



U-SCAN[®]

Hardware Manual

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Chapter 1: Introduction

This is the U-Scan Genesis Hardware Manual, which contains servicing information for the major U-Scan Genesis Self Checkout devices and assemblies.

Safety precautions

Always follow the safety precautions below when you service the U-Scan Genesis system.



For your safety, connect equipment requiring electrical power to a properly wired and grounded outlet.



Always power down the U-Scan system before connecting or disconnecting cables between subassemblies and/or Network Hubs and/or the Store Controller.



The use of controls of adjustments or the performance of procedures other than those specified herein may result in exposure to hazardous conditions.



Do not attempt to open or otherwise service any subassemblies in the U-Scan system. Performing maintenance procedures outside the scope of this document may violate laser and electrical safety regulations.

Terminology

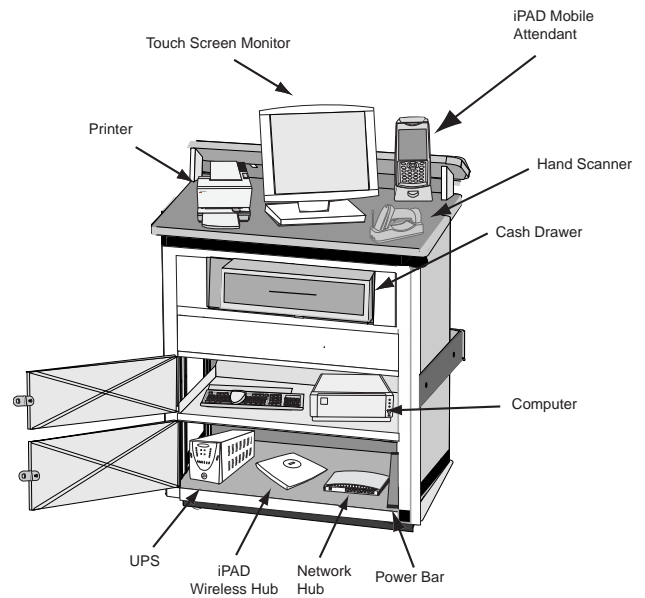
The following terms are used in this document:

Term	Also Known As
Attendant Station	Cashier Station
Customer Station	Robot
Attendant	Cashier
EFT	Electronic funds transfer
MAG-TEK MSR	Magnetic check reader

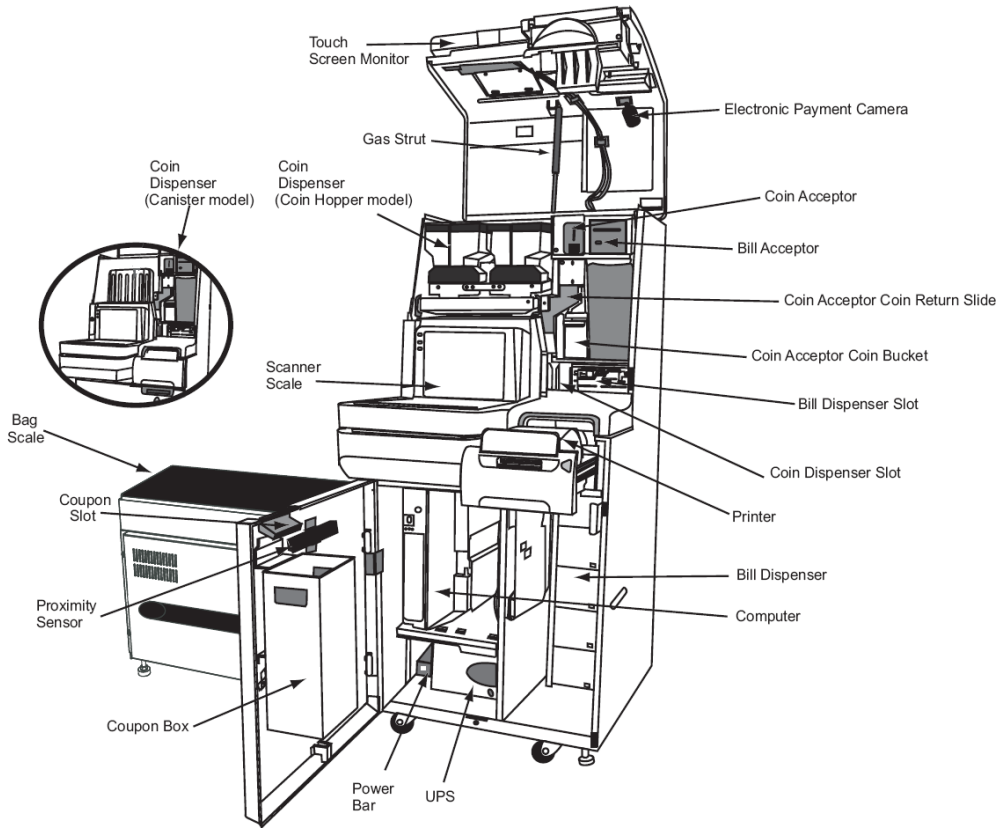
System Components

Use the following diagrams to identify the Attendant Station and Customer Station components.

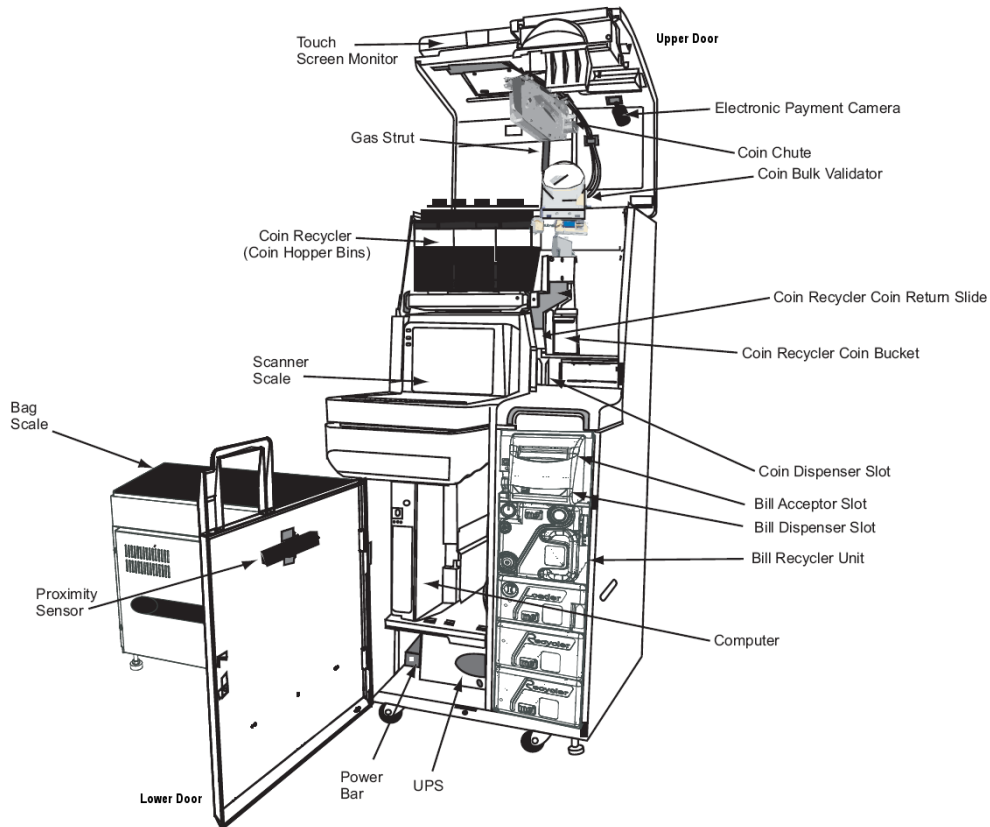
Attendant Station Components



Genesis Customer Station



Genesis Customer Station (with Cash Recyclers)



Testing

Device Tester

The Device Tester allows you to test the Customer Station or Attendant Station devices. The following pages contain procedures for stopping the U-Scan software and accessing the Device Tester. *You cannot access the Device Tester when the U-Scan software is running.*

- “[Stop Attendant Station](#)” on page 3: Instructions for stopping the U-Scan software at the Attendant Station.
- “[Stop Customer Station Software \(remotely\)](#)” on page 3: Instructions for stopping the Customer Station U-Scan software from the Attendant Station.
- “[Stop Customer Station Software \(directly\)](#)” on page 4: Instructions for stopping the U-Scan software at the Customer Station.
- “[Using the Device Tester](#)” on page 4: Instructions for accessing the Device Tester and checking the Device Models and settings.
- “[Settings](#)” on page 5: Table listing Device Models and settings.
- “[Error Messages](#)” on page 10: Table listing error messages that appear in the Unit Test and the Attendant **Device Test** utilities.

Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Stop Attendant Station

- 1 At the Attendant Station, close the Customer Station to the public
- 2 Access the **Manager** menu.
 - a Turn the manager key to the **ON (1)** position.
 - b Touch **Manager**. The **Manager** menu appears.

If the key was already turned to the ON (1) position, the Manager menu may not display. In this case, turn the key to the OFF (0) position, then ON.

OR

 - a Touch **Manager**. The **Password** screen appears.
 - b Enter the manager password, then touch **Done**. The **Manager** menu appears.

- 3 Click **Exit**. The message Are you sure? appears in the **Exit Cashier** window.
- 4 Click **Yes**. The Launchpad appears.

Stop Customer Station Software (remotely)

Stop Customer Station Software from Attendant Station

- 1 At the Attendant Station, close the Customer Station to the public.
- 2 Access the **Manager** menu.
 - a Turn the manager key to the **ON (1)** position.
 - b Touch **Manager**. The **Manager** menu appears.

If the key was already turned to the ON (1) position, the Manager menu may not display. In this case, turn the key to the OFF (0) position, then ON.

OR

 - a Touch **Manager**. The **Password** screen appears.
 - b Enter the manager password, then touch **Done**. The **Manager** menu appears.
- 3 Click **Functions**. The **Functions** window appears.
- 4 Touch the toolbox button of the lane you want to close.
- 5 At the corresponding Customer Station, the **Maintenance Mode** screen appears.
- 6 Click **Done**.
- 7 Turn the manager key to the **OFF (0)** position.
- 8 On the **Manager** menu, click **Done**.
- 9 Go to the Customer Station.
- 10 On the **Maintenance Mode** screen, touch **STOP ROBOT**. Touch **YES** to confirm the request. The Customer Launchpad appears.
- 11 On the Customer Launchpad, click **Device Tester**.
- 12 Enter the password (1379).
- 13 Click **OK**. The **Unit Tests** window appears.

Stop Customer Station Software (directly)

Stop Customer Station Software from Customer Station

- 1 Locate the Computer keyboard at the Customer Station.
- 2 Press Alt+Tab. The Robot Control window appears.
- 3 Select the Robot Control icon.
- 4 Click Stop Robot.
- 5 The Launchpad appears.
- 6 Click Device Tester.
- 7 Enter the password (1379). The Unit Tests window appears.

The Device Tester password may be different in your store.

Using the Device Tester

Stop the Customer or Attendant Station Software

Refer to the appropriate procedure above to stop the Customer or Attendant Station software.

Access the Device Tester

- 1 On the Launchpad, click **Device Tester**.
- 2 Enter the password (1379).
- 3 Click **OK**. The Device Tester window appears.

Check the Settings

- 4 In the **Unit Tests** window, click the tab for the device you wish to test.
- 5 Check that the Device Model is set to the correct device.

Change the Settings (If Necessary)

Only change the settings if the Device Model or COM port is incorrect.

- 6 Stop the device (from the software).
- 7 Press alt + [*] (the * key is on the number pad). **Change** becomes enabled.
- 8 Click **Change**.
- 9 Click the arrow key to display the drop-down menu.
- 10 Select the appropriate Device Model for the device.
- 11 Click **Apply**.

Test the Devices

Refer to the appropriate testing procedure for your device.

Settings

DLL, COM, and Other Settings (Attendant Station)

Attendant Station Device	Physical Port	DLL	COM	Baud	Parity	Data Bits	Stop Bits
Hand Scanner:							
SP400/QS6000 (with cord) QS2500 (with cord)		SP400.DLL		9600	NONE	7	1
SYMBOL SYNAPSE		SYMBOL_SYNAPSE. DLL					
SYMBOL LS4701 (cordless)		SYMBOL_DIRECT. DLL					
Printer:							
Citizen CT-10		PRN7193.DLL		N/A	N/A	N/A	N/A
IBM 4610		IBM_4610		9600	NONE	8	1
All AXIOHM Printers		AXIOHM					
EPSON TM-H5000		TM_H5000.DLL					
EPSON TM-H6000		TM_H6000.DLL		19200	NONE	8	1
SEM Beeper		SEM.DLL		9600	ODD	8	1
Speaker		SPEAKER.DLL					
Touch Screen		N/A		9600			
Paging System		SCOPE.DLL					

DLL, COM, and Other Settings (Customer Station - TP3K)

Customer Station Device	Physical Port	DLL	COM	Baud	Parity	Data Bits	Stop Bits
Alarm Board:	USB-G	ALARM_BOARD.DLL					
Barcode Scanner:	USB Hub-4	IBMUSB_HS.DLL	N/A	N/A	N/A	N/A	N/A
12V Audio Supply:	USB-E						
Bag Scale: Scaletron/Shekel	Port 6	SCALTRON.DLL	COM 22	9600	EVEN	1	N
Bill Acceptor: CashCode SM	Port 4	CCMFL.DLL	COM 20	9600	NONE	8	1
Bill Dispenser: Fujitsu F53	Port 7	F56BD.DLL	COM 23	9600	EVEN	8	1
Bill Recycler: (Accept) (Dispense)	USB-A	CCMFL.DLL MEI_BNR.DLL	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
Camera #1 (Produce):	USB-H						
Camera #2 (Security):	USB Hub-7						
Coin Acceptor: Microcoin	Port 5	MSCR3.DLL	COM 21	9600	NONE	8	1
Coin Dispenser: Telequip CX25	USB Hub-6	TRANSACT.DLL	N/A	N/A	N/A	N/A	N/A
Telequip T-Flex	USB Hub-6	TRANSACT.DLL	N/A	N/A	N/A	N/A	N/A
Coin Recycler: (Accept) (Dispense)	Port 5 Hub-6	MSCR3.DLL TRANSACT.DLL	COM 21 N/A	9600 N/A	NONE N/A	8 N/A	1 N/A
Coupon Detector:	USB Hub-5	CPNDETECT.DLL					
Dallas Key:	USB Hub-3	BTNFOB.DLL	N/A	N/A	N/A	N/A	N/A
EFT:	Port 2		COM2	Determined by the controller			
Edgeport:	USB-A		COM 3-18	N/A	N/A	N/A	N/A
PATLITE Lane Light:	Port 3	PATLITE.DLL	N/A	9600	NONE	8	1
MAG-TEK MSR:	USB Hub-1	MTEK211.DLL		N/A	N/A	N/A	N/A
Fujitsu D25 Touchscreen:	USB-I						

Customer Station Device	Physical Port	DLL	COM	Baud	Parity	Data Bits	Stop Bits
Citizen CT-10 Printer:	USB-C	PRN7193.DLL	COM 33	N/A	N/A	N/A	N/A
IBM Printer:	USB-C	PRN4610.DLL	COM 33	N/A	N/A	N/A	N/A
Proximity Sensor:	USB-D	FUJITPS.DLL	N/A	N/A	N/A	N/A	N/A
Metrologic Scanner Scale	Port 1	NCRCompliant_SS .DLL	COM 1	9600	ODD	7	1
Magellan Scanner Scale:	Port 1	FUJ9900.DLL	COM1	9600	ODD	7	1
TOPAZ L460 Signature Capture device	USB Hub-2	TOPAZ.DLL					
Belkin 7 Port USB Hub	USB-F		N/A	N/A	N/A	N/A	N/A
UPS Monitor:	USB-B		N/A	N/A	N/A	N/A	N/A

DLL, COM, and Other Settings (Customer Station - TP3600)

Customer Station Device	Physical Port	DLL	COM	Baud	Parity	Data Bits	Stop Bits
Alarm Board:	USB-J	ALARM_BOARD.DLL					
Barcode Scanner:	USB C	IBMUSB_HS.DLL	N/A	N/A	N/A	N/A	N/A
12V Audio Supply:	USB-G						
Bag Scale #1: Scaletron/Shekel:	COM6	SCALTRON.DLL	COM 19	9600	EVEN	1	N
Bag Scale #2: Scaletron/Shekel:	Exp. Port 4	SCALTRON.DLL	COM6	9600	EVEN	1	N
Bill Acceptor: CashCode SM	Port 4	CCMFL.DLL	COM 20	9600	NONE	8	1
Bill Dispenser: Fujitsu F53	Exp. Port 3	F56BD.DLL	COM5	9600	EVEN	8	1
Bill Recycler: (Accept) (Dispense)	USB-C	CCMFL.DLL MEI_BNR.DLL	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A
Camera #1 (Produce):	USB-K						
Camera #2 (Security):	USB Hub-4						
Coin Acceptor: Microcoin	Exp. P. 1	MSCR3.DLL	COM3	9600	NONE	8	1
Coin Dispenser: Telequip CX25	USB-D	TRANSACT.DLL	N/A	N/A	N/A	N/A	N/A
Telequip T-Flex	USB-D	TRANSACT.DLL	N/A	N/A	N/A	N/A	N/A
Coin Recycler: (Accept) (Dispense)	Exp. P. 1 USB-D	MSCR3.DLL TRANSACT.DLL	COM3 N/A	9600 N/A	NONE N/A	8 N/A	1 N/A
Coupon Detector:	USB Hub-5	CPNDETECT.DLL					
Dallas Key:	USB Hub-3	BTNFOB.DLL	N/A	N/A	N/A	N/A	N/A
EFT:	Port 2		COM2	Determined by the controller			
Edgeport:	USB-A		COM 3-18	N/A	N/A	N/A	N/A
PATLITE Lane Light:	Exp. P. 2	PATLITE.DLL	COM4	9600	NONE	8	1
MAG-TEK MSR:	USB Hub-1	MTEK211.DLL		N/A	N/A	N/A	N/A
Fujitsu D25 Touchscreen:	USB-H						

Customer Station Device	Physical Port	DLL	COM	Baud	Parity	Data Bits	Stop Bits
Citizen CT-10 Printer:	USB-L	PRN7193.DLL	COM 33	N/A	N/A	N/A	N/A
IBM Printer:	USB-L	PRN4610.DLL	COM 33	N/A	N/A	N/A	N/A
Keyboard: (PS2 recommended)	USB Hub 6	FUJITPS.DLL	N/A	N/A	N/A	N/A	N/A
Mouse: (PS2 recommended)	USB Hub 7	FUJITPS.DLL	N/A	N/A	N/A	N/A	N/A
Proximity Sensor:	USB-F	FUJITPS.DLL	N/A	N/A	N/A	N/A	N/A
Metrologic Scanner Scale	Port 1	NCRCompliant_SS .DLL	COM1	9600	ODD	7	1
Magellan Scanner Scale:	Port 1	FUJ9900.DLL	COM1	9600	ODD	7	1
TOPAZ L460 Signature Capture device	USB Hub-2	TOPAZ.DLL					
Belkin 7 Port USB Hub	USB-E		N/A	N/A	N/A	N/A	N/A
UPS Monitor:	USB-A		N/A	N/A	N/A	N/A	N/A

Testing the Individual Devices

- 1 Access the Device Tester.
- 2 Check the Device Model. Refer to [“Settings”](#) on [page 5](#).
- 3 Check the settings for serial RS-232 devices.
- 4 If the Device Model or a setting is wrong, follow the steps below:
 - a Press alt + [*] (the * key is on the number pad). The **Change** button is enabled.
 - b Click **Change**.
 - c Click the arrow key to display drop-down menu.
 - d Select the appropriate Device Model for the device.
 - e If necessary, change the settings as required.
 - f Click **Apply**.
- 5 Follow the testing instructions in the servicing chapter for the device you wish to test.

Error Messages

The tables which follow describe error messages that appear in the Unit Test and the Attendant Station Device Test utilities. For other device errors (i.e., beeping or pole display messages) consult the “Additional Information” section for that device.

Test Messages Box

The **Test Messages** box is located in the bottom part of the Unit Test or Attendant Station Device Test window. On the left side of the window is the **Message** box. The right side of the window contains a series of buttons which vary from test to test.

- 1 Click **Start** in the **Tests** box to start each test. The message DEVICE::ONLINE appears.
- 2 If the message DEVICE::ONLINE does not appear, then there may be a:
 - Faulty Device Model file
 - Device not connected to the Customer Station computer
 - Device malfunction

Select the tabs to move from device to device. All testing errors are entered in the Error Log.

Note that a mechanical error can be reported sometimes, even if the device is working.

Error Messages for Customer Station Devices

Customer Station Device	Error Message	Explanation
Bag Scale	SCALE (OVERWEIGHT)	The weight is too heavy for the Bag Scale to calculate. Remove weight and re-zero the scale.
	SCALE (UNDERWEIGHT)	The Bag Scale indicates a weight lower than zero. The bag platter may be off or touching the sides of the Customer Station. Rezero the scale.
	SCALE (REZERO_FAILURE)	Re-zeroing the Bag Scale has failed. Recalibrate the Bag Scale. If this doesn't correct the problem, the device may need to be replaced
	MECHANICAL_ERROR	A general message that the device has failed and may need to be replaced
Bill Acceptor	BILL_ACCEPTOR::BILL_REJECTED	Bills can be rejected if they are not in good condition.
	BILL_ACCEPTOR(NEEDS_CLEANING)	The Bill Acceptor's sensors are dirty and cannot read the inserted bill. Clean the device and try again.
	BILL_ACCEPTOR::FULL_OR_OPEN	The bill stacker is full or open. Empty the bill stacker and then close it. Test the Bill Acceptor.
	MECHANICAL_ERROR	There could be a problem with serial communications, power connections, or the device needs to be replaced.
Bill Dispenser	BILL_TRAY_EMPTY	Indicates that there are no bills in one of the trays or in the device altogether. Refill the Bill Dispenser and try again.
	DISPENSE_LIMIT_EXCEEDED	Indicates that the amount of money to be dispensed exceeds the allowable limit. This limit is configurable. Try dispensing a smaller amount.
	MECHANICAL_ERROR	The problem could be with the Serial Communications or the Power Cable, the Device Model file may be incorrect, or the device may need to be replaced.
	BILL_TRAY_LOW	Indicates that the Bill Dispenser is low on bills.
Coin Acceptor	MECHANICAL ERROR	A general message that the device has failed and may need to be replaced.
Coin Dispenser	DEVICE::OFFLINE {COIN DISPENSER}	An error occurred during testing.
	COIN_DISPENSER(LOW)	The Coin Dispenser is low on coins. Refill the device and try again.
	MECHANICAL ERROR	A general message that the device has failed and may need to be replaced.
Scanner Scale	SCANNER(GOTBADUPC, ZS)	Indicates that someone tried to scan a bad barcode. Use another barcode to test the Scanner Scale.
	SCANNER::GOTUPC_WHILE_DISABLED{XXXXXXXXXXXX}	This does not indicate a malfunction. This indicates that a barcode was read before the Scanner Scale was enabled in the Device Unit Testing Utility.
	SCANNER(CONTROL_BARCODE, ZS, ZS)	Indicates that the barcode scanned was a test barcode as entered in the Customer Station's Registry.
Magellan	SCALE(OVERWEIGHT)	The weight is too heavy for the Scanner Scale to calculate. Remove the weight and rezero the scale.
	SCALE(UNDERWEIGHT)	The Scanner Scale is indicating a weight lower than zero. Rezero the scale.
	SCALE(REZERO_FAILURE)	Rezeroing the Scanner Scale failed. The device may need to be replaced.
	SCALE(MECHANICAL_ERROR)	A general message that the device has failed and may need to be replaced.

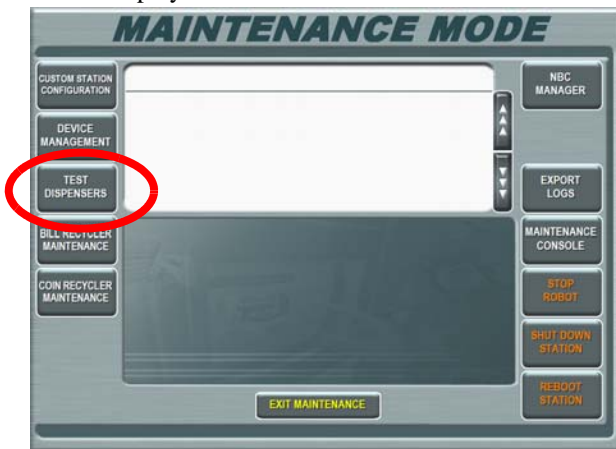
Error Messages for Attendant Station Devices

Customer Station Device	Error Message	Explanation
Hand Scanner <i>Note</i> <i>The error messages are the same as the Magellan Scanner Scale messages.</i>	SCANNER (GOTUPC_ WHILE _DISABLED, UPC)	This does not indicate a malfunction. Indicates that a barcode was read before the Hand Scanner was enabled in the Device Unit Testing utility.
	SCANNER(GOTABADUPC, ZS)	Indicates that someone tried to scan a bad barcode. Use another barcode to test the Hand Scanner.
	SCANNER (CONTROL_ BARCODE, ZS,ZS)	Indicates that the barcode scanned was a test barcode entered in the Attendant Station registry. Call the Support Center.
SEM Beeper	Problems with Beeper	Indicates that the SEM beeper is not responding due to communication problems or a faulty SEM module.

Testing the Overall System Functionality

Test Dispensing

- 1 Perform a test dispense to ensure that the cash acceptors and dispensers are functional and properly loaded.
- 2 Scan the control or Access Control barcode (or insert the optional electronic key into the electronic key reader) to access Attendant Mode.
- 3 Touch **Manager Functions**.
- 4 Enter the password provided by your supervisor, then touch **Done**. The manager function buttons display.
- 5 Touch **Robot Maintenance**. The **Maintenance Mode** screen displays.



- 6 A numberpad displays. Enter the password provided by your supervisor.
- 7 Touch **Dispense Bills/Coins**. Money is dispensed.
- 8 Count the money dispensed.
The amount of money dispensed is configurable per customer.
- 9 Put the money back into the acceptors.
- 10 Touch **EXIT MAINTENANCE**.

- 11 Touch **EXIT** to exit Attendant Mode and display the Customer Station multimedia screen.

Verifying the Station Configuration Options

- 1 The **Station Configuration** options in **Maintenance Mode** determine the images and animation files that will display during an order.
- 2 Scan the control or Access Control barcode (or insert the optional electronic key into the electronic key reader) to access Attendant Mode.
- 3 Touch **Manager Functions**.
- 4 Enter the password, then touch **Done**. The manager function buttons display.
- 5 Touch **Robot Maintenance**. The **Maintenance Mode** screen displays.
- 6 Touch **Station Configuration**. A number pad displays.
- 7 Enter the password (159 in the Fujitsu testing environment), then touch **Done**. The **Station Configuration** screen displays. The current options display at the top of the screen.



- 8 Set up the options as required.

Testing the Volume through Maintenance Mode

- 1 Scan the control or Access Control barcode (or insert the optional electronic key into the electronic key reader) to access Attendant Mode.
- 2 Touch **Manager Functions**.
- 3 A number pad displays.
- 4 Enter the password provided by your supervisor, then touch **Done**.
- 5 The manager function buttons display.
- 6 Touch **Robot Maintenance**.
- 7 **Maintenance Mode** is accessed.
- 8 Touch the **Device Management** button. Use the **Volume Up** and **Volume Down** buttons to test the volume. Adjust the volume as required.



Purchasing an Item

- 1 Ask the store personnel to put the Station into Training Mode, if applicable.
- 2 Purchase one of each type of item listed below sold at the store:
 - a Item with a barcode
 - b Age restricted item
 - c Non barcoded item

Tendering an Order

- 1 Press the **Pay Now** or **Pay for my order** button.
- 2 Access Attendant Mode and pay for the order by cash.

Field Maintenance

Field Engineer Preventive Maintenance and Cleaning

This section provides an overview of cleaning and maintenance procedures for field engineers.

Refer to the Service Guide for each individual device for detailed instructions.



Fully shut down the power to the Station before you perform cleaning or maintenance.

Preventive Maintenance Schedule

Preventive Maintenance (PM) is a critical factor in keeping any system operating within its designed parameters and at peak efficiency, with minimal service calls. Below are the recommended PM activities and frequency for all U-Scan products. All of the appropriate devices must be included/considered during any Service Call or PM activity.

The recommended PM schedule below is for 'typical' retail installations. Depending upon specific Contract, Environmental, and Usage Profiles some customers or sites may require more or less frequent Preventive Maintenance schedules. It is also assumed that the person performing the PM is fully trained on the details of service and support of the specific device/equipment in question.

In addition to the items identified, the various levels of firmware and software driver levels should be verified. If found to be down-level, this should be noted. However, since many customers require internal validation and approval of any updates, other than noting the down-level object and notifying the customer and Managed Services management no further specific actions should be taken unless specifically authorized for a customer or site.

Quarterly, six months, and yearly Preventive Maintenance should be scheduled and performed as required by the Preventive Maintenance guidelines in the following table. During routine maintenance, as a result of a service call, it is recommended that Preventive Maintenance be performed on that device/assembly. If time allows, additional Preventive Maintenance should be performed on other peripherals or lanes.

Items highlighted in *red Italic* are also considered Safety issues. Safety should be specifically addressed even if standard Preventive Maintenance is not contracted for a specific customer.

Component	Preventive Maintenance Task	Service Call	4 Months	6 Months	Yearly
<i>Attendant Station chassis</i>	Verify secured and properly levelled	✓			✓
	Check drawer and door lock functionality	✓			✓
	Inspect the cables	✓			✓
<i>Customer Station chassis</i>	Clean fans and filters (replace if required)	✓	✓		
	Check all cables for proper routing, secured and no chaffing	✓			✓
	Verify Secured and properly leveled	✓			✓
	Check Door alignment, secured and lock functionality	✓			✓
	Verify all hardware is secured and tightened	✓			✓
<i>TP3K Controller</i>	<i>Clean and inspect batteries and battery connections and check battery age - replace or instruct customer to replace per service contract</i>	✓		✓	
	<i>Clean and check chassis fan for proper operation</i>	✓		✓	
	Clean the interior with compressed air	✓		✓	
	Clean intake and exhaust vents	✓		✓	
	Check BIOS fan speeds and temp (if applicable)	✓		✓	
	Inspect the cables	✓		✓	
<i>Amplifier</i>	Test the volume	✓			✓
	Inspect the cables	✓			✓
<i>Bag/Belt Scales</i>	Clean the Bag/Belt Scale	✓	✓		
	Verify weighing accuracy (calibrate if required)	✓	✓		
	Test the scale	✓	✓		
	Inspect the cables	✓	✓		
<i>Belt Assembly</i>	Clean belts, rollers, and crumb trays	✓	✓		
	Lubricate belt rollers and motors as required	✓	✓		
	Verify transfer bar alignment	✓	✓		
	Verify Light Curtain alignment	✓	✓		

Component	Preventive Maintenance Task	Service Call	4 Months	6 Months	Yearly
<i>Bill Acceptor</i>	Clean the sensor array	✓		✓	
	Inspect the vault	✓		✓	
	Inspect the cables	✓		✓	
	Test the Bill Acceptor	✓		✓	
<i>Bill Dispenser</i>	Check belts and gears for tension and wear	✓	✓		
	Check cassette rollers and gears for wear	✓	✓		
	Check cassette magnet retainers	✓	✓		
	Test the Bill Dispenser	✓	✓		
	Clean with compressed air	✓	✓		
	Inspect the cables	✓	✓		
<i>Camera</i>	Clean the cameras and lenses	✓		✓	
	Adjust the focus (if applicable)	✓		✓	
	Verify the camera image quality	✓		✓	
	Inspect the cables	✓		✓	
<i>Cash Drawer</i>	Clean and test roller/rail functionality	✓		✓	
	Lubricate rollers/rails	✓		✓	
	Check rail hardware is secure	✓		✓	
	Verify key lock operation (if applicable)	✓		✓	
	Inspect the cables	✓		✓	
<i>Coin Acceptor</i>	Inspect the Coin Acceptor	✓		✓	
	Inspect the cables	✓		✓	
	Inspect the SEM (if applicable)	✓		✓	
	Clean with compressed air	✓		✓	
	Test the Coin Acceptor	✓		✓	
<i>Coin Dispenser</i>	Inspect the coin tray	✓		✓	
	Clean with compressed air	✓		✓	
	Inspect the cables	✓		✓	
	Test the Coin Dispenser	✓		✓	
<i>Coupon Detector</i>	Clean the sensors	✓		✓	
	Inspect the cables	✓		✓	
	Test the Coupon Detector	✓		✓	

Component	Preventive Maintenance Task	Service Call	4 Months	6 Months	Yearly
<i>Edgeport (Carousel and GBU only)</i>	Test the device	✓			✓
	Inspect the cables	✓			✓
<i>Handheld Scanner</i>	Inspect the cable for damage (especially at the scanner end)	✓			✓
	Clean the scanner and the scan window	✓			✓
	Test the scanner	✓			✓
<i>Keyboards</i>	Test for operation			✓	
	Clean with compressed air			✓	
	Clean and test MSR (if applicable)			✓	
	Clean touch pad/trackball (if applicable)			✓	
	Inspect the cables			✓	
<i>Lane Light</i>	Clean the light and light housing	✓		✓	
	Verify proper wattage bulb used	✓		✓	
	Inspect the cables	✓		✓	
	Test the Lane Light	✓		✓	
<i>Mobile Attendant</i>	Verify the battery status and condition	✓		✓	
	Check the touch screen (calibrate if necessary)	✓		✓	
	Clean the touch screen and scan window	✓		✓	
	Verify network operation (connection and range)	✓		✓	
	Inspect the cables	✓		✓	
	Inspect the Access Point	✓		✓	
<i>Modem (if applicable)</i>	Test the Modem	✓			✓
	Inspect the cables	✓			✓
<i>Monitors</i>	Clean the screen	✓		✓	
	Check the monitor settings	✓		✓	
	Test the touch screen (calibrate if necessary)	✓		✓	
	Inspect the cables	✓		✓	
<i>Mouse</i>	Clean and test for operation				✓
	Inspect the cables				✓

Component	Preventive Maintenance Task	Service Call	4 Months	6 Months	Yearly
<i>MSR/MICR</i>	Use a cleaning card (FTXS P/N 7737171)	✓		✓	
	Test the device	✓		✓	
	Inspect the cables	✓		✓	
<i>Network Hub</i>	Test the device	✓			✓
	Inspect the cables	✓			✓
<i>Printers</i>	Clean, vacuum, and blow out transport areas	✓	✓		
	Clean the platen and print head	✓	✓		
	Verify MICR calibration (if applicable)	✓	✓		
	Inspect the ribbon	✓	✓		
	Check the print quality (diagnostic or self test)	✓	✓		
	Inspect the cables	✓	✓		
<i>Scanner Scale</i>	Clean the vertical housing cover, vertical glass, and horizontal glass	✓		✓	
	Remove the platter and remove any debris from the scanner scale cavity	✓		✓	
	Check the scale weighing accuracy (calibrate if required)	✓		✓	
	Test the scanner for throughput performance	✓		✓	
	Verify Remote Display function (if applicable)	✓		✓	
	Inspect the cables	✓		✓	
<i>USB Hub</i>	Test the device	✓			✓
	Inspect the cables	✓			✓
<i>UPS</i>	<i>Clean and inspect batteries and battery connections and check battery age - if over 2 years replace or instruct customer to replace per service contract</i>	✓		✓	
	<i>Clean fan/vents using compressed air</i>	✓		✓	
	Ensure no non-approved devices plugged in (heaters, fans, coolers, EAS, etc).	✓		✓	
	Test for proper operation	✓		✓	
	Inspect the cables	✓		✓	

Device Troubleshooting for Field Engineers

Refer to the individual device servicing information chapters.

Station Casing Troubleshooting for Field Engineers

The following components are unique to the U-Scan Genesis casing and do not have a separate service section. All servicing information for these components are contained in this document.

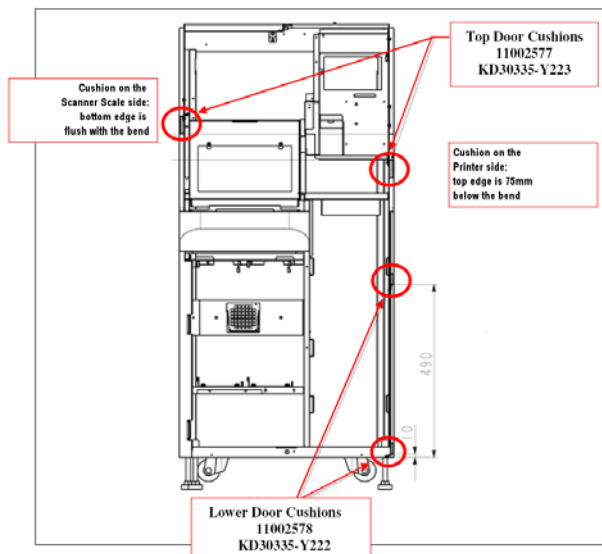
- Door alignment issues
- Station power supply
- Casing fan

Door Alignment Issues

If the upper or lower door rubber cushions are loose or missing, this can cause an improper door alignment, which can raise both esthetic and operational concerns. The cushions should be replaced as explained below.

The rubber cushions can be ordered as spare parts:
 upper door cushion: 11002577 (KD30335-Y223)
 lower door cushion: 11002578 (KD30335-Y222)

- 1 Clean the surface with isopropyl alcohol or acetone and allow it to air dry for two minutes.
- 2 Peel off the adhesive back and affix the cushions in the locations shown below. The cushions are attached to the outside, forward-facing edges of the casing:



Note: A left-hand Genesis Customer Station is shown above. For a right-hand unit, the locations are mirrored.

