADED AND SITTING AT THE "CLOSED" STATE WITH ALL PERPEPHERALS INSTALLED.

Submit the completed Installation Report to the PMO at PMO_Team_Projects@toshibagcs.com and copy the SCO Installation Manager at ron.fritz@toshibagcs.com, Installation Coordinator paul.beringer@toshibagcs.com.

Depending on the project, you may have to check out with the ROC (1-888-401-4601, Option 9, Option 2) to report you have completed the installation and are leaving the site. The PMO team will provide this information prior to the install.

APPENDIX A - WIRING DIAGRAMS AND CONNECTIONS

NOTE: Please note the flatbed scanner connections for CVS are not consistent with the connections noted below. Connectivity as outlined in the *Flatbed Scanner Installation* section in the main body of the manual should be followed and not the connectivity noted below.

Wiring diagrams and connections

This section contains the wiring diagrams and connections for the self checkout system.

Power routing diagram

Attention: All power for the lane must be routed to the lane using the power distribution unit 1 (PDU1). Failure to route power correctly can cause problems when diagnosing and repairing the self checkout system.

Lane PC Connectors (4900-786)

Figure 39 shows the connectors on the rear of the lane PC. See the table below the figure to help identify the connectors on the lane PC.

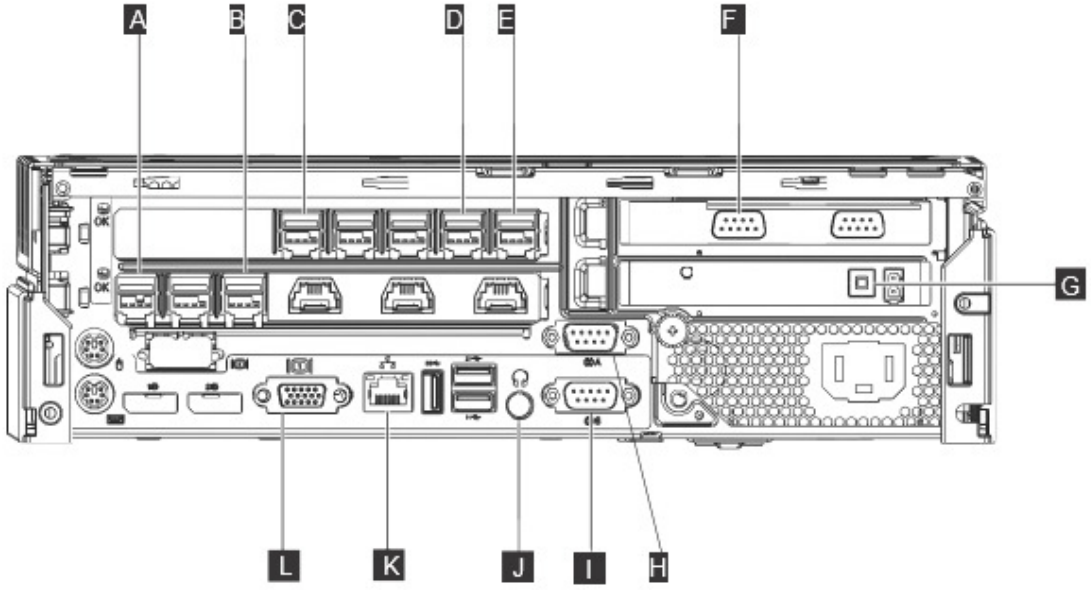


Figure 39. Lane PC (4900-786) rear connector panel

Key	Connector
A	Printer
B	Touchscreen
C	Payment Terminal
D	UPS
E	Core Unit Controller
F	Scanner/Scale (if RS232 attached)
G	Reset Switch
H	Payment Terminal (if RS232 attached)
I	Hand Scanner (if RS232 attached)
J	Audio Out

Key	Connector
K	Ethernet
L	Video

Core unit controller connectors

Refer to the following when connecting or disconnecting cables from the core unit controller:

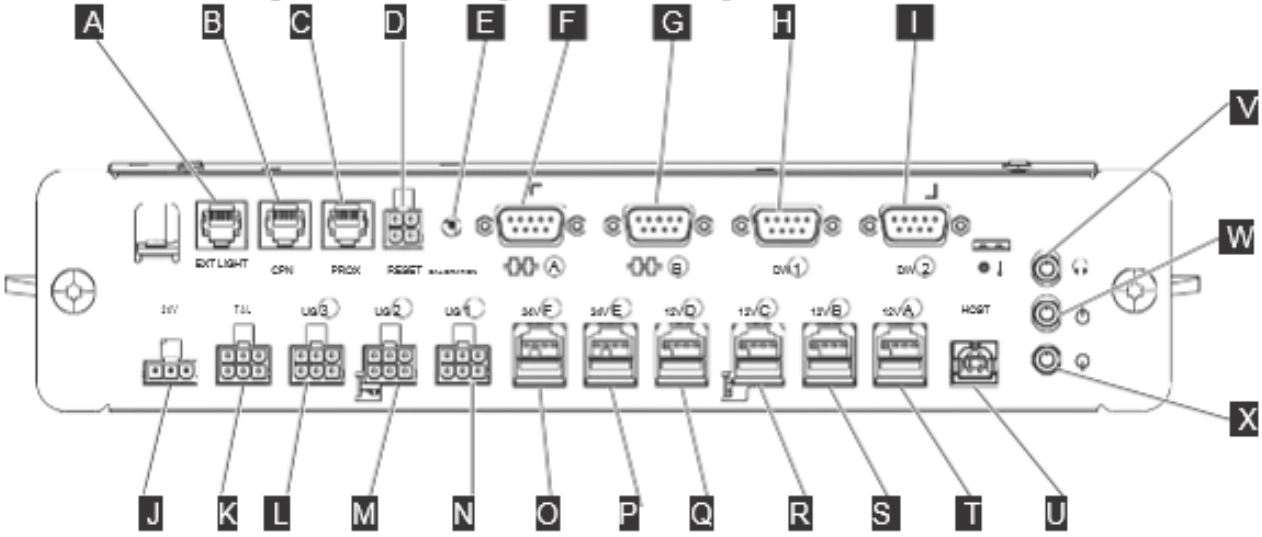


Figure 40. Core unit controller connectors

Table 4. Core unit controller connector assignments

A	AC Lane light controller
B	Coupon sensor
C	Proximity sensor
D	Reset button
E	Scale calibration
F	EAS controller
G	Spare (RS232)
H	Load cell 1
I	Load cell 2
J	24V power in
K	Transaction awareness light
L	Cash door light
M	Coupon light
N	Lane light and print/pay light
O	Bulk coin recycler
P	Banknote recycler
Q	Scanner/scale

R	Handheld scanner
S	UPS signal
T	Spare (USB)
U	Lane PC
V	Headphone
W	Speaker
X	Audio in

Power distribution units

This section shows the connections made to PDU 1 and optional PDU 2.

Power distribution unit 1

Figure 41 shows the connectors on power distribution unit 1, located in the lower portion of the core cabinet.

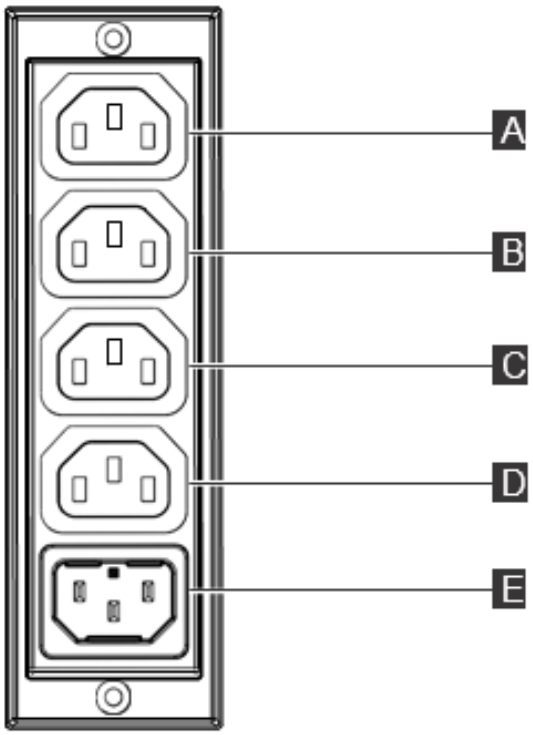


Figure 41. Power distribution unit 1 connectors

Table 5. Power distribution unit 1 connectors

Key	Connector	Key	Connector
A	UPS/ PDU2 or lane PC (if no UPS/ PDU2)	D	AC lane light control module (if present)
B	Core unit controller power adapter (if no UPS)	E	Input customer supplied AC power
C	EAS Controller (if present)		

Power distribution unit 2

Figure 42 shows the connectors on power distribution unit 2, located in the lower right corner of the core unit. PDU2 is optional and only used if there is no UPS.