If the lower door cushions are positioned correctly but the door is mis-aligned, it may be necessary to adjust the hinge screws. note that you should only address alignment concerns after the station has been leveled.

The lower door is affixed to the casing with two hinges. A ¼" gap is acceptable, but should be even from the top to the bottom of the door.

Adjust the hinge screws in order to align the lower door correctly. Note that the screw cutouts are oval, which allows you to fine tune the hinge alignment.



Note: Make sure that you do not disconnect the ground strap that is attached to one of the hinge screws.

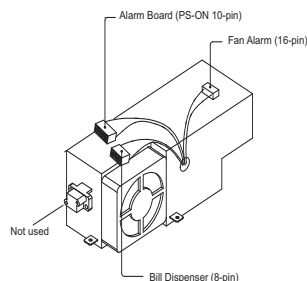
When you have aligned the lower door, open and close it a few times to make sure that a ¼" gap is present, and that the keylock is not difficult to turn.

Troubleshooting the Secondary Power Supply



Power down the Station before you disconnect or reconnect the power supply cables.

- 1 Unlock and open the bottom door.
- 2 Locate the secondary power supply beside the computer.
- 3 Ensure that the cables illustrated below are connected to the power supply.



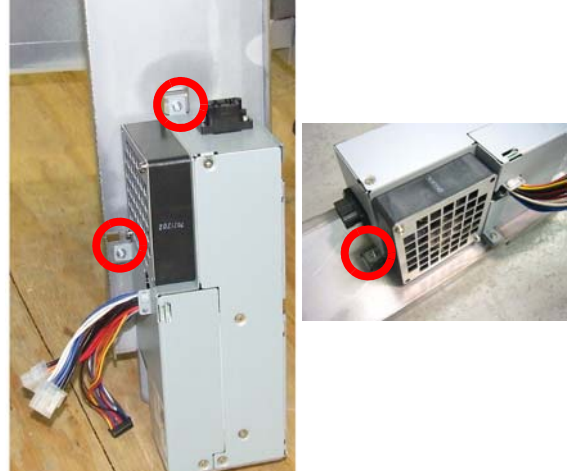
- 4 Ensure that the fan on the power supply is working when the Station is powered on.

Troubleshooting the Casing Fan

- 1 Access the **Device Tester**. Refer to “Accessing the Device Tester”.
- 2 Click the **Alarm Board** tab.
- 3 Click **Start**.

- 4 Check for the message **ALARMBRD_DEV_STATE {1, 1}**. This indicates a problem with the casing fan.
Note: For an example of other alarm messages, refer to "Testing the Alarm Board" in the Alarm Board servicing section in Chapter 2.
- 5 If there is an alarm, locate the casing fan on the rear panel.
- 6 Ensure that the casing fan cables are connected to the alarm board and to the Station power supply.
- 7 If the issue is not resolved, replace the casing fan.

- 7 Remove the three screws that secure the power supply to the mounting bracket.



Replacing Customer Station Casing Devices

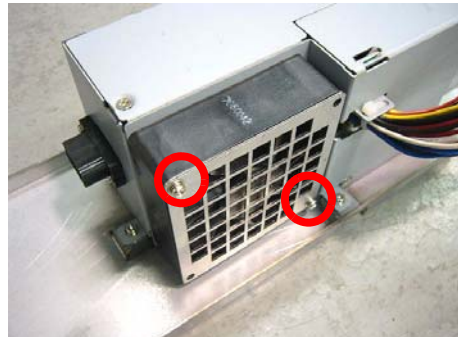
This section presents information on replacing certain system devices. For information on replacing the other U-Scan Genesis devices, refer to the following chapters.

Replacing the Secondary Power Supply

Parts and Tools

Part	Quantity	Part Number
Power Supply with fan	1	11001208S
AC power cable (North America) OR AC power cable (IEC) (If required)	1	11000049 11002435
Phillips screwdriver	1	N/A
Key to bottom door	1	N/A

- 8 Position the new power supply on the bracket.
- 9 If necessary, fasten two screws to secure the fan to the new power supply.



- 10 Fasten a screw to secure the power supply to the back tab on the mounting bracket.
- 11 Slide the power supply and bracket into position in the casing.
- 12 Fasten the two screws to secure the bracket to the bottom of the casing.

- 1 Unlock and open the bottom door.
- 2 Shut down the computer.
- 3 Disconnect the Power Supply AC power cable.
- 4 Disconnect the other cables from the power supply.
- 5 Remove the two screws that secure the front of the power supply mounting bracket to the floor of the casing.
- 6 Slide the power supply and bracket out of the casing.

Replacing the Casing Fan

Parts and Tools

Part	Quantity	Part Number
Fan	1	11001351
Cable	1	
Phillips screwdriver	1	N/A

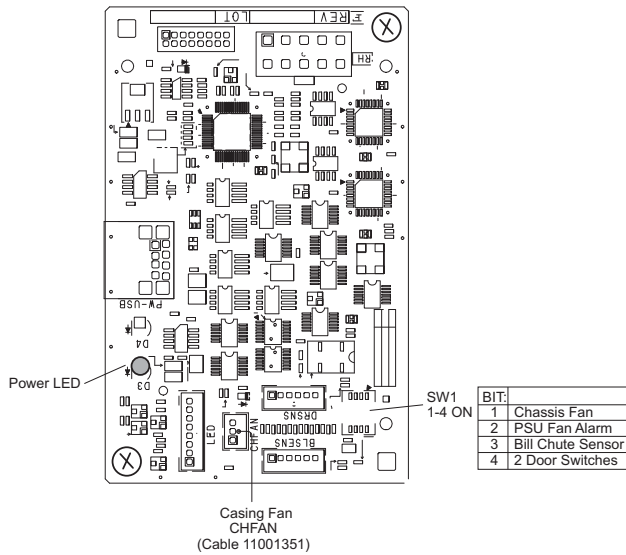
- 1 Shut down the Computer.
- 2 Disconnect the AC power cable for the Station power supply.

3 Remove the rear panel.

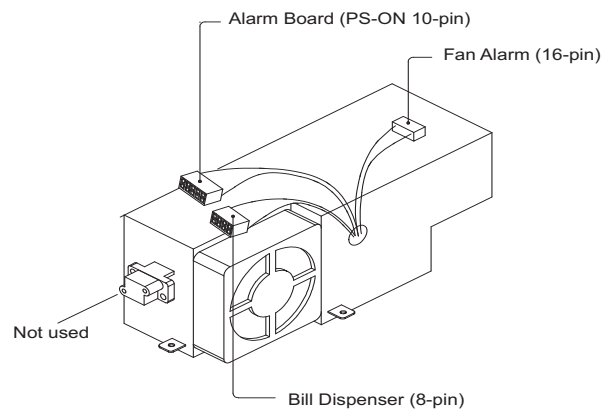
Note: If you cannot remove the rear panel, remove the computer from the casing to access the fan from the front of the casing.

4 Locate the casing fan.

5 Disconnect the fan cable from the alarm board.



6 Disconnect the fan alarm cable from the Station power supply.



7 Remove the single screw securing the fan to the casing.



8 Lift and remove the fan from its housing in the casing.

9 If necessary, use the two screws and washers provided to install the plastic cover on the new fan.



10 Slide the new fan into the housing.

11 Fasten the screw to secure the fan to the casing.

12 Connect the fan alarm cable to the Station power supply.

13 Connect the fan cable to the alarm board.

14 Reconnect the Station power supply AC power cable.

15 Turn on the computer.

16 Test the fan from the **Alarm Board** tab in the **Device Tester**. Refer to "Testing the Alarm Board" in the Alarm Board servicing chapter.

Replacing the Speaker and Amplifier

Parts and Tools

Part	Quantity	Part Number
Speaker	1	11001388
Speaker cable	1	11001309
Amplifier	1	11000494
Amplifier power cable	1	11001310
Keys to upper and lower doors	1	N/A
Phillips screwdriver	1	N/A

Replacing the Speaker

- 1 Unlock and open both doors.
- 2 Shut down the computer.
- 3 Disconnect the two cables from the speaker.

- 4 Remove the two screws securing the speaker to the mounting bracket.



- 5 Remove the speaker.
- 6 Secure the new speaker to the mounting bracket with the two screws.
- 7 Reconnect the two cables.
- 8 If necessary, replace the amplifier. Refer to [“Replacing the Amplifier”](#) on page 21.
- 9 Test the speaker:
 - a Start the computer.
 - b Access **Maintenance Mode**.
 - c Use the **Up** and **Down Arrow** buttons to adjust the volume.
 - d If necessary, use the volume knob on the amplifier to adjust the volume further.

Replacing the Amplifier

- 1 Unlock and open both doors.
- 2 Shut down the computer.
- 3 Locate the amplifier behind the Coin Acceptor.
- 4 Disconnect the cables from the top of the amplifier.
- 5 Remove the four screws securing the amplifier to the side of the casing.



- 6 Secure the new amplifier (11000494) to the casing.
- 7 Reconnect the cables.
- 8 Test the volume:

- a Start the computer.
- b Access **Maintenance Mode**.
- c Use the **Up** and **Down Arrow** buttons to adjust the volume.
- d If necessary, use the volume knob on the amplifier to adjust the volume further.

Replacing the Door Sensors

Parts and Tools

Part	Quantity	Part Number
Door sensor	1 or 2	KD70007-0839
Phillips screwdriver	1	N/A
Keys to upper and lower door	1	N/A

Replacing the Top Door Sensor

- 1 Unlock and open both doors.
- 2 Shut down the computer.
- 3 Remove the screw securing the door sensor bracket to the casing.



- 4 Remove the two screws securing the door sensor to the bracket.



- 5 Disconnect the two cables connected to the door sensor.
- 6 Fasten the two screws to secure the new door sensor (KD70007-0839) to the bracket.

- 7 Connect the two cables to the sensor.
- 8 Slide the bracket into the casing.
- 9 Secure the bracket to the casing with one screw.
- 10 Start the computer.
- 11 Test the door sensor. Refer to “Testing the Alarm Board” for instructions on how to test the door sensor.

Replacing the Bottom Door Sensor

- 1 Unlock and open the bottom door.
- 2 Shut down the computer.
- 3 Remove the two screws securing the cover panel.



- 4 Disconnect the two cables from the sensor.
- 5 Remove the two screws securing the sensor to the sensor bracket.



- 6 Fasten the two screws to secure the new sensor (KD70007-0839) to the bracket.
- 7 Connect the two cables to the sensor.
- 8 Slide the door sensor into the casing so that the sensor protrudes through the hole on the casing.
- 9 Replace the cover.
- 10 Start the computer.
- 11 Test the door sensor. Refer to “Testing the Alarm Board” in the Alarm Board chapter for instructions on how to test the door sensor.

Replacing the Bill Exit Sensor and Prism

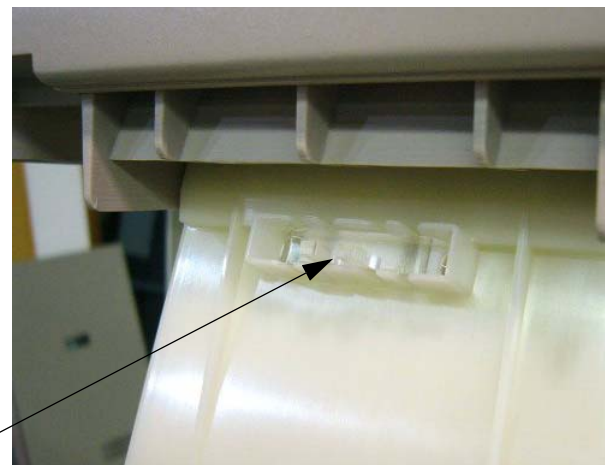
Parts and Tools

Part	Quantity	Part Number
Bill exit sensor emitter	1	11001413 (KD02901-1151)
Bill exit sensor receiver		11001414 (KD02901-1152)
Clear prism	1	11001415
Alarm board cable to bill exit sensor	1	11001416 (KD70007-0835)

- 1 Disconnect the cable from the bill exit sensor emitter and receiver.
- 2 Remove the screws securing the emitter and receiver.



- 3 Fasten the screws to secure the new emitter (11001413) and receiver (11001414).
- 4 If necessary, remove the clear plastic prism from the front of the bezel.



- 5 Insert the new prism (11001415) into the housing.

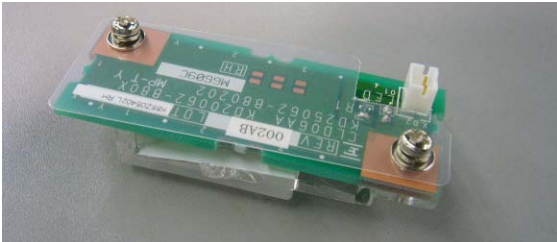
- 6 Test the bill exit sensor:
 - a Access **Maintenance Mode**.
 - b Perform a test dispense.
 - c Leave the bills in the bill slot.
 - d Ensure that the buzzer sounds.

Replacing the Guidance LEDs

Parts and Tools

Part	Quantity	Part Number
LED circuit board	1 for each guidance LED to be replaced	11001425
LED element	4	11001426
Alarm board cable to LED (8-pin split cable)	1	11001427
LED lens	4	11001438
LED flicker sheet	4	11001486

- 1 Unlock and open the bottom door.
- 2 Shut down the computer.
- 3 Access LED that you wish to replace.
- 4 Remove the two screws securing the LED circuit board to the casing. (Shown un-installed below.)



- 5 Disconnect the cable from the circuit board.
- 6 Connect the cable to the new circuit board (11001425).
- 7 If necessary, assemble the guidance LED components as shown above.
- 8 Fasten the two screws to secure the circuit board to the casing.
- 9 Start the U-Scan Station.
- 10 Test the guidance LEDs in the **Device Tester**. Refer to “Testing the Alarm Board” in the Alarm Board chapter.

Chapter 2: Alarm Board

This chapter contains servicing information for the alarm board, found in U-Scan Genesis Stations.



Features

The Alarm Board is a circuit board that is mounted on the inside wall of the Genesis Customer Station. It provides power and control for the following.

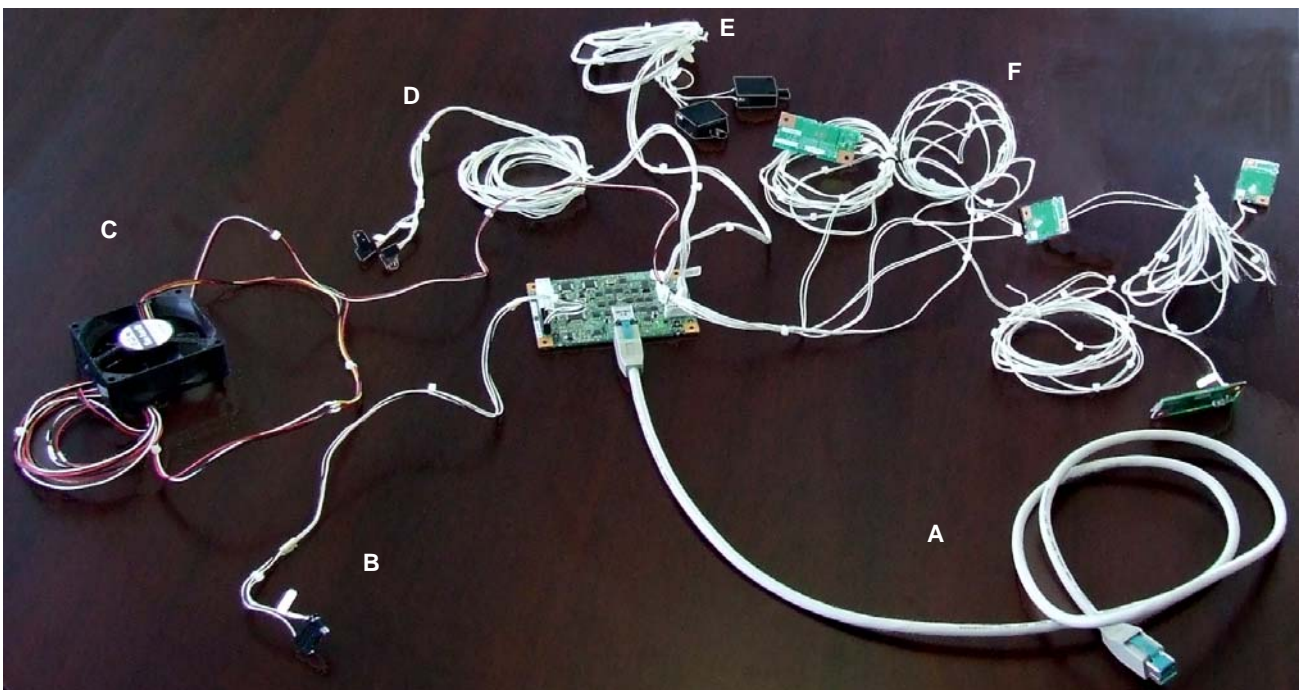
- Four guidance LEDs
- Casing fan
- Casing fan monitor
- Bill Dispenser ON/OFF switch

- Bill chute sensors
- Door sensors

Technical Specifications

The alarm board consists of the following components:

Components
Alarm Board (11001422)
[A] Alarm Board to computer, powered USB cable (11001690)
[B] Alarm Board to fan monitor alarm and Bill Dispenser switch cables (11001424) (not as shown below)
Alarm Board to Station power supply cable (not shown) (11001423)
[C] Alarm Board to casing fan cable (11001351)
[D] Alarm board to bill chute sensor cable (x2) (11001416)
[E] Alarm board to door alarm sensor cable (x2) (11001391)
[F] Alarm board to LED cables (x4) (11001427)



Testing

From the Alarm Board tab in Device Tester, you can test the following components:

- Fan on the back panel
- Top and bottom door alarms
- Bill chute sensor
- Guidance indicators (flashing LEDs) for the bill acceptors (1), bill dispenser (2), built-in printer (3), and coupon slot (4).

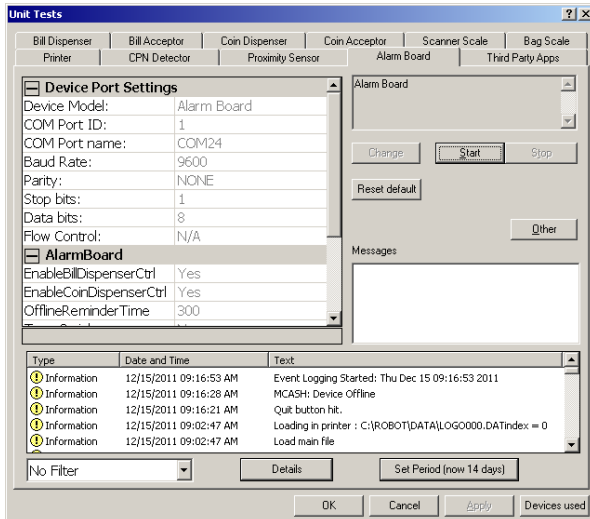
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Alarm Board** tab.
- 2 Click **Start**.
- 3 Ensure that the device comes online.



- 4 Check the **Messages** box for an alarm report. A message similar to **ALARMBRD_DEV_STATE {n,m}** displays when there is an alarm.

- 5 Refer to the table below to identify the type of alarm:

N - First Digit		M - Second Digit	
#	Component	#	Indication
1	Casing fan sensor	0	No alarm - device is functioning normally
2	Bill chute sensor		
3	Upper door alarm	1	Alarm - problem with device *For the door alarms, this indicates that the door is open.
4	Lower door alarm		

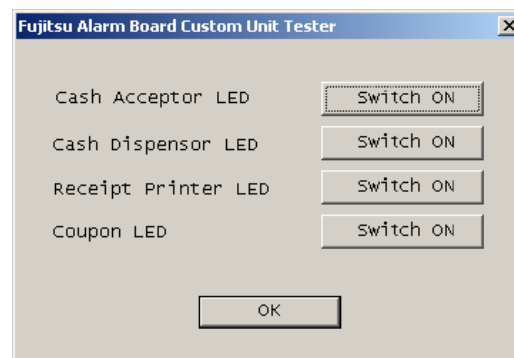
EXAMPLES:

*If the message **ALARMBRD_DEV_STATE {1, 1}** is displayed, there is a problem with the casing fan.*

*If the message **ALARMBRD_DEV_STATE {4, 1}** displays, the lower door is open.*

- 6 Click **Other**.

A screen displays that allows you to test the guidance indicators (LEDs).



- 7 Click each LED button once. Ensure that the correct LED flashes.
- 8 Click **OK** to exit the window.
- 9 Press the door alarm button for the bottom door to simulate closing the door. Ensure that the message **4,0** displays.
- 10 Ensure that the message **4,1** displays when you release the alarm button to simulate opening the door.
- 11 Repeat the steps above to test the top door alarm. Ensure that the message **3,0** appears when the button is pressed down, and the message **3,1** appears when it is released.

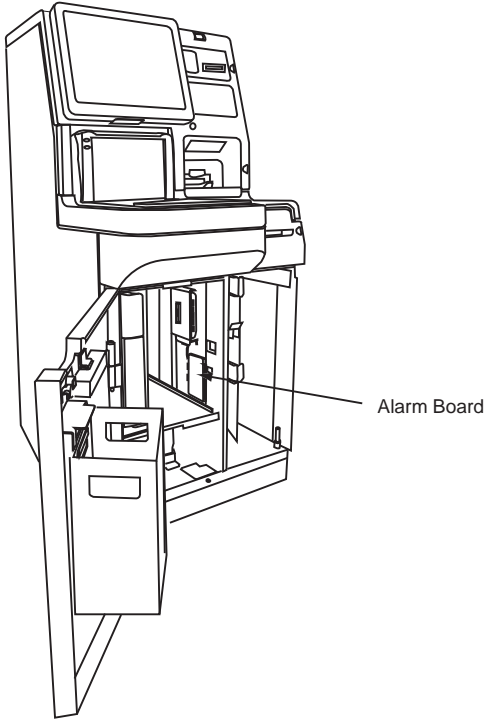
Note: For information on removing and replacing the Alarm Board, see [“Replacing the Alarm Board”](#) on page 28.

Troubleshooting the Alarm Board

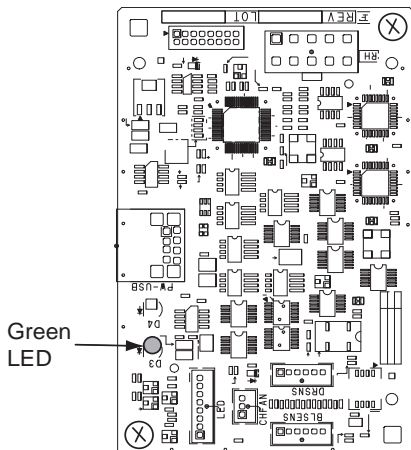


Power down the Station before you disconnect or reconnect the alarm board cables.

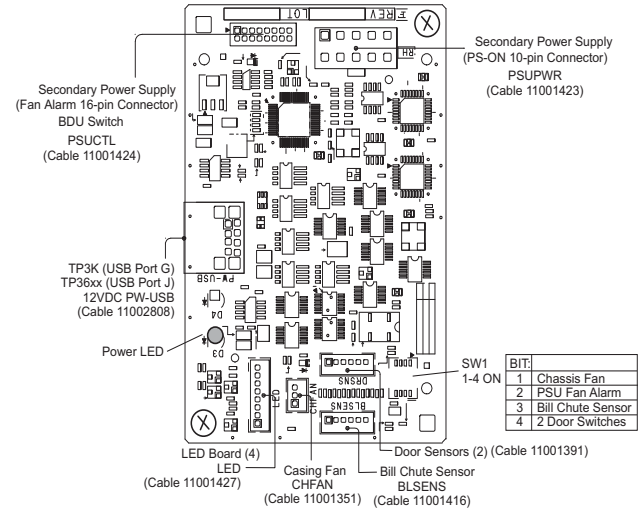
- 1 Locate the alarm board. (U-Scan attendants do not need to access the alarm board.)
 - a Unlock and open the bottom door.
 - b Locate the alarm board on the side of the inner wall.



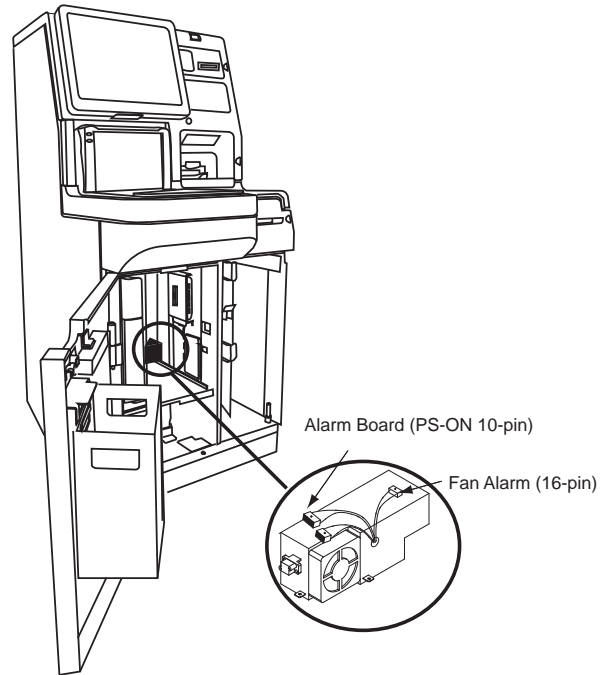
- c Remove the alarm board cover if you need to inspect the cable connections or replace the alarm board.
- 2 Test the alarm board. Refer to [“Testing” on page 26](#).
- 3 Ensure that the green LED on the alarm board is on if the Station is powered up.



- 4 Ensure that all of the cables labeled in the diagram below are securely connected to the alarm board.



- 5 Ensure that the alarm board cable is connected (TP3K: USB Port G; TP3600 Series: USB Port J).
- 6 Ensure that the 10-pin and 16-pin cables from the alarm board are connected to the power and fan alarm connection ports on the secondary power supply.



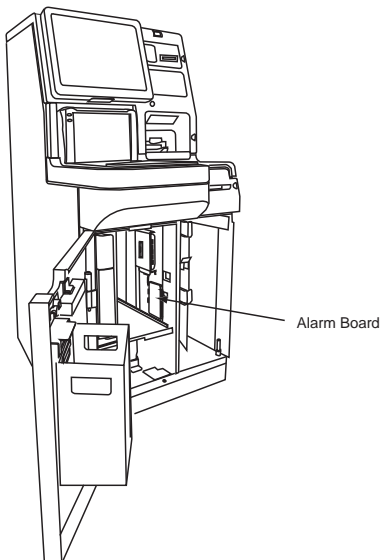
- 7 Ensure that the 8-pin split cable is connected to the each of the four LED circuit boards. (The circuit boards are installed on the inside of the casing behind each LED.)
- 8 If applicable, ensure that the 6-pin cable is connected to the bill chute sensor.
 - Ensure that the 3-pin cable is connected to the Station fan.
 - Ensure that the 6-pin split cable is connected to the top and bottom door alarms.
- 9 If the issue is not resolved, replace the alarm board.

Replacing the Alarm Board

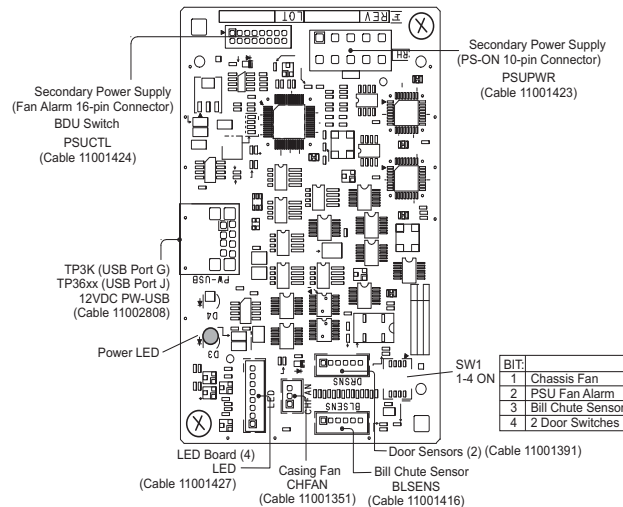
Parts and Tools

Part	Qty.	Part Number
Alarm Board	1	11001422
Alarm Board to computer +12 V powered USB cable (if required)	1	11001690
Alarm board to power supply 10-pin cable (if required)	1	11001423
Alarm board to power supply 16-pin cable (if required)	1	11001424
Alarm board to LED cable (if required)	1	11001427
Alarm board to casing fan power	1	11001351
Alarm board to bill chute sensor	1	11001416
Alarm board to door alarm sensor	1	11001391
Phillips screwdriver	1	N/A
Key to the bottom door	1	N/A

- 1 Shut down the computer.
- 2 Unlock and open the bottom door.
- 3 Locate the alarm board.
- 4 Shut down the computer.



- 5 Disconnect the AC power cable for the secondary power supply.
- 6 Remove the alarm board's metal cover.
- 7 Disconnect the cables from the alarm board.
- 8 Note the orientation of the alarm board so that you install the new alarm board the same way.
- 9 Remove the two or four screws securing the alarm panel to the side of the casing. Set them aside.
- 10 Install the new alarm board.
- 11 Connect the cables.



- 12 Connect the AC power cable for the secondary power supply.
- 13 Turn on the computer.
- 14 When the software restarts, test the alarm board in the **Device Tester**. Refer to [“Testing” on page 26](#).
- 15 Replace the metal cover over the alarm board.

Chapter 3: Magellan 1100i Barcode Scanner

This chapter provides servicing and installation information for the Datalogic Magellan 1100i barcode scanner, found in U-Scan Genesis Payment Stations.



Features

The Alarm Board is a circuit board that is mounted on the inside wall of the Genesis Customer Station. It provides power and control for the following.

- Small footprint scanner for environments where weight is not required
- Omni-directional
- Precise imaging scan volume
- 136 line digital scan pattern
- 1,768 digital scan lines/second scan rate
- Dimensions (scanner and stand): H = 14.2 cm (5.6") x W = 7.4 cm (2.9") x L = 9.7 cm (3.8")

Technical Specifications

Environment

- Operating temperature: 32°F to 104°F (0° to 40°C)
- Storage temperature: -40° F to 158°F (-40° to 70° C)
- Relative Humidity: 5% to 95% non-condensing

Power

- USB powered
TP3K: through USB Hub Port 4
TP3600 Series: through USB-C

Electrical

- Operating voltage: 4.5 - 14 VDC

- Operating current (idle): < 300mA
- Operating current (scan): < 400mA

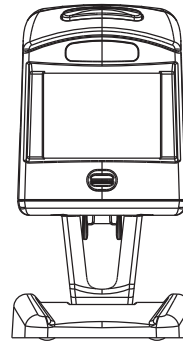
Communication

- USB cable to USB Hub, Port 4 on the TeamPOS 3000 computer
- USB cable to USB-C on the TeamPOS 3600 Series computer

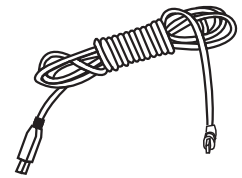
Components of the Magellan 1100i

The Magellan 1100i Scanner includes the following components:

- Magellan 1100i Scanner (11003562)
- USB cable (supplied with Scanner)



Magellan 1100i
Bar Code Scanner



USB Cable

Testing

Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Hand Scanner** tab.
- 2 Check that the Device Model is set correctly.
- 3 Ensure that the COM port is set to **USB**.

Test the Device

Note: Error messages are stored in the **Eventlog Viewer** and can be viewed when you exit the **Device Tester**.

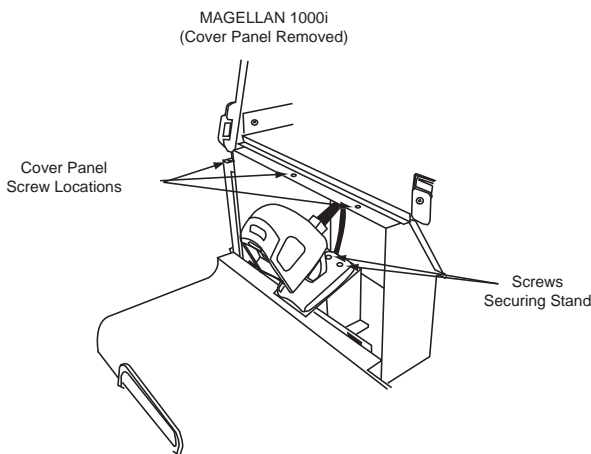
- 1 Click **Start**.
- 2 Click **Enable**.
- 3 Scan a bar code.
- 4 Ensure that the bar code number in the **Messages** box is the same as the number of the bar code scanned in the previous step.
- 5 Click **Stop**.

Follow the Testing Procedure

See “[Test the Device](#)” on page 30.

Check the Cabling

- 1 Remove the screws that secure the cover panel to the casing.
- 2 Remove the cover panel.
- 3 Ensure that the cable is securely connected to the Scanner.



- 4 Ensure that the cable is securely connected to:
TP3K - USB Hub Port 4; TP3600 Series - USB-C.

Program the Magellan

Scan the programming bar codes in “[Programming Barcodes](#)” on page 31.

Additional Information

Cleaning and Maintenance

- 1 Prepare a solution of one-part glass cleaner to one-part water.
- 2 Wipe the scan window with the solution.

Beeper/LED Error Code Functions

Number of LED Flashes or Beep Tones	Indication	Additional Information
1 during startup (Other than normal power-up indication)	Configuration error	Contact your support center.
2 during startup	Interface PCB error	
6 during startup	Main PCB error	
10 beeps during startup	Button error	
12 beeps during startup	Imager module error	
13 beeps during startup	Software ID failure	
14 beeps during startup	CPLD/Code mismatch	

Green LED Indications

LED Status	Explanation
Green LED on steady and dim	The Scanner is ready for operation.
Green LED flashes brightly	The Scanner has read and decoded a bar code. OR The Scanner has just finished all power up tests and is ready for operation.
Green LED blinks (100mS on, 1900 mS off)	The Scanner is in sleep mode because it has been inactive for an extended period of time. Wave your hand in front of the scan window or press the button on the top of the Scanner to exit sleep mode.
Green LED blinks (100mS on, 900 mS off)	The host (U-Scan system) has disabled scanning.

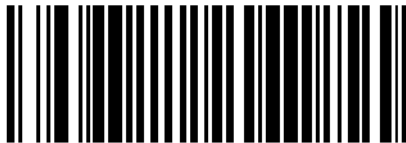
Programming Barcodes

Scan the programming bar codes to set up the Magellan 1100i or if you experience problems with the device.

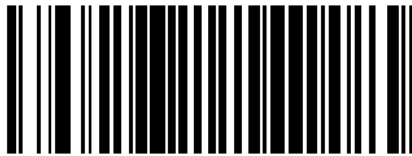
Start / End



IBM USB



Start / End



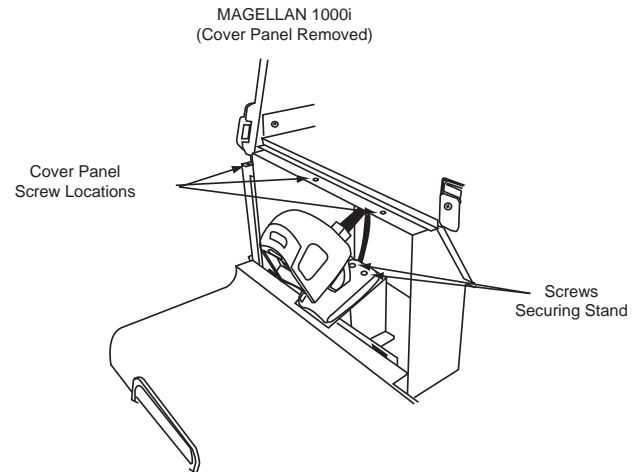
Replacing the Magellan 1100i Scanner

This device is only used on Genesis Payment Stations.

Parts and Tools

Part	Quantity	Part Number
Magellan 1100i barcode scanner	1	11003562
Phillips screwdriver	1	N/A

- 1 Remove the three screws that secure the front cover. Set them aside.
- 2 Carefully lift and remove the cover from the unit.
- 3 Disconnect the cable from the rear of the barcode scanner.
- 4 Remove the two screws that secure the barcode scanner base to the mounting bracket. Set them aside.



- 5 Remove the barcode scanner.
- 6 Secure the new Magellan 1100i to the mounting bracket.
- 7 Securely connect the cable to the rear of the new device.
- 8 Ensure that the barcode scanner scans a bar code.
- 9 Test the device in the **Device Tester** before reinstalling the cover.
- 10 Slide the two bottom tabs on the cover panel into the slots on the casing.
- 11 Replace the three screws that secure the cover panel.

Chapter 4: Bag Scales (RL Scales)

This chapter provides servicing and installation information for the available U-Scan Genesis Bag Scale models that use load cells and scale transmitters from RL Scales.


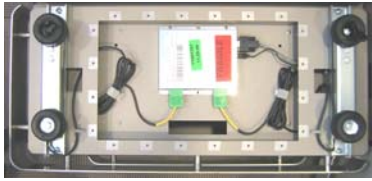


Features




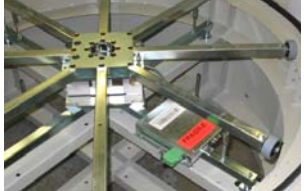

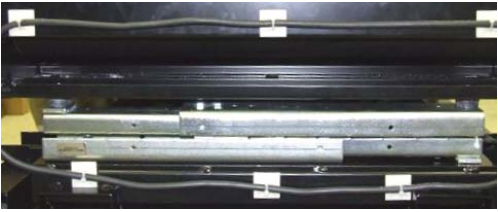
- 150 lb (68 kg) total capacity for each individual Genesis Universal Bag Scale module. For example, a U-Scan6 Universal Bag Scale, which consists of three modular units, has a maximum capacity of 450 lbs.
- 150 lb (68 kg) total capacity for original Genesis U-Scan1+, U-Scan2, U-Scan4, Mini Carousel primary scale, and U-Scan Carousel secondary scale.

- 300 lb (136 kg) capacity for U-Scan Carousel primary scale
- 75 lb (34 kg) capacity for GBU 2 (Genesis Belted Unit), and Mini Carousel secondary scale (only)
- Maximum error limit of 0.05 lb (0.02 kg) for 150 lbs (68 kg)
- Maximum response time of 1.0 second

Genesis Bag Scale Models

Note: the information in the following table can be verified in revision-controlled documents D900000247 and D900000281. Use the part numbers listed below for replacement parts (some field units may use parts that are now obsolete).

Model	Load Cells/Scale Transmitter Used
<p>Original U-Scan Genesis Bag Scales</p>  <p>Configurations: U-Scan1+, U-Scan2, U-Scan4</p>	<p>Original Genesis Bag Scales</p>  <p>R-1305 load cells (11001409) and R-1930 (11002574 - obsolete) or R-193x (11003023) transmitter (also used with the Genesis Carousel/Mini Carousel Secondary Scales)</p>
<p>U-Scan Genesis Universal Bag Scales</p>  <p>Configurations: U-Scan1+, U-Scan2, U-Scan4, U-Scan6, ...</p>	<p>Genesis Universal Bag Scales</p>  <p>R-1315 load cells (11002958) and R-193x scale transmitter (11003023). (Note: the R-1932 scale transmitter is backwards-compatible with the R-1930.)</p>

Model	Load Cells/Scale Transmitter Used
<p>U-Scan Genesis Mini Carousel</p>  <p>Configurations: Single Scale (lower scale only), Dual Scale (upper and lower scales)</p>	<p>U-Scan Genesis Mini Carousel</p>  <p>Primary Scale: R-1760 scale frame with load cell (11002770); includes R-193x scale transmitter (11003023)</p> <p>Secondary Scale: R-1305 load cells (11001409)</p>
<p>U-Scan Genesis Carousel</p>  <p>Configurations: Single Scale, Dual Scale</p>	<p>U-Scan Genesis Carousel</p>  <p>Primary Scale: R-1620 drum scale load cell (11003233) and R-193x scale transmitter (11003023)</p> <p>Secondary Scale: R-1305 load cells (11001409) and R-193x scale transmitter (11003023)</p>
<p>U-Scan Genesis Belted Unit (GBU)</p> 	<p>U-Scan Genesis Belted Unit (GBU)</p>  <p>GBU kit, (includes two R-2378 load cells (11003307), 193x scale transmitter (11003023), R-2370 controller (11003231), harness (11003232), three photosensor and reflector kits (11002041), Edgeport1 converter (11002332), emergency motor stop switch (11002529), and cable assemblies (11001397, 110025556, 11002590).</p>

Testing

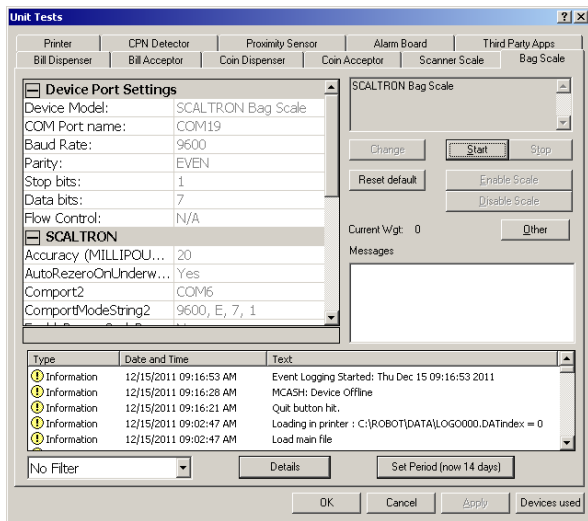
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Bag Scale** tab.



- 2 Check that the **Device Model** or **Device Type** is set to **SCALTRON Bag Scale**. (Older versions of Device Tester may refer to this as **Scaltron.dll**).
- 3 Ensure that the correct COM port is selected and that the remaining settings are correct.

Setting	
Device Model	SCALTRON Bag Scale
COM	COM22 (Port 6)
Baud Rate	9600
Parity	EVEN
Data Bits	7
Stop Bits	1

Change the Settings

Note: Only change the settings if the Device Model or COM port is incorrect.

- 1 Stop the device (from the software).
- 2 Press **ALT + [*]** (the * key is on the number pad). The **Change** button is enabled.
- 3 Click **Change**.
- 4 Click the arrow key to display the drop-down menu.
- 5 Select the appropriate Device Model for the device.
- 6 Click **Apply**.

Test the Device

*Note: Error messages are stored in the **Eventlog Viewer** and can be viewed when you exit the **Device Tester**.*

- 1 Click **Start**.
- 2 **For two-scale transmitter systems such as the U-Scan6 or U-Scan Carousel with secondary scale:**
 - a Click the drop-down list box [**Id**].
 - b Select scale ID **1** or **2**.

Note: Scale ID 1 corresponds to the rotating Bag Scale at a Carousel Station or the primary Bag Scale at a U-Scan1+, U-Scan2, or U-Scan4 Station.

- 3 Click **Enable Scale**.
The current weight is displayed in the **Messages** box.
*Note: If the **Enable Scale** button is disabled, the current weight is already displayed in the **Messages** box.*
- 4 Put an object on the Bag Scale and read the weight.
- 5 Weigh the object on different areas of the Bag Scale to ensure that the weight is constant and accurate.
- 6 Click **Stop**.

Bag Scale Common Problems and Solutions

The table on the next page provides basic steps for resolving common problems. Refer to [“Troubleshooting the Bag Scales” on page 37](#) for the full troubleshooting procedures.

Issue	Solution
The scale is not weighing properly.	<ul style="list-style-type: none"> • Calibrate the scale. • Refer to “Calibrate the Bag Scale(s)” on page 38.
The computer will not communicate with scale.	<ul style="list-style-type: none"> • Ensure that the power cable is connected to the scale transmitter and to the power supply. • Ensure that the communication cable is connected to the scale transmitter and to the correct COM port of the computer. • For the Carousel secondary scale or a Universal Bag Scale with two scale transmitters, ensure that the USB cable is connected to the Edgeport1 and the USB-A port of the computer. • If the issue is not resolved, disconnect the power cable at both ends. • Observe the LEDs on the scale transmitter while you reconnect the cable. Both should come on and then turn off. The Active LED should start flashing once per second. • If the LED does not flash, is on solid, or flashes in any other pattern (double or triple), replace the scale transmitter. • If the LED flashes normally and the issue is not resolved, ensure that the COM port is correct. • Ensure that the settings in Device Tester are correct. • If the issue is not resolved, replace the scale transmitter.
Weight reading is unstable	<ul style="list-style-type: none"> • Ensure that nothing is touching the upper frame structure. • Ensure that nothing is jammed between the upper or lower surface of the load cell and the platform frame. • If possible, draw a sheet of paper between the lower surface of the load cell and the platform frame. The passage should be clear up to the part of the load cell that is bolted to the frame. • Ensure that no cables (including the load cell cables) are touching any part of the upper load cell structure, the scale platform, or the casing wall or dust lips. • Ensure that nothing such as a piece of paper or food is jammed between the load cell and the platform structure. • Ensure that a fan or air conditioner is not blowing directly onto the scale, as this can cause unstable weight readings. • If the cause cannot be identified, remove the scale from the casing and re-test while mounted on the floor or another solid base. • Check the cable connections. • Disconnect and reconnect the cables and retry. • Ensure that the cables are secured to the scale transmitter with tie-wraps. • If the issue is not resolved, replace the scale transmitter for the R-193x model. • If the issue is not resolved, replace the load cells.
Fluctuating weight values; stable weight cannot be achieved.	<ul style="list-style-type: none"> • Check for objects stuck between load cell and platform frame. If possible, draw a sheet of paper between the two. Load the platform with weight up to the point where the problem occurs. The passage should be clear up to the part of the load cell that is bolted to the frame. • Ensure that the load cell cable is not jammed. • If the issue is not resolved, replace the scale transmitter for the R-193x model. • If the issue is not resolved, replace the load cells.

Troubleshooting the Bag Scales



You will be able to identify most issues with the RL Scales units if you follow all of the tasks outlined in this section.

Follow the Testing Procedure

See “Test the Device” on page 35.

Check the Power

- 1 Remove the bag platter.
- 2 Ensure that the power cable is connected to the scale transmitter.
- 3 Ensure that the power adapter is connected to the power strip.
- 4 If you are working on a system with two scale transmitters, repeat the steps above to verify the power connections for the other scale.

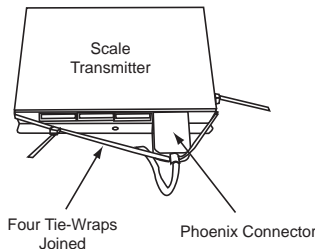
Inspect the Data Cable

- 1 Ensure that the data cable is connected to the Bag Scale.
- 2 Ensure that the data cable is connected to the correct COM port.
- 3 For the Carousel secondary scale or a Universal Bag Scale with two scale transmitters, ensure that the USB cable is connected to the Edgeport1 and the USB-A port of the computer.

Inspect the Load Cell Cables

- 1 Ensure that each 7-pin Phoenix load cell cable is securely connected to the scale transmitter.

Note: Four R-1900 load cell cables can be connected to the RL-193x scale transmitter.
- 2 Ensure that the load cell cables are **not** touching the load cells.
- 3 Ensure that the four joined tie-wraps securing the load cell cables to the scale transmitter are firmly wrapped around the cable connectors. If the tie-wraps are not present, install them.



Check the Bag Scale Platter

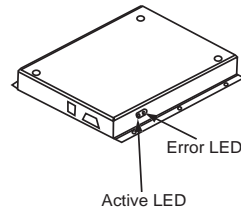
- 1 Ensure that the bag platter is not touching the Customer Station casing.
- 2 Ensure that the bag platter is aligned with the rubber shock absorbers on the Bag Scale.

Note: There are no rubber shock absorbers on the Carousel or Mini Carousel rotating scales.

Verify the LED Status

- 1 Remove the bag platter.
- 2 Locate the LEDs inside the scale transmitter.

Note: There is a cut-out for the LEDs. Do not open the scale transmitter housing.
- 3 Verify the LED status. The Active LED should be flashing at a constant rate. The Error LED must not be lit continuously.

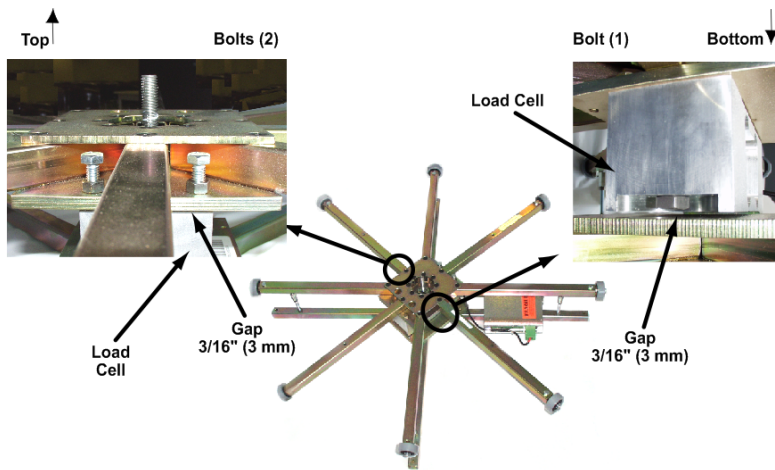


- 4 If the Error LED is flashing, refer to “Error LED Indications” on page 39 to identify the issue.

Verify the Overload Stops (Genesis Carousel Only)

*Note: The overload stop adjustment is factory set and should **never** be adjusted in the field.*

- 1 Remove the Bag Scale platter.
- 2 Lift the Bag Scale out of the casing.
- 3 Ensure that the two bolts on the top plate are NOT touching the top of the load cell.
- 4 If the gap between the bottom of the bolts and the top of the load cell is less than 3/16” (3mm), replace the load cell.
- 5 Ensure that the gap between the bolt and the bottom plate is 3/16” (3mm) or more. Replace the load cell if it is less. See the illustration on the next page.



6 Replace the Bag Scale platter.

Reset (Zero) the Bag Scale(s)

Perform a soft zero through **Device Tester** with the bag racks or platter removed, as the U-Scan software expects a positive weight on the Bag Scale at all times.

1 If there are bag racks on the Bag Scale, remove them if possible. Remove any bags in the bag racks.

OR

If there are no bag racks, remove the bag platter.

2 Access the **Device Tester**.

3 Click the **Bag Scale** tab.

4 Click **Start**.

5 Click **Other**.

Select the lower or rotating Bag Scale (1) from the **ID** list.

In the **Range** box, verify that the value matches the maximum capacity of this scale type.

6 In the **Command** list, select **Z**.

7 Click **ZERO** to reset the Bag Scale.

8 Replace the bag racks or bag platter.

9 If necessary, touch the **Rotating Siren** at the Attendant Station to clear the weight violation.

Calibrate the Bag Scale(s)

Follow the steps below to calibrate the RL Scales Bag Scale using the Hyper Terminal utility.

1 Stop the Customer Station software:

a Unlock the bottom compartments to locate the computer keyboard.

b Remove the computer keyboard.

c Press **ALT+TAB** and select **Robot Control** window.

d At the bottom of the **Robot Control** window, touch **Stop Robot**.

The **EVENTLOG** screen appears.

e Disregard the error message and click **No**.

The **Launchpad** appears.

f Touch **Exit Launchpad**.

A confirmation screen appears.

g Touch **Yes**.

2 Start a new Hyper Terminal session:

a Go to **Start > Programs > Accessories > Communications > HyperTerminal**.

*Note: If **Hyper Terminal** is not present at the path above, see the alternate instructions below.*

b Click **HyperTerminal**.

c Enter a name for the session, then press **ENTER**.

OR

a Go to **Start > Run**.

b Enter **Hypertrm**.

c Press **ENTER**.

d Enter a name for the session, then press **ENTER**.

3 On the **Connect to** screen, select **COM22** from the drop-down list.

4 On the **COM22 Properties** screen, enter the following communication settings:

a Baud Rate: **9600**

b Data Bits: **7**

c Parity: **Even**

d Stop Bits: **1**

e Handshake or Flow Control: **None**

- 5 Ensure that the text **Connected** appears in the bottom left corner of the **Hyper Terminal** window.

*Note: If **Connected** does not appear, choose **Call** from the window menus, and then choose **Connect**.*

- 6 When the session is running (connected), enter **/TEST** to view the **RL Scales** menu.

*Note: Use the **CAPS LOCK** key and **NOT** the **SHIFT** key to capitalize "TEST."*

- 7 Enter **C** to calibrate the scale.
The **Calibration** menu options display.
- 8 Remove all items from the scales.
- 9 Enter **A** to select the auto-calibration method.
- 10 Clear the platform of any weight, wait two seconds, then press **Enter**. Wait for the auto-calibration procedure to complete. Do **NOT** touch the scales during this process.
- 11 After calibration is complete, place a weight in the middle of the each scale.
- 12 Ensure that the weight displayed in the **Scale Calibration** window is correct.
- 13 Repeat to verify that the weight is constant at each extremity.
Note: A fluctuation of .02 lb. (2 clb.) is acceptable.
- 14 If the calibration did not work,
- Ensure that none of the scale cables is touching the scale.
 - If the scale is under weighing, ensure that the **PGA Gain** in the **Scale Calibration** window is set to **8**.
 - If necessary, calibrate the scale manually.
- 15 Enter **m** to exit. *Do not skip this step.*
- 16 Disconnect the Hyper Terminal session.

Installing the Bag Scales

Please refer to document D900000310: *Genesis Site Preparation and Installation Guide* for complete details on installing most bag scale models, including platform scales, Carousel, and Mini Carousel. Standard installations as well as ANSI A117.1 (308.3.2)-compliant installations are explained.

Please refer to document D900000393: *Genesis Belted Unit Installation Manual* for complete details on installing GBU (Genesis Belted Unit) bag scales.

Additional information

Error LED Indications

The Error LED indications listed below apply to firmware versions 2.9 and later.

No. Pulses	Error	Meaning	Solution
1	ADC error	System initiates a restart automatically and transparently (within 2 seconds), but LED will continue to pulse for 30 seconds or until restarted.	If error condition continues after 120 seconds, replace the board.
2	RX data available overrun error	Development purposes only. Should not occur.	N/A
3	TX data buffer overrun error		
4	UART Parity Error	Communication error has occurred.	Check the communications settings.
5	UART RX Overrun Error	LED continues to pulse for 30 seconds or until restarted.	Check the data cable and connections.
6	UART Frame Error		If the issue is not resolved, replace the scale transmitter.

Updating the RL Scales Bag Scale to Firmware Version 3.5

Perform the following procedure to upgrade the RL Scales Bag Scales to firmware version 3.5. **This is the required firmware version for scale transmitter model R-193x.**

Requirements:

- **Scale35.hex** firmware upgrade file
- Hyper Terminal application (installed as part of U-Scan image)
- U-Scan software installed
- Label for firmware version (one for each Bag Scale)

Access HyperTerminal

- 1 Go to the Customer Station.
- 2 Stop the Customer Station software.
 - a Press **ALT+TAB**, then select **Robot Control**. The **Robot Control** window appears.
 - b Click **Stop Robot**. The **Launchpad** displays.
 - c Touch **Exit Launchpad**. A confirmation screen appears.
 - d Click **Yes**.
- 3 Copy the **Scale35.hex** file to **C:\Temp**.
- 4 Start a HyperTerminal session:
 - e Go to **Start > Programs > Accessories > Communications > HyperTerminal**.
 - f Click **HyperTerminal**.
 - g Enter a name for the session, then press **ENTER**.
- 5 Enter the following communication settings:
 - a COM22
 - b Baud Rate: 9600
 - c Data Bits: 7
 - d Parity: Even
 - e Stop Bits: 1
 - f Handshake or Flow Control: None
- 6 Ensure that the text **Connected** appears in the bottom left corner of the **Hyper Terminal** window.

*Note: If **Connected** does not appear, choose **Call** from the window menus, and then choose **Connect**.*
- 7 When the session is running (connected), enter **/TEST** in capital letters to view the **RL Scales** menu.

*Note: Use the **CAPS LOCK** key and **NOT** the **SHIFT** key to capitalize **/TEST**.*

Perform the Firmware Upgrade

- 1 Note the current firmware version displaying in the top line.

EXAMPLE: RL-SCALES LOADCELL TRANSMITTER TEST Ver 3.2.
- 2 From the menu options at the top of the **Hyper Terminal** window, select **Transfer**.
- 3 Select **Send Text File**. A window appears allowing you to specify the upgrade file.
- 4 Select **Scale35.hex** from **C:\Temp**.
- 5 Click **OK**. The message **!!!DOWNLOADING!!!** displays in the **Hyper Terminal** window.
- 6 When the **Test** menu displays in the **Hyper Terminal** window, ensure that the top line reads **RL-SCALES LOADCELL TRANSMITTER TEST Ver 3.5**.
- 7 If the firmware version is not **3.5**, perform [step 2](#) to [step 6](#) again.
- 8 Type uppercase "M" to close the connection, then close the HyperTerminal application. Click **Yes** at the Disconnect prompt and **No** at the save prompt (unless you want to save a log file).

Affix the Firmware Version label

- 1 Write **Firmware Version 3.5** on a blank label.
- 2 Lift the Bag Scale platter(s).
- 3 Affix the label to the top of the scale transmitter.
- 4 If the system has two scales, affix another label with the firmware version to the second scale transmitter.
- 5 Replace the Bag Scale platter(s).

Calibrate the Bag Scale(s)

- 1 Enter **C** to auto calibrate the scale.
- 2 Enter **W** to calibrate the scale with weights.
- 3 Follow the on-screen instructions to complete the calibration.

Notes: The system prompts you to use at least 40 lbs. Make sure that you use at least 50 lbs. for accurate calibration.

The elevation and latitude field values entered are not relevant when calibrating with weights. Use the default values.

- 4 After calibration is complete, place a weight in the middle of the scale.
- 5 Ensure that the weight displayed in the **Scale Calibration** window is correct.
- 6 Repeat to verify that the weight is constant in each of the four corners.

- 7 A fluctuation of .01 lb is acceptable.
- 8 Exit the **Scale Calibration** window.

Test the Upgrade

- 1 Go to **Start > Programs > Startup > Launchpad** to start the Customer Station software.
- 2 Press **ALT+TAB** to select the **Robot Control** window.
- 3 Touch **Stop Robot**.
- 4 On the **Launchpad**, touch **Device Tester**.
- 5 Enter the password **1379** and touch **OK**.
- 6 If **1379** does not work, enter **8906**.
- 7 Click the **Bag Scale** tab.
- 8 Test the Bag Scale(s). Refer to [“Test the Device” on page 35](#).
- 9 Click **Other**.
- 10 In the **Command** drop-down list, select **V**.
- 11 Ensure that the version is **3.5** for the Bag Scale(s).

Chapter 5: Bag Scales (Mini Carousel Shekel)

This chapter provides servicing and installation information for Mini Carousel bag scale models that use Shekel scales.

Features


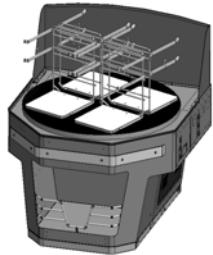

- 150 lb (68 kg) total capacity for Genesis Mini Carousel scale (single and dual scale).
- Maximum error limit of 0.05 lb (0.02 kg)
- Maximum response time of 1.5 seconds

Mini Carousel Bag Scale (Shekel)

Note: the information in the following table should be verified in revision-controlled document D900000244 (Shekel Product Control Document). Other references include:

- D900000432 (Shekel Controller)
- D900000452 (Shekel Production Test Procedure)
- D900000306 (Mini Carousel Specifications).
- D900000459 (Field Test Procedure)

Use the kit numbers listed below for replacement parts.

Model	Components
<p>U-Scan Genesis Mini Carousel</p>  <p>Configurations: Dual Scale (upper and lower scales), shown above.</p> <p>Single Scale (lower scale only), shown below.</p> 	<p>U-Scan Genesis Mini Carousel</p>  <p>11004240 Dorban Fujitsu vX.XXX.exe utility (11004240 - see page 46)</p> <p><u>Dual Scale:</u></p> <p>Scale kit (11004057) consists of:</p> <ul style="list-style-type: none"> • scale frame and mounting hardware • set of pre-calibrated transmitter (4-port RS-232 controller) with two 400 mm DEBB scale bars and two 188 mm DEBB scale bars <p><u>Single Scale:</u></p> <p>Scale kit (11004056) consists of:</p> <ul style="list-style-type: none"> • scale frame and mounting hardware • DB9 terminal plugs (2) - required for single scale units • set of pre-calibrated transmitter (4-port RS-232 controller) with two 400 mm DEBB scale bars

Tip: To determine whether a Mini Carousel scale contains a Shekel scale (versus the RL Scales product), examine the secondary (upper) platter. It will have four flanged screws and four button plugs that do not exist in the RL Scales version of the product. See [page 62](#) for more details.



Testing

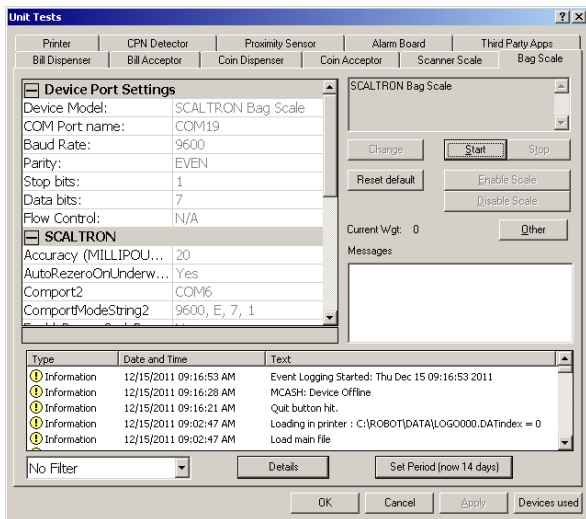
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the settings

- 1 In Device Tester, click the **Bag Scale** tab.



- 2 Check that the **Device Model** or **Device Type** is set to **SCALTRON Bag Scale**. (Older versions of Device Tester may refer to this as **Scaltron.dll**).
- 3 Check that the **Single Unit Mode** setting is set to **Yes**.
- 4 Ensure that the correct Device Model and COM port are selected and that the remaining settings are correct.

Shekel-version Settings	
Device Model	SCALTRON Bag Scale*
COM	TP3K: COM22 (Port 6) TP3600: COM19 (Port 3)
Baud Rate	9600
Parity	EVEN
Data Bits	7
Stop Bits	1

* Note: the SCALTRON Bag Scale Device Model is shared between the Shekel and RL Scales products.

Change the settings

Note: Only change the settings if the Device Model or COM port is incorrect.

- 1 Stop the device (from the software).
- 2 Press **ALT + [*]** (the * key is on the number pad). The **Change** button is enabled.
- 3 Click **Change**.
- 4 Click the arrow key to display the drop-down menu.
- 5 Select the appropriate Device Model for the device.
- 6 Click **Apply**.

Zero the scale

- 1 If you are in a store environment, remove the bag racks if possible (or at least remove the bags). If there are no bag racks, remove the platter.
- 2 Access the **Device Tester**.
- 3 Click the **Bag Scale** tab.
- 4 Click **Start**.
- 5 Click **Other**.
- 6 In the **Range** box, verify that the value is 150.
- 7 In the **Command** list, select **Z**. See the warning below.
- 8 Click **ZERO** to reset the bag scale.
- 9 Replace the bag racks.
- 10 If necessary, touch the **Rotating Siren** at the Attendant Station to clear the weight violation.

Warning: (THIS WARNING ONLY APPLIES TO SHEKEL SCALES):

*Do not use any commands in the command list other than **Z** for zero, **R** for range, or **V** for version. If you accidentally used any other command:*

- (1) Close the **Other** window and exit the Device Tester program.
- (2) Re-start the Device Tester program and start the Scale (on line).

*Only use the **Z** command for zeroing the scale.*

Test the scales

*Note: Error messages are stored in the **Eventlog Viewer** and can be viewed when you exit the **Device Tester**.*

- 1 Click **Start**.
- 2 Click **Enable Scale**.
The current weight is displayed in the **Messages** box.
*Note: If the **Enable Scale** button is disabled, the current weight is already displayed in the **Messages** box.*
- 3 Put an object on the bag scale and read the weight.
- 4 Weigh the object on different areas of the bag scale to ensure that the weight is constant and accurate.
- 5 Click **Stop**.

Product test procedure

Only if the tests indicate that one or both scales are out of calibration will you need to follow the steps in “[Scale Troubleshooting](#)”, below.

Note: The contents of this chapter are based on revision controlled document D900000452.

Identify the scale manufacturer

Before continuing, ensure that the installed scales were manufactured by Shekel. If you are unsure of the manufacturer, stop the U-Scan software and:

- 1 Run the **Device Tester** program.
- 2 Select **Bag Scale**, then **Start**.
- 3 Press **Other**.
- 4 Verify the software version (**V**), which should be 3.30.
- 5 If there is a problem, verify the Mini Carousel’s connection to the computer:
 - a TP3K: Port 6 (COM22)
 - b TP3600: Port 3 (COM19)
- 6 Using the **Other** commands, verify the settings for the scale and transmitter (the range (**R**) should be 150 lb; the software version (**V**) should be 3.30).

Scale Troubleshooting

- If the tests indicate that one or both scales are out of calibration, follow the calibration procedure described in “[System Calibration \(Dorban utility\)](#)” on page 46
- If the scale transmitter or one or more scale bars are replaced or re-installed, you will need to follow the steps under “[‘Dorella’ Component Calibration](#)” on page 52.

Check the cables

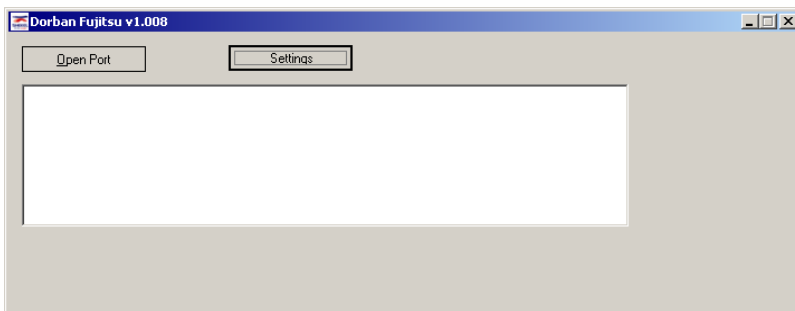
- 1 Remove the carousel platter.
- 2 Ensure that the power/communication cables are connected to the scale transmitter.
- 3 Ensure that the power and communication cables are connected to the computer:
 - a TP3K: Port 6 (COM22)
 - b TP3600: Port 3 (COM19)

Check the bag scale platter

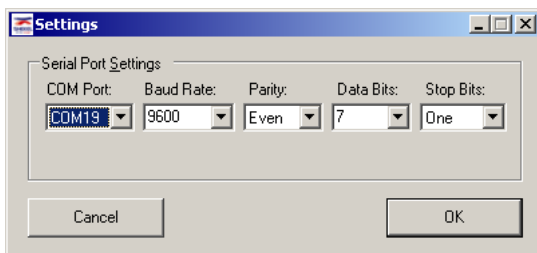
Ensure that the carousel platter is not touching the unit casing.

System Calibration (Dorban utility)

- 1 To calibrate the scales, press Alt+Tab on the computer keyboard and select the Robot Control window.
- 2 Touch **Stop Robot**. The Launchpad appears.
- 3 Touch **Stop TS** (if applicable) and then touch **Exit**.
- 4 From this point on, you require administrative rights. If necessary, log on as a user that gives you access to the Windows desktop.
- 5 Locate and run the executable file named *11004240 Dorban Fujitsu vX.XXX.exe*.
The latest version of this file is available on Tech Web:
<http://deliveryuskm.fc.fujitsu.com/ITSG-CS/NTS/TW/UScan/Forms/Shekel.aspx>.
- 6 Touch or click the **Settings** button to identify the port used by the scale transmitter.

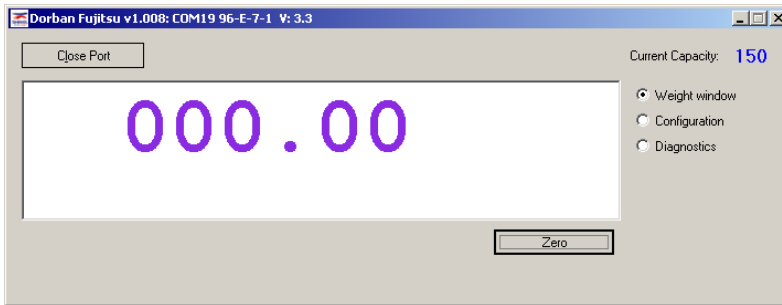


- 7 Make the following selections: **COM1**, Baud Rate: **9600**, Parity: **Even**, Data Bits: **7**, Stop Bits: **One**. Click **OK** to continue. Touch or click **Cancel** to return to the starting screen.



- 8 You are returned to the main window. Click the **Open Port** button to open the selected port for communications.

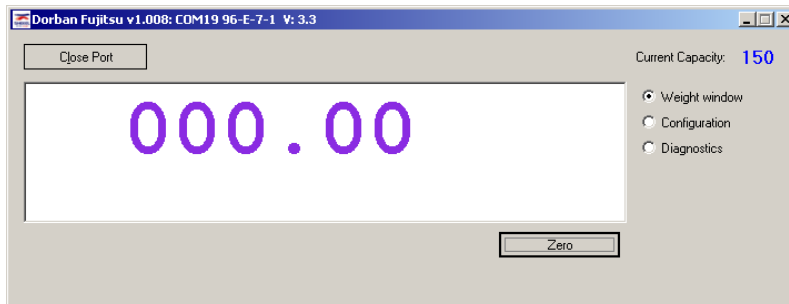
9 The **Weight Display** window opens:



Weight

The **Weight Display** window, which opens automatically after you open the port, displays the current weight on the scale, as well as the weight capacity of the scale. Note that a summary of the current configuration is displayed in the title bar of the window.

- 1 You can toggle among displaying the **Weight** information, **Configuration** information, or **Diagnostics**, as explained later on. **Weight Window** is selected by default.

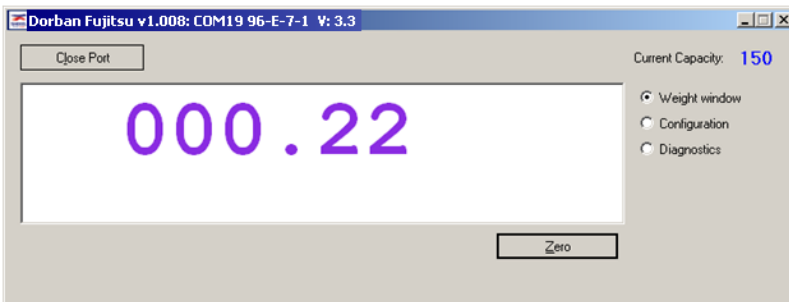


- 2 The current weight on the scale is displayed as an interactive reading in the message window.
- 3 Click the **Zero** button in the **Weight Display** window to zero the scales.

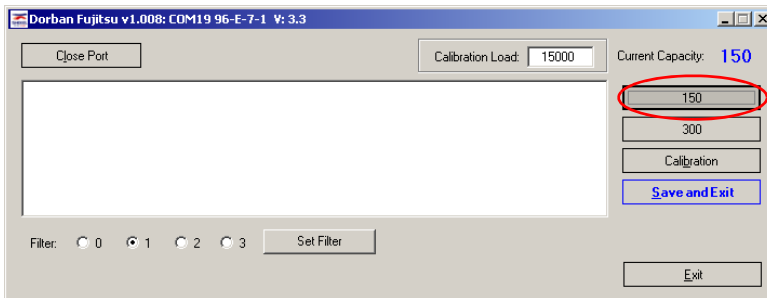
Configuration

— Start of procedure for changing the current configuration:

- 1 Click the **Configuration** radio button in the **Weight Display** window to change the current scale configuration.



- a** Click the **150** button to set the scale capacity to 150 lb.
The weight increment is set to .01.



- b** In the **Calibration Load** window, enter 15000 (150 lb) as the calibration load. In the case of a dual scale unit, this represents the combined weight of all loads to be placed on the lower and upper scale. For 150 lb, place 50 to 60 lb on the upper platter and 100 to 110 lb on the lower platter.

Tip: If precise weights are not available, try to locate suitable store inventory items (choose solids like cat litter rather than liquids). Validate the weight of the items on the Scanner Scale or at another calibrated scale.

- c** Ensure that the selected filter is the default, which is “1”. To change the filter setting, click Set Filter and choose “1”. (The filters represent the ‘settling’ time from fastest (0) with least stable weight readings, to slowest (3) with most stable weight readings.)
- d** Click **Calibration** to start the calibration process, described below.

*Note: The settings you make will only be written to the scale's firmware if you click the **Save and Exit** button.*

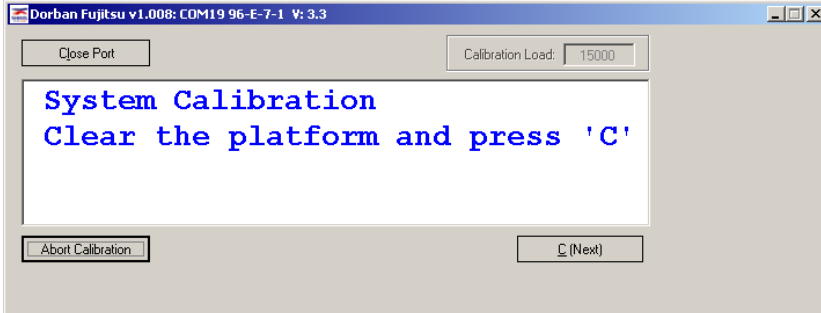
*Touch or click **Exit** to return to the **Weight Display** screen without making any changes to the scales.*

— End of procedure for changing the current configuration.

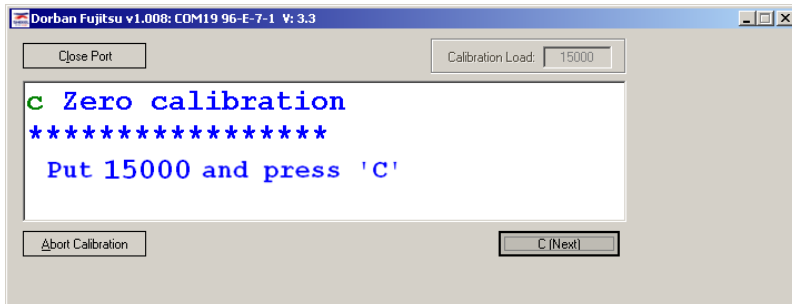
Calibrate the scales

— Start of procedure for calibrating the scales:

The **Calibration** window, which opens when you touch or click the **Calibration** button in the **Configuration** window, starts the scale calibration process. Follow the instructions provided to proceed.