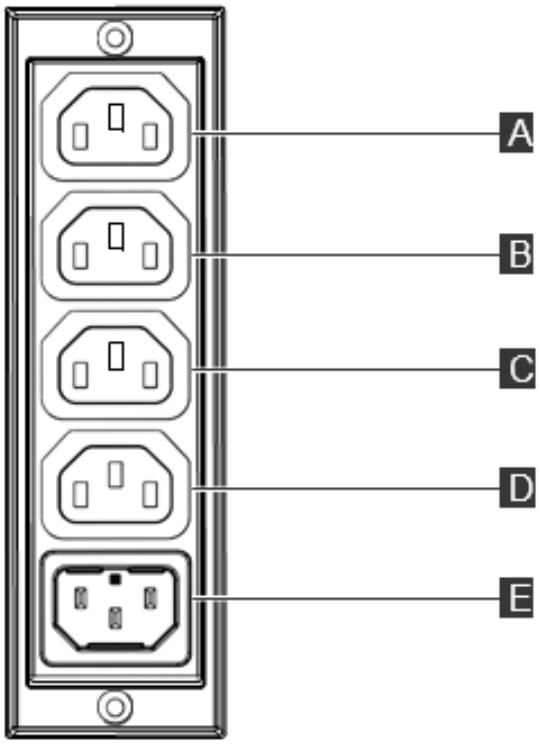


Figure 42. Power distribution unit 2 connectors

Table 6. Power distribution unit 2 connectors

Key	Connector	Key	Connector
A	Input from PDU 1	D	Additional customer supplied device
B	Additional customer supplied device	E	Additional customer supplied device
C	Additional customer supplied device		

UPS plug chart

This section provides information about the connectors on the UPS.

Refer to the following when connecting or disconnecting cables from the UPS:

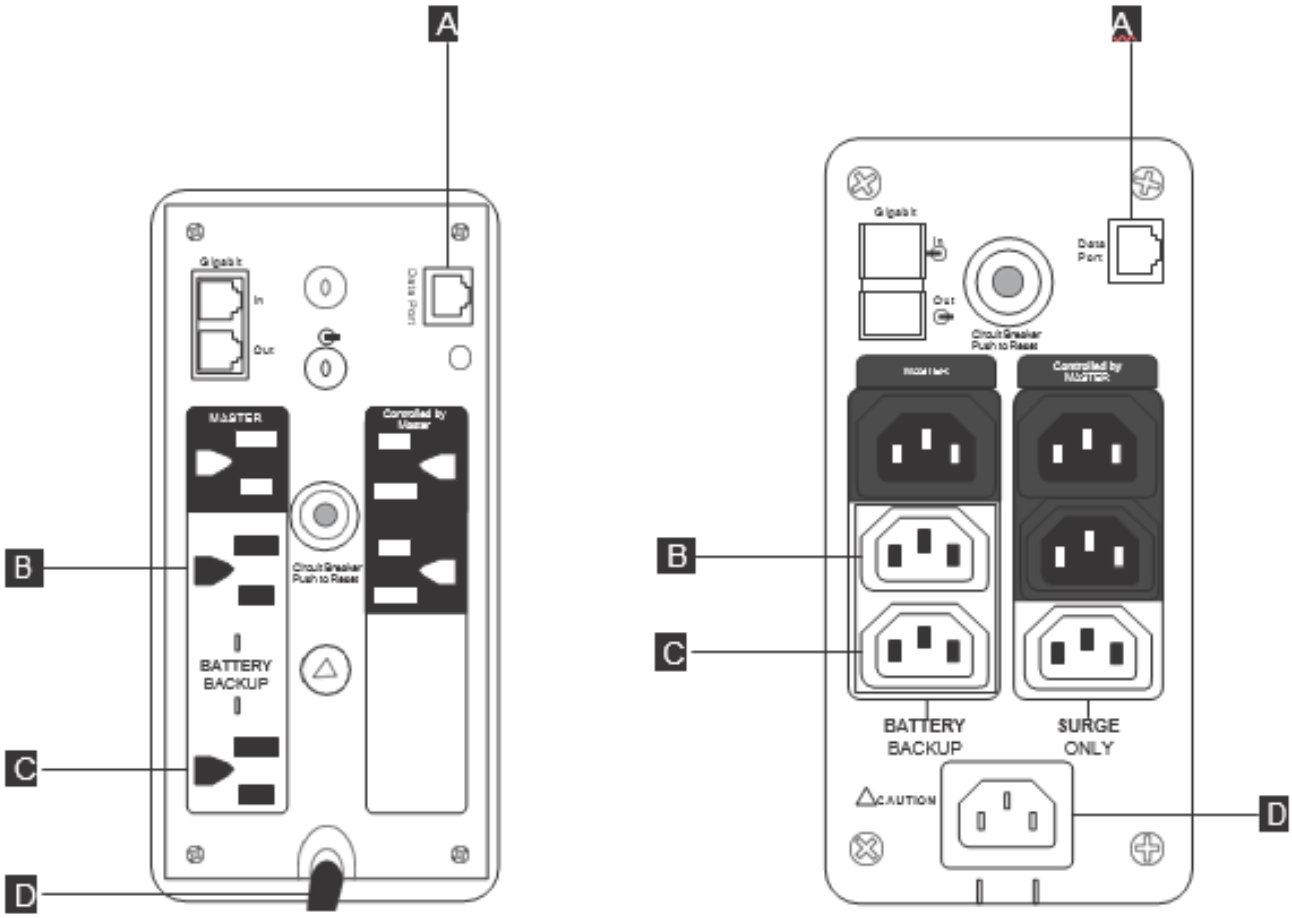


Figure 43. UPS connectors (Low Volt UPS on left, High Volt UPS on right)

Table 7. UPS connectors

A	USB (to lane PC)
B	AC UPS out power cord (to lane PC)
C	AC UPS out power cord (to core unit controller power adapter)
D	AC power IN (from PDU 1)

APENDIX B - LANE DIAGNOSTICS

Lane diagnostics can be run by booting from the USB diagnostics key or via the lane application. The diagnostics are the same in both cases.

Note: The diagnostic panels shown are representative; actual screens might vary for different self checkout lane models and different levels of the diagnostics code.

1. Close the lane.
2. Scan a shopper assistant card that can access diagnostics.
3. Touch **Diagnostics**. An Initialization screen will be visible with message `Initializing Lane Diagnostics`.