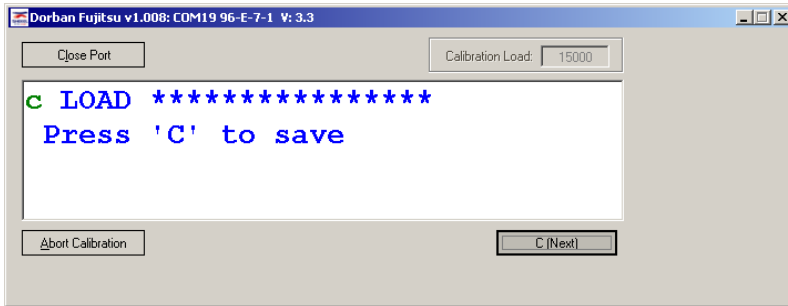
- 1 Remove any items from the bag scale, then press the “C” key on your keyboard, or click **Next**.
- 2 Wait for the scales to calibrate with zero weight (the message box displays “Zero calibration”).
- 3 After the scales have finished calibrating, the message box prompts you to place the specified calibration load on the bag scale and then press “C”.



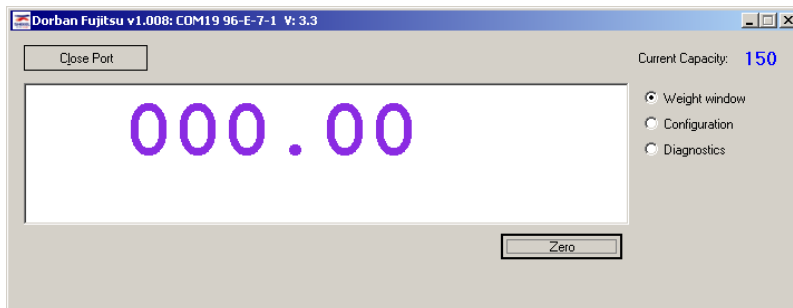
- a Before you continue, ensure that you have placed only the calibration load on the scales (50 to 60 lb on the upper platter and 100 to 110 lb on the lower platter), then press “C”.

Tip: If precise weights are not available, try to locate suitable store inventory items (choose solids like cat litter rather than liquids). Validate the weight of the items on the Scanner Scale or at another calibrated scale.

- 4 Wait for the calibration process to end (the message window indicates “LOAD *****”):



- 5 (You can click the **Abort Calibration** button if you wish to end the calibration process.)
- 6 Press “C” to save the calibration and return to the **Display Weight** continuous weight display window. If the system locks up, or you see a message to reboot, click **Close Port** then **Open Port**.



- 7 Follow the test procedures described in document D900000459: “*Field Test Procedure - Shekel Mini-Carousel.pdf*”.

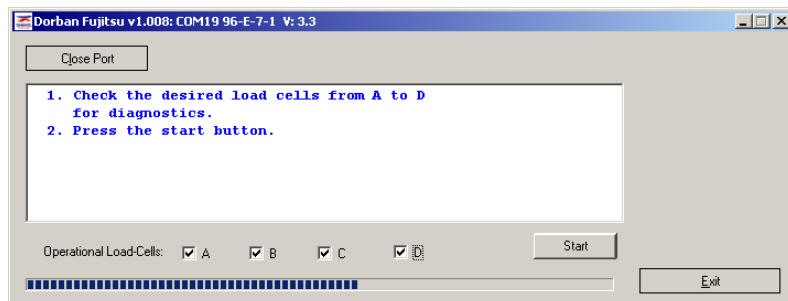
— End of procedure for calibrating the scales.

Diagnostics

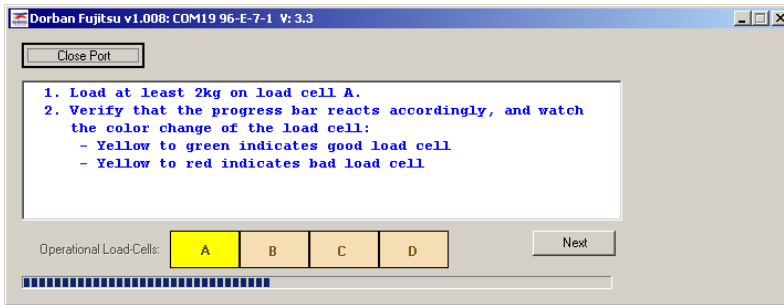
— Start of procedure for running diagnostic tests, if necessary:

If diagnosis of a suspected problem with a particular scale bar is necessary, take the following steps.

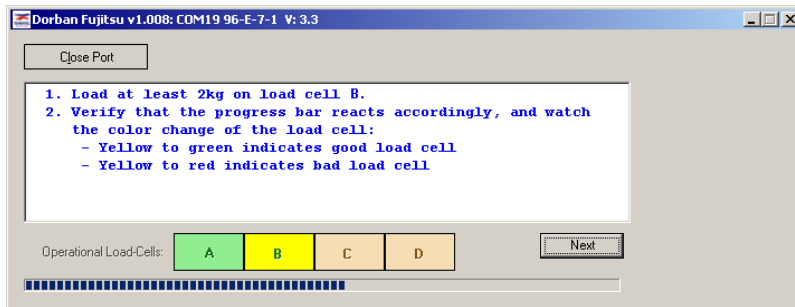
- 1 Click the **Diagnostics** radio button in the **Weight Display** window to start the diagnostic test.
- 2 Click the checkboxes to select all of the individual scale bar(s) that you wish to diagnose, then click **Start**. The scale bars will be tested in series.



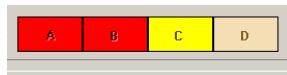
- 3 A yellow box is displayed for the first scale bar you selected. You are prompted to load a weight of at least 2 kg on that scale bar, then click **Next**. The yellow box will change to green if the test is good, or else it will change to red if the test fails.



- 4 A yellow box is then displayed for the next scale bar you selected. You are prompted to load a weight of at least 2 kg on that scale bar, then click **Next** again.

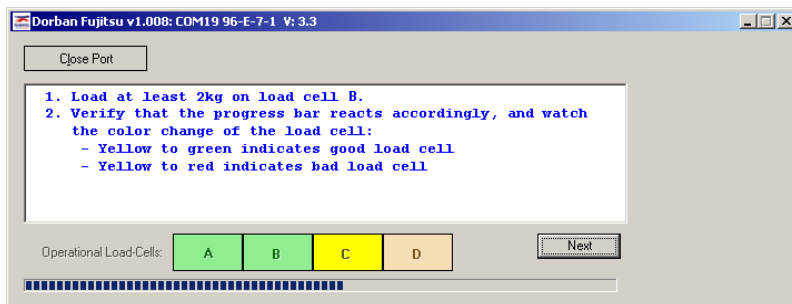


green for 'good'



red for 'failed'

- 5 Repeat this process until all of the scale bars have been verified.



- 6 A message box indicates when you are done. Click the **Done** message button to return to the **Weight Display** window.
- 7 If the program does not exit automatically, click the **Close Port** button to exit.

— End of procedure for running diagnostic tests.

Zero the scale

Zero the scale using Device Tester as explained on [page 44](#).

'Dorella' Component Calibration

The procedure described below is performed at the Shekel manufacturing plant prior to shipment to Fujitsu.

IMPORTANT:
NEVER PERFORM THE DORELLA PROCEDURE UNLESS THE PRE-CALIBRATED SCALE BARS ARE REPLACED OR RE-INSTALLED, OR IF THE SCALE TRANSMITTER IS CHANGED!

Caution: Do not perform the Dorella calibration procedure unless you have read and understood the instructions that follow.

It is not normally necessary to perform this procedure in the field or at the Fujitsu assembly facility, however if a weigh bar is replaced, re-installed, or if the scale transmitter is changed, it will be necessary to take the steps below:

The Dorella calibration procedure consists of:

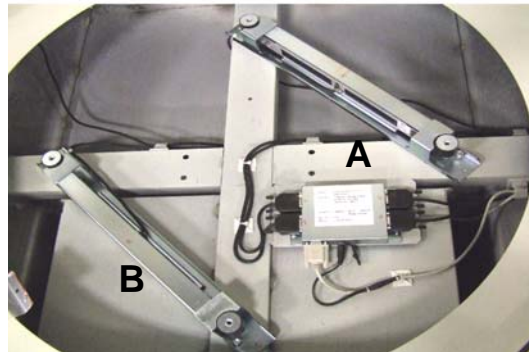
1 Individual scale bar calibration:

Performed on each scale bar separately, followed by the regular **System calibration**, (performed on all the scale bars simultaneously).

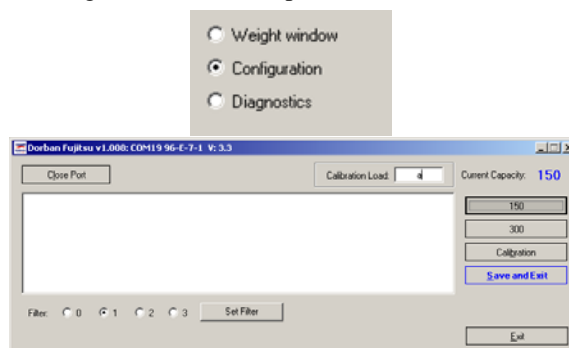
Note: *The Dorella calibration procedure must be performed whenever a scale bar is replaced, re-installed, or if the scale transmitter is changed.*

Scale bar calibration

- 1 Ensure that the scale bars in the Mini Carousel (upper and lower) are installed, but without the frame or platter. If the scale frame has already been installed, remove it.
- 2 Identify the scale bars cables by A, B, C, and D:
 - **A** for the rear scale bar of the Mini Carousel lower scale
 - **B** for the front scale bar of the Mini Carousel lower scale
 - **C** for the right scale bar of the Mini Carousel upper scale
 - **D** for the left scale bar of the Mini Carousel upper scale



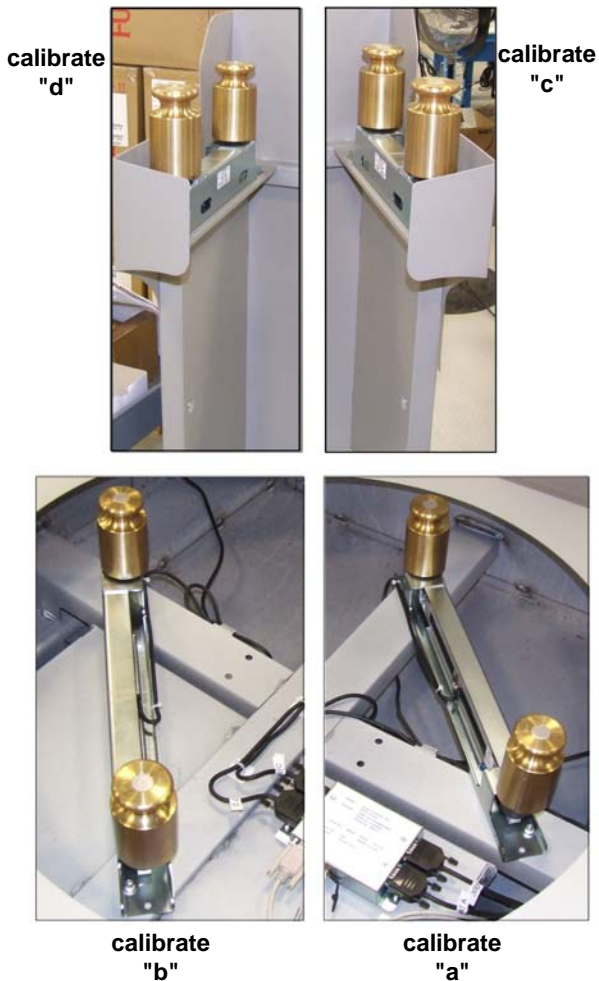
- 3 Run the Dorban application on the computer as explained starting on [page 46](#).
- 4 Verify successful communications.
- 5 Check the **Configuration** radio button and verify that the configuration window opens:



- 6 Verify that all of the scale bars are clear of a load or any physical disturbance.

Note: Calibration is performed individually on each scale bar (A, B, C, and then D). Take the following steps for each scale bar that you calibrate.

- 7 In the **Calibration Load** box, start by calibrating scale bar a, then calibrate scale bar b, c, and then d as explained below.
- 8 Click the **Calibration** button to start calibrating the scale bar selected in the previous step.
- a A **Release all the buttons and click next** message will be displayed.
- b Click the **Next** button.
- c A **Press the red button and click next** message will be displayed.
- d Load a total weight of 10 lb on the appropriate scale bar (a matched set of two 5 lb weights on each rubber mount).



- e Wait 5 to 10 seconds to verify stability.

Note: If one of the later scale bar calibrations fails, you do not have to repeat all of the earlier calibrations.

- f Click the **Next** button and follow the on-screen instructions until the save is displayed.
- g Save the calibration information.
- h Repeat **steps 8** through **8-g** for the remaining scale bars.

System calibration

After performing the calibration for scale bars a, b, c, and d:

- 1 Install the frame on the Mini Carousel lower frame and secure it in place as explained in [“Install the lower scale frame”](#) on page 66.
- 2 Install the round platter and tighten the center nut as explained in [“Install the platter”](#) on page 56.
- 3 Install the upper platter as explained in [“Install the upper platter”](#) on page 62.
- 4 Set the **Calibration Load** to 15000 (150 lb).
- 5 Perform the regular system calibration (see [page 49](#)) with a total load of 150 lb (50 to 60 lb on the Mini Carousel upper platter, and 100 to 110 lb on the lower platter). Position the weights as shown below:



- 6 Follow the test procedures described in document D900000459: [“Field Test Procedure - Shekel Mini-Carousel.pdf”](#).

Zero the scale

Zero the scale using Device Tester as explained on [page 44](#).

Bag Scale Common Problems and Solutions

The table on the next page provides basic steps for resolving common problems. Refer to [“Scale Troubleshooting” on page 45](#) for the full troubleshooting procedures.

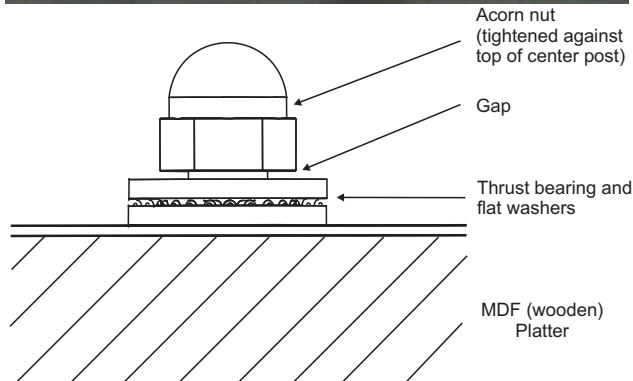
Issue	Solution
The scale is not weighing properly.	<ul style="list-style-type: none"> • Calibrate the scale. • Refer to “System Calibration (Dorban utility)” on page 46.
The computer will not communicate with scale.	<ul style="list-style-type: none"> • Ensure that the power cable is connected to the scale transmitter and to the power supply. • Ensure that the communication cable is connected to the scale transmitter and to the correct COM port of the computer. • If the issue is not resolved, disconnect the power cable at both ends. • Ensure that the settings in Device Tester are correct. • If the issue is not resolved, replace the scales.
Weight reading is unstable	<ul style="list-style-type: none"> • Ensure that nothing is touching the upper frame structure. • Ensure that nothing is jammed between the upper or lower surface of the scale bar and the platform frame. • If possible, draw a sheet of paper between the lower surface of the scale bar and the platform frame. The passage should be clear up to the part of the scale bar that is bolted to the frame. • Ensure that no cables (including the scale bar cables) are touching any part of the upper scale bar structure, the scale platform, or the casing wall or dust lips. • Ensure that nothing such as a piece of paper or food is jammed between the scale bar and the platform structure. • Ensure that no fan, air conditioner, or open door is blowing air directly onto the scale, as this can cause unstable weight readings. • If the cause cannot be identified, remove the scale from the casing and re-test while mounted on the floor or another solid base. • Check the cable connections. • Disconnect and reconnect the cables and retry. • If the issue is not resolved, replace the scale bars.
Fluctuating weight values; stable weight cannot be achieved.	<ul style="list-style-type: none"> • Check for objects stuck between the scale bar and platform frame. Load the platform with weight up to the point where the problem occurs. The passage should be clear up to the part of the scale bar that is bolted to the frame. • Ensure that the scale bar cable is not jammed. • If the issue is not resolved, replace the scale transmitter. You will then have to run the Dorella procedure as described on page 52. • If the issue is not resolved, replace the scale bars. You will then have to run the Dorella procedure as described on page 52.

Component Removal and Replacement

Replace the rotating platter

Remove the rotating platter

- 1 Stop the U-Scan software and shut down the station.
- 2 Loosen the acorn nut and remove it.



- 3 Remove the top flat washer. Remove the thrust bearing and second washer.
- 4 Carefully raise the platter. You may require assistance for this step, since the platter (especially with bag racks attached) is heavy.
- 5 Set the components aside.

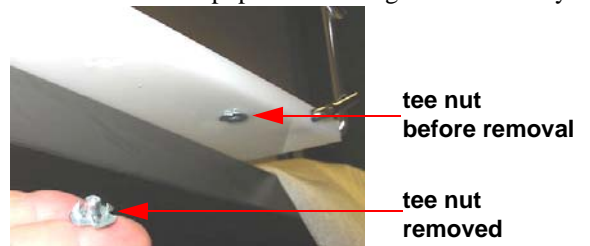
Prepare the bag racks

- 1 If bag racks are required for this unit, locate four individual bag racks (11000768).
- 2 Two tee nuts have been pre-installed on the underside of each bag rack base. These are not required for a Mini Carousel installation, since tee nuts are actually embedded within the wooden (MDF) platter.

- 3 Use a rubber hammer and a punch tool to remove both tee nuts from each bag rack:
 - a Set the bag rack at the edge of a table, with a receptacle underneath to catch the tee nuts as they fall.

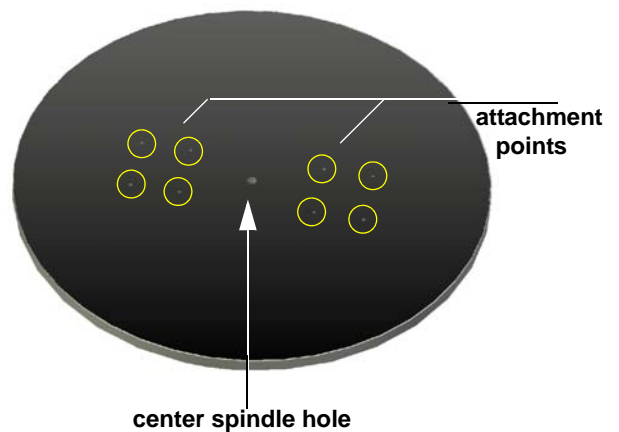


- b The tee nuts should pop out of the bag rack base easily.

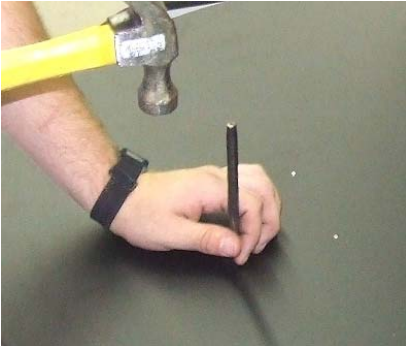


Attach the bag racks to the new platter

- 1 The finished surface of the rotating platter has eight slightly dimpled indentations. These are the attachment points for the four bag racks (the pre-drilled holes and installed tee nuts are covered by a laminate surface to minimize the chances of spilled liquids entering the scale chamber).



- 2 Use a hammer and a punch tool to pierce the dimpled indentations that correspond to the locations of the each bag rack being installed. To install four bag racks, pierce the lamination over all eight indentations.

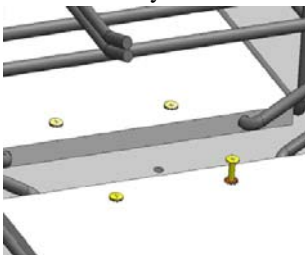


Caution: Be careful to not strike the punch so hard as to damage the embedded tee nuts. The punch must not enter the hole too deeply.

- 3 Clean the entire surface of the platter before continuing.
- 4 Position each bag rack so that the two holes on each bag rack base line up with two of the dimpled indentations on the platter surface.
- 5 The bag racks attach to the platter by means of two large-diameter truss screws (11003754) and tooth-lock washers (11002927) for each bag rack.

Warning: Do not use flat washers, since this may cause the assemblies to loosen. The wide heads of the screws must come into full contact with the bag rack base. The toothed washers must compress into the nylon bag rack bases to ensure that the bag rack is sufficiently secured to prevent any lateral movement of the bag racks on the platter.

- 6 Insert a wide head truss screw with toothed washer into the two holes on the base of each bag rack being installed.
- 7 Tighten each of the truss screws with a Phillips screwdriver until the racks are securely attached to the rotating platter. The screws must be torqued down adequately to ensure that the bag racks will not come loose during operation, or when someone lifts the platter off the scale by the racks.



- 8 Verify that *all of the truss screws* have been fully tightened.

Caution: Test each bag rack to ensure that it cannot be rocked from side to side. If there is any sideways movement of a bag rack on the platter, fasten the screws more tightly.

Install the platter

Part/Tool	Quantity	Part No.
Primary scale platter	1	11002722
thrust bearing	1	11001311
flat washers	2	11001579

- 1 If you have not already done so, remove the rotating platter as explained earlier.
- 2 Locate the replacement Mini Carousel primary scale platter (11002722). The platter is constructed of laminated MDF. Note that the photograph below shows the *underside* of the platter, which has visible hardware. Install the platter with the smooth side facing up.



- 3 Carefully pick up the platter, with the smooth side facing up, and bring it over to the Mini Carousel (the photo does not show the bag racks, which should already have been installed).
- 4 Gently place the platter down over the center bolt, and reposition the platter until the center bolt emerges through the center hole. Refer to the illustrations under [“Remove the rotating platter” on page 55.](#)

- 5 Locate a thrust bearing (11001311) and two flat washers (11001579).
- 6 Place one of the flat washers, burr side down, on the center bolt, so that it rests on the platter. Install the thrust bearing over the first washer, then insert the other flat washer, burr side down, so that it rests on the thrust bearing.
- 7 Locate an acorn nut (11001578) and secure it to the top of the center bolt.

Replace the upper scale bars

Remove the upper scale bars

- 1 Stop the U-Scan software and shut down the station.
- 2 Remove the upper platter as explained earlier.
- 3 Remove the two inner side panels of the Mini Carousel, which are secured with a single screw in the middle. These panels will conceal the secondary scale cables.



- 4 **Remove the lower rotating platter** as explained on [page 55](#) to gain access to the scale transmitter.
- 5 Disconnect cables “C” and “D” from the scale transmitter and extract the cables from the wall mounts that secure them.
- 6 Pull the secondary scale cables up from the base of the unit on each side, through the openings in the frame. Note that each cable passes through a wall mount on the internal side walls.



- 7 Remove the four M6 x 16 cap screws that secure each scale bar at each end (two screws and washers per scale bar).

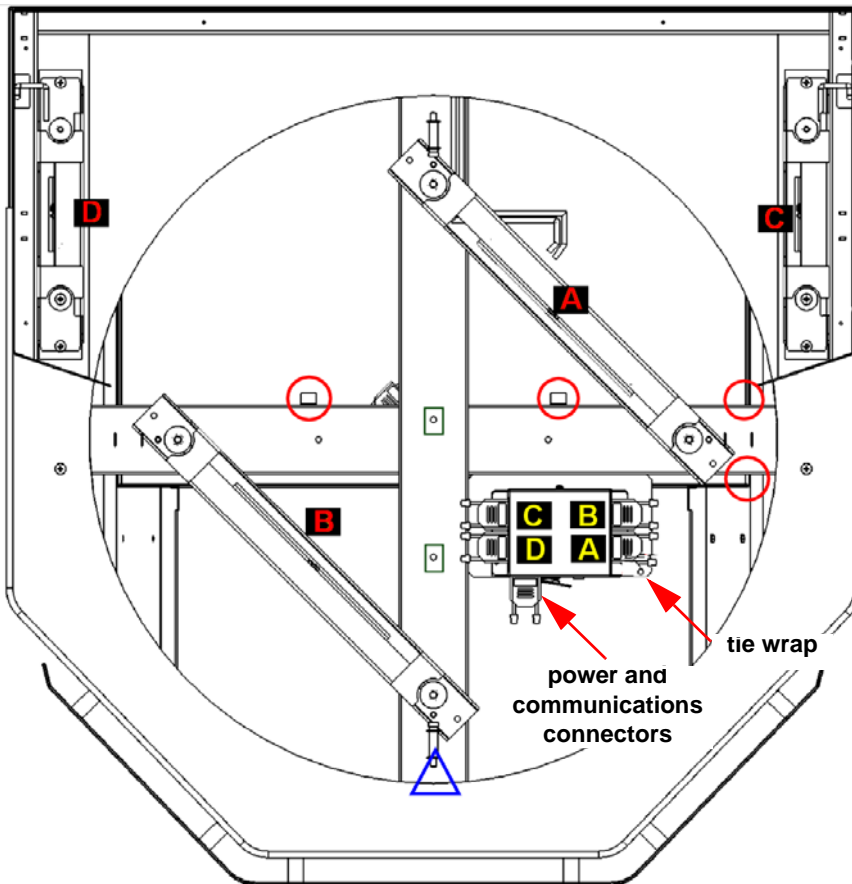


- 8 Remove the two scale bars.

Install the upper scale bars

Part/Tool	Quantity	Part No.
Shekel scale kit (pre-calibrated set) (dual scales)	1	11004057
4" tie wraps	2	11001791
M6 x 16 mm hex socket head cap screw	4	11004229
M6 lock washers (upper scale)	4	11004232
M6-1.0 x 8 mm button socket cap screw, flanged	4	11004228
black button plugs (line stock item)	4	11000604
adhesive wall mounts	2	11001474
Phillips head screwdriver or power driver		
4 mm T-style Allen key		
Torque wrench		

The following illustration indicates the scale transmitter port connections (and clamp locations):



- Note:*
- The red circles in the preceding illustration indicate large clamp (11001477) locations.
 - The two green rectangles on the central member indicate small clamp (11001475) locations.
 - The blue triangle indicates an additional clamp location that is only used if the Customer Station main (robot) unit connects to the left side of the Mini Carousel.
 - The red arrows indicate the power and communications connector location, as well as the location at which you must add a tie wrap to secure these cables.

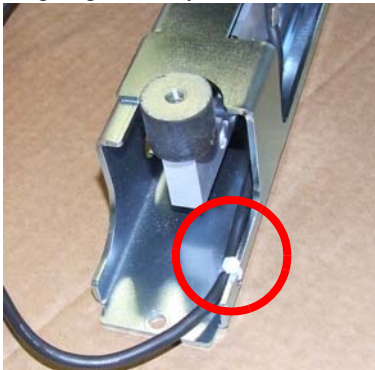
- 1 Locate two DEBB (Double Ended Bending Beam) 188mm scale bars (11003922) with M6 cap screws and washers. These are part of the pre-calibrated kit and will be used as the secondary scale.



- 2 Extract the cables from the scale bar frames by carefully pulling them out. Note that each cable is labelled as either "C" or "D" (this is important for [step 4](#) below).



- 3 Secure the cables to the frames with a tie wrap on each frame, passed through the hole reserved for that purpose. This helps ensure that the cables will not interfere with weighing accuracy.

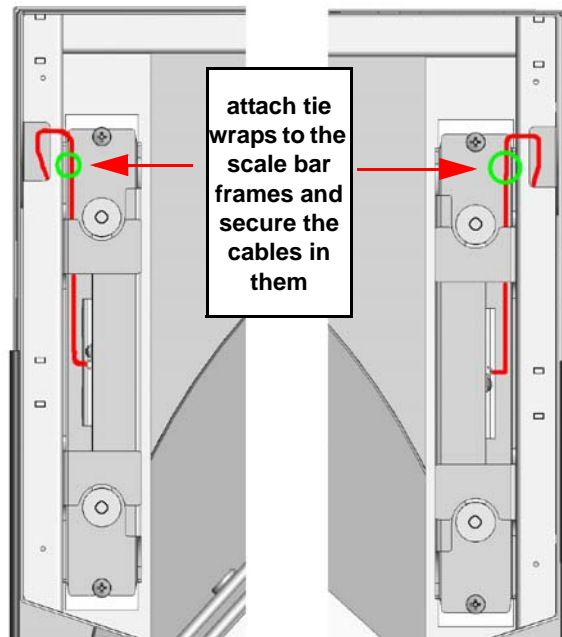


- 4 Orient each scale bar so that the manufacturer serial number labels identified in step 2 are facing one another inwards as you face the bag scale unit. The scale bar labelled "D" is installed on the left side, while the scale bar labelled "C" is installed on the right side of the unit.



- a The orientation of each scale bar is important for the cable routing into the unit. Orient each scale bar as shown in the overhead view below.

- The red lines indicate the recommended cable routing.
- The green circles indicate locations where tie wraps should be attached to the scale bar frames in order to secure the cables before they are routed into the unit.



- 5 Install each scale bar by first feeding its cable through the opening in the frame. The cables route down the side walls to the scale transmitter. Place each scale bar in position on the frame with the cables in the back. If there is any play in a seated scale bar, push it as far as possible to the outside edge of the station before you secure it in place.



- 6 The cables should pass directly down through the holes in the casing.
- 7 Using the four M6 x 16 cap screws with washers, loosely secure each scale bar at each end (two screws and washers per scale bar).



- 8 Pass the secondary scale cables down into the base of the unit on each side, through the openings in the frame.



- 9 Secure the cables in the wall mounts.
- 10 Connect the two cables to the scale transmitter (connect the scale bar on the left to the port labelled “D”; connect the scale bar on the right to the port labelled “C”).

- 11 Re-route the cables through the wall mounts in the lower section of the bag scale.

- 12 Re-attach the side wall panels:

- a Push the panels against the back wall of the Mini Carousel, ensuring that the tabs in the panels fit snugly into the slots in the frame. You can verify this by examining the slots from behind the unit. All four tabs should be seated as shown here:



- b Secure the side panels with the screw you removed from each panel earlier.



- 13 Since you changed a scale component, you must follow the ‘Dorella’ calibration procedure explained on [page 52](#).

- 14 Replace the rotating platter as explained on [page 56](#).

- 15 Re-install the upper platter as explained on [page 62](#).

Replace the upper platter

Remove the upper platter

The upper platter is attached with four M6 screws, which require an M4 Allen key to remove.

- 1 Stop the U-Scan software and shut down the station.
- 2 Remove the four screws that secure the platter and set them aside.



- 3 Remove the platter.

Install the upper platter

Part/Tool	Quantity	Part No.
Secondary scale platter	1	11003918
M6 x 8mm flanged button head low profile cap screws	4	11001311
torque wrench		
M4 Allen key		

- 1 If you have not already done so, remove the upper platter as explained earlier.
- 2 Locate the secondary scale platter (11003918) and four M6 x 8mm flanged button head low profile cap screws.



secondary scale platter



M6 screws

Warning: The secondary platter referred to here is specific to Shekel Scale units. Its main identifying feature is that it has four mounting holes and four service holes

Note: Examine the polished front edge. A sharp edge might lead to injury, so if the edge is not smooth, you should reject the part. If necessary, slightly peel back the transparent film to feel the edge.

- 3 Orient the secondary scale platter with the polished metal side up and lower it down over the scale bars. Be careful not to strain your back when reaching — the platter should be handled by two people, with one carrying each end.



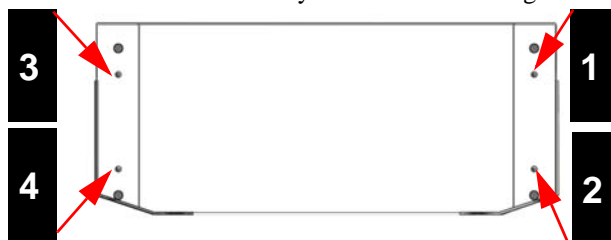
- 4 Locate a torque wrench and ensure that it is adjusted to the proper force: 10 Nm (88 inch pounds).



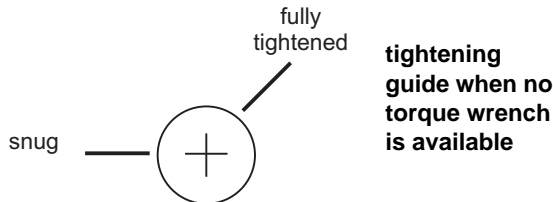
- 5 Loosely attach the platter with four M6 x 8 flanged button head low profile cap screws, starting with the right rear screw location (1). The screw hole in the platter for this screw is a tight fit to allow for precision positioning (the three remaining screw holes are enlarged to allow for positioning adjustments). Secure the screws using a 4 mm Allen key **in the order shown below**. Once all of the screws have been attached and you've verified that the platter is not touching the casing, tighten them fully.

If you can measure it, the tightening torque should be 10 Nm (88 inch pounds).

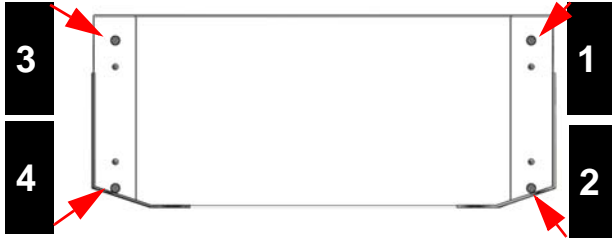
Rule of thumb if no torque wrench is available: give a 3/8 turn with an Allen key once the bolt is snug:



Secure the screws in order: 1, 2, 3, 4 as shown above



- 6 Next, using the same pattern shown above, **fully tighten** the M6 x 16 cap screws that you installed loosely in [step 7](#) on [page 61](#). Allen key access is through the four service openings identified below. If you can measure it, the tightening torque should be 10 Nm (88 inch pounds).



Secure the screws in order: 1, 2, 3, 4 as shown above

- 7 Make sure that four button plugs are inserted into the four service holes on the platter.



installed plugs

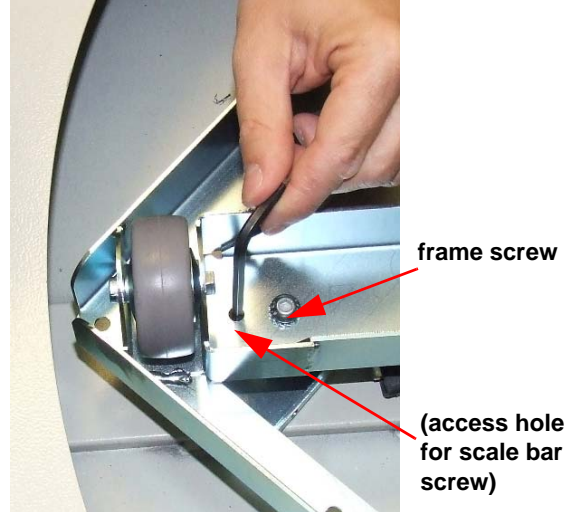
- 8 Final verification: the edges of the platter should be an equal distance from the frame on both the left and right sides.



Replace the lower scale bars

Remove the lower scale frame

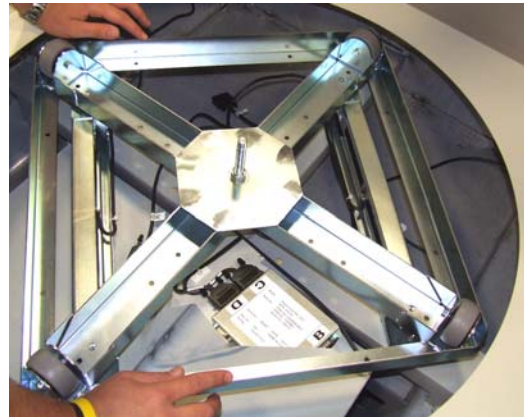
- 1 Stop the U-Scan software and shut down the station.
- 2 Remove the rotating platter as explained on [page 55](#).
- 3 Remove the four M8 screws that secure the frame onto the scale bars.



frame screw

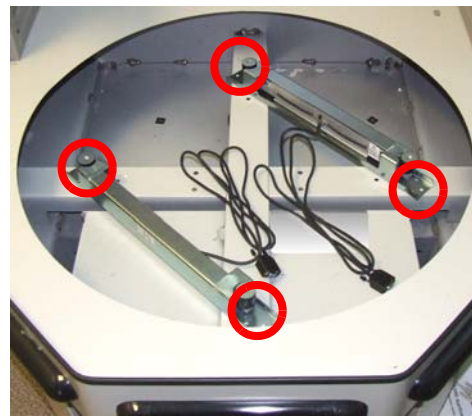
(access hole for scale bar screw)

- 4 Carefully remove the frame.



Remove the lower scale bars

- 1 If you have not already done so, remove the lower scale frame as explained earlier.
- 2 Remove the two M6 hex socket head cap screws and washers that secure each scale bar.

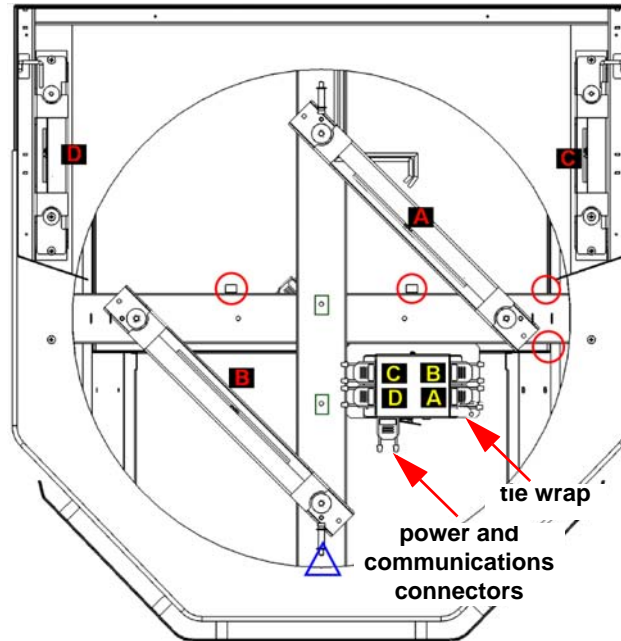


- 3 Disconnect cables “A” and “B” from the scale transmitter and extract the cables from the wall mounts that secure them.
- 4 Remove the two lower scale bars.

Install the lower scale bars

Part/Tool	Quantity	Part No.
Shekel scale kit	1	11004057 (dual scale) 11004056 (single scale)
M6 x 12 mm hex socket head cap screws (zinc plated)	4	11004230
6 mm lock washers (zinc plated)	4	11004232
4" tie wraps	3	11001791
large snap-on clamps	4	11001477
Loctite 242 medium strength blue (1 inch length)	1	11002388
Phillips head screwdrivers or power driver		
Torque wrench		
5 mm T-style Allen key		
adjustable wrench		

The following illustration indicates the scale transmitter port connections (and clamp locations):

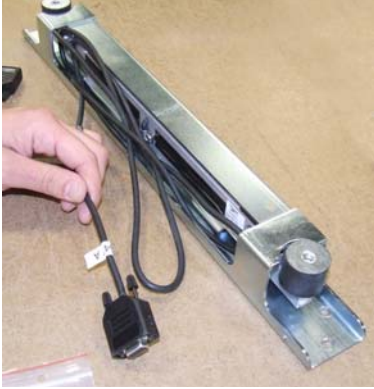


- Note:*
- The red circles in the illustration above indicate large clamp (11001477) locations.
 - The two green rectangles on the central member indicate small clamp (11001475) locations.
 - The blue triangle indicates an additional clamp location that is only used if the Customer Station main (robot) unit connects to the left side of the Mini Carousel.
 - The red arrows indicate the power and communications connector location, as well as the location at which you must add a tie wrap to secure these cables.

- 1 Locate two ‘DEBB 400mm’ scale bars with M6 cap screws and 6 mm lockwashers from kit 11004056 (single scale) or 11004057 (dual scale).

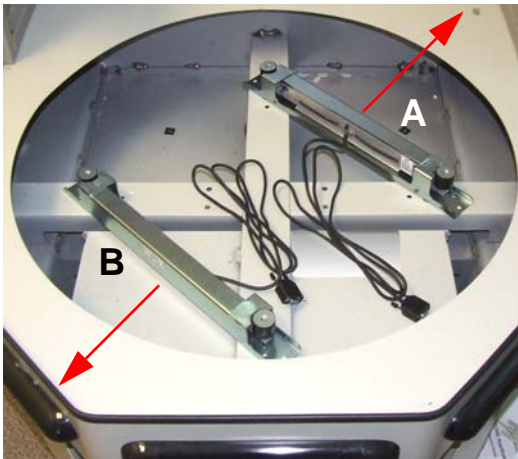


- 2 Extract the cables from the scale bar frames by carefully pulling them out. Note that each cable is labelled as either “A” or “B”; this is important for steps 4 and 5.



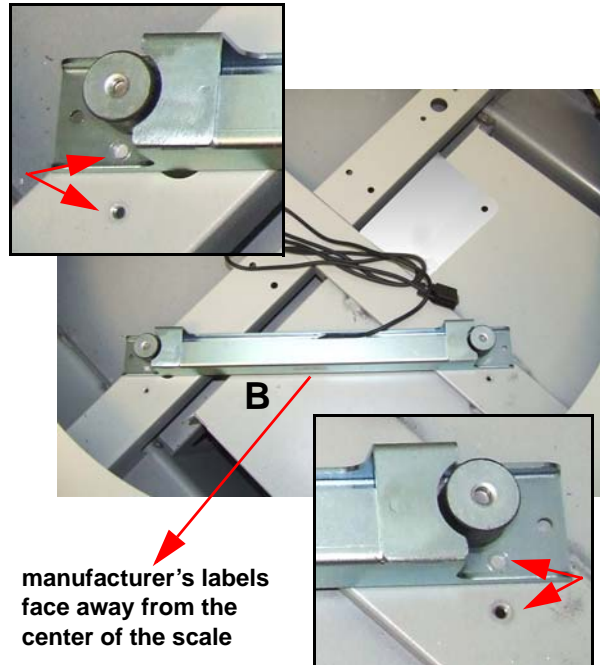
Note: if bumpers are required for this station, they must be installed before the lower scales are installed, since access inside the unit for bumper installation is reduced once the lower scales have been installed

- 3 Position the scale bar labelled “A” on the right side of the casing (the manufacturer’s label is facing outward, away from the center of the scale). Align the scale bar with the holes in the casing and loosely secure it with two M6 x 12 mm hex socket head cap screws and washers.



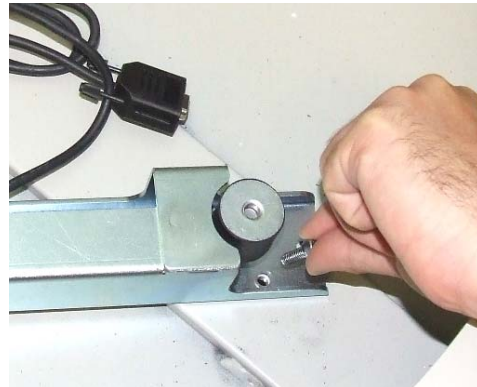
manufacturer’s labels face away from the center of the scale

- 4 Position the scale bar labelled “B” on the left side of the casing (the manufacturer’s label is facing outward, away from the center of the scale). Align the scale bar with the holes in the casing as shown below.



Note: the metal plate that receives the scale controller is simulated in these photographs.

- 5 **Loosely** secure the scale bar with two M6 x 12 mm hex socket head cap screws and washers.



Note: Do not tighten any of the screws until both scale bars and the frame have been loosely installed. This will allow for adjustments throughout the assembly of the primary scale frame.

- 6 Since you changed a scale component, you will have to follow the ‘Dorella’ calibration procedure explained on [page 52](#), and then install the scale frame and rotating platter.

Install the lower scale frame

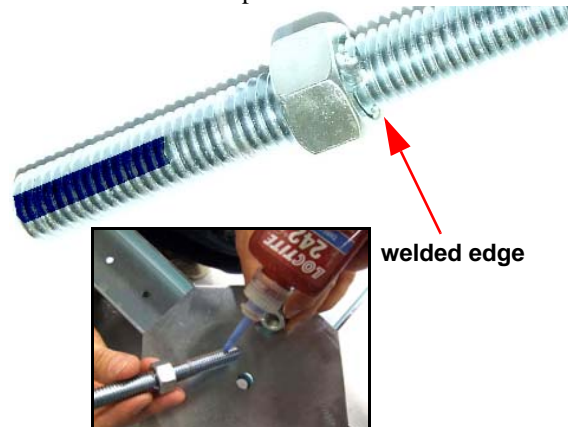
Part/Tool	Quantity	Part No.
Mini Carousel scale frame kit from Shekel scales, including center bolt and: - four M8 x 10 mm LG hex socket button head cap screws - four serrated lock washers, zinc plated	1	11004056 (single) 11004057 (dual) 11004231 11004233
Loctite 242 medium strength blue (1 inch length)		-
adjustable wrench		
torque wrench		

- 1 If you have not already done so, remove the lower scale frame as explained earlier.
- 2 Locate the Mini Carousel scale frame, which is part of kit 11004056 (single scale) or 11004057 (dual scale). The kit includes a center bolt, four button head screws, and four washers.



- 3 Prepare the frame for installation:

- a Locate the center bolt, which has a fixed nut near the center as well as a loose nut attached. Remove the loose nut, then orient the bolt so that the welded edge of the fixed nut faces upward.



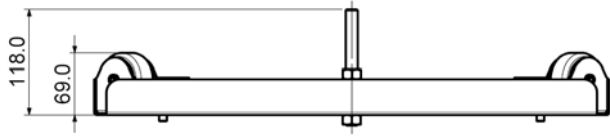
- b Add a 1-inch strip of Loctite 242 medium strength blue to the bottom end of the shaft (see the circled area in the photograph below).
- c Set the scale frame on its edge.
- d Insert the center bolt into the center hole of the scale frame (the welded edge of the nut must face upwards after the frame is installed).



welded edge faces upward



- e The distance from the bottom of the scale frame to the top of the center bolt protrusion should be 118 mm as shown below.

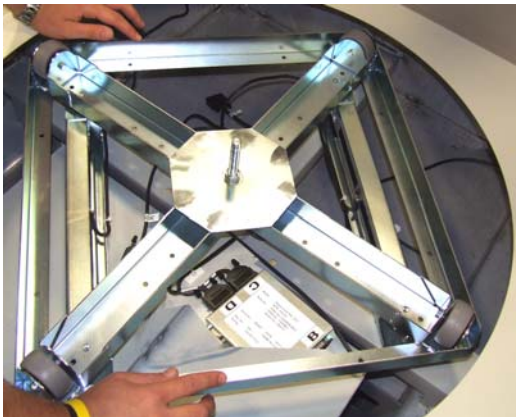


- 4 Secure the center bolt with the loose nut you removed earlier. Tighten the nut with a wrench (see the warning below).

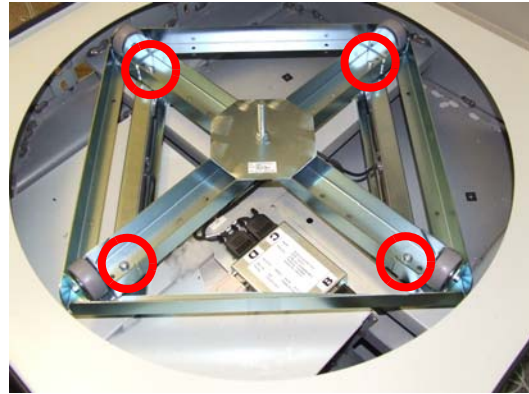


Warning: DO NOT over tighten the nut. This may cause the frame to buckle. The nut should be just resting against the center piece of the frame. Tighten no more than 1/4 turn.

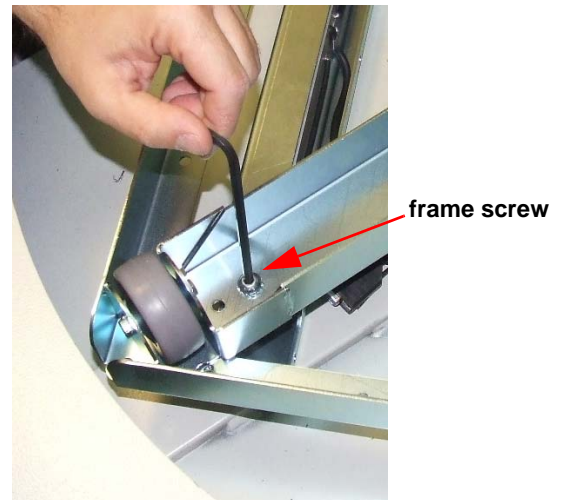
- 5 Position the frame on top of the scale bars as shown below. Check that the scale frame is firmly positioned and does not rock back and forth. If it does rock, rotate the frame 90° and re-check until you find the most stable orientation.



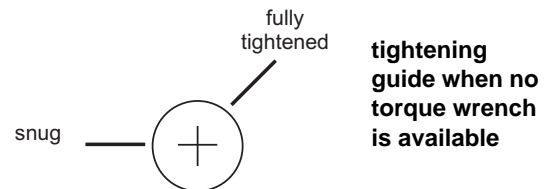
- 6 Secure the scale frame, loosely, with the four M8 button head screws and washers in the locations circled below.



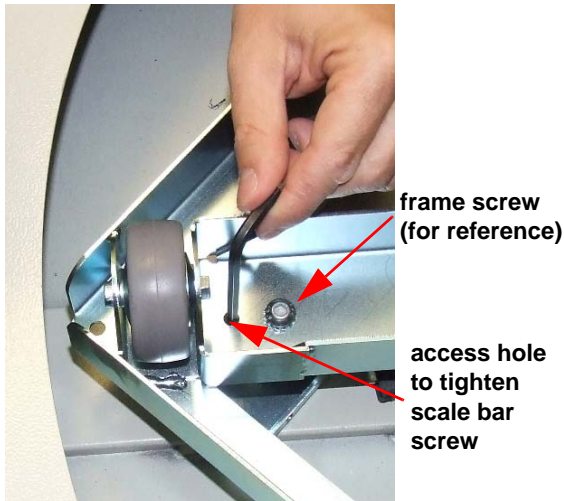
- 7 Now that the scale bars and scale frame have been installed, tighten the screws as explained below:
 - a Use a torque wrench to tighten the four M8 screws from the scale frame onto the scale bars. The tightening torque should be 10 Nm (88 inch pounds).



Rule of thumb if no torque wrench is available: give a 3/8 turn with an Allen key once the bolt is snug:



- b** On the scale frame, next to each of the four scale frame screw locations circled above you will find a service or access hole. Insert a T-style Allen key into these holes to tighten the four M6 scale bar screws below the scale frame. The tightening torque should be about 10 Nm (88 inch pounds).



- 8** Since you changed a scale component, you must follow the 'Dorella' calibration procedure explained on [page 52](#).

Replace the scale transmitter

Remove the scale transmitter

- 1 Stop the U-Scan software and shut down the station.
- 2 If you have not already done so, remove the rotating platter as explained in ["Remove the rotating platter"](#) on [page 55](#).
- 3 Disconnect the cables from the ports labelled "A", "B", "C", and "D", and also disconnect the power and communications cable.



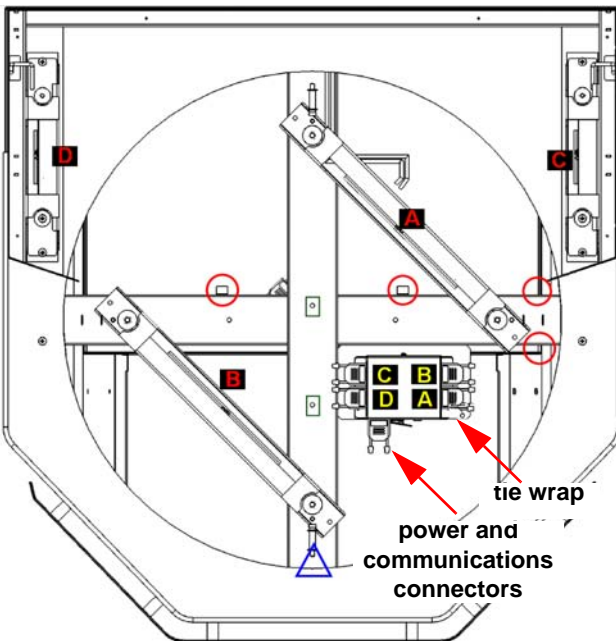
- 4 Remove the screws that secure the scale transmitter to the metal plate on the casing and remove the scale transmitter.



Install the new scale transmitter

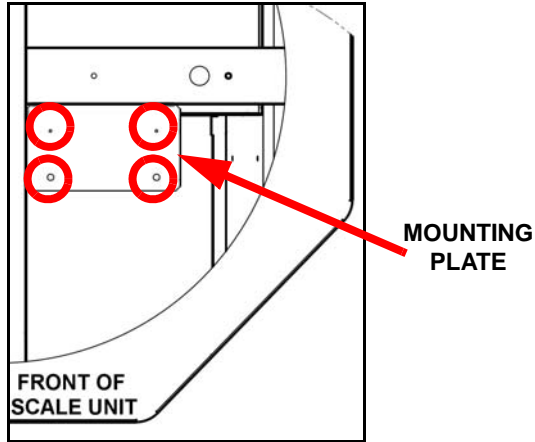
Part/Tool	Quantity	Part No.
Mini Carousel pre-calibrated scale transmitter (KD02909-3840) from Shekel scale kit	1	11004056 (single) 11004057 (dual)
large snap-on clamps / small snap-on clamps	4/2	11001477/ 11001475
Phillips head screwdriver or power driver		

The following illustration indicates the scale transmitter port connections (and clamp locations):



- Note:**
- The red circles in the illustration above indicate large clamp (11001477) locations.
 - The two green rectangles on the central member indicate small clamp (11001475) locations.
 - The blue triangle indicates an additional clamp location that is only used if the Customer Station main (robot) unit connects to the left side of the Mini Carousel.
 - The red arrows indicate the power and communications connector location, as well as the location at which you must add a tie wrap to secure these cables.

- 1 Locate a Shekel scale transmitter unit, which is part of kit 11004056 (single scale) or 11004057 (dual scale).
- 2 A metal mounting plate has been incorporated into the Mini Carousel casing to receive the scale transmitter. Secure the scale transmitter to the metal plate on the casing with four M4 pan head Philips SEMS screws as shown below.



Installing the Bag Scales

Please refer to document D900000310: *Genesis Site Preparation and Installation Guide* for complete details on installing most bag scale models including the Mini Carousel. Standard installations as well as ANSI A117.1 (308.3.2)-compliant installations are explained.

- 3 Plug each of the serial cables into the appropriate port on the scale transmitter as illustrated in “[Install the new scale transmitter](#)” on page 69.
- 4 Use a tie wrap to secure the power and communications cable(s) to the hole in the front right corner of the transmitter shelf.



- 5 Since you changed a scale component, you must follow the ‘Dorella’ calibration procedure explained on [page 52](#).

Wiring Schematics

Wiring Diagram (TP3K Computer)

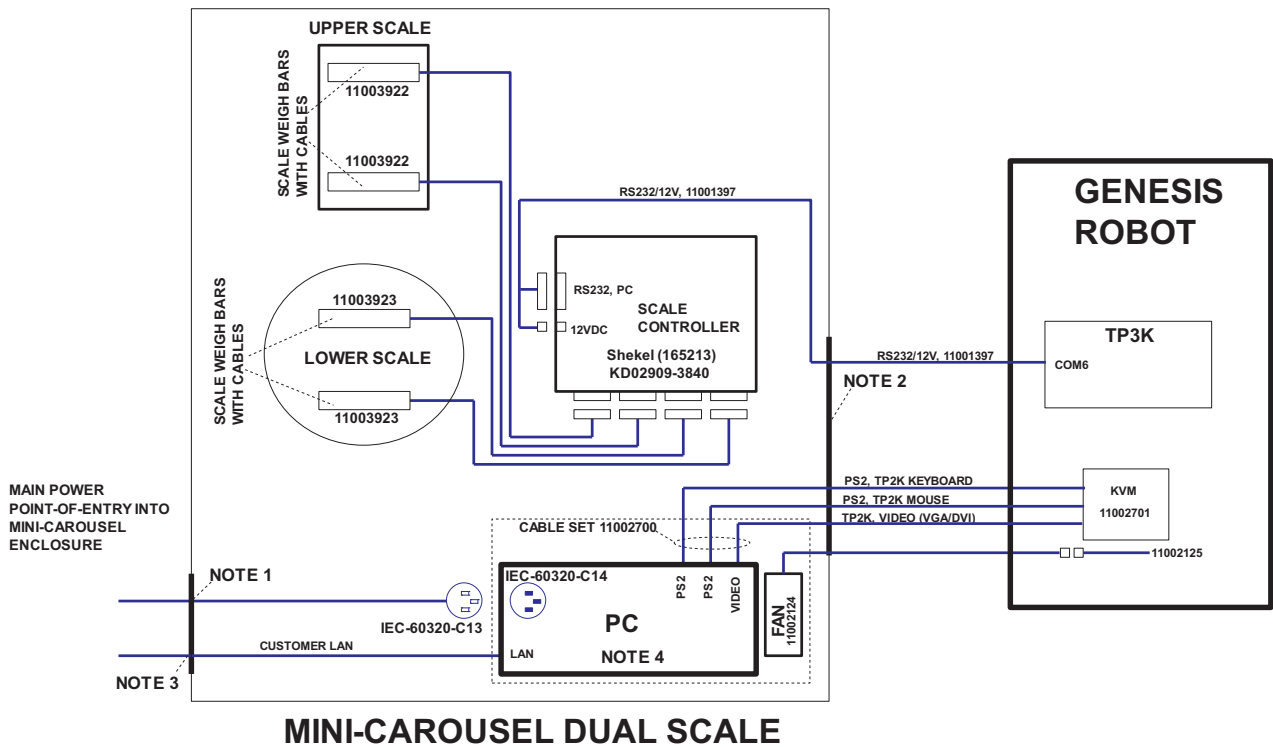
This wiring diagram is revision controlled under document D900000305.

Notes on the following wiring diagram:

- 1 The power cord provided by the user shall be properly handled as per UL requirements, including strain-relief at the point-of-entry into the Mini Carousel enclosure.
- 2 The opening for the interface cables between the Mini Carousel and the Genesis Customer Station should be of adequate size, with strain-relief for any and all cables.

- 3 A separate opening could be required for the customer's LAN cable, with adequate strain-relief.
- 4 An optional secondary computer could be added at the request of the customer, and housed in a dedicated section of the Mini Carousel, with optional fan added (fan assembly 11002124 and mounting kit must be installed to allow operation within the product temperature specifications).
- 5 Analog sensitive cables should be routed away from all other cables.
- 6 When the optional secondary computer is installed, a power cord of the proper rating should be provided by the customer.

*Note: For a Mini Carousel configuration without the upper scale, Shekel transmitter KD02909-3840 will be connected to the two scale bar assemblies of the lower scale (11003923, plugged into ports A and B), with the two remaining DB9 analog ports (C and D) connected to two DB9 terminators (11003924). **The DB9 terminators are required if there are any unused connectors.***



Wiring Diagram (TP3600 Computer)

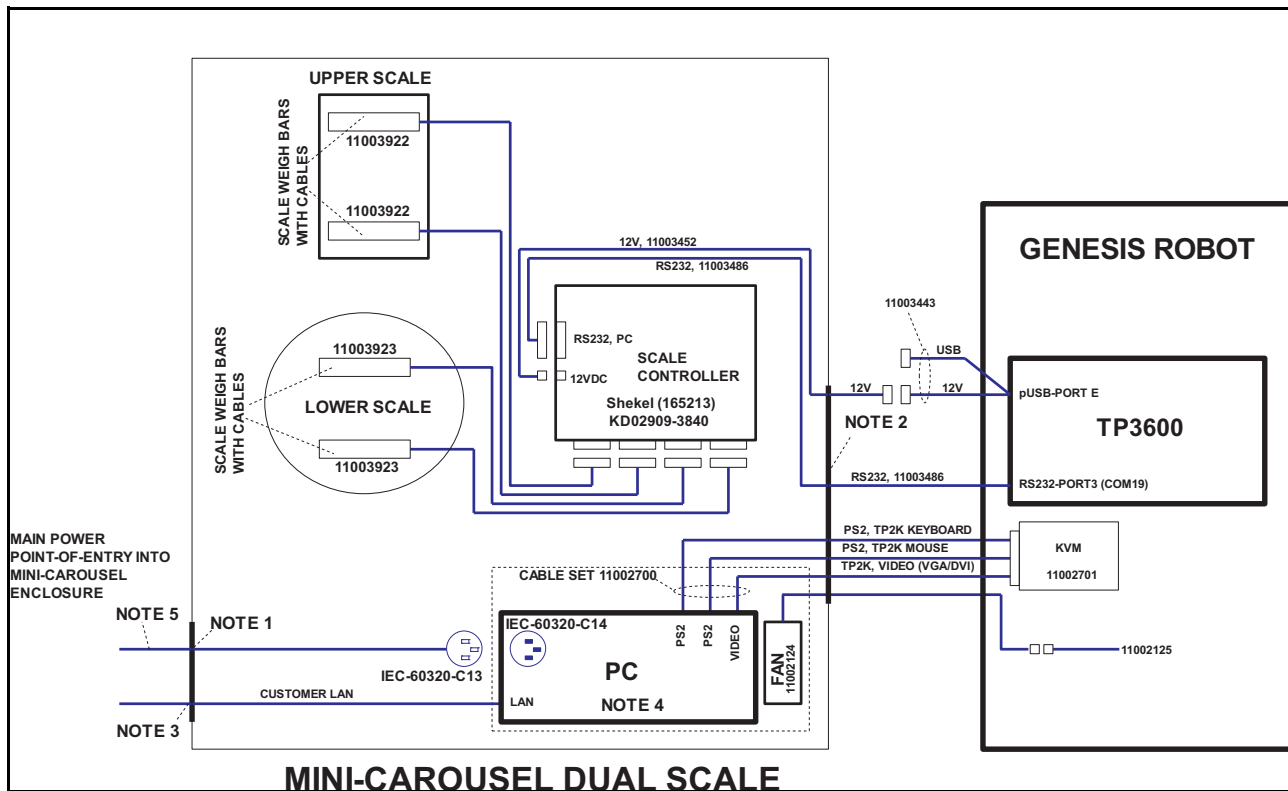
This wiring diagram is revision controlled under document D900000306.

Notes on the following wiring diagram:

- 1 The power cord provided by the user shall be properly handled as per UL requirements, including strain-relief at the point-of-entry into the Mini Carousel enclosure.
- 2 The opening for the interface cables between the Mini Carousel and the Genesis Customer Station should be of adequate size, with strain-relief for any and all cables.

- 3 A separate opening could be required for the customer's LAN cable, with adequate strain-relief.
- 4 An optional computer could be added at the request of the customer, and housed in a dedicated section of the Mini Carousel, with optional fan added (fan assembly 11002124 and mounting kit must be installed to allow operation within the product temperature specifications).
- 5 When the optional secondary computer is installed, a power cord of the proper rating should be provided by the customer.

Note: For a Mini Carousel configuration without the upper scale, Shekel transmitter KD02909-3840 will be connected to the two scale bar assemblies of the lower scale (11003923, plugged into ports A and B), with the two remaining DB9 analog ports (C and D) connected to two DB9 terminators (11003924). **The DB9 terminators are required if there are any unused connectors.**



Chapter 6: CashCode SM-MSM Bill Acceptors

This chapter provides servicing and installation information for the CashCode SM/MSM Bill Acceptors, found in U-Scan Genesis Stations.

CashCode SM Bill Acceptor



CashCode MSM Bill Acceptor



Features

- Optical sensors
- Four-way bill acceptance (face-up, face-down, etc.)
- 96% validation rate
- Removable vault (capacity of 400 bills)

Models

Check the label on the CashCode to identify the model used in your store.

- **CashCode SM (USA, Canada, Mexico)**
 - Memory stick for firmware upgrade
 - Remote firmware upgrade is possible in stores with Automated Software Maintenance (ASM) or that allow dial-in access.
- **CashCode MSM (Europe)**
 - Memory stick for firmware upgrade
 - Remote firmware upgrade is possible in stores with Automated Software Maintenance (ASM) or that allow dial-in access.

Technical Specifications

Environment

- Operating temperature: 32°F to 122°F (0° to 50°C)

Power

- +12 V power provided from computer

Electrical

- Operating voltage: 4.5 - 14 VDC
- Operating current (idle): < 300mA
- Operating current (scan): < 400mA

Communication

- 12-pin to 9-pin cable to computer

Components of the SM/MSM Bill Acceptor

The CashCode (SM) consists of the following components:)



The CashCode (MSM) consists of the following components:)



U-Scan Genesis CashCode

CashCode stacker

SM model for US: 11001360
SM model for Canada: 11001362
SM model for Mexico: 11001363

CashCode vault (400 bill capacity no lock)

US or Mexico: 11001369
Canada: 11001370

CashCode vault (600 bill capacity with lock)

US, Australia, Mexico: 11003632

Communication and power cable:

TP3K: 11001407

Memory stick (SM Backload, US):

11002443

U-Scan Genesis CashCode

CashCode stacker

MSM for Europe: 11001364
MSM for Poland: 11001365
MSM for UK: 11001366

MSM CashCode vault (no lock)

UK or Euro currency: 11000949
Poland: 11001368

Communication and power cable:

TP3K: 11001407

Memory stick (MSM EU 1411 FW):

11003566

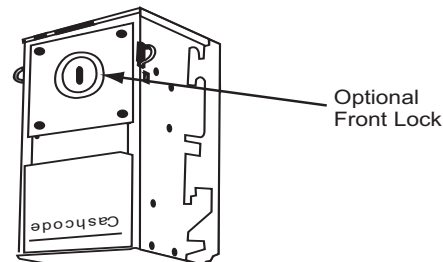
CashCode stacker

MSM for Europe: 11001364
MSM for Poland: 11001365
MSM for UK: 11001366

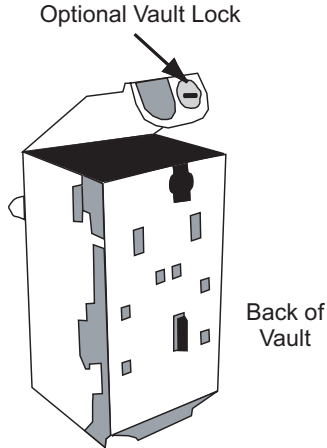
Optional Locks

Stores can request optional locks for the CashCode. One or both of the locks illustrated below can be installed for increased security.

- A front lock can be installed to lock the vault to the stacker, as shown below. When this lock is installed, the two metal tabs that allow the vault to be removed from the stacker are locked in place until the lock is unlocked.



- A top lock can be installed in place of the top fastener to ensure that only personnel with a key can open the vault.



Testing

Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Bill Acceptor** tab.
- 2 Ensure that the settings are as follows:

Setting	Value
Device Model	CCMFL
COM	COM20 (Port 4)
Baud Rate	9600
Parity	NONE
Data Bits	8
Stop Bits	1

- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Test the Device

*Note: For an explanation of error messages see "Bill Acceptor Error Messages" below. Error messages are also stored in the **Eventlog Viewer** and can be viewed when you exit the **Device Tester**.*

- 1 Click **Start**.
The Bill Acceptor is disabled. A red light appears at the "mouth" of the device.
- 2 Click **Enable**.
The message **DEVICE::ONLINE{Bill Acceptor}**, should appear in the **Messages** box. A green light appears at the "mouth" of the Bill Acceptor.
- 3 Enter a \$1 bill into the device.
If the test is successful, the bill remains in the acceptor and the **Messages** box displays **BILL_ACCEPTOR::RECEIVED_BILL{1}**.
- 4 Click **Disable**.
- 5 Click **Stop**.
- 6 Click **OK**.

Bill Acceptor Error Messages

Refer to the table below for a description of Bill Acceptor error messages.

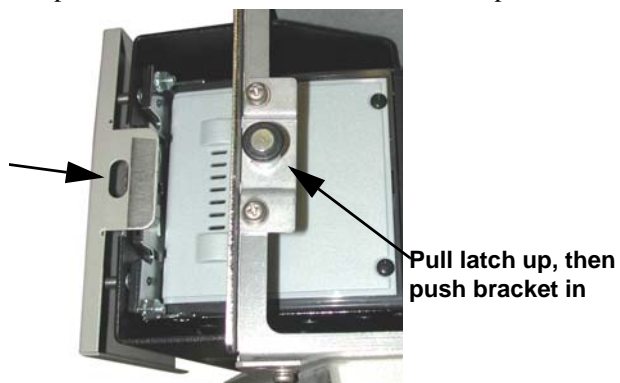
Error Message	Explanation
BILL_ACCEPTOR::BILL_REJECTED	Bills can be rejected if they are not in good condition.
BILL_ACCEPTOR(NEEDS_CLEANING)	The Bill Acceptor's sensors are dirty and cannot read the inserted bill. Clean the device and try again.
BILL_ACCEPTOR::FULL_OR_OPEN	The bill stacker is full or open. Empty the bill stacker and then close it. Test the Bill Acceptor.
MECHANICAL_ERROR	There could be a problem with serial communications, power connections, or the device needs to be replaced.

CashCode Servicing Considerations

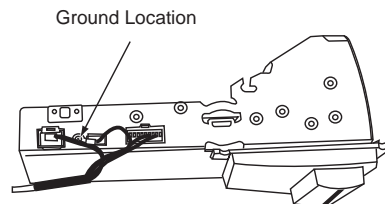
The CashCode SM and MSM models are installed in the top compartment on a hinged bracket. The bracket lowers (75° only) to allow the attendant to remove the vault from the stacker. The clamshell (see [page 77](#)) can also be opened to clear a bill jam or clean the sensors without removing the CashCode from the bracket.



To close the bracket and lock the Bill Acceptor into its operational position, pull up the bracket latch on the Customer Station casing, shown below in an overhead view, and push the bracket inward to set the unit in place.



For the TeamPOS 3000 (TP3K) computer only, the communication and power are provided through a split cable that connects to a powered DE-9 serial port on the computer. The jumper for the serial port must be set to +12V (refer to the Device Servicing section for the TeamPOS 3000 computer for more information). A ring-tongue ground cable is fastened to the side of the stacker with a screw to provide grounding.



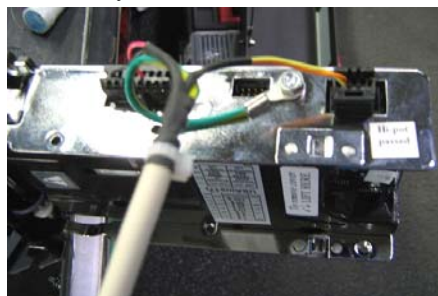
Troubleshooting the CashCode

Follow the Testing Procedure

See “[Test the Device](#)” on [page 75](#).

Inspect the Cables

- 1 Ensure that the power and communication connectors (2) are securely connected to the side of the stacker.



- 2 Ensure that the communications cable is securely connected to Port 4 (COM20) of the computer and that the power supply cables are secure. For TP3600 Series computers, ensure that the power cable is securely connected.

Notes:

For the TP3K computer, the power is provided through the computer. There is no separate power supply for the CashCode.

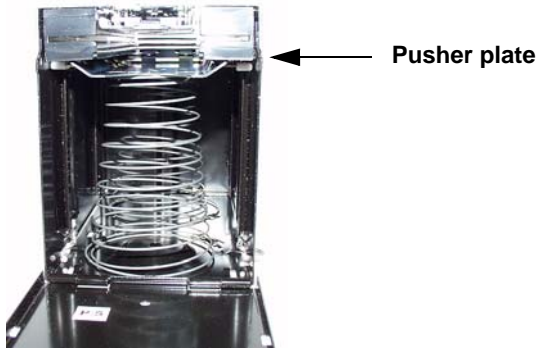
For the TP3600 Series computers, the power is provided from the secondary power supply.

Inspect for Bill Jams

- 1 Remove the vault by pressing on the clips on each side of the vault and pulling the vault away from the stacker.
- 2 Turn the black knob to open the vault.

Note: Some stores use a lockable vault (illustrated on page 74). Ask the store personnel to unlock the vault.

- 3 Inspect the inside of the vault for bill jams.
- 4 Pull on the metal pusher plate to ensure that it is free from pieces of torn bills.

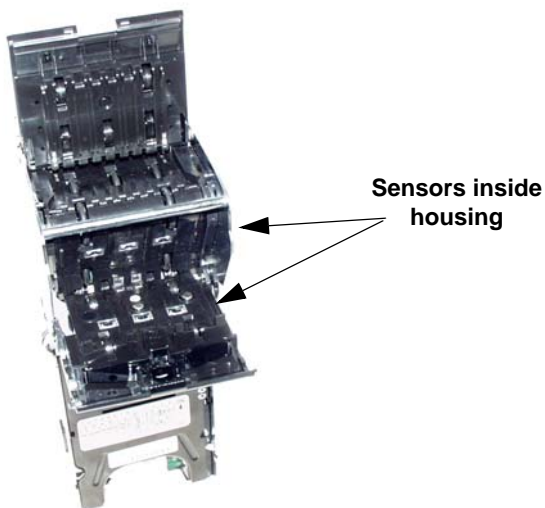


- 5 Open the sensor housing doors by pressing the black button on the housing.
- 6 Inspect for bill jams inside the stacker.

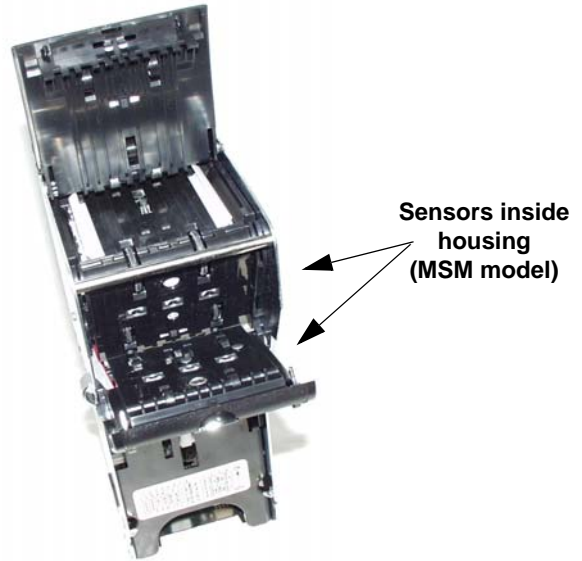
Clean the Sensors and Rollers

Note: Do not use alcohol to clean the sensors or rollers.

- 1 Open the sensor housing doors (clamshells) by pressing the black button on the housing.
- 2 Clean the sensors inside the SM housing with a damp lint-free cloth.



- 3 Clean the sensors inside the MSM housing with a damp lint-free cloth.



- 4 Clean the rollers (small wheels) thoroughly with a damp lint-free cloth. Isopropyl alcohol is recommended for cleaning excessively dirty rollers.

CAUTION: DO NOT USE ACETONE OR PETROLEUM BASED PRODUCTS AS THEY COULD CAUSE DAMAGE TO PLASTIC PARTS.

Inspect the Metal Tab on the Circuit Board Cover

- 1 Stop the U-Scan Genesis software.
 - a Shut down the computer and turn off the UPS to remove power from the CashCode.
- 2 Remove the vault.
- 3 Pull the right side of the circuit board cover to remove it from the stacker.
- 4 Ensure that the metal tab on the back plate is properly secured.
- 5 Ensure that the metal tab is at a 90° angle with the plate.