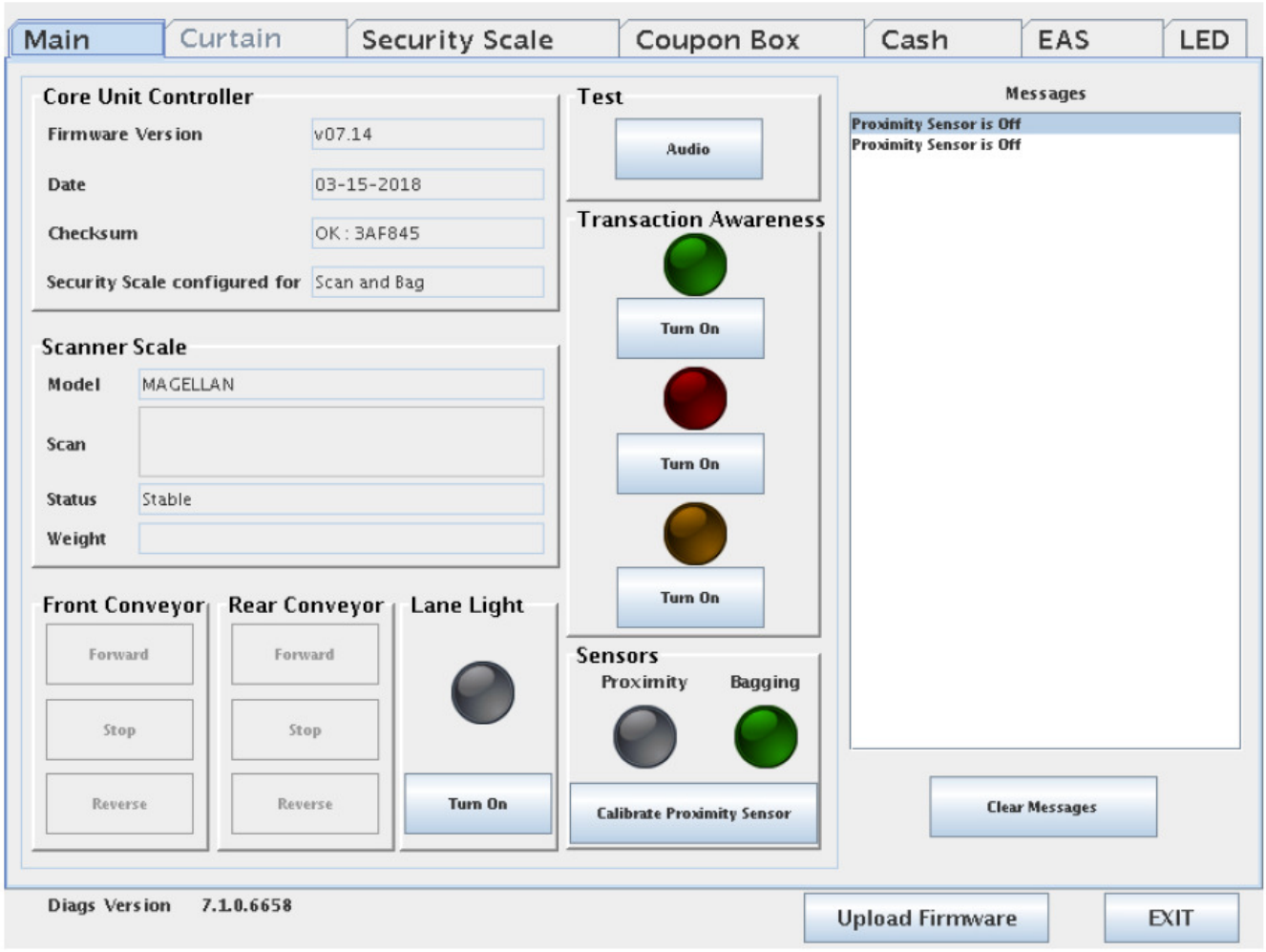


Figure 44. Lane diagnostics Main tab

4. Once initialization finishes, the Lane Diagnostics Main tab opens (see Figure 44.

Verifying the core unit controller firmware version

Complete the following procedure to verify the core unit controller firmware version.

1. From the Lane Diagnostics main panel, inside the core unit controller box, verify that the firmware version is correct.

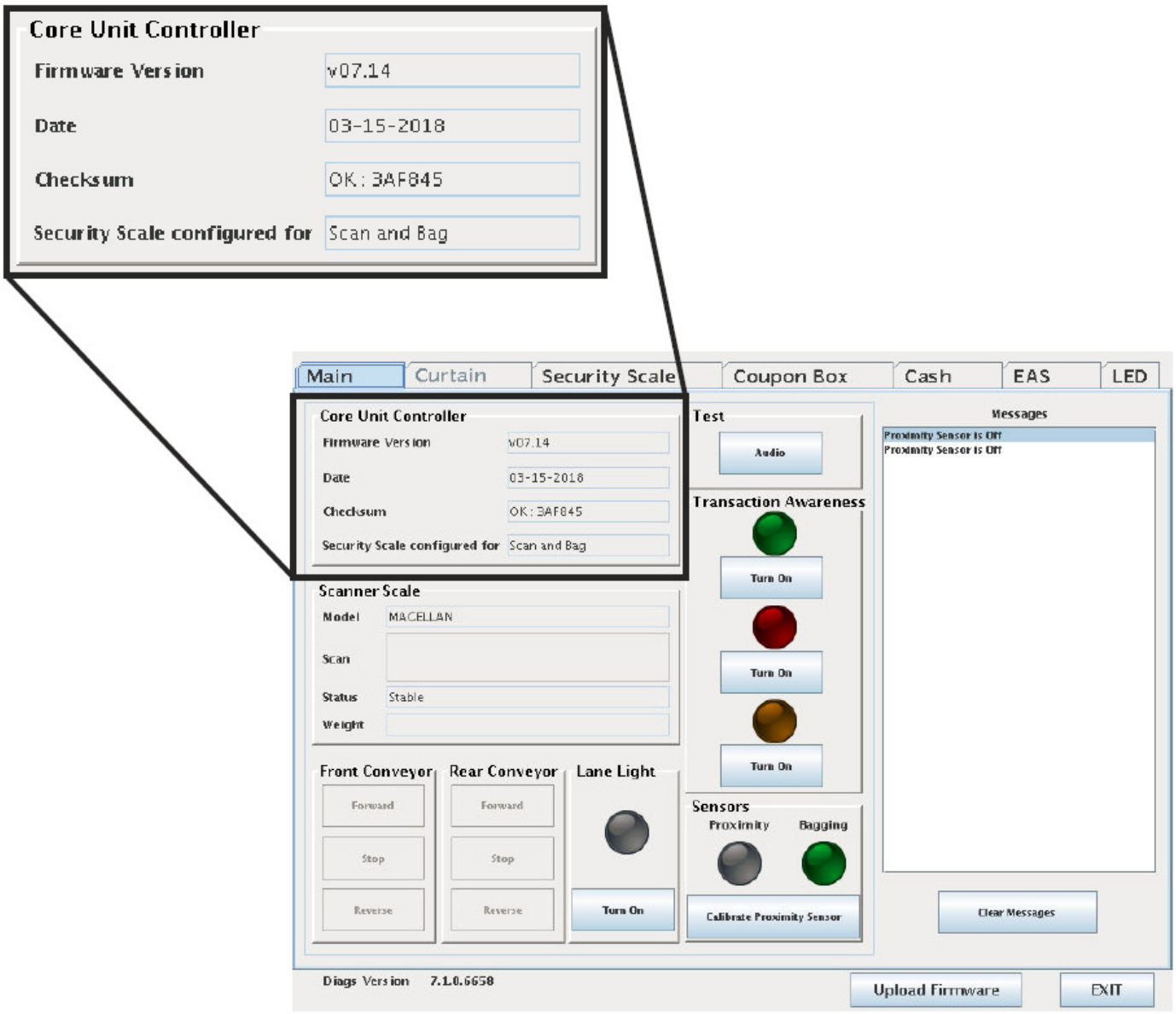


Figure 45. The core unit controller box displays the firmware version.

Testing the scanner/scale

Complete the following procedure to test the scanner/scale:

1. From the Lane Diagnostics main panel, inside the Scanner/Scale box, verify that the model information is correct.

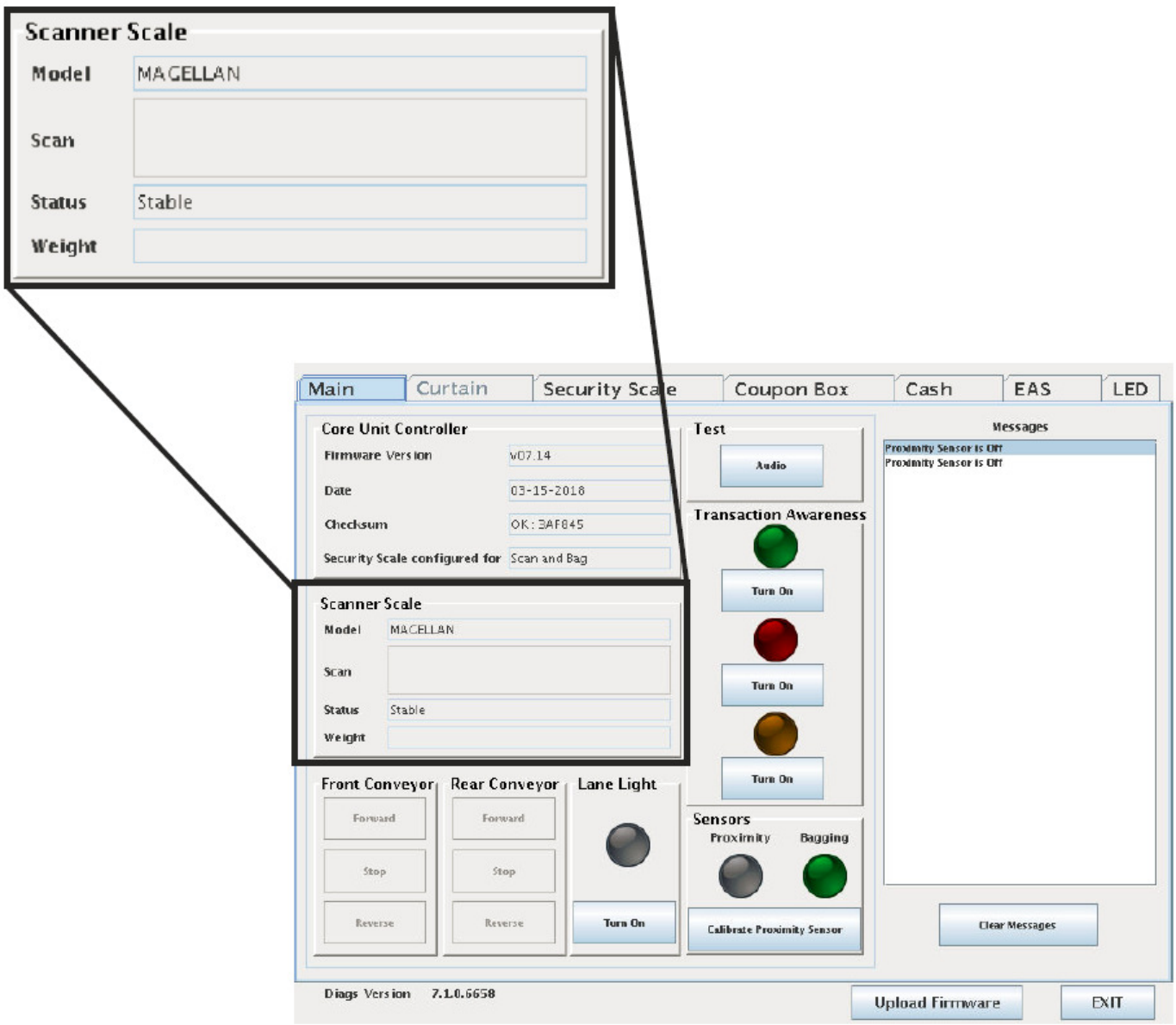


Figure 46. Diagnostics scanner view

Model

Identifies type of scanner/scale

Scan

Identifies last barcode scanned

Status

Identifies the stability of the scale

Weight

Identifies the current weight present on the scale

2. Scan a shopper assistant card that can access diagnostics and verify that numbers are displayed beside **Scan**.

   Note: The status might be displayed as **Unstable** until weight has been placed on the scale.
3. Place an item on the scanner. Verify that the correct weight of that item is displayed next to **Weight**.
4. Scan an item. Verify that the correct bar code appears beside **Scan**.

Testing the transaction awareness lights

Complete the following procedure to test the transaction awareness lights.

1. From the Lane Diagnostics Main panel, touch the appropriate button in the transaction awareness box. The indicators above the buttons are color-coded to match the transaction awareness lights. Refer to Figure 44.
2. The indicator should respond to the command in the same fashion as the corresponding transaction awareness light assembly. The button displays the next option each time you touch it.

Testing lane light and lane light control module operation

1. From the Lane Diagnostics Main panel, touch the button in the **Lane Light** box. Refer to Figure 44. The indicator above the button should respond to the command in the same fashion as the lane light assembly.
2. Check the lane light for On and Off operation. The button displays the next option each time you touch it.

LED testing

Complete the following procedure to test LED.

With CHEC, the LEDs will sometimes turn white/blue during power up for 1 minute, while the the required LED control script is loading. If the LEDs turn white/orange, an LED script fault has occurred and a new application or script load is required.

1. From the Lane Diagnostics main panel (see Figure 47), touch the **LED** button. The LED panel will appear.

   LED Information is listed on the upper right. This contains the firmware (LED Application) and Script versions in use by the LED controller.
2. By default, the lights will be turned off. To test each color (RGBW) of the LED Lights, select the appropriate button under the LED Lights sub-panel.
3. The LED Calibration can also be modified. This adjusts the intensity of the RGBW LED colors. To modify these, adjust the sliders as needed.

   If you are content with the changes, press the **SET CALIBRATION** button.

   Note: Values are only saved to the controller by pressing this button.
4. To revert back to what is currently on the LED Controller, press the **GET CALIBRATION** button.

   The factory default values for the LED Calibration is 80 for all four colors, Red, Green, Blue, and White. LED intensity is reduced as it ages. If an older string color begins to dim it can be corrected by raising the calibration value. Alternatively, a replacement string can be adjusted to match older strings by lowering the calibration values.

   Notes on LED controller behavior:

   1. If the LEDs are alternating white and orange, the application or script code is missing or damaged. New application and/or script code upload is required.

Testing the proximity sensor

1. Open Lane Diagnostics to the Lane Diagnostics Main panel.
2. Move an object in a back and forth motion in front of the proximity sensor.
3. The proximity indicator light in the Sensors box illuminates when the proximity sensor is triggered.

Calibrating the proximity sensor

To calibrate the proximity sensor you need a sheet of white printer or copier paper.

1. Open **Lane Diagnostics** to the lane diagnostics main panel.
2. Select **Calibrate Proximity Sensor** in the menu.
3. Hold a white sheet of paper directly in front of the proximity sensor at a distance of 18 in. or greater, depending on the calibration distance required. Do not hold the sheet of paper any closer than 18 in. (457.2 mm) as this will cause the sensor to be improperly calibrated.
4. Press any key to begin calibration. Calibration takes about 5 seconds. Ensure that the white sheet of paper is maintained at the required calibration distance for the entire 5 seconds.
5. When calibration is complete, a `Calibration Complete!` message is displayed. If the proximity sensor does not respond as desired or a `Calibration failed` message is dislayed, try to recalibrate the proximity sensor while verifying that the white sheet of paper is held no closer than 18 in. (457.2 mm). If the proximity sensor still has not calibrated after a

second calibration retry, the proximity sensor might be defective. To test the proximity sensor, see "Testing the proximity sensor" on page 81. To replace the proximity sensor, see "Proximity sensor removal and installation" on page 228.

6. The Lane Application can now be restarted.

Testing the coupon box

Complete the following procedure to test the coupon box.

1. Open lane diagnostics and touch the **Coupon Box** tab (see Figure 48).
2. Touch **Status**. The status of the coupon box is displayed in the Messages panel on the right of the screen.
3. Touch **Open**. The coupon box opens and the Messages panel on the right of the screen displays a message indicating that the coupon box is open. The Coupon Indicator LED illuminates.
4. Touch **Close**. The coupon box closes and the Messages panel on the right of the screen displays a message indicating that the coupon box is closed.

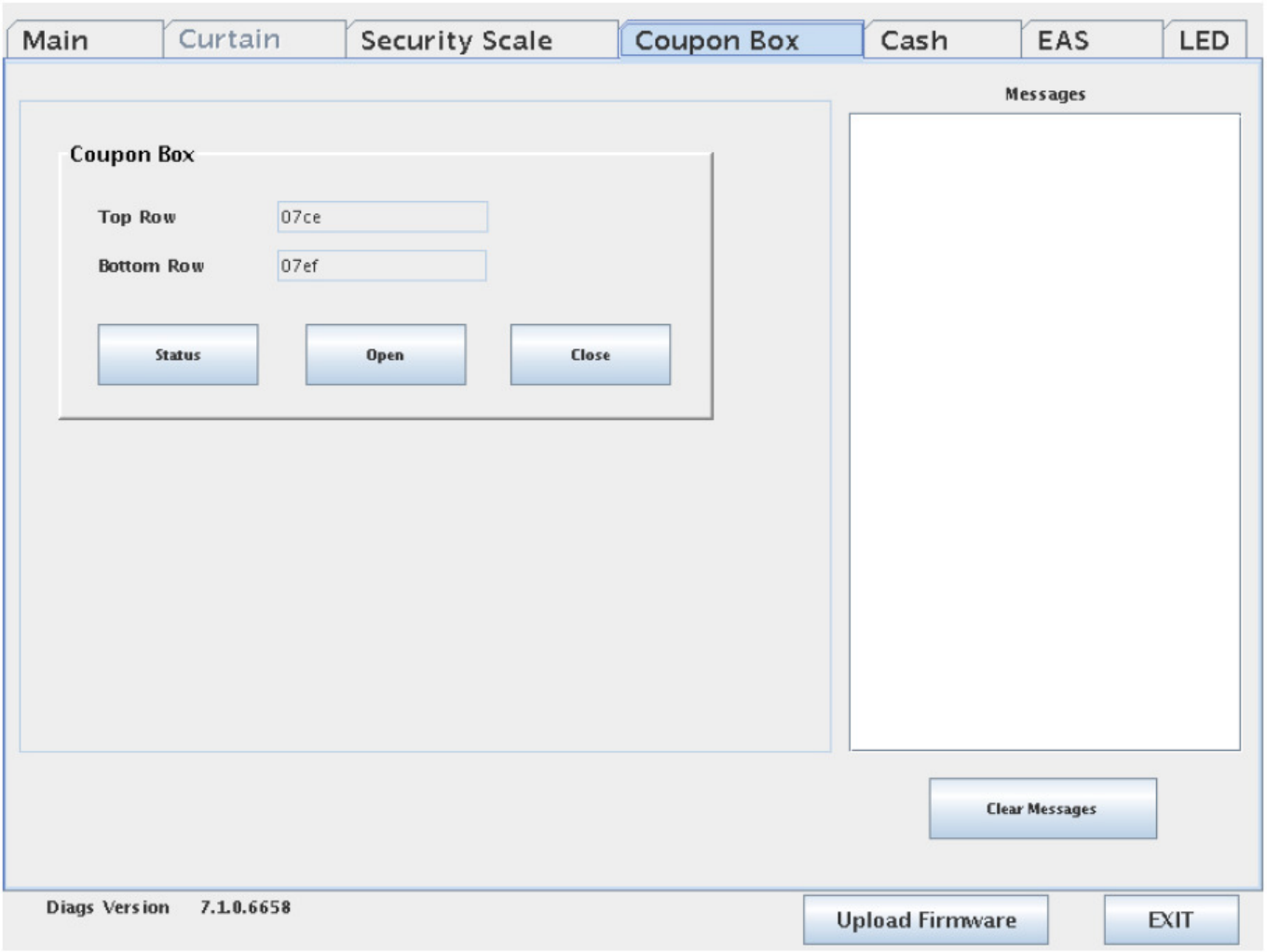


Figure 48. Coupon box panel view

Testing the cash machine (cash models only)

Complete the following procedure to test the cash machine for a cash model.

1. Touch **Cash** at the top of the diagnostics panel. The Lane Diagnostics - Cash Machine panel is displayed.

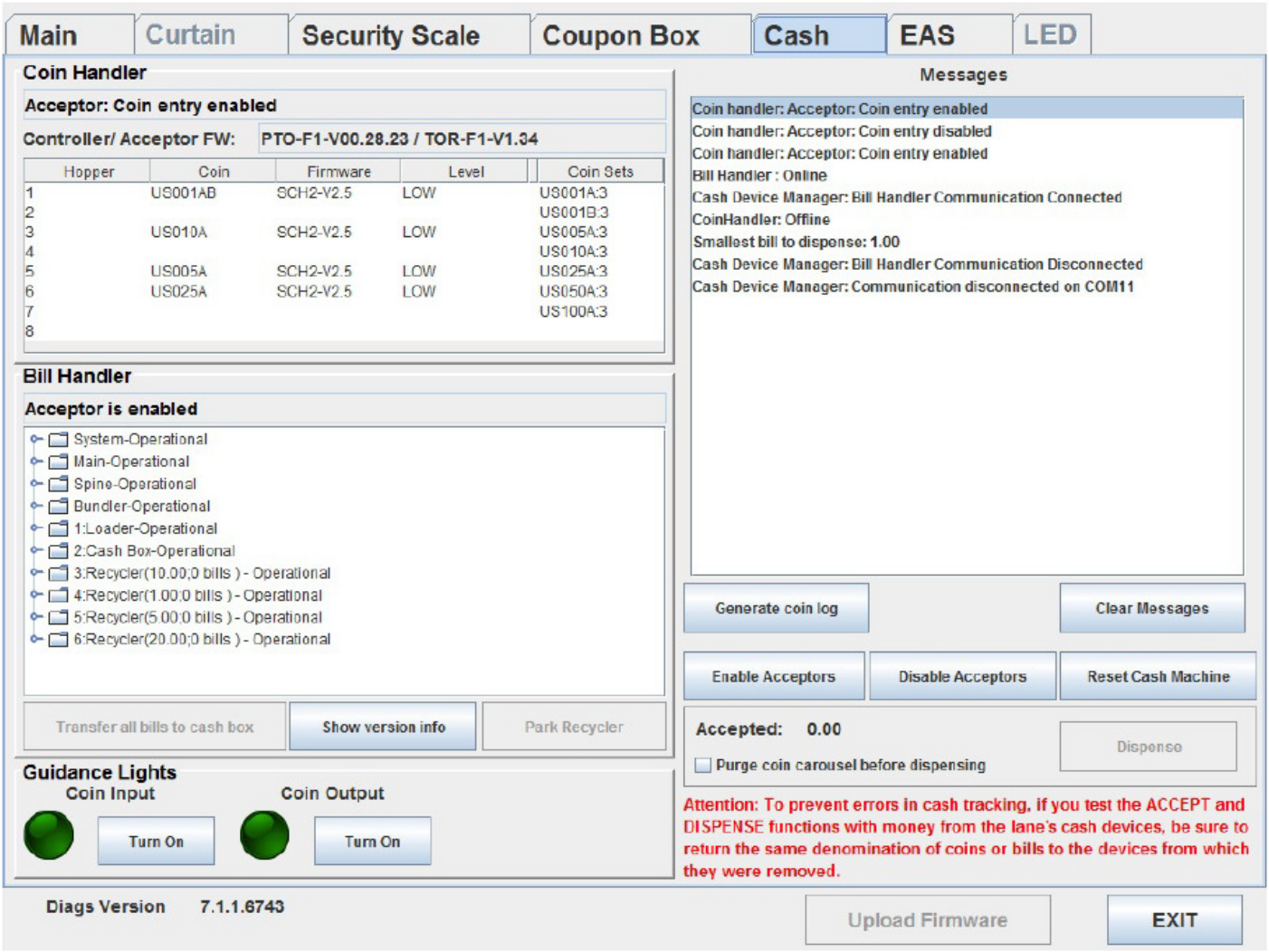


Figure 49. Lane Diagnostic - Cash Machine Panel for models with banknote recycler

The following list gives a description of the information found in each of the sections in the Cash Machine panel.

Note: The status of the devices shown in the Cash Machine panel is displayed by the color of the text. White text indicates the device is operating correctly, while red text indicates the device is not operating correctly.

- **Coin handler -** Shows the status of the coin handler, also shows the firmware levels of the device and which hoppers are installed. For each hopper the coin column displays the currency (first two displayed characters) and denominations (next three characters displayed).
- **Bill handler -** Shows the status of the bill handler. The Transfer all bills to cash box button is also displayed. Press this button to transfer all the bills or banknotes in the bill handler to the cash box (see Figure 49).
- **Dispense -** Press this button to dispense all the money that was accepted during testing.
- **Messages -** Shows a log of messages received from the cash machine devices.
- **Clear messages -** Press this button to clear the log of messages received from the cash machine devices.
- **Enable acceptors -** Press this button to enable all the acceptors installed in the lane.
- **Disable acceptors -** Press this button to disable all the acceptors installed in the lane.
- **Reset Cash Machine -** Press this button to reset all cash devices installed in the lane after clearing jams, replacing, or servicing the cash devices.

When the Cash Machine panel is shown, all cash devices are enabled and the amount of money accepted is shown at the bottom of the panel. Press the **Enable Acceptors** or **Disable Acceptors** buttons to manually enable or disable acceptors.

2. Test the cash machine devices by inserting coins, bills, or both in the coin and bill acceptors. Verify that the correct amount of money accepted is displayed at the bottom of the panel.
3. Touch the **Dispense** button and the cash machine should dispense whatever amount of money was accepted.

   Note: Touching the **Reset Cash Machine** button resets all the cash devices present in the cash cabinet.

Balancing and calibrating the load cells

This section provides the information necessary to balance and calibrate the load cells.

Before performing any of the procedures in this section, gain access to the core unit controller by unlocking the scanner/scale shelf and sliding it forward.

Note:

- The load cells in the small bagging units do not require balancing.
- This procedure is intended to balance the load cells in a medium, large, extra large bagger or carousel. If your lane has a small bagger, skip this procedure and continue to "Calibrating the small, medium, large, extra-large, and carousel bagging unit load cells" on page 87 to calibrate them.
- Ensure that all cable connections for the load cells are secure before starting the procedure for calibrating the load cells.

NOTE: You only need to perform the actual calibration process if the weight you use as your known weight is not weighing accurately. Most of the time, the load cells do not need calibration.

Calibrating the small, medium, large, extra-large, and carousel bagging unit load cells

Complete the following procedure to calibrate the load cells on a bagging unit. Refer to Figure 51 as you complete the steps.

Note: Any non-liquid item that weighs between 25 and 30 pounds (or 11 to 14 kilograms) can be used as a calibration weight. Two items each weighing at or between 15 and 25 pounds (7kg to 11kg) can be used to calibrate the carousel load cells. The exact weight of the object must be known. Use "Testing the scanner/scale" on page 78 to obtain the exact weight of the item. Record the weight of the item with ±0.01 lb. (±0.005 kg) accuracy.

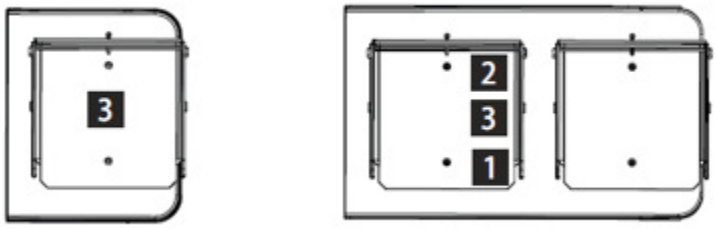


Figure 51

1. Open lane diagnostics.
2. Touch the **Security Scale** button on the Lane Diagnostics Main panel. The Secuirty Scale panel is displayed.