Inspect the Ribbon Cables (MSM)

- 1 Stop the U-Scan Genesis software.
- 2 Shut down the computer and turn off the UPS to remove power from the CashCode.
- 3 Remove the vault.

- 4 Pull up on the left side the circuit board cover then lift up to remove it (SM), or pull straight up on the circuit board cover (MSM).



- 5 Check all the ribbon cables on the circuit board for any signs of damage.

Check the DIP Switches (SM Model)

Note: DIP Switches:

ON - Right

OFF = Left

- 1 Stop the U-Scan software and shut down the computer and UPS to remove power from the CashCode.
- 2 Remove the vault.
- 3 Remove the circuit board cover as explained above.
- 4 Ensure that all DIP switches for the **CashCode** are **ENABLED (ON)**. See “[Setting \\$50 and \\$100 Bill Acceptance](#)” on page 79 for the software settings that accept or override this hardware setting.

Additional Information

CashCode LED Status

- 1 If the Bill Acceptor is enabled in the **Device Tester** and the red LED on the front of the device is on, insert a bill.
- 2 Remove the bill when the red LED turns off.

Note: If you insert the bill and the LED does not turn off, there is a communication problem.

- 3 Count the number of times the LED flashes, and note the colors.

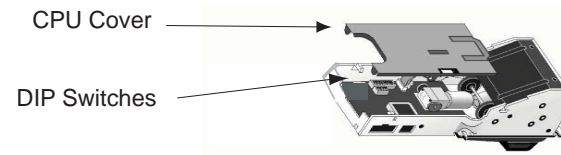
Note: When the diagnostic process is complete, the LED glows steadily. Do **not** count this as a flash.

- 4 Locate the problem in the table below.

Number of Flashes: (Red on Black)	Problem
1	Cassette has been removed from the Bill Acceptor.
2	Stacking motor is not rotating.
3	Vault is full.
4	Mechanical jam in vault.
5	Stacking motor electrical overload.
6	Optical sensor failure.
7	Magnetic sensor failure.
8	Transport motor is not moving.
9	Speed of transport motor is too high.
10	Transport motor electrical overload.
11	Bill pathway is not empty (jammed bill).
12	Bill is in the entry slot of the cassette and the credit is not issued.

CashCode DIP Switch Settings

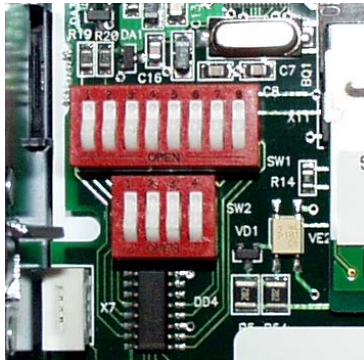
The DIP switches on the CashCode Bill Acceptor are covered by the vault or stacker. There are two banks of DIP switches to set.



CashCode SM and MSM (Europe)

For the CashCode, all DIP switches must be set to ENABLED (the DIP switches may not be located exactly as shown in the photographs).

Refer to the table below for a list of DIP switch functions for North America. Note that an additional software override is required in order to complete the settings for acceptance of \$50 and \$100 bills. See the next page for details.



Bank 1 DIPs:	1	2	3	4	5	6	7	8
Enabled:	\$1	\$2	\$5	\$10	\$20	\$50	\$100	Reserved

Bank 2 DIPs:	1	2	3	4
Enabled:	Four-Way	Stacker Up	9600 bps	CCNET ON

Setting \$50 and \$100 Bill Acceptance

For North America, DIP switches 6 and 7 on Bank 1 should be set to 1 (ON). This allows the device to accept \$50 bills. However, the Windows registry setting must also be changed in order to complete the procedure.

To Change the Registry Setting

- Go to **Start > Run**.
- Enter **regedit**.
- Click **OK**.
The **Registry Editor** appears.
- Go to **HKEY_CURRENT_USER \Software\OptimalRobotics\Devices\BillAcceptor**.
Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.
- Click **AllowedDenominations**.
- Modify the **Value data** text box to reflect the denominations accepted in the store.
EXAMPLE: 1, 5, 10, 20, 50, 100. (By default, the first four numbers are displayed. Add **50** and/or **100** to the default values.)

Changing the Memory Stick (MSM Model)

The CashCode MSM Bill Acceptor firmware can be upgraded through a U-Scan software update. However, technicians may have to change the memory stick to upgrade the firmware for the CashCode MSM Bill Acceptor if the remote software upgrade is unsuccessful.

Single-Download or Multi-Download Memory Stick

Technicians will be provided with either a single-download or multi-download memory stick. **Read the instructions below carefully to ensure that you perform the correct steps based on your memory stick.**

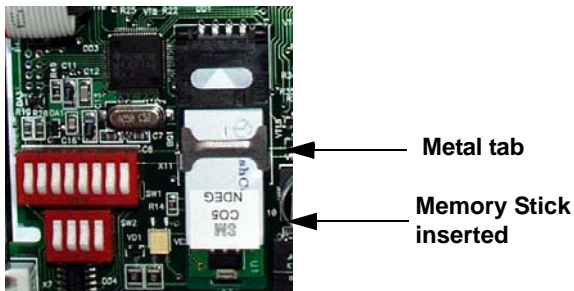
Single-Download Memory Stick

- Use a different memory stick for each CashCode you upgrade.
- Leave the memory stick in the CashCode.

Multi-Download Memory Stick

- Use the same memory stick to upgrade all the CashCodes in a cluster.
- Ensure that the CashCode works after you remove the memory stick.

- 1 Stop the U-Scan software.
 - a At the Customer Station, locate the computer keyboard.
 - b Press **ALT+TAB** and select the **Robot Control** window.
 - c Touch **Stop Robot**. The **Launchpad** appears.
- 2 Disconnect the power and communication cables from the side of the CashCode.
- 3 Remove the vault.
- 4 Remove the circuit board cover.
- 5 Locate the memory stick.
- 6 Slide the metal tab up toward the **OPEN** position to unlock the memory stick slot.



- 7 If there is a memory stick present in the slot, lift and remove the memory stick.
- 8 Insert the new memory stick.
- 9 Slide the new memory stick into the slot and set the memory stick down against the circuit board.
- 10 Slide the metal tab down toward the **CLOSED** position to lock the memory stick in place.
- 11 Replace the circuit board cover.
- 12 Replace the vault.
- 13 Connect the power and communication cables. When the download process starts, the LED flashes red and green.
- 14 Wait approximately 1 minute for the LED to come on solid green. This indicates that the download was successfully completed.

Note: If the CashCode LED emits a series of green flashes followed by long red flash, refer to "LED Indications after Software Upgrade" on page 80 to identify and troubleshoot the problem.
- 15 On the **Launchpad**, touch **Device Tester**.
- 16 Enter the password (**1379**) and touch **OK**.
- 17 Select the **Bill Acceptor** tab.
- 18 Test the CashCode.
- 19 If you are using a multi-download stick for the cluster, repeat these steps at the remaining Customer Stations. The stick can be used up to 25 times.

LED Indications after Software Upgrade

# of Flashes (Green on Red)	Problem	Possible Solution
1	COM port CRC error Software may not be suitable for CCNET download	Repeat the download procedure. Contact the U-Scan Support Center. The software may not be suitable for memory stick download.
2	Memory stick CRC error.	Disconnect the power cable from the side of the CashCode. Remove and then re-insert the memory stick. Connect the power cable. If the issue persists, use a different memory stick.
3	Incorrect data in memory stick	Make sure that you are using the correct type of memory stick. Make sure that you are using the correct software type for the CashCode.
4	Memory stick is not present	Ensure that the memory stick is inserted properly.
5	Wrong type of memory stick	Make sure that you have the correct type of memory stick.
6	Download error	Disconnect the power cable from the side of the CashCode. Remove and then re-insert the memory stick. Connect the power cable. Repeat the download procedure.
7	Operation error of memory stick interface	Disconnect the power cable from the side of the CashCode. Remove and then re-insert the memory stick. Connect the power cable. If the issue persists, use a different memory stick.

CashCode SM Remote Download Process

The CashCode SM firmware version can be upgraded remotely in the following instances:

- Stores with ASM: Firmware can be upgraded through a software update package
- Stores that allow dial-in: Fujitsu can dial in to a store and prepare the store for the download.

The process performed by ASM to download the firmware (in stores with ASM) is outlined below. **No action is required by field engineers.**

Overview

ASM upgrades the firmware by first copying the HEX upgrade file to **C:\Robot\Data**, then setting the **HKEY_CURRENT_USER\Software\OptimalRobotics\Devices\BillAcceptor\DownloadName** registry key to the full path of the upgrade file (for example, **C:\Robot\Data\SM-USXXXX.hex**, where “XXXX” represents the firmware version).

Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.

Every time the Bill Acceptor starts, it checks the **DownloadName** registry setting. If this setting is set to anything other than **NONE**, it checks the path specified for the update file. When the Bill Acceptor locates an update, the update is converted into binary format and downloaded to the device.

- Once the download is **successfully completed**, the Bill Acceptor driver sets the **DownloadName** setting to **NONE**. A file named **BADNLD_XXXXXXXXX.ok** (where “XXXXXXXXX” represents the Machine Name) is created in **C:\Robot\Data**.
- If the **download fails**, the **DownloadName** setting does not change to **NONE**. The device will therefore attempt to download the firmware again the next time it starts. A file named **BADNLD_XXXXXXXXX.nok** (where “XXXXXXXXX” represents the Machine Name) is created in the folder on the Customer Station where the download file was stored. This file contains one or two lines explaining why the download failed.

Manually Applying the CashCode SM Firmware Upgrade HEX File

Follow the steps below to upgrade the CashCode SM firmware without changing the memory stick in stores that do not have ASM or if the ASM upgrade process fails.

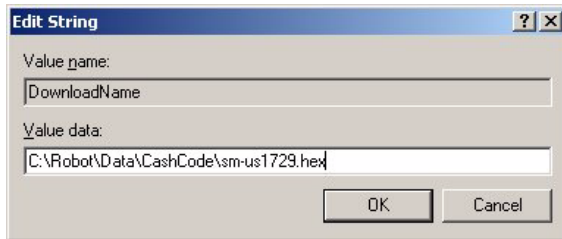
- 1 Stop the U-Scan software:
 - a Locate the computer keyboard.
 - b Press **ALT+TAB** and select **Robot Control**. The **Robot Control** window appears.

*Note: Touch **Stop Robot**. The **Launchpad** displays.*

*Note: If the **Eventlog View** screen appears with a warning or error message, ignore it and click **No**.*
- 2 Insert the CD-ROM containing the firmware upgrade HEX file into the CD-ROM drive.
- 3 Run Windows Explorer and navigate to **C:\Robot\Data**.
- 4 Right-click inside the **Data** folder and select **New**.
- 5 Name the new folder **CashCode**.
- 6 Copy the HEX file into the **CashCode** folder:
 - a In Windows Explorer, go to the CD-ROM drive and double-click it to display the contents.
 - b Right-click the HEX file and select **Copy**.
 - c Right-click inside the **CashCode** folder and select **Paste**.
- 7 Set the **DownloadName** registry setting:
 - a Go to **Start > Run**.
 - b Enter **regedit** and press **ENTER**. The Registry Editor opens.
 - c Go to **HKEY_CURRENT_USER\Software\OptimalRobotics\Devices\BillAcceptor**.

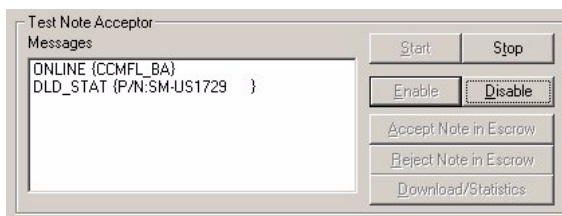
Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.
 - d Double-click **DownloadName**.
 - e Change the value from **NONE** to **C:\Robot\Data\CashCode\XXXXXXXXX.hex**, where “XXXXXXXXX” represents the EXACT HEX file name.

- f Include any hyphens (-) or underscores (_) included in the file name.



- g Click **OK**.
- 8 Start the Bill Acceptor in the **Device Tester**:
- On the **Launchpad**, click **Device Tester**.
 - Enter the password (**1379**) and click **OK**.
 - Select the **Bill Acceptor** tab.
 - Click **Start**.
The firmware download starts. The red and green LEDs flash. You'll see the progress of the download in the **CCMFL Download Status** dialog box.
- 9 Wait for the LEDs to stop flashing. The **CCMFL Download Status** dialog box closes.
- 10 Confirm the firmware upgrade:

- a Click **Stop** in the **Unit Tests** dialog box. The Bill Acceptor LED turns red. Click **Start**. The LED turns green and the **Message** box indicates the updated firmware:



- b Close the **Device Tester**.
- c If the download continues to fail, it may be necessary to flash the Bill Acceptor using a memory stick.

Replacing the Bill Acceptor (SM / MSM models)

Parts and Tools

Part	Qty	Part Number
Bill Acceptor stacker	1	SM model for US: 11001360 SM model for Canada: 11001362 SM model for Mexico: 11001363 MSM model for Europe: 11001364 MSM model for Poland: 11001365 MSM model for the UK: 11001366
Bill Acceptor vault, no lock (400 bill capacity)	1	US, Australia, or Mexico: 11001369 Canada: 11001370 UK/Euro currency (MSM model): 11001367 Poland: 11001368
Bill Acceptor vault, with lock (600 bill capacity)	1	US, Australia, or Mexico: 11003632
Bill Acceptor cable		11001407
7 mm nut driver	1	N/A

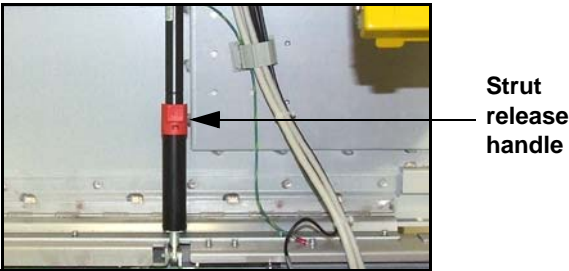
- 1 Unlock and open the bottom door.
- 2 Shut down the computer.
- 3 Unlock and open the upper door.

*Note: Be sure to push in the release handle when you open and close the upper door of the Genesis Station. The release handle is located beside the Scanner Scale, just above the **Change Out** compartment. Failure to push in this handle can break the locking mechanism.*



Push up on the door release handle, then lift the door up until the gas strut mechanism locks into place.

To close the upper door, press the red release button labeled “PRESS” to release the gas strut that holds the door open. (If there is red no button, press on the strut to release it.)



- 4 Lower the Bill Acceptor bracket.
- 5 Remove the Bill Acceptor vault (cassette) from the stacker.
- 6 Disconnect the cable from the side of the stacker.
- 7 Remove the circuit board cover from the Bill Acceptor.
- 8 Remove the 7 mm nuts on the four studs.
- 9 Remove the stacker from the bracket.
- 10 Remove the circuit board cover from the new Bill Acceptor stacker. Refer to the table above for the part number.
- 11 If necessary, insert and secure the memory stick on the circuit board.
- 12 Connect the cable to the side of the stacker.
- 13 Install the stacker in the bracket. Fasten the four nuts to secure the stacker.
- 14 Replace the circuit board cover.
- 15 Install the vault on the Bill Acceptor. Refer to the table above for the part number.
- 16 Raise the Bill Acceptor bracket.
- 17 Start the U-Scan Station.
- 18 Test the Bill Acceptor in the **Device Tester**.

Chapter 7: CashCode MFL Bill Acceptor

This chapter provides servicing and installation information for the CashCode MFL Bill Acceptor, found in European U-Scan Genesis Stations.



Features

- Optical sensors
- Four-way bill acceptance (face-up, face-down, etc.)
- 96% validation rate
- Removable vault (capacity of 400 bills)

Models

Check the label on the CashCode to identify the model used in your store.

CashCode MFL

- Memory stick for firmware upgrade (11002810)
- Remote firmware upgrade is possible in stores with Automated Software Maintenance (ASM) or that allow dial-in access.

Technical Specifications

Environment

- Operating temperature: 32°F to 122°F (0° to 50°C)

Power

- +12 V power provided from computer

Electrical

- Operating voltage: 4.5 - 14 VDC
- Operating current (idle): < 300mA
- Operating current (scan): < 400mA

Communication

- 12-pin to 9-pin cable to computer

Components of the MFL Bill Acceptor

The CashCode (MFL) consists of the following components:)



U-Scan Genesis CashCode 11002809

MFL CashCode vault (no lock)

MFL: 11000951

Communication and power cable:

11002138 (TP3K)

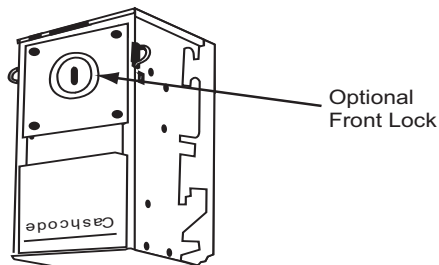
Memory stick (MFL Frontload, UK):

11002810

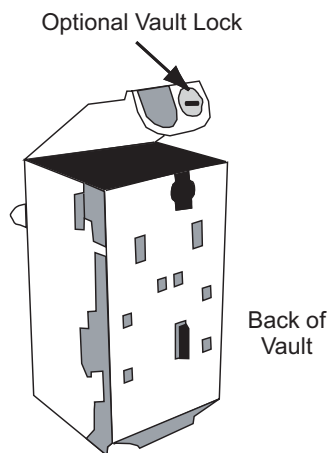
Optional Locks

Stores can request optional locks for the CashCode. One or both of the locks illustrated below can be installed for increased security.

- A front lock can be installed to lock the vault to the stacker, as shown below. When this lock is installed, the two metal tabs that allow the vault to be removed from the stacker are locked in place until the lock is unlocked.



- A top lock can be installed in place of the top fastener to ensure that only personnel with a key can open the vault.



Testing

Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Bill Acceptor** tab.
- 2 Ensure that the settings are as follows:

Setting	Value
Device Model	CCMFL
COM	COM20 (Port 4)
Baud Rate	9600
Parity	NONE
Data Bits	8
Stop Bits	1

- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Test the Device

*Note: For an explanation of error messages see "Bill Acceptor Error Messages" below. Error messages are also stored in the **Eventlog Viewer** and can be viewed when you exit the **Device Tester**.*

- 1 Click **Start**.
The Bill Acceptor is disabled. A red light appears at the "mouth" of the device.
- 2 Click **Enable**.
The message **DEVICE::ONLINE{Bill Acceptor}**, should appear in the **Messages** box. A green light appears at the "mouth" of the Bill Acceptor.
- 3 Enter a \$1 bill into the device.
If the test is successful, the bill remains in the acceptor and the **Messages** box displays **BILL_ACCEPTOR::RECEIVED_BILL{1}**.
- 4 Click **Disable**.
- 5 Click **Stop**.
- 6 Click **OK**.

Bill Acceptor Error Messages

Refer to the table below for a description of Bill Acceptor error messages.

Error Message	Explanation
BILL_ACCEPTOR::BILL_REJECTED	Bills can be rejected if they are not in good condition.
BILL_ACCEPTOR(NEEDS_CLEANING)	The Bill Acceptor's sensors are dirty and cannot read the inserted bill. Clean the device and try again.
BILL_ACCEPTOR::FULL_OR_OPEN	The bill stacker is full or open. Empty the bill stacker and then close it. Test the Bill Acceptor.
MECHANICAL_ERROR	There could be a problem with serial communications, power connections, or the device needs to be replaced.

CashCode Servicing Considerations

The CashCode MFL model is attached in the top compartment to a fixed bracket. The attendant can remove the vault by pressing the blue release lever and pulling the vault straight out using the split handle.



The stacker is removed by pulling it straight out. The clamshell can also be opened to clear a bill jam or clean the sensors without removing the CashCode from the casing.

For the TeamPOS 3000 (TP3K) computer only, the communication and power are provided through a split cable that connects to a powered DE-9 serial port on the computer. The jumper for the serial port must be set to +12V (refer to the Device Servicing section for the TeamPOS 3000 computer for more information).

Troubleshooting the CashCode

Follow the Testing Procedure

See “Test the Device” on page 86.

Inspect the Cables

- 1 Ensure that the power and communication connector is securely connected to the stacker assembly. (Note: the red wire has been deliberately snipped.)



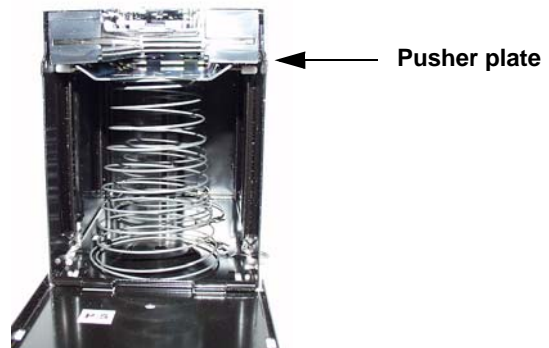
- 2 Ensure that the communications cable is securely connected to Port 4 (COM20) of the computer and that the power supply cables are secure.

Inspect for Bill Jams

- 1 Remove the vault by pressing on the clips on each side of the vault and pulling the vault away from the stacker.
- 2 Turn the black knob to open the vault.

Some stores use a lockable vault (illustrated on page 86). Ask the store personnel to unlock the vault.

- 3 Inspect the inside of the vault for bill jams.
- 4 Pull on the metal pusher plate to ensure that it is free from pieces of torn bills.



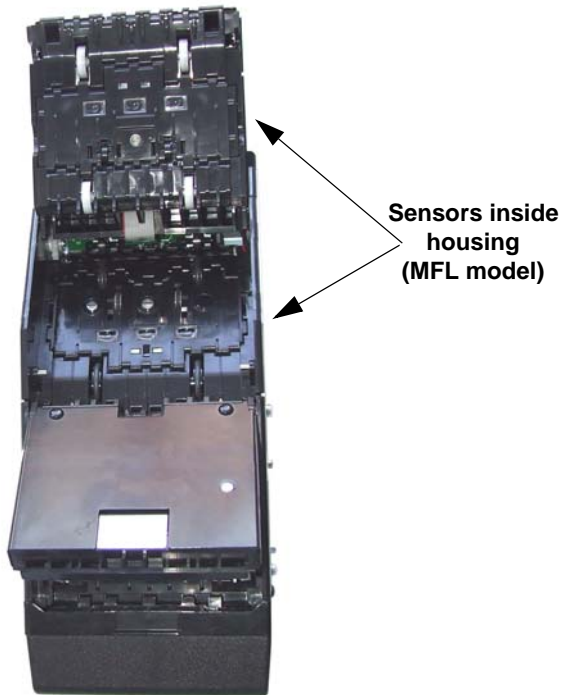
- 5 Open the sensor housing doors by pressing the black button on the housing.
- 6 Inspect for bill jams inside the stacker.

Clean the Sensors and Rollers

Do not use alcohol to clean the sensors or rollers.

- 1 Open the sensor housing doors (clamshells) by pressing the black button on the housing.

- Clean the sensors inside the MFL housing with a damp lint-free cloth.



- Clean the rollers (small wheels) thoroughly with a damp lint-free cloth. Isopropyl alcohol is recommended for cleaning excessively dirty rollers.

CAUTION: DO NOT USE ACETONE OR PETROLEUM BASED PRODUCTS AS THEY COULD CAUSE DAMAGE TO PLASTIC PARTS.

Check the DIP Switches

- Stop the U-Scan software and shut down the computer and UPS to remove power from the CashCode.
- Remove the stacker.
- Examine the DIP switches, which are located on the Validator Head, near the communications connector:



Ensure that all DIP switches for the CashCode are ENABLED (ON).

Additional Information

CashCode LED Status

- If the Bill Acceptor is enabled in the **Device Tester** and the red LED on the front of the device is on, insert a bill.
 - Remove the bill when the red LED turns off.

Note: If you insert the bill and the LED does not turn off, there is a communication problem.
 - Count the number of times the LED flashes, and note the colors.

*Note: When the diagnostic process is complete, the LED glows steadily. Do **not** count this as a flash.*
- Locate the problem in the table below.

Number of Flashes: (Red on Black)	Problem
1	Cassette has been removed from the Bill Acceptor.
2	Stacking motor is not rotating.
3	Cassette is full.
4	Mechanical jam in cassette.
5	Stacking motor electrical overload.
6	Optical sensor failure.
7	Magnetic sensor failure.
8	Transport motor is not moving.
9	Speed of transport motor is too high.
10	Transport motor electrical overload.
11	Bill pathway is not empty (jammed bill).
12	Bill is in the entry slot of the cassette and the credit is not issued.

Changing the Memory Stick

The CashCode MFL Bill Acceptor firmware can be upgraded through a U-Scan software update. However, technicians may have to change the memory stick to upgrade the firmware for the CashCode MFL Bill Acceptor if the remote software upgrade is unsuccessful.

Single-Download or Multi-Download Memory Stick

Technicians will be provided with either a single-download or multi-download memory stick. **Read the instructions below carefully to ensure that you perform the correct steps based on your memory stick.**

Single-Download Memory Stick

- Use a different memory stick for each CashCode you upgrade.
- Leave the memory stick in the CashCode.

Multi-Download Memory Stick

- Use the same memory stick to upgrade all the CashCodes in a cluster.
 - Ensure that the CashCode works after you remove the memory stick.
- 1 Stop the U-Scan software.
 - a At the Customer Station, locate the computer keyboard.
 - b Press **ALT+TAB** and select the **Robot Control** window.
 - c Touch **Stop Robot**.
The **Launchpad** appears.
 - 2 Remove the Validator Head.
 - 3 Disconnect the power and communication cables from the CashCode.
 - 4 Locate the memory stick.
 - 5 If there is a memory stick present in the slot, pull out the memory stick.
 - 6 Insert the new memory stick.
 - 7 Connect the power and communication cables.

- 8 Replace the Validator Head.
- 9 When the download process starts, the LED flashes red and green.
- 10 Wait approximately 1 minute for the LED to come on solid green. This indicates that the download was successfully completed.

Note: If the CashCode LED emits a series of green flashes followed by long red flash, refer to “LED Indications after Software Upgrade” on page 90 to identify and troubleshoot the problem.

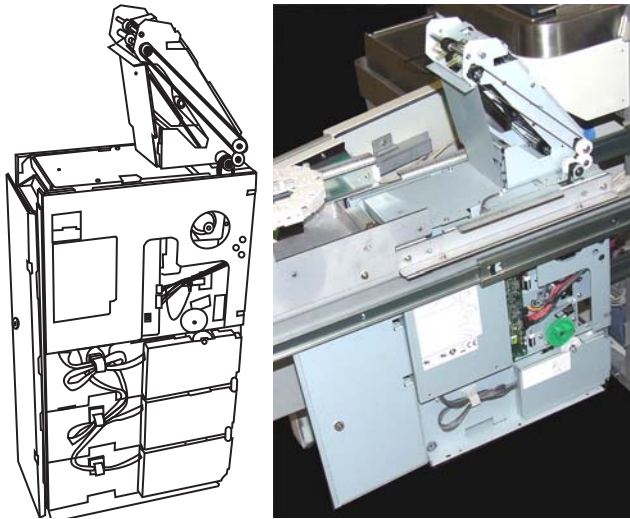
- 11 On the **Launchpad**, touch **Device Tester**.
- 12 Enter the password (**1379**) and touch **OK**.
- 13 Select the **Bill Acceptor** tab.
- 14 Test the CashCode.
- 15 If you are using a multi-download stick for the cluster, repeat these steps at the remaining Customer Stations. The stick can be used up to 25 times.

LED Indications after Software Upgrade

No. of Flashes (Green on Red)	Problem	Possible Solution
1	COM port CRC error Software may not be suitable for CCNET download	Repeat the download procedure. Contact the U-Scan Support Center. The software may not be suitable for memory stick download.
2	Memory stick CRC error.	Disconnect the power cable from the side of the CashCode. Remove and then re-insert the memory stick. Connect the power cable. If the issue persists, use a different memory stick.
3	Incorrect data in memory stick	Make sure that you are using the correct type of memory stick. Make sure that you are using the correct software type for the CashCode.
4	Memory stick is not present	Ensure that the memory stick is inserted properly.
5	Wrong type of memory stick	Make sure that you have the correct type of memory stick.
6	Download error	Disconnect the power cable from the side of the CashCode. Remove and then re-insert the memory stick. Connect the power cable. Repeat the download procedure.
7	Operation error of memory stick interface	Disconnect the power cable from the side of the CashCode. Remove and then re-insert the memory stick. Connect the power cable. If the issue persists, use a different memory stick.

Chapter 8: F53 Bill Dispenser

This chapter contains servicing information for the Fujitsu F53 Bill Dispenser, found in U-Scan Genesis Stations.



Features

- Two to five cassette Bill Dispenser models available for U-Scan Genesis
- Cassette capacity of approximately 500 bills (depending on thickness and quality)
- Reject vault capacity of approximately 20 bills
- Bill low sensor
- Denomination sensor
- Firmware download available
- Optional lockable cassettes
- Top delivery of bills to allow them to be dispensed beside the Scanner Scale

Technical Specifications

Environment

- Operating temperature: 32°F to 104°F (0° to 40°C)
- Storage temperature: 23°F to 122°F (-5° to 50°C)
- Relative Humidity: 10% to 85%

Electrical Interface

- TeamPOS 3000 computer: RS-232C connection to Port 7 (COM23)
- TeamPOS 3600 Series computer: RS-232 connection to Expansion Port module Port 3 (COM5)

Power Supply Requirements

- DC +24 ±10%
- Maximum 6A
- Average 4A

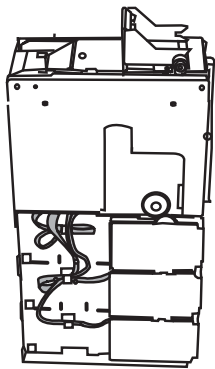
Communication

- 8-pin to DE-9 RS-232 communication cable
- TeamPOS 3000 computer: connects to Port 7 (COM23)
- TeamPOS 3600 Series computer: connects to Expansion Port module Port 3 (COM5)

Components of the F53 Bill Dispenser

The Fujitsu F53 Bill Dispenser for U-Scan Genesis includes the following components:

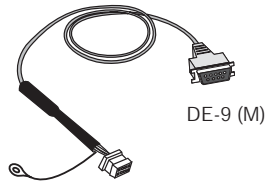
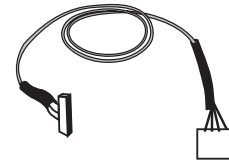
F53 Components
Fujitsu F53 Bill Dispenser (KD03235-B053)
Cassettes (2, 3, 4, or 5) (not shown on next page) (12000081)
Reject vault (not shown) (KD02881-Y920)
Bill presenter (installed in casing)
Power cable to Station power supply (11001412)
RS-232 communication cable to computer (11001411)
Locking metal door in front of cassettes (not shown on next page) (11001406)



F53 Bill Dispenser



Bill Presenter

Communication Cable -
F53 to ComputerPower Cable -
F53 to Station Power Supply

Testing

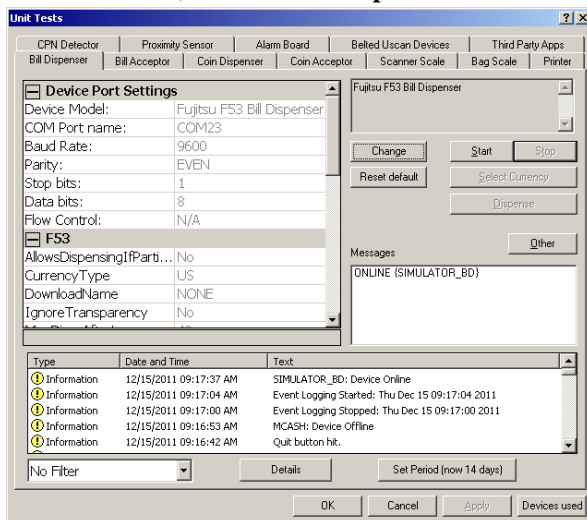
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Bill Dispenser** tab.



- 2 Ensure that the settings are:

(TP3K computer):

Setting	Value
Device Model	Fujitsu F53 Bill Dispenser
COM	COM23 (Port 7)
Baud Rate	9600
Parity	EVEN
Data Bits	8
Stop Bits	1

(TP3600 Series computer):

Setting	Value
Device Model	Fujitsu F53 Bill Dispenser
COM	COM5 (Expansion Port 3)
Baud Rate	9600
Parity	EVEN
Data Bits	8
Stop Bits	1

- 3 If you need to change a setting,
 - a Press ALT+*. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Test the Device

*Note: For an explanation of error messages, see “Bill Dispenser Error Messages” later in this section. Error messages are also stored in the **Eventlog Viewer** and can be viewed after you exit the Device Tester.*

- 1 Click **Start**.
The message **ONLINE{Bill Dispenser}** appears in the **Messages** box.
- 2 Click **Dispense**.
- 3 Enter the amount to be dispensed.
- 4 Click **OK**.
If the test was successful, the F53 dispenses the indicated amount and the **Messages** box displays **BILL_DISPENSER::DISPENSED{amount}**.
- 5 Click **Stop**.
- 6 Click **OK**.
*Note: When you test the F53, click **Other** if further investigation is required. **Other** allows you to view the diagnostic output, view configurations, dispense bills, and reset the device.*
- 7 If an error occurs, the **Message** box displays the error description and the IOC Error Code reported; i.e.:
Mechanical Error: {abnormal termination of bill count 7A03: Jam at BPS}. Refer to [page 122](#) for a list of error codes.
- 8 As required, click the following buttons to perform additional tests or to check settings:

Button	Function
Tray Configuration	Displays the current tray denominations (i.e. 5, 10, 20).
Current Status	Displays the current functional status of the F53. Displays error messages if the F53 is not working properly. Refer to the document F53 Bill Dispenser - Software Error Codes for troubleshooting information.
Dispense	Dispenses a bill from each cassette.
Reset / Purge	Resets the F53 and performs a purge sequence. Use this function to clear bill jams.

Button	Function
Module Status	Displays the current functional status of the F53. Sends the status information to the F53 log file (F56BDUTEST.tra).
Error Log	Displays errors that have occurred. Sends the error data to the F53 log file and resets the error counts.
View IOC Trace	Displays logs for the F53.

Bill Dispenser Error Messages

Refer to table below for a description of the most common Bill Dispenser error messages. Refer to the Additional Information section for your Bill Dispenser model for model-specific error messages.

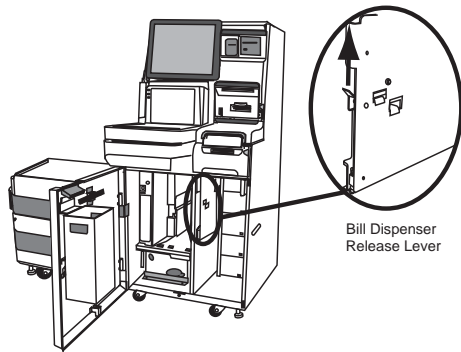
Error Message	Explanation
BILL_TRAY_EMPTY	Indicates that there are no bills in one of the trays or in the device altogether. Refill the Bill Dispenser and try again.
DISPENSE_LIMIT_EXCEEDED	Indicates that the amount of money to be dispensed exceeds the allowable limit. This limit is configurable. Try dispensing a smaller amount.
MECHANICAL_ERROR	The problem could be with the Serial Communications or the Power Cable, the Device Model selection may be incorrect, or the device may need to be replaced.
BILL_TRAY_LOW	Indicates that the Bill Dispenser is low on bills.
BILL_TRAY_MISSING	Indicates that a cassette is not present or is not properly inserted.

Servicing Considerations

The F53 for the U-Scan Genesis is installed in the bottom compartment on sliding rails. The F53 body slides out of the casing for servicing, but the bill presenter that feeds the bills from the dispenser and out through the dispense slot is installed in the casing. The gears on the F53 and presenter engage when the F53 is pushed back into the casing in the dispense position.

Accessing the F53

To pull the F53 out of the casing for servicing, lift the lever and pull the unit towards you.



Electrostatic Discharge (ESD)

Anytime maintenance work is performed on the F53, the service person should observe all ESD precautions and have a properly-connected ESD strap attached to the F53 chassis frame. This is especially critical if the F53 BDU is not installed into a larger assembly.

If a proper ESD strap is not available:

Do not touch any components or connector pins directly or with any tool.

- When installing the Additional Denomination Module: Complete all mechanical installation connections/fastening before any electrical connections are installed
- This ensures that the units are properly grounded together.

When making electrical connections to the Main Board:

- With one hand, make contact with and hold onto the F53 BDU chassis/frame
- With the other hand, insert the connectors into the correct plug(s) on the Main Board.
- Make sure **not** to make direct contact with the connector pins or other components.

When removing/installing the Main Board for service or repair:

- Do not touch any components or connector pins directly or with any tools

- With one hand, make contact with and hold onto the F53 BDU chassis/frame.
- With the other hand, remove the Main Board from the unit holding it only by the edges.
- Insert the removed board into a proper ESD/Conductive bag for return to the repair center.

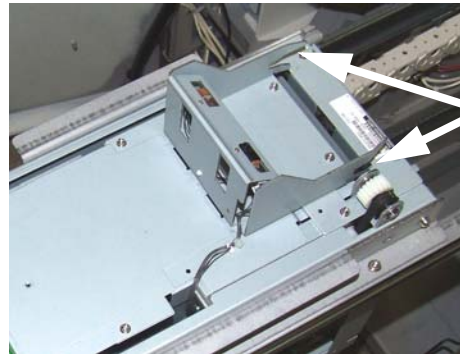
Cables

The power cable connects to the secondary power supply installed beside the computer. The communications cable is connected to Port 7 of the TP3K (Port 3(7) of the TP3600 Series Expansion Port module). The F53 is grounded to a screw on the frame of the F53.