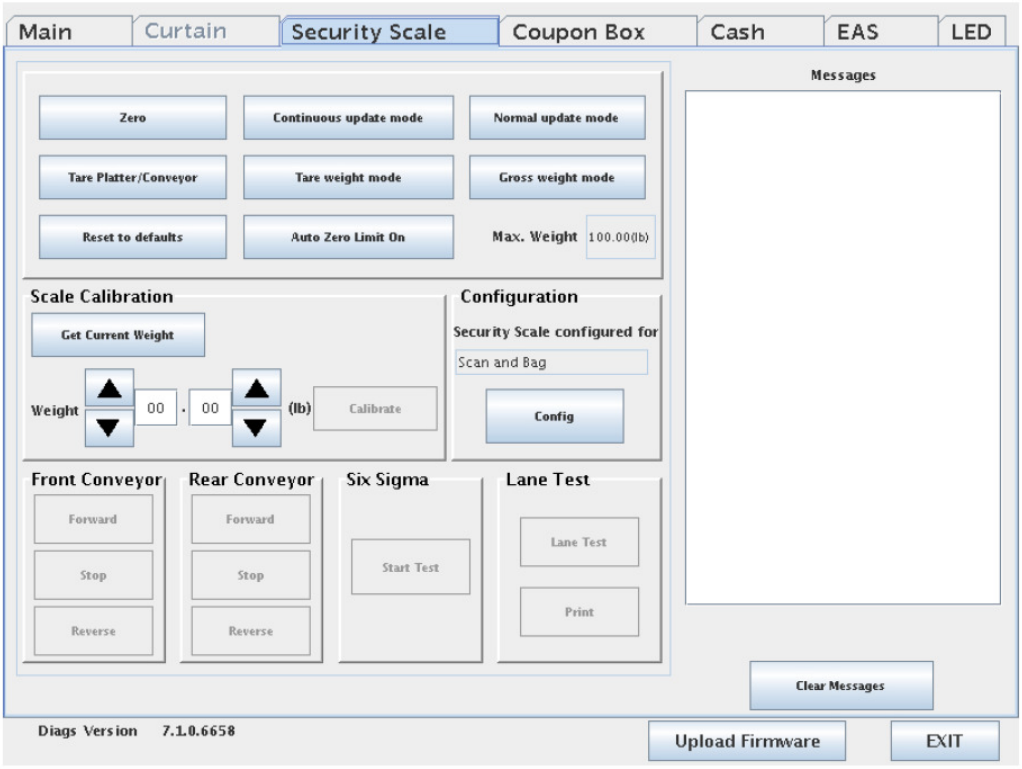


Figure 50. Security Scale panel

3. Touch the **Continuous update mode** button.
4. Touch the **Reset to defaults** button and wait for the scale weight response.
5. Touch the **Tare Platter/Conveyor** button and wait for the scale weight response. A weight between 2.5 lb (1.13 kg) and 12.00 lb (5.4 kg) will be displayed in the scale messages pane.

   Note: It can take up to 30 seconds for the weight to be displayed.
6. Touch the **Tare weight mode** button.
7. Touch the **Zero** button.
8. Touch the **Continuous update mode** button.
9. Place a calibration weight on the load cells in position **3**. For more information, see " Balancing the medium, large, extra-large, or carousel bagging unit load cells" on page 84. If you are calibrating a small bagging unit place the weight in the center of the bagging area.
10. Use the arrow buttons under the Scale Calibration section to set the current reading to reflect the exact weight of the object placed on the load cells.
11. Touch **Calibrate**. After the calibration is accepted, a window displays the message `Calibration successful. Press OK and then remove weight.` (Please note that it might take a few minutes for this window to open.)

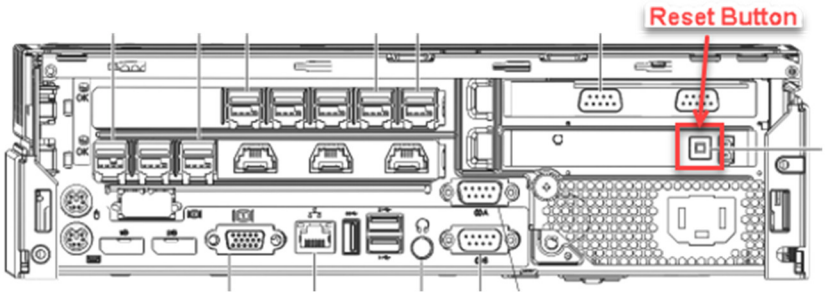
    Note: If an error occurs or if an *Unsuccessful* message is displayed, ensure that nothing is touching the scale or shaking the lane and repeat steps 9 through 12 of this procedure.
12. Press **OK** and remove the weight.

APPENDIX C – ALTERNATE LANE LOAD PROCESS

Alternative method for IDing lanes to load lane application software. This is only a backup process and is not required…more of an FYI.

The lanes will be configured using the 4690 POS numbering system.

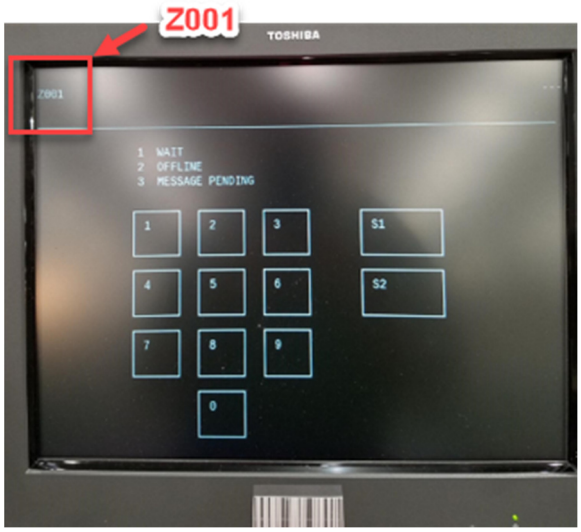
3. Power on or reboot the PC.
4. Repeatedly press F12 during the boot process until you see ***DHCP*** appear on screen.
5. Option 2 - Press the reset button (red outline below) when the display reads U005. The reset button is recessed so it is easier to use a paper clip or small pointed object to press it. (If for some reason you missed the point where the register shows **U005** you can reboot the register again, press **<F12>** to get it to boot up from the network and wait for U005 to show up again).



6. When the display shows Z001, enter the terminal number 1xxx (xxx= actual terminal number as identified in the *Terminal Numbering Options* diagram below and then press S2.

NOTE: DO NOT DOUBLE TAP S2 AT THIS TIME OR THE LANE WILL NOT FORMAT THE HDD AND THE LOAD WILL NOT COMPLETE CORRECTLY.

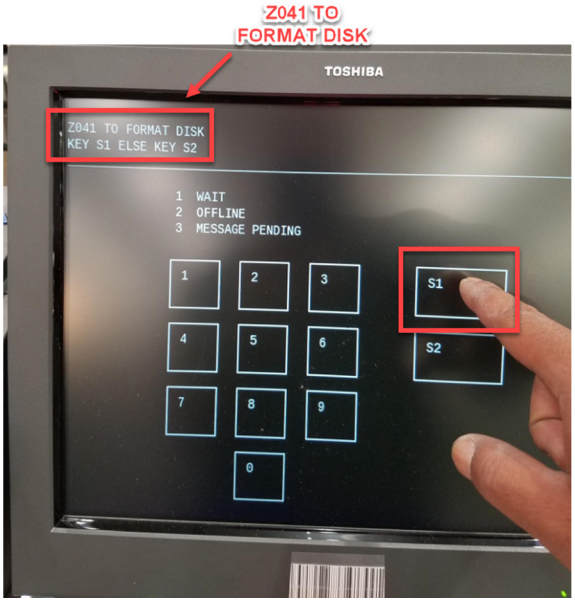
As a general guideline, CVS terminals should be numbered per the following format. The lane closest to the conventional lanes should be Lane 1/Terminal 017 and then should progress towards the door, Lane 2/Terminal 018, Lane 3/Terminal 008, etc.



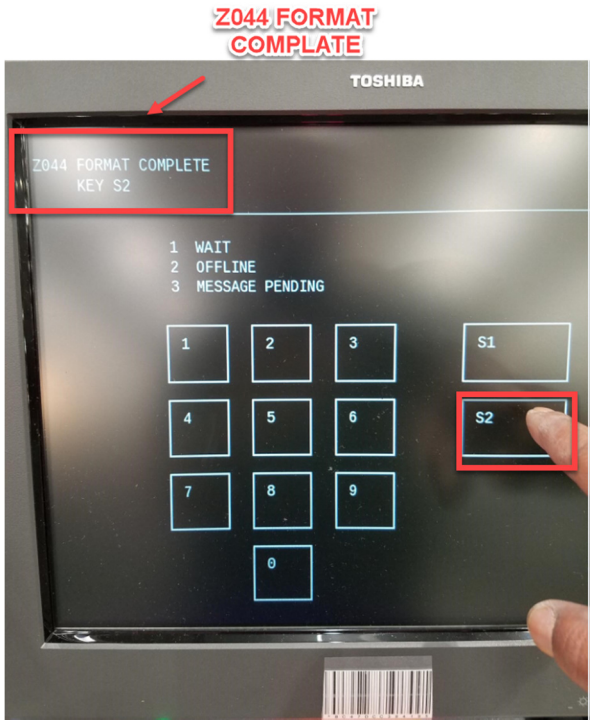
TERMINAL NUMBERING

Lane 1 = Terminal 017
Lane 2 = Terminal 018
Lane 3 = Terminal 008
Lane 4 = Terminal 009
Lane 5 = Terminal 010
Lane 6 = Terminal 011
Lane 7 = Terminal 012
Lane 8 = Terminal 013

5. At the **Z041 TO FORMAT DISK** message prompt, press **S1** on the screen to format the hard drive **(DO NOT DOUBLE TAP).**



5. At the **Z044 FORMAT COMPLETE** message prompt, press **S2** on the screen **(DO NOT DOUBLE TAP).**



a. The system will reboot and begin the loading process. This could take anywhere from 20-40 minutes depending on network speed and bandwidth.

b. Software installation is complete once lane comes up to a “Closed” screen on the SCO lane.

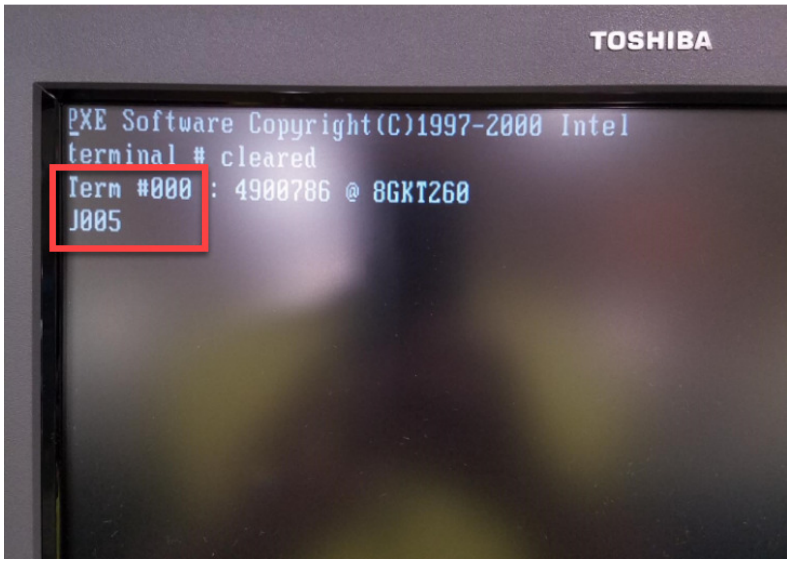
APPENDIX D - 4690 BOOT SEQUENCE

This section is more of an FYI/informative section of the various screens you will see as the you progress through the lane ID/load sequence.

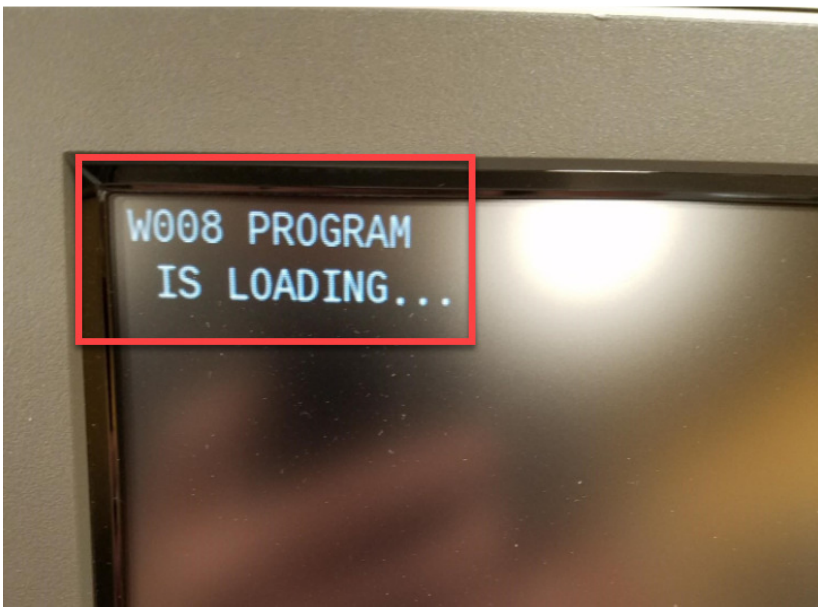
1. Power on Lane PC, if store controller doesn't lock out unknown mac addresses, or address is already submitted to customer the PC will connect with an IP address assigned by controller.

2. The initial communication between store controller and lane PC will begin. Several base files will load for approx. 3 min. Example display - *U005.xxx*

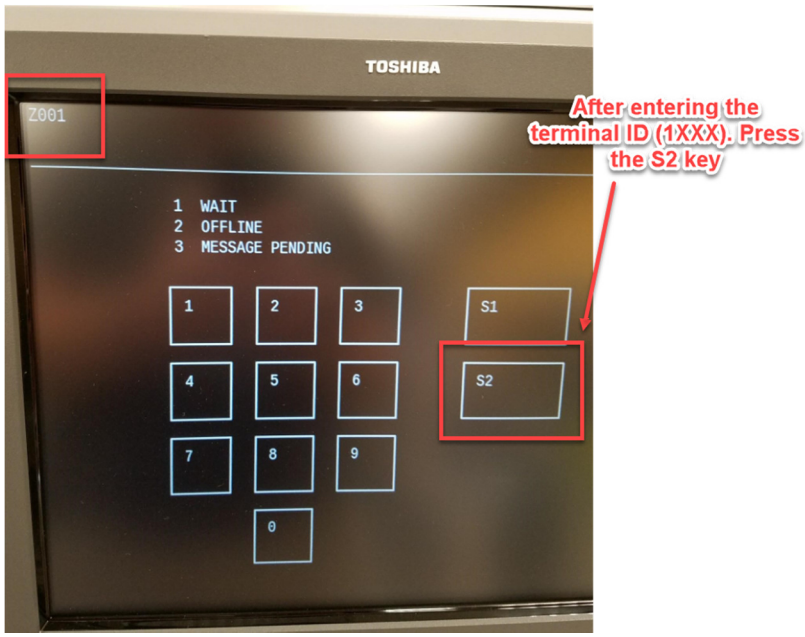
   NOTE: The Term # below is showing 000 as the terminal has not yet been ID'd.



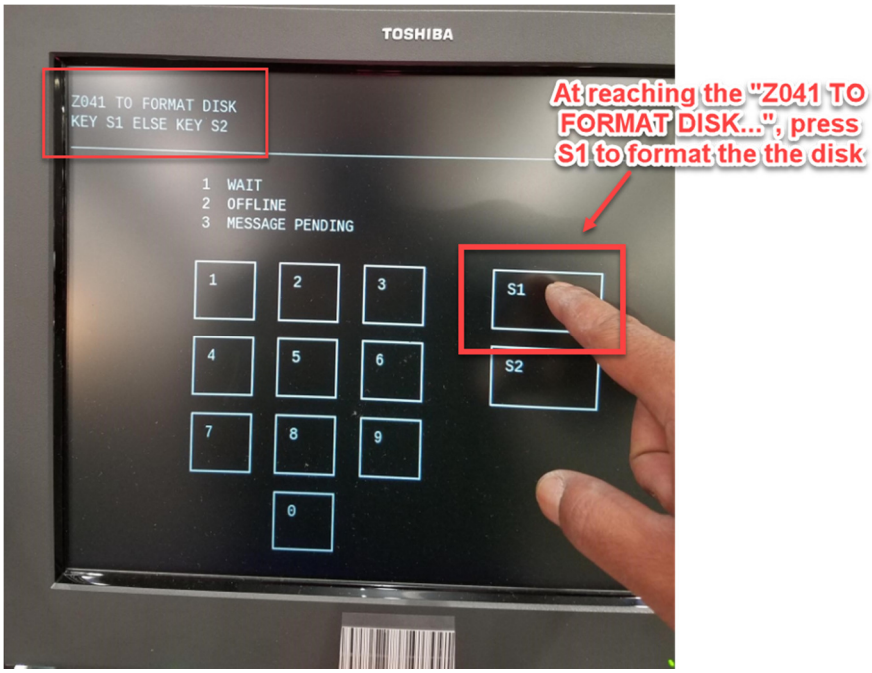
3. Once all necessary files have been transferred the lane PC will reboot and start system services to continue downloading files, you may see *W008 PROGRAM LOADING* as an example.