Testing the F53 (Service Panel Removal)

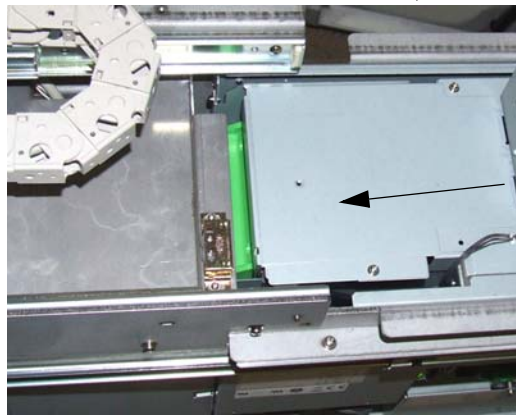
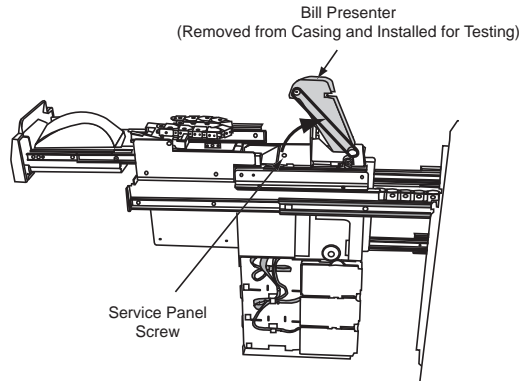
When the F53 is extended from the casing for servicing, the service panel must be lifted and the bill presenter (exit transport module) installed on the top of the F53 if you wish to test or run the F53 in this position. Pull up and then forward to remove the bill presenter from the casing.

Attach the bill presenter by sliding it over the positioning guides.



Slide bill presenter, aligned over the positioning guides

Remove the Phillips screw to lift the service panel and latch it to the bill presenter.



Customer Station Lower Door Cushions

There should be two rubber cushions attached to the frame of the Customer Station (robot) where the lower door closes. See the following illustration. If these bumpers are missing, the F53 may experience noise or dispensing issues. In this case:

- 1 Obtain a set of the rubber cushions (part number 11002578).
- 2 Clean the Genesis surface with isopropyl alcohol or acetone and allow it to air dry for two minutes.

- 3 Peel and affix the cushions at the locations indicated below.



Troubleshooting the F53



You will be able to identify most issues with the F53 if you follow all of the tasks outlined in this section.

Follow the Testing Procedure

See “[Test the Device](#)” on page 93.

Inspect the Cables

- 1 Locate the power and data cables.
- 2 Ensure that the data cable is connected to the main circuit board in the 8-pin (RS232C) connection (at the front of the circuit board).
- 3 Ensure that the data cable is connected to Port 7 (COM23 virtual) on the TeamPOS 3000 computer.
- 4 Ensure that the data cable is connected to Port 3(7) of the Expansion Port module (COM5 virtual) on the TeamPOS 3600 Series computer.
- 5 Ensure that the power cable is fully connected to the 18-pin PWR connector on the F53’s circuit board.
- 6 Inspect the cables for any visible signs of damage.

Inspect the Seven-Segment LED

- 1 Ensure that the seven-segment LED on the circuit board is on and that **0** is displayed to indicate normal operation.
- 2 Turn the power off and back on by using the switch on the front of the Alarm Board.
- 3 If a code other than **0** displays after you cycle the power, refer to “[Seven-Segment LED Status](#)” on page 104 for LED indications and possible troubleshooting solutions.

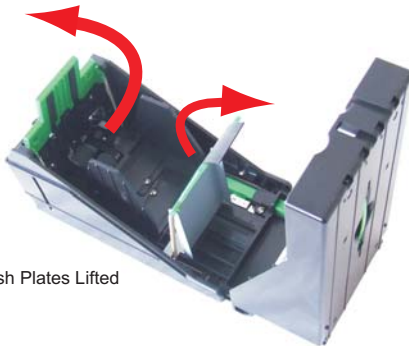
- 4 If the seven-segment LED is cycling a display **E r x x x**, refer to [page 121](#) for explanations of the F53 IOC Error Codes (xxxx).

Check for Bill Jams or Debris

- 1 Remove the cassettes and the reject vault from the F53.
- 2 Check inside the cassette housing for any bill jams or debris.
- 3 Press the release latch and slide the F53 out of the casing.
- 4 Check for any bill jams or debris in the F53 belts.

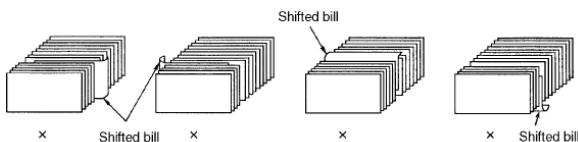
Inspect the Cassettes and Bills Loaded

- 1 Remove the cassettes from the F53.
- 2 Unlock and open the cassettes.
- 3 Lift the push plates to ensure that the internal components function. The rear plate flips up and snaps in place; you must lift the front plate to the top before you can flip it up and lock it.



Push Plates Lifted

- 4 Inspect the quality of the bills. Remove any of the following:
 - e Torn bills (including bills with ripped corners)
 - f Taped bills
 - g Bills with staples attached
 - h Badly stained bills
 - i Severely wrinkled bills
 - j Bills with holes
- 5 If necessary, remove the bills from the cassette and align them in a neat stack. Ensure that no bills protrude from the stack as shown below.

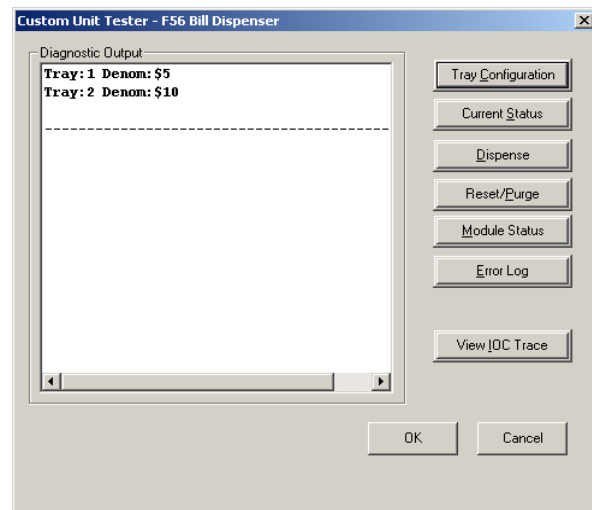


- 6 If necessary, straighten and smooth out any folded or crumpled bills.
- 7 Fan the bills to ensure that they are not stuck together.

- 8 Replace the bills in the cassette. If the bills are curved, make sure that the curve is facing the bottom of the cassette. Refer to [“Adjusting and Loading the Cassettes” on page 102](#) for additional loading details.

Check the Cassette Denomination Settings

- 1 Access the **Device Tester**.
- 2 Click the **Bill Dispenser** tab.
- 3 Click **Other**.
The **Custom Unit Tester** screen displays.
- 4 Click **Tray Configuration**.
The expected denominations for each tray displays.



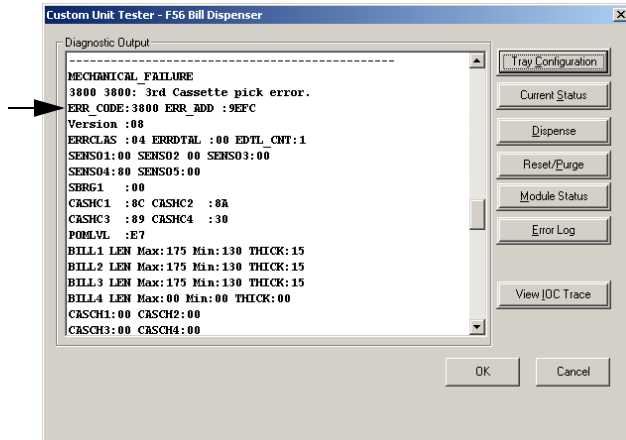
- 5 Ensure that the proper denomination is loaded into the cassette.
- 6 If you need to check the cassette magnet setup, refer to [“Setting the Cassette Denominations” on page 101](#).

OR

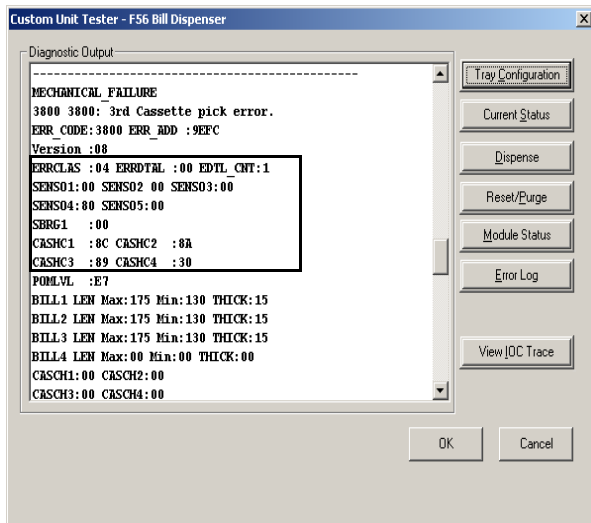
If you need to change the denomination settings in the software, refer to [“Changing the Denomination Settings in the Registry” on page 117](#).

Check the Unit Diagnostics

- 1 On the **Bill Dispenser** tab in the **Device Tester**, click **Other**.
The **Custom Unit Tester** screen displays.
- 2 Click **Current Status**.
The device status information is displayed.
- 3 Check for a four-digit IOC error code in the **ERR_CODE** field.



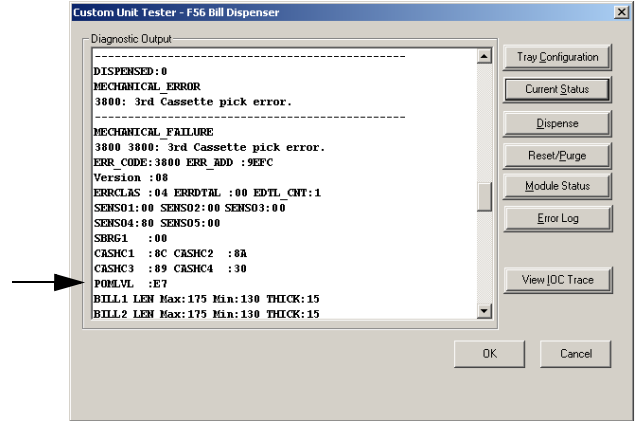
- 4 If an error code appears in this field, contact your Support Center. Refer to [page 121](#) for explanations of the F53 IOC Error Codes (xxxx).
- 5 Locate the status register readings.



- 6 If a code appears beside any of the status register readings, contact your Support Center. Refer to [page 141](#) for explanations of the F53 Register Codes.
- 7 Check the thickness sensor value:

- a On the **Custom Unit Tester** screen, scroll through the device status readings until you find an entry for **POKMLVL**.

- b Ensure that the thickness sensor value is **E7 +/- 4 (E3 - Eb)**.



- c If the thickness sensor value is not within the acceptable range, adjust it. Refer to [“Adjusting the Thickness Sensor”](#) on [page 112](#).

Verify the PCB ROM Error Codes

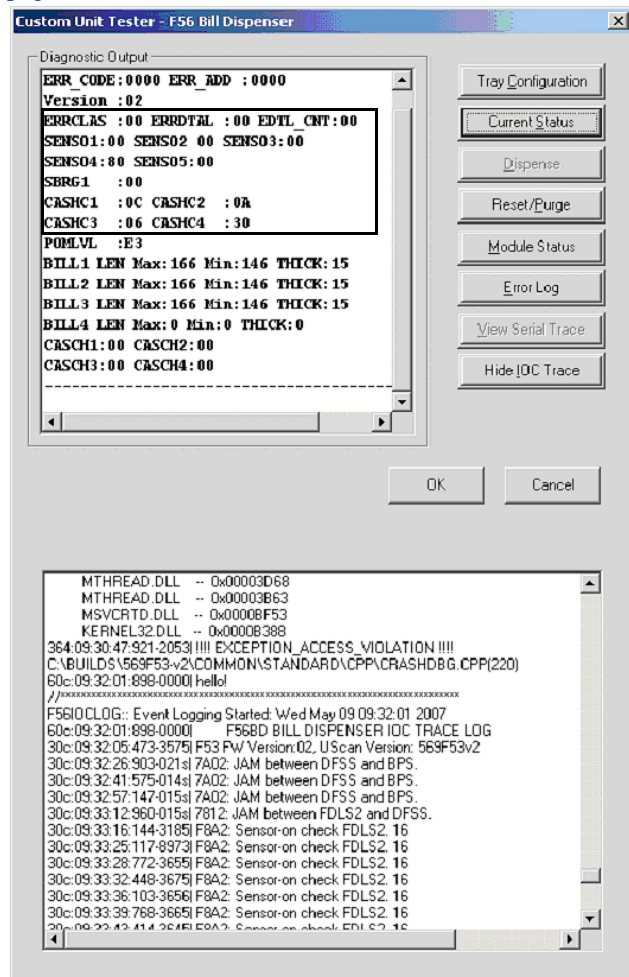
While you are downloading firmware, the seven-segment LED will display '1'. Note: '1' can also indicate RAM Download corrupted or lost (FW) that cannot be reset. This would require the PCB to be replaced.

If a PCB ROM Error occurs (3, 4, 5, 6, d), it will be displayed on the seven-segment LED. The following table shows the PCB ROM Error Codes that are currently available. If one of these error codes is displayed and cannot be reset, the circuit board must be replaced.

Error Code	Description	Maintenance Analysis Procedure
1	RAM program loss	Download program
3	RAM checksum error	Replace the circuit board
4	RAM check error	
5	Watch dog error	
6	Transmit error (BOOT)	
d	System down	

View the Status Registers

The status registers appear on the **Customer Unit Tester** screen for the F53 Bill Dispenser and provide unit diagnostics information. For more information on the status register error codes, see “[Status Register Description](#)” on page 141.



When you click the **ICO Trace** button, a time and date log displays the details of any F53 Bill Dispenser IOC errors that are reported.

For more information on the meaning of the status registers, locate the byte number below, then refer to “[Status Register Description](#)” on page 141.

Field Name in Device Tester	Byte #
ERRCLAS	3
ERRDTAL	4
EDTL_CNT	5
SENS01 - 05	6 - 10
SBRG1	11
CASHC1 - 4	12 - 15

Note: Bytes 1 and 2 contain the IOC error code.

Verify the Bill Dispenser Currency Registry Settings

If you are experiencing problems with the F53, verify the currency registry settings.

- 1 Stop the Customer Station software.
- 2 Exit the **Launchpad**.
- 3 Select **Start/Run**.
- 4 Enter **regedit**.
- 5 Click **OK**.
The **Registry Editor** appears.
- 6 Verify the currency type:
 - a Go to **HKEY_CURRENT_USER\Software\OptimalRobotics\Devices\BillDispenser\Currency**.

Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.

- b Ensure that the **CurrencyType** setting is set to the appropriate currency for your region.
- c If the currency type is set incorrectly, double-click the setting and enter the appropriate currency type from the list below in the **Value Data** box, then click **OK**.
 - **US** for American dollars
 - **CAD** for Canadian dollars
 - **EUR** for Euros
 - **GBP** for British pounds
 - **AUD** for Australian dollars
 - **JPY** for Japanese Yen
 - **PLN** for Polish Zlotys

7 Verify the currency size settings for your region:

- a Go to **HKEY_CURRENT_USER\Software\OptimalRobotics\Devices\BillDispenser\Currency**.

Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.

- b For **US** stores, ensure that the **DenomSizesUS** setting includes the following information:

{1,166,146,13};{5,166,146,13};{10,166,146,13};
{20,166,146,13};{50,166,146,13}

- c For **Canadian** stores, ensure that the **DenomSizesCAN** setting includes the following information:

{};{5,162,142,13};{10,162,142,13};
{20,162,142,13};
{50,162,142,13};{100,162,142,13}

- d For **UK** stores, ensure that the **DenomSizesGBP** setting includes the following information:

{5,175,130,15};{10,175,130,15};
{20,175,130,15};{50,175,130,15}

- e For stores that use the **Euro**, ensure that the **DenomSizesEUR** setting includes the following information:

{5,165,120,15};{10,165,120,15};{20,165,120,15};
{50,175,130,15};{100,175,130,15};
{200,175,130,15}

OR

- f For **Polish** stores, ensure that the **DenomSizesPLN** setting includes the following information:

{10,130,110,15};{20,136,116,15};
{50,143,121,15};{100,149,127,15};
{200,156,132,15}

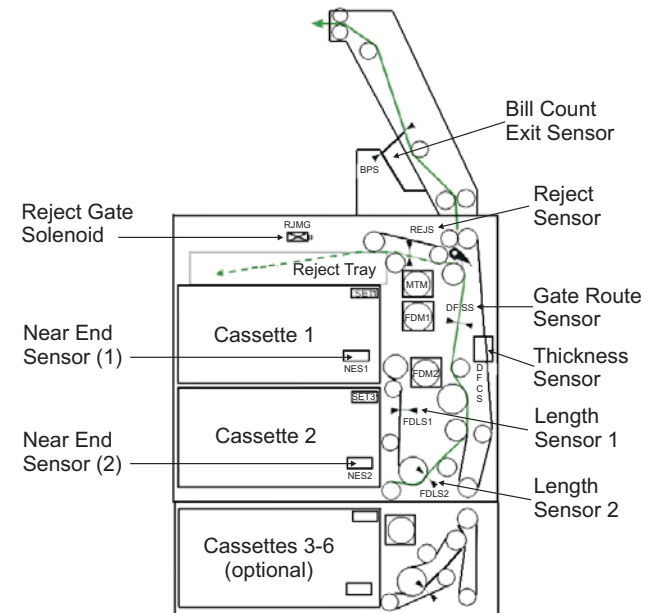
- g If this registry key does **not** include the applicable information shown above, delete the setting. The proper setting will be installed when the Customer Station software starts.

Clean the Sensors

Use a soft, dry cloth to clean the following sensors (see diagram):

- a Bill Count Sensor
- b Reject Sensor
- c Gate Route Sensor
- d Thickness Sensor (and rollers)
- e Length Sensor
- f Near End Sensors (one for each cassette)

Genesis F53 Sensors



Additional Information

Cleaning and Maintenance

Task	Frequency	Description
Thickness sensor roller inspection	Every 4 months	Check for paper dust on the thickness sensor roller (stainless steel roller with a plastic scraper). Refer to “Clean the Sensors” on page 99 for a diagram of the location of the thickness sensor roller.
Check the pick and sub rollers	Every 4 months	Check the pick and sub rollers in each cassette.
Clean belts, gears, pick and sub rollers	Every 4 months	Use isopropyl alcohol to clean the surfaces of the belts and rollers.
Clean the thickness sensor rollers	Every 4 months	Use compressed air to clean the scraper on the stainless steel roller. Use isopropyl alcohol to clean the surfaces of the rollers.
Inspect the cables	Every 4 months	Inspect all cable for wear.
Check cassette magnet retainers	Every 4 months	Inspect all cassette magnets. See the next section.
Clean with compressed air	Every 4 months	Clean to remove dust and debris.
Sensor output check	Every 4 months	Clean the sensors with a soft, dry cloth. Refer to “Clean the Sensors” on page 99 for the sensor locations. Verify the sensor output values in Device Tester . Refer to “Check the Unit Diagnostics” on page 97 for instructions.
Belt tension inspection	Every 4 months	Verify the belt tension. Refer to “Adjusting the Carrying Belt Tension” on page 112 .
Thickness Sensor Inspection	Every 12 months	Confirm the value of the thickness sensor in Device Tester (POMLVL setting). Refer to “Check the Unit Diagnostics” on page 97 for instructions.
Reject gate inspection	Every 12 months	Refer to “Adjusting the Reject gate Solenoid Position” on page 111 for the location of the reject gate. Use your hand to push the reject gate toward the solenoid (magnet). Ensure that the gate moves smoothly. If the gate does not move smoothly, refer to “Adjusting the Reject gate Solenoid Position” on page 111 to adjust the reject gate solenoid.
Flat belt inspection	Every 12 months	Verify that the belts are not too loose and that all the belts in a set are the same tension.

Setting the Cassette Denominations

Each cassette uses a set of two magnets to identify which denomination it is being used for. There are four magnet slots available, and two of them are always used to specify one of six possible denominations (A-F) for a cassette.

- 1 Make sure that the **BillDispenser** and **DenomSizesUS** registry settings are updated appropriately. Refer to “[Changing the Denomination Settings in the Registry](#)” on page 117.
- 2 Make sure that the **NumTrays** setting is set for the correct number of cassettes. Refer to “[Changing the Number of Cassettes in the Registry](#)” on page 117.
- 3 Press the green button to remove the cassette you wish to set up from the F53.
- 4 Unlock and open the cassette.
- 5 Refer to the applicable tables below to determine the appropriate denomination magnet positions.

Denomination Magnet Settings (US/Canada)

	d	c	b	a	USD (\$)	CDN (\$)
A			X	X	1	N/A
B		X		X	5	5
C	X			X	10	10
D		X	X		20	20
E	X		X		50	50
F	X	X			100	100

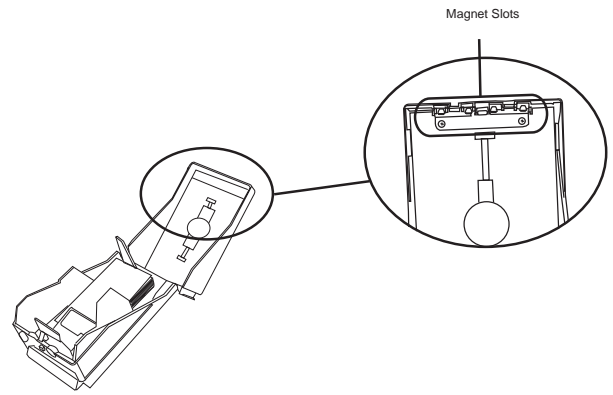
Denomination Magnet Settings (UK)

d	c	b	a	UK (£)
	X		X	5
X			X	10
	X	X		20

Denomination Magnet Settings (Euros)

d	c	b	a	Europe (€)	Poland (Zł)
	X		X	5	N/A
X			X	10	10
	X	X		20	20

- 6 Locate the magnet slots and tabs on the cassette.



- 7 Remove the two screws that secure the magnet cover plate. Apply *Loctite 222* thread locker fluid to all screws and nuts.
- 8 Remove the cover plate (claw) to access the magnet slots. Be careful not to let the recessed hex nuts on the other side of the cassette lid fall out and get lost.
- 9 Locate the slot labels (a, b, c, d). The slots are identified on the outside of the cassette, as well as on a sticker inside the cassette.



Remove 'claw' plate

Locate slots a b c d



- 10 The white magnet edges are visible from the outside of the cassette lid. If a magnet is in the wrong slot for the current denomination, slide it out and re-locate it in the correct slot:

- a One side and one edge of each magnet is white. Hold the magnet with the white top facing upwards and the white edge facing toward the cassette lid.



One side and one edge of each magnet is white

b Insert the magnet into the slot. Close the lid for a moment — when positioned correctly, the white side of the magnet should be facing the direction of the front of the cassette, and the white edge will be visible from the other side of the cassette lid through the openings labelled a, b, c, and d.

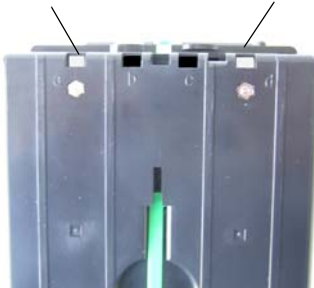
11 Repeat for the other magnet slot indicated in the table if necessary.

12 Replace the cover plate you removed in [step 8](#).

13 Close and lock the cassette.

14 Double check that the white sides of the two magnets are visible through the slots on the top of the cassette.

Magnets are visible through the cassette lid



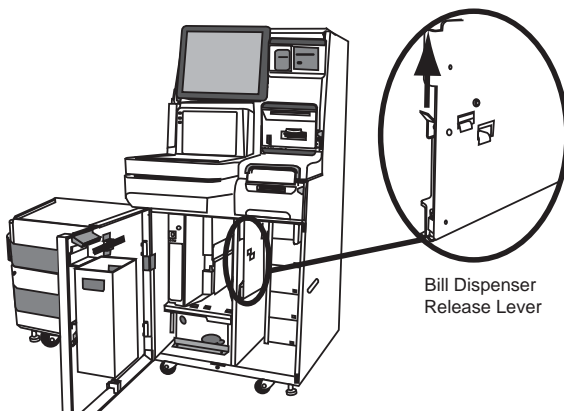
15 Replace the cassette in the F53.

16 Repeat the steps above for the remaining cassettes.

Adjusting and Loading the Cassettes

Loading the Cassettes

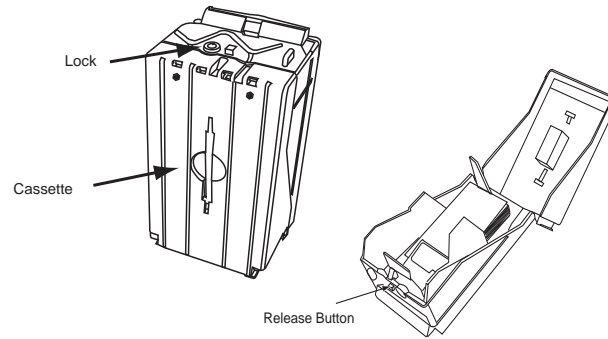
1 Press the green button on the front of the cassette and carefully pull the cassette toward you to remove it.



2 Place a cassette on a stable surface.

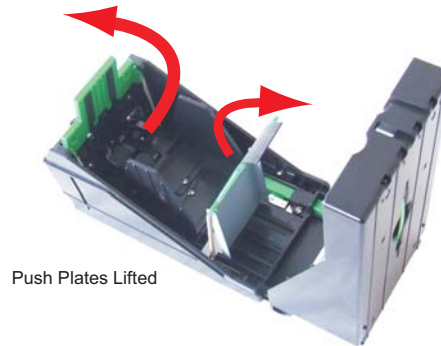
3 Unlock the cassette.

4 Press the green release button of the back of the cassette and lift the top to open it.



5 Lift and tilt back the green push plate furthest away from the lock.

6 Lift and swivel up the green push plate closest to the lock. The tabs on the bottom of the plate sit in the slots on the front of the cassette to keep the plate raised.

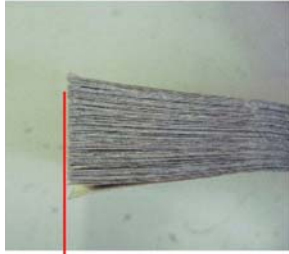


7 Inspect the quality of the bills. Do **NOT** load any of the following:

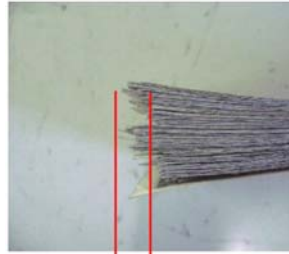
- a** Torn bills (including bills with ripped corners)
- b** Taped bills
- c** Bills with staples attached
- d** Badly stained bills
- e** Severely wrinkled bills
- f** Bills with holes

8 Attempt to straighten and smooth out any folded or crumpled bills.

- 9 Align the bills in a neat stack. Ensure that no bills protrude from the stack.



Like This



NOT Like This

- 10 Fan the bills to ensure that they are not stuck together.



Note: If you are loading a large quantity of bills, ensure that they are not all facing the same direction.

- 11 If the bills are new, be sure to remove any packing paste from the bills, as it can cause bill pick failures.
- 12 Insert the bills in the cassette, making sure that the bottom bill does not twist or fold. If the bills contain any kind of metal security strip, ensure that they are positioned so that the strip is toward the back of the cassette, away from the contact points of the pick rollers.
- 13 Hold the stack of bills with both hands as you fan the bills into position, as shown below.



Like This



NOT Like This



NOT Like This

Note: If the bills are curved, ensure that the curve is facing down.

- 14 Flip back and move both push plates against the bills.
- 15 The edges of the bills should rest against the inside of the cassette, with no gap.



Like This



NOT Like This

- 16 The opposite edges of the bills should rest against the push plate wall.



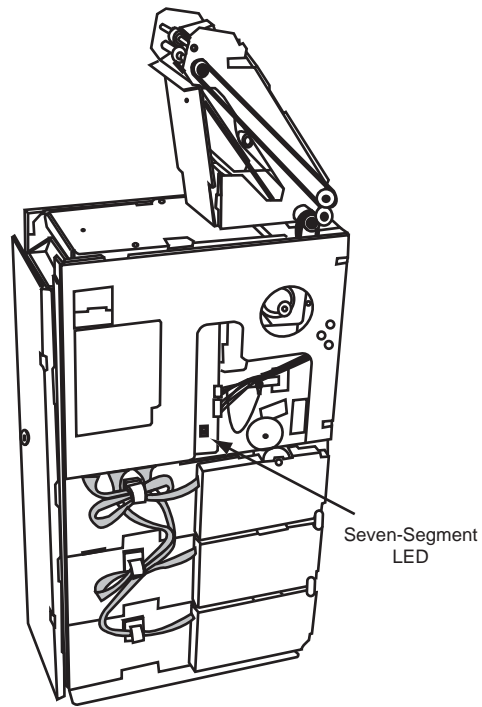
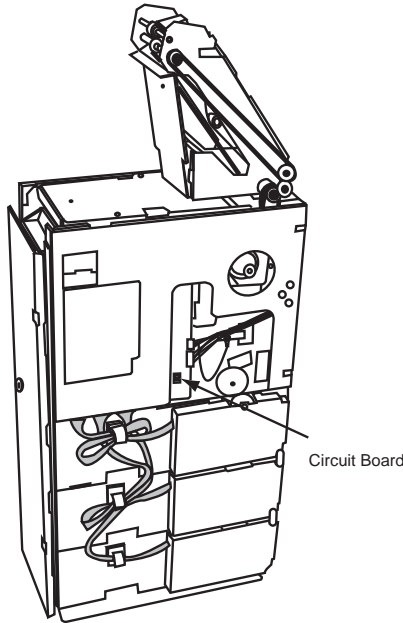
Like This



NOT Like This

- 17 Close the cassette lid.
- 18 Lock the cassette.
- 19 Replace the cassette in the F53.
- 20 Access **Maintenance Mode** and perform a test dispense. The specified amount is dispensed.
- 21 Touch **EXIT MAINTENANCE** to exit **Maintenance Mode**.

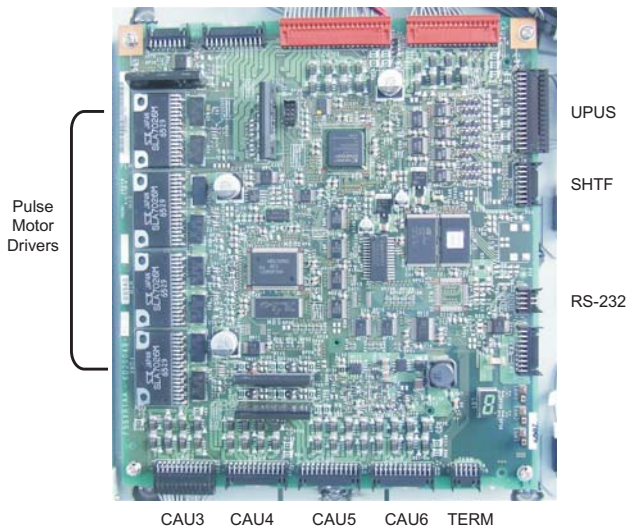
Circuit Board Connections and Main Components



Genesis F53

Note: Error codes 3 to d in the table below only display after the F53 is powered off and then on again.

SHTR UPUD CAU1 CAU2



Circuit Board Connections

Note: The circuit board cover is secured with five screws.

Seven-Segment LED Status

The seven-segment LED is located on the F53 circuit board. Refer to the following table for the seven-segment LED indications and possible troubleshooting solutions.

LED Error Code	Indication	Possible Solution
0	Normal operation	N/A
1	Incomplete program download (RAM program loss) OR Download in progress	Download program OR Wait until the download is complete.
r	Remote RAS mode	N/A
3	ROM check sum error	Replace the circuit board.
4	RAM check sum error	Replace the circuit board.
5	Watch dog error	Replace the circuit board.
6	Transmit error (Boot)	Replace the circuit board.
d	System down	Replace the circuit board.

On-Board Functions

The on-board diagnostics allow you to view the status of and test the F53 sensors. All sensors are placed into a group for testing purposes (“[Sensor Groups](#)” on page 105). You can view the status of all sensors in a particular group by selecting the function for that group in the table on the right. Each sensor is represented by a specific segment on the seven-segment LED (“[Sensor Groups](#)” on page 105 and “[Seven-Segment LED - Segments Labeled](#)” on page 106).

For instructions on testing a sensor through the on-board diagnostics, refer to “[Performing an On-Board Test](#)” on page 106.

Functions (Firmware ver. US0300 and earlier)

Function	Description
0	Mechanical Reset continuously
1	Sensor group 1 on seven-segment LED
2	Sensor group 2 on seven-segment LED
3	Sensor group 3 on seven-segment LED
4	Sensor group 4 on seven-segment LED
5	Sensor group 5 on seven-segment LED
6	Sensor group 6 on seven-segment LED
7	Sensor group 7 on seven-segment LED
8	Sensor group 8 on seven-segment LED
9	Display DFCS thickness on seven-
A	Thickness Sensor Adjustment (0-5)
B	END on-board RAS

Note: Sensor groups 2 to 4 do not apply to the F53.

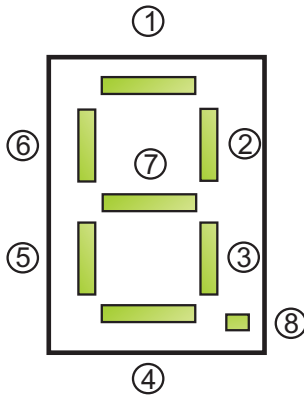
Sensor Groups

*Notes: The codes in the table below are used to label the internal device cables. For example, **REJS** is printed on a small tag on the reject sensor cable. Find the labeled tag to identify the location of the faulty sensor.*

Seg #	8	7	6	5	4	3	2	1
Group 1	-	-	FDLS6	FDLS5	FDLS4	FDLS3	FDLS2	FDLS1
Group 2	BRS1	BRS2	BRS3	EJSF	EJSR	REJS	BPS	DFSS
Group 3	TUS	THS	RJBR	RJBF	SOSR	SCSR	SOSF	SCSF
Group 4	-	-	-	-	RRBOX	RSHT	FRBOX	FSHT
Group 5	BS2A	BS2B	BS2C	BS2D	BS1A	BS1B	BS1C	BS1D
Group 6	BS4A	BS4B	BS4C	BS4D	BS3A	BS3B	BS3C	BS3D
Group 7	BS6A	BS6B	BS6C	BS6D	BS5A	BS5B	BS5C	BS5D
Group 8	-	-	NES6	NES5	NES4	NES3	NES2	NES1

Note: The grayed-out cells in the preceding table do not apply to the U-Scan Genesis F53 Bill Dispenser.

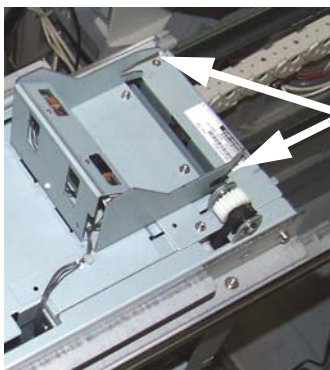
Seven-Segment LED - Segments Labeled



Performing an On-Board Test

Note: Only RoHS-compliant circuit boards and firmware can be used on the U-Scan Genesis and its components. Non-RoHS-compliant components are not compatible.

- 1 Identify the sensor you wish to test.
- 2 In the table “[Sensor Groups](#)” on page 105, locate the sensor group for the sensor you wish to test. For example, the reject sensor (REJS) is part of sensor group 2.
- 3 In the table “[Functions \(Firmware ver. US0300 and earlier\)](#)” on page 105, identify the test number for the sensor you wish to test. For example, function number 5 corresponds to sensor group 5.
- 4 Remove power from the Bill Dispenser using the Alarm Board switch.
- 5 Rack out the Bill Dispenser. Reach into the casing and pull out the bill presenter, which hangs down from two side studs (see “[Replacing the Bill Dispenser](#)” on page 120. Attach the bill presenter to the Bill Dispenser by sliding it onto the positioning guides as shown below.



Slide bill presenter, aligned over the positioning guides

- 6 You will not be able to perform a complete test unless the presenter is attached to the Bill Dispenser during the tests.

- 7 Place a jumper on *both* pins of position **TRM2** on the circuit board.



(RoHS version)

- 8 Return power to the Bill Dispenser using the Alarm Board switch.
The seven-segment LED on the circuit board resets. **8. 8.** displays, followed by a count from **0** to **b**.
- 9 When the number corresponding to the test you wish to perform is displayed, remove the jumper from **TRM2** to activate the test:

- a In the table “[Sensor Groups](#)” on page 105, identify the segment of the seven-segment LED that corresponds to the sensor you are testing. For example, segment 3 corresponds to the reject sensor (REJS) for sensor group 2.
- b Block the sensor you are testing and ensure that the corresponding segment on the seven-segment LED lights. If an error occurs during the test, an error message displays sequentially on the seven segment LED in the format **Erxxxx**, where “xxxx” represents the IOC error code. Refer to “[F53 Bill Dispenser - Software Error Codes](#)” on page 121 for a description of the IOC error codes.

Note: The count cycle will repeat until you select a test or exit.