4. The load will stop at Z001 – This Lane ID screen should appear around 4 minutes after powering on PC. **Enter the appropriate number (1XXX) to ID the lane and press S2. Do not double tap!**

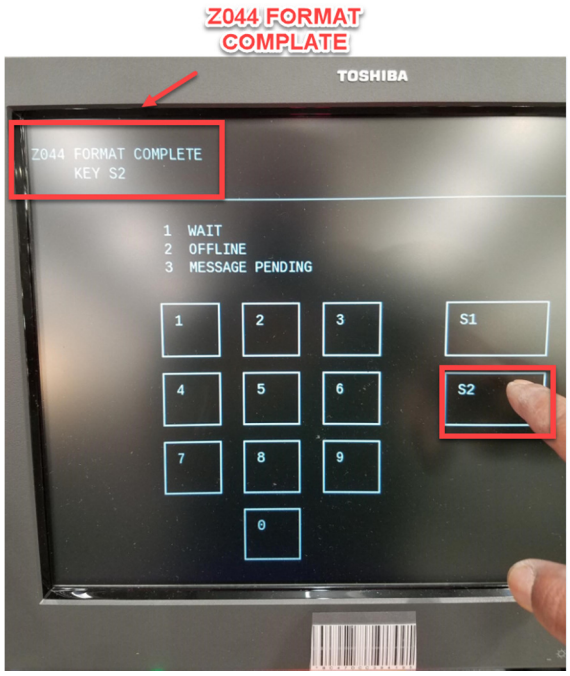


5. The lane will load to the Z041 screen below with a prompt “TO FORMAT DISK KEY S1”. **Press S1 at this time. Do not double tap!**



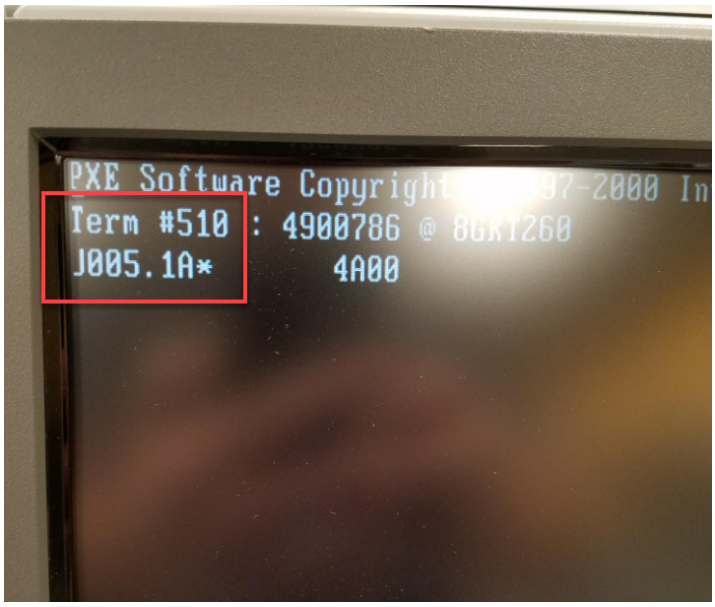
6. After formatting the drive, the lane will load to the **Z044 FORMAT COMPLETE** screen. At this time, **press S2 to complete the lane load process. Do not double tap!**

NOTE: Remember S2 – S1 – S2 is the sequence to submit. Only hit each button 1 time and wait for prompt to continue before hitting second button then 3rd.

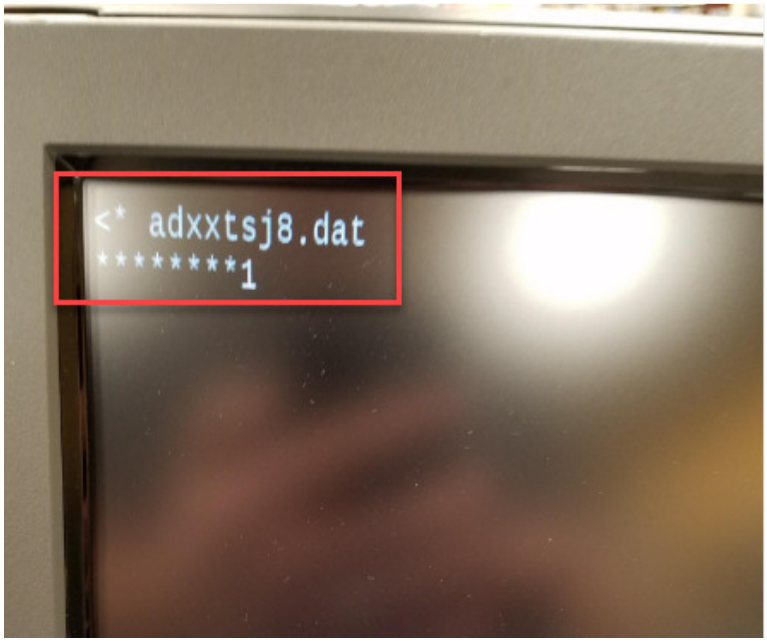


7. The lane will reboot and will now begin downloading Terminal Specific files or Terminal Definitions. Sample display would be *U005.xxx* and counting down various numbers.

   NOTE: In the particular example below, the *Term #* is showing as 510, meaning the terminal was ID'd as terminal 510 in the above step.



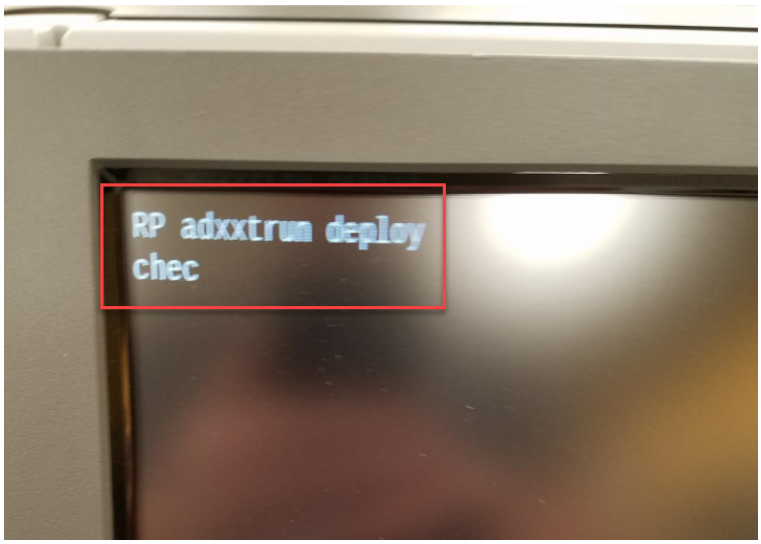
8. The screen will the flash and display the Toshiba Logo and then will begin system services, for instance you may see *W064 CONTACTING CONTROLLER* along with various *xxx.bzp* files, and *adxxxx.dat* files. This will take place approximately 15 min after powering on the lane.



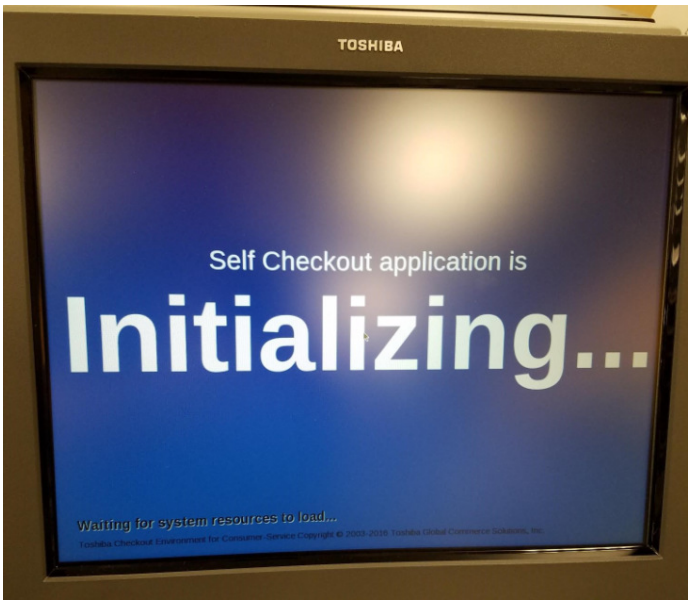
9. Next you will see ADX Deploy of DB2, ADXJPOS, and dba. The store controller is finalizing terminal definitions and is starting to load the necessary CHEC files.

   CHEC will begin to load and you will see the files named ie. VXTINRD.DA2 with stars underneath scrolling across as a progress indicator.

   At 19 or 20 min you will see ADXJPOS displayed. This may stay on the screen for a couple minutes and that is normal. This is the store controller sending down Firmware updates to various devices on the lane. When it is finished the lane will reboot and a couple files will load and ADXJPOS will run again.



10. At the 25 min mark or sooner, your lane should now switch to a GUI screen showing INITIALIZING in big letters. The lane is now communicating with the EBOSS and finalizing system devices.



11. If all goes well you should be at the MENU for lane Health Check at around the 30 minute mark, now you just wait until system loads.

NOTE: The *Lane configuration from the BOSS* may fail. You may hit the *Run Again* button to retry this step of the Health Check.