*To end the on-board session without activating a test, remove the jumper when **b** displays on the seven-segment LED.*

Refer to “[Seven-Segment LED - Segments Labeled](#)” on page 106 for a diagram of the LED segments.

- 10 If the segment does not light when the sensor is blocked:
 - a Use a soft, dry cloth to clean the sensor.
 - b If the issue is not resolved, replace the sensor. Refer to “[Replacing the Sensors](#)” on page 108.
- 11 To end the session after the test is complete, restore power to the Bill Dispenser using the Alarm Board switch.

- 12 Replace the jumper on only one pin of **TRM2**.
- 13 Replace the bill presenter in the casing. See “Replacing the Bill Presenter” in Chapter 2.
- 14 Restore power to the Bill Dispenser using the Alarm Board switch.

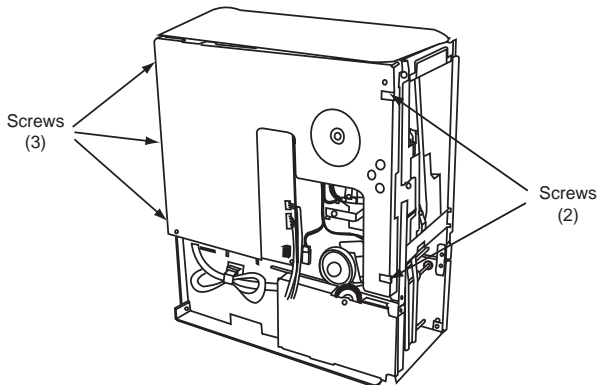
Replacing the F53 Components

Replacing the Circuit Board

Requirements

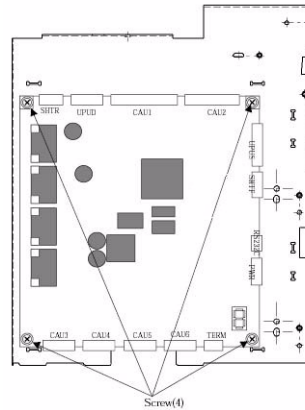
- Phillips screwdriver (magnetic tip recommended)
- Replacement circuit board
- Be sure to observe all ESD precautions when working with this circuit board.

- 1 Unlock and open the lower door of the Customer Station.
- 2 Push the release lever on the side of the slide rail and slide the F53 towards you.
- 3 Locate the five screws that secure the circuit board cover. Three are located on the front and two are on the side, accessible through openings in the cover.



- 4 Use a Phillips screwdriver to remove the screws. Set the screws and cover aside.
- 5 Remove power from the Bill Dispenser using the Alarm Board switch.

- 6 Disconnect the on-board cables from the circuit board.
- 7 Locate the four screws securing the circuit board to the F53.



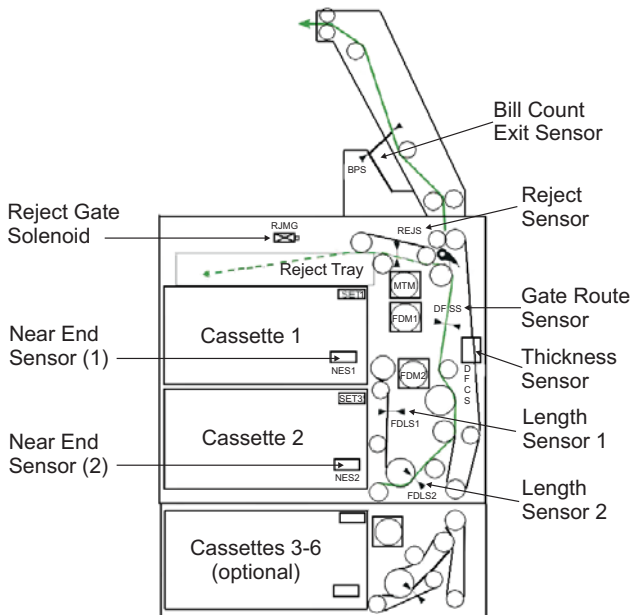
- 8 Use a Phillips screwdriver to remove the four screws securing the circuit board to the F53.
- 9 Remove the old circuit board.
- 10 Align the new circuit board on the side of the F53.
- 11 You must install a RoHS-compliant circuit board.
- 12 Fasten the four screws to secure the circuit board to the side of the F53.
- 13 Connect the cables to the circuit board.
- 14 Replace the circuit board cover.
- 15 Restore power to the Bill Dispenser using the Alarm Board switch.
- 16 When the F53 starts, ensure that **0** displays on the seven-segment LED on the circuit board to indicate normal operation.
- 17 If a code other than **0** displays, refer to **“Seven-Segment LED Status” on page 104** for LED indications and possible troubleshooting solutions. If the seven-segment LED is cycling a display **E r x x x**, refer to [page 121](#) for explanations of the F53 IOC Error Codes (xxxx).
- 18 Slide the F53 back into place.
- 19 Test the F53 in the **Device Tester**. Refer to **“Test the Device” on page 93**.

Replacing the Sensors

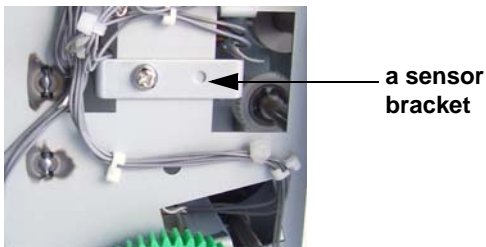
Requirements

- Phillips screwdriver (magnetic tip recommended)
- Replacement sensors

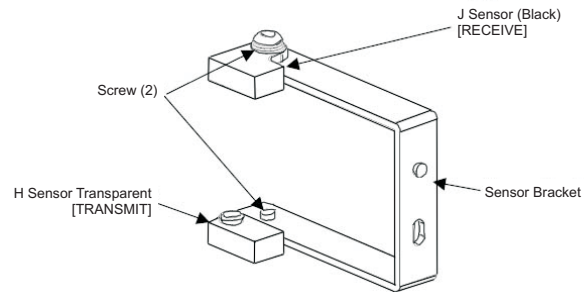
Sensor Locations



- 1 Remove power from the Bill Dispenser using the Alarm Board switch.
- 2 Locate the sensors you wish to replace.
- 3 **If** you are replacing the sensors that are covered by the circuit board cover,
 - a Remove the five screws that secure the circuit board cover.
 - b Remove the circuit board cover.
- 4 Use a Phillips screwdriver to remove the screw securing the sensor bracket to the F53.
- 5 Disconnect the cable from the sensor on each arm of the sensor bracket.
- 6 Remove the sensor bracket from the F53.



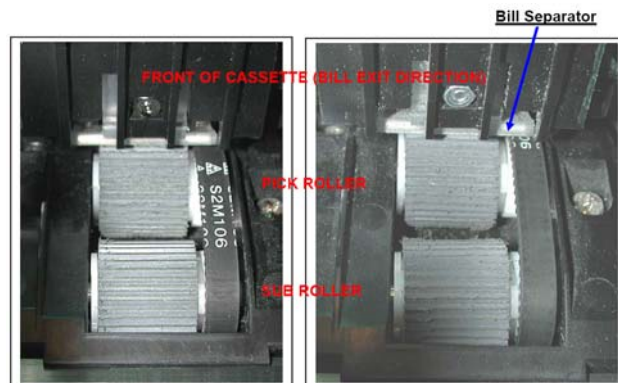
- 7 Remove the screws that secure the sensors.



- 8 Align the new sensors on the sensor bracket.
- 9 Fasten a screw to secure each sensor to the sensor bracket.
- 10 Connect the cable to each sensor.
- 11 Replace the sensor bracket in the F53 and fasten the screw to secure the bracket to the F53.
- 12 Restore power to the Bill Dispenser using the Alarm Board switch.
- 13 Use the on-board diagnostics to test the sensor you replaced. Refer to [“On-Board Functions” on page 105](#).

Replacing the Cassette Pick and Sub Rollers

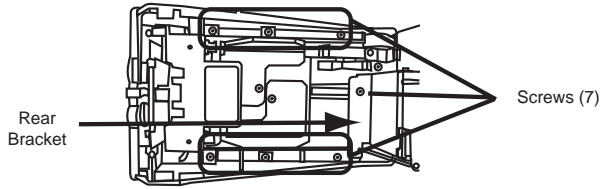
The average life expectancy of the pick and sub roller is 100,000 picks per cassette. It is normal to find rubber debris and dust as the rollers go through their normal wear cycle. The debris should be cleaned out every four months, or at the end of an F53 service call. Isopropyl alcohol can also be used to clean ink buildup on the separator.



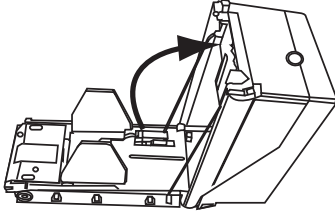
Note that the pick rollers in newer cassettes can be replaced individually or as a roller module (please refer to Product Support Bulletin PSB-10-011 for more details).

- 1 Open the cassette.
- 2 Lift the rear push plate (the one with a single spring).
- 3 Note the position of the rear bracket (bill length guide) in the cassette.

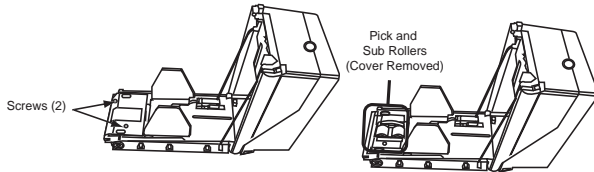
- 4 Remove the seven screws that secure the bottom frame to the cassette.



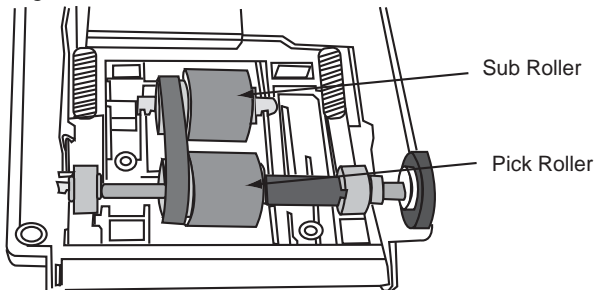
- 5 Raise the frame and latch it to the open lid.



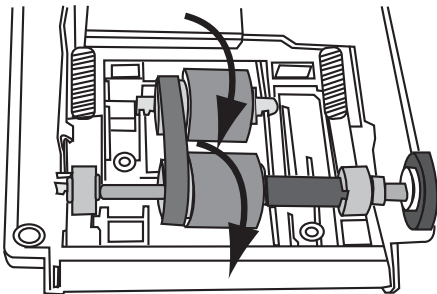
- 6 Remove the two screws and the cover on the rollers.



- 7 Note the position of the wheels and belts on the shaft so that you can re-install each piece in the correct position. The sub and pick roller components are shaded in the diagram below.



- 8 Remove the pick or sub roller assembly.
- 9 Install a new pick or sub roller assembly, making sure that the rollers can only roll forward.



- 10 Fasten the two screws to secure the sub and pick roller cover bracket.
- 11 Lower the frame.
- 12 Fasten the seven screws to secure the frame.
- 13 Close the cassette.

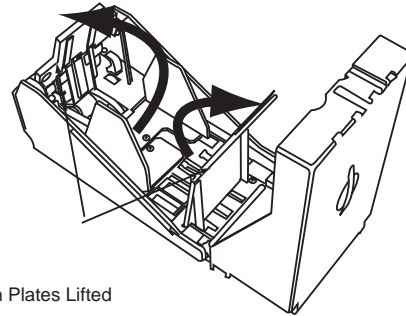
Adjusting the F53 Components

Adjusting the Cassettes for Bill Width and Length Requirements

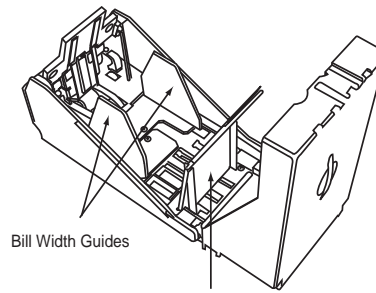
Requirements

- Phillips screwdriver
- Bills to be loaded, test money

- 1 Remove the cassette you wish to adjust from the F53.
- 2 Unlock and open the cassette.
- 3 Lift the lock the push plates into place.

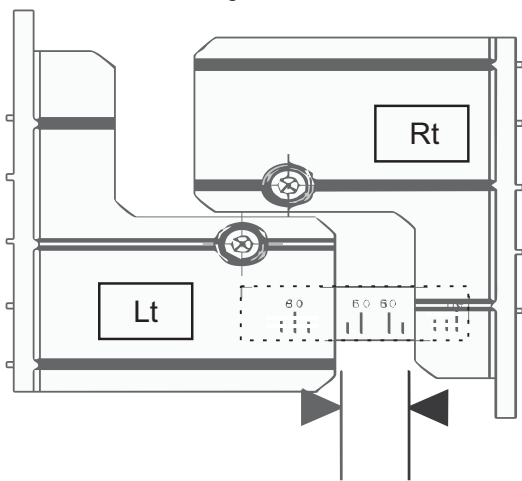


- 4 Identify the two bill width guides and the bill length guide in the cassette.



5 To adjust the cassette for the bill width:

- a Locate the bill guides and the bill width indicator on the floor of the cassette. The bill width indicators are a pair of rulers that are numbered in centimeters in each direction (left-right) from 60 to 80.



- b On the bottom of the cassette, loosen the screw in each of the bill width guides. The screws are in the middle of the cassette.
- c Spread the bill width guides apart.
- d Slide one of the bill width guides into position according to the following table, which indicates the recommended left and right guide positions for the US and Canadian bill widths:

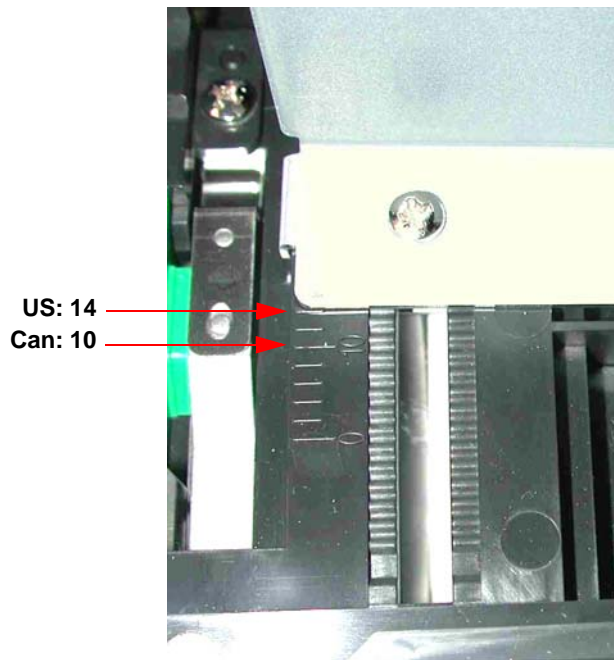
Bill Width (mm)	Scale Lt	Scale Rt
\$US (66 mm)	68	68
\$CDN (70 mm)	72	72

- e Hold the bill guide in position, then tighten the screw to secure the bill width guide in place.
- f Repeat steps d and e to adjust the second bill width guide.
- g Verify the fit with a stack of bills of the appropriate denomination, if possible.
- 6 To adjust the cassette for bill length:
- a Locate the bill length guide and the bill length indicator on the floor of the cassette.

Note: Two versions of this cassette have different guide markings. See the scale conversion table below. Measure at the front edge of the guide:

Bill Length (mm)	Original Cassette	New Cassette
\$CDN 152 mm	10	152
\$US 156 mm	14	156

- b Loosen the screw that secures the bill length guide at the back of the cassette.
- c Slide the bill length guide to the back of the cassette.
- 7 Slide the bill length guide into position according to the preceding table:
- a For US currency (with the original scale cassette length setting, using the front of the bill guide as shown in the photo below), move the front of the bill guide to 14 (US currency length: 156mm).
- b For Canadian currency (with the original scale cassette length setting, using the front of the bill guide as shown in the photo below), move the front of the bill guide to 10 (Canadian currency length: 152mm).



Measure at front edge of guide

Note: Each line on the guide represents two units, so the first line after 10 is 12, the second line after 10 is 14, and so on.

- c Hold the bill guide in position and tighten the screw to secure the bill guide in place.
- d Verify the fit with a stack of bills of the appropriate denomination, if possible.

- 8 The following table lists the dimensions of some international paper currencies:

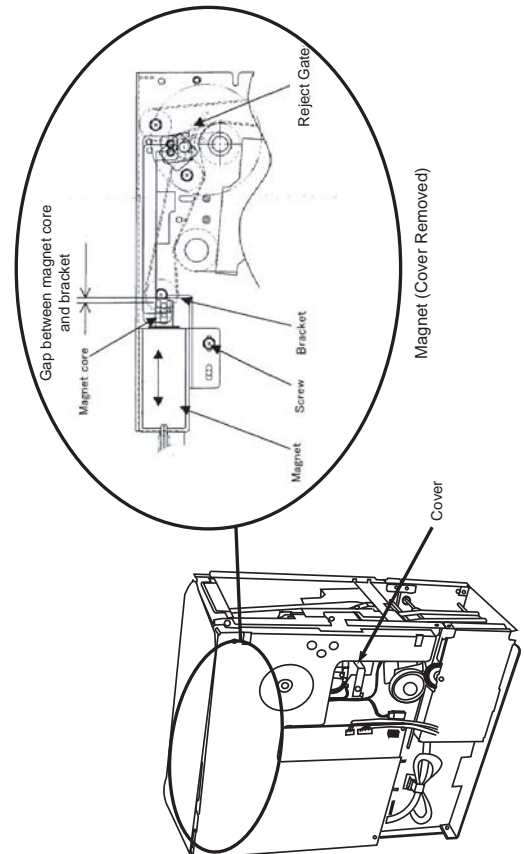
Country: Currency	Short Edge (mm)	Long Edge (mm)
Australia: 5 dollars	65	130
Australia: 10 dollars	65	137
Australia: 20 dollars	65	144
Australia: 50 dollars	65	151
Australia: 100 dollars	65	158
UK: 5 pounds	70	135
UK: 10 pounds	75	142
UK: 20 pounds	80	150
UK: 50 pounds	85	156
Europe: 5 Euro	62	120
Europe: 10 Euro	67	127
Europe: 20 Euro	72	133
Europe: 50 Euro	77	140
Europe: 100 Euro	82	147
Europe: 200 Euro	82	153
Europe: 500 Euro	82	160
Poland: 10 (new) Zlotych	60	120
Poland: 20 (new) Zlotych	63	126
Poland: 50 (new) Zlotych	66	132
Poland: 100 (new) Zlotych	69	138
Poland: 200 (new) Zlotych	72	144
Sweden: 20 Kronor	67	121
Sweden: 50 Kronor	77	120
Sweden: 100 Kronor	72	140
Sweden: 100 Kronor	92	170
Sweden: 500 Kronor	82	150
Sweden: 1,000 Kronor	82	161

Adjusting the Reject gate Solenoid Position

Requirements

- Phillips screwdriver (magnetic tip recommended)

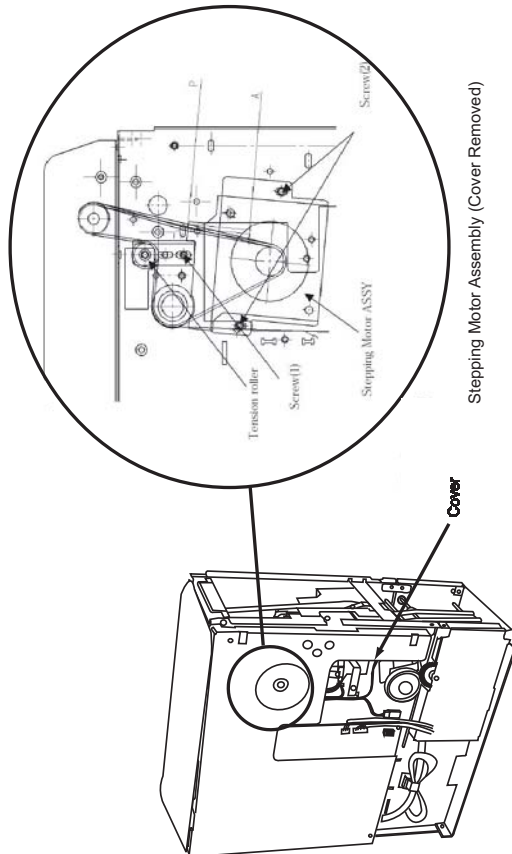
- 1 Remove power from the Bill Dispenser using the Alarm Board switch.
- 2 Remove the five screws securing the circuit board cover.
- 3 Remove the cover. Set the cover and the screws aside.
- 4 Locate the reject gate solenoid (magnet) on the side of the F53.



- 5 Use a Phillips screwdriver to loosen the screw indicated in the diagram above.
- 6 Slide the reject gate solenoid so that the reject gate touches the shaft and the gap between the magnet core and the bracket is as shown in the diagram above.
- 7 Fully tighten the screw to lock the reject gate solenoid into position.
- 8 Use your hand to push the reject gate towards the solenoid. Ensure that the reject gate moves smoothly.
- 9 Fasten the five screws to replace the circuit board cover.
- 10 Restore power to the Bill Dispenser using the Alarm Board switch.

Adjusting the Carrying Belt Tension

- Phillips screwdriver (magnetic tip recommended)
 - 300 g spring gauge (part number USA0204169)
- 1 Remove power from the Bill Dispenser using the Alarm Board switch.
 - 2 Remove the five screws securing the circuit board cover.
 - 3 Remove the cover. Set the cover and the screws aside.
 - 4 Locate the stepping motor assembly on the side of the F53.



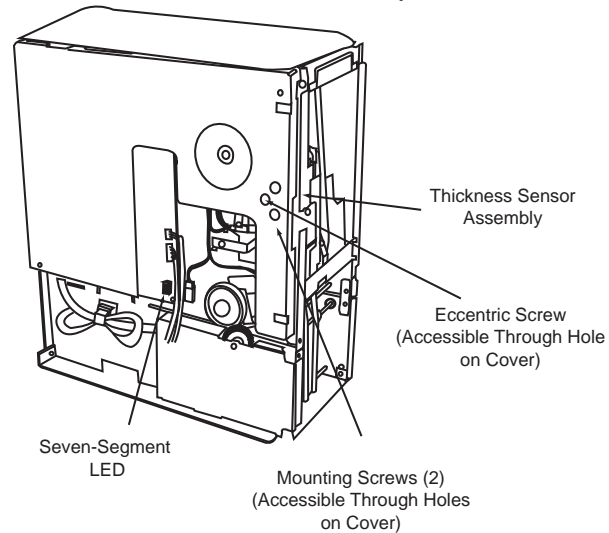
- 5 Loosen the screw securing the tension roller bracket.
- 6 Move the tension roller bracket up or down as required to adjust the belt tension.
- 7 Fully tighten the screw.
- 8 Loosen the two screws securing the stepping motor assembly.
- 9 Adjust the position of the stepping motor assembly as required to loosen or tighten the belt.
- 10 Fully tighten the screws.
- 11 Measure the tension of the belt with a spring gauge (part number USA0204169):
 - a Locate position "P" in the diagram above.
 - b In position "P," use the spring gauge to push (deflect) the belt 4 mm toward the tension roller.

- c Ensure that the reading on the spring gauge is between 150 - 300 g.
- 12 If necessary, adjust the tension roller bracket or stepping motor assembly again until the belt tension is correct.
- 13 Replace the circuit board cover.
- 14 Restore power to the Bill Dispenser using the Alarm Board switch.

Adjusting the Thickness Sensor

Requirements

- Phillips screwdriver (magnetic tip recommended)
 - Flat-head screwdriver
 - 0.3mm thickness gauge (part number USA0204711 / D15L-0014-0157)
- 1 Locate the thickness sensor assembly on the F53.



- 2 Access on-board function **9**. Refer to ["Performing an On-Board Test"](#) on page 106.
- 3 Use a Phillips screwdriver to **slightly** loosen the two mounting screws indicated above.
- 4 Use a flat-head screwdriver to adjust the eccentric screw until **E5** displays on the seven-segment LED.
- 5 Tighten the mounting screws until **E7** displays on the seven-segment LED. The acceptable range is **E7 +/- 4 (E3 - E8)**.



CAUTION: Do NOT disconnect the power cable from the circuit board to power on or off the device. This can damage the board.

- 6 Place the jumper plug on both pins to exit **RAS 9** and return to the RAS Selection mode.
- 7 Remove the top cassette from the F53.
- 8 Access function **A**. Refer to ["Performing an On-Board Test"](#) on page 106.

- 9 Insert the 0.3mm thickness gauge (part number USA0204711 / D15L-0014-0157) through the cassette housing, into the bill path and up to the thickness sensor.
- 10 Ensure that the on-board function **A** measures **0 +/- 8**.
- 11 Replace the jumper onto both pins to complete this setting.
- 12 Remove power from the Bill Dispenser using the Alarm Board switch.
- 13 Place the TRM2 Test jumper onto a single pin on the circuit board.
- 14 Return power to the Bill Dispenser using the Alarm Board switch. Ensure that the Bill Dispenser operates normally.
- 15 Test the Bill Dispenser in the **Device Tester**.

Installing the F53 Components

Adding a Third Cassette Module

Follow the steps below to add a third cassette module to an F53.

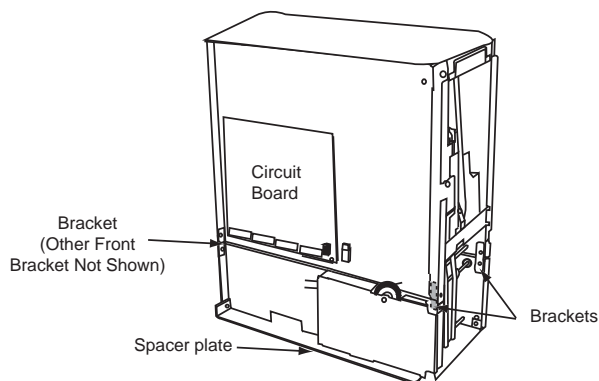
Requirements

- Phillips screwdriver (magnetic tip recommended)
- Cassette module upgrade kit (KD02881-B009), taped to the top of the module, containing the following:
 - Additional cassette
 - Cassette module
 - Four brackets
 - Eight Phillips screws (M3 x 6 mm)

- 1 Remove power from the Bill Dispenser using the Alarm Board switch.
- 2 Remove the F53 from the Customer Station casing:
 - a Push the release lever on the side of the rail and slide the F53 towards you.
 - b Use a Phillips screwdriver to remove the six screws (three on each side) securing the F53 to the plate. Set the screws aside.

Note: The F53 in the diagrams in this section already have a third cassette installed.
 - c Lift the F53 off the plate.
- 3 Remove the cassettes from the F53.
- 4 Set the F53 facing down so that you can access the bottom.
- 5 Remove the four corner screws that secure the spacer plate to the F53.
- 6 Align the cassette module on the bottom of the F53.

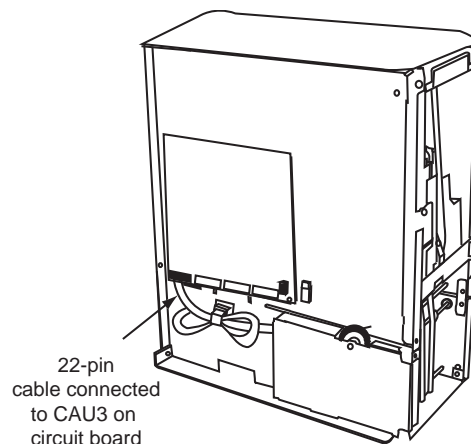
- 7 Align the round guides (dimples) on a bracket with the round holes on the frame in one of the positions indicated below.



- 8 Use a Phillips screwdriver to fasten two M3 x 6 mm screws and secure each bracket to the F53.

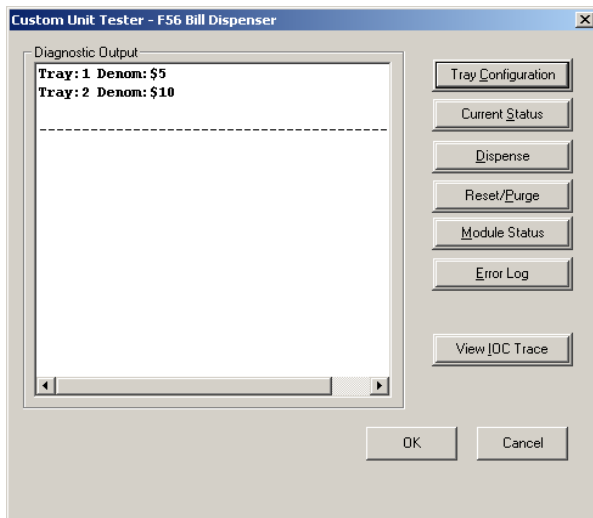
Note: If you are installing the front brackets, thread the screws from the front of the F53 frame and into the bracket. If you are installing the rear brackets, thread the screws through the holes on the bracket and into the F53 frame.

- 9 Attach the spacer plate to the bottom of the newly-added module.
- 10 Ensure that the new cassette is set up for the appropriate denomination. Refer to [“Setting the Cassette Denominations”](#) on page 101.
- 11 Connect the 22-pin cable on the third cassette module to the **CAU3** connector on the bottom of the circuit board.



- 12 Tie-wrap the cables neatly so that they remain close the F53 frame, as shown above.
- 13 Put the cassettes in the F53.
- 14 In the Customer Station **Registry Editor**, set the **NumTray** registry setting to **3**. Refer to [“Changing the Number of Cassettes in the Registry”](#) on page 117.
- 15 Add the new denomination to the **BillDenominations** registry setting. Refer to [“Changing the Denomination Settings in the Registry”](#) on page 117.

- 16 Restore power to the Bill Dispenser using the Alarm Board switch.
- 17 Access the **Device Tester**.
- 18 Click the **Bill Dispenser** tab.
- 19 Click **Test Dispense**.
Ensure that the F53 dispenses a bill from each cassette.
- 20 Click **Other**.
The Custom Unit Tester screen displays.
- 21 Click **Tray Configuration**.
- 22 Ensure that the correct information for the new cassette appears.



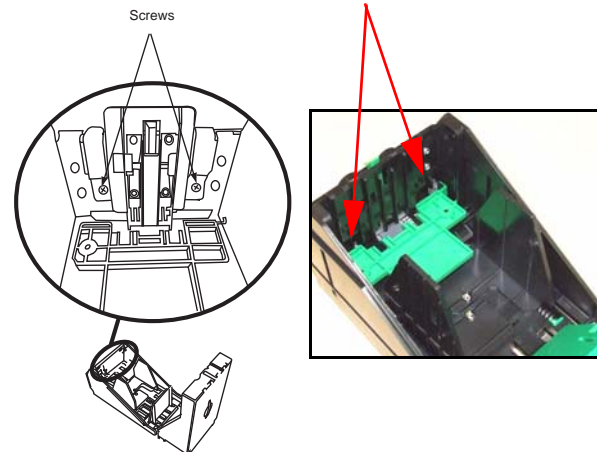
Installing the Cassette Locks

Requirements

- Cassette lock kit (12000021) composed of the following parts:
 - Lock barrel
 - Two keys
 - Large flat washer
 - Large nut
 - Latch
 - Small flat washer
 - Small nut
- Phillips screwdriver

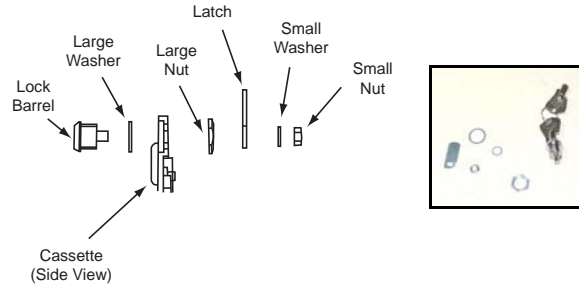
- 1 Open the cassette.

- 2 Remove the two screws that secure the rear bill path to the inside of the cassette.

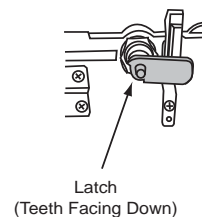
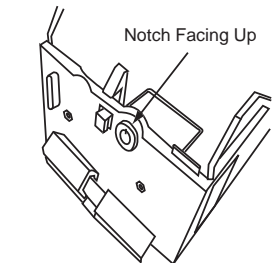


Note: Do not lose the recessed hex nuts on the other side.

- 3 Assemble the lock components as shown below.



- 4 Make sure that the notch on the keyhole is facing up. Make sure that the latch is installed as shown below.



- 5 Insert the key in the lock and ensure that it turns smoothly back and forth.

- 6 Ensure that the key cannot be removed from the lock when the lock is in the unlocked position, and that it can be removed when it is in the locked position.
- 7 Fasten the two screws to secure the bill guide to the inside of the cassette.
- 8 Affix the unit number label (**KD03234-C520/C530**) to the bottom of the cassette.

Upgrading the Firmware

Note: Only RoHS-compliant circuit boards and firmware can be used on the U-Scan Genesis and its components. Non-RoHS-compliant components are not compatible.

F53 Remote Download Process

The F53 firmware version can be upgraded remotely in the following instances:

- Stores with ASM: Firmware can be upgraded through a software update package
- Stores that allow dial-in: Fujitsu can dial in to a store and prepare the store for the download.

The process performed by ASM in stores with ASM to download the firmware is outlined below. **No action is required by field engineers.** ASM copies the file containing the upgrade to **C:\Robot\Data**.

Manually Applying the F53 Firmware Upgrade File

Follow the steps below to upgrade the F53 firmware without changing the memory stick in stores that do not have ASM or if the ASM upgrade process fails.

- 1 Stop the U-Scan software:
 - a Locate the computer keyboard.
 - b Press **ALT+TAB** and select **Robot Control**. The **Robot Control** window appears.
 - c Touch **Stop Robot**. The **Launchpad** displays.

*Note: If the **Eventlog View** screen appears with a warning or error message, ignore it and click **No**.*
- 2 Insert the CD-ROM containing the firmware upgrade file into the CD-ROM drive.
- 3 Run Windows Explorer and navigate to **C:\Robot\Data**.
- 4 Right-click inside the **Data** folder and select **New**.
- 5 Name the new folder **F53**.
- 6 Copy the file into the **F53** folder:
 - a In Windows Explorer, go to the CD-ROM drive and double-click it to display the contents.

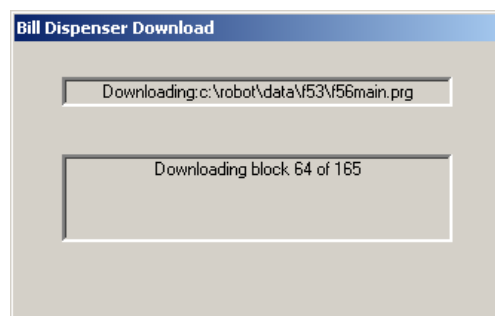
- b Right-click the file and select **Copy**.
 - c Right-click inside the **F53** folder and select **Paste**.
- 7 On the **Launchpad**, touch the **Device Tester** button.
 - 8 Enter the password (1379) and touch **OK**.
 - 9 Set the **DownloadName** in Device Tester:
 - a Go to the **Bill Dispenser** tab and enable the Change button by pressing the **Alt+*** key on the keyboard.
 - a Scroll down the cell labeled **DownloadName**.
 - b Change the value from **NONE** to **C:\Robot\Data\F53\RF56main.prg**, or the **EXACT** filename and location. (The “R” in the filename indicates RoHS compliance.)

Note: Include any hyphens (-) or underscores (_) included in the filename.

- c Click **Apply**.

10 Start the F53 in the **Device Tester**:

- 11 The firmware download begins. You’ll see the progress of the download in the **Bill Dispenser Download** dialog box:



- 12 Wait for the LED on the F53 unit to display **0** (it displays **1** during the download to indicate ‘download in progress’). The **Bill Dispenser Download** dialog box closes.

*Note: if the software locks up, you will have to power fail the Bill Dispenser and force exit **Device Tester**. This issue is being investigated.*

- 13 Confirm the firmware upgrade by running Device Tester. Click **Other functions**. Check for the correct change in the **Current Status** display: The Version will display as “03” for F/W Ver. AA0300.

Tracking Bill Quantities

SET QUANTITY OF BILLS is a feature in **Maintenance Mode** that is enabled in certain software versions. You will use this button to set the number of bills contained in the cassettes. The software then keeps track of how many bills are available to be dispensed.

When the level of bills reaches a predetermined 'low' amount that was configured in the registry setting, the Attendant Station shows a **Bill Tray Low** message for the corresponding Customer Station. If the Bill Dispenser is used when there are no bills left, the Attendant Station shows the message **Bill Tray Empty**.

Note: You can damage the device if you try to dispense bills when the Bill Dispenser is empty.

Setting the Bill Quantities

For each Bill Dispenser cassette you load at the Customer Station, you need to set the software to show the quantity of bills loaded into the cassettes. Doing this will help you account for the money in the Bill Dispenser cassettes.

The default value before the SET button is 0 for each cassette. When you set the bill quantities regularly, the default value before the SET button may not be 0. When the value for a cassette is not 0, touch CLEAR on the number pad. Then touch SET for the corresponding cassette. This resets the value to 0.

Set the bill quantities after loading empty Bill Dispenser cassettes

- 1 Note the number of bills loaded into each Bill Dispenser cassette.
For example, if loading \$1000 into the \$10 cassette, ensure that 100 bills were loaded.
- 2 Touch **SET QUANTITY OF BILLS** from **Maintenance Mode** at the Customer Station. The message at the top of the screen that appears says **Please enter the quantity of bills in each cassette**.
- 3 Touch **CLEAR** on the number pad.
- 4 Touch **SET** for the first cassette denomination to ensure the values are reset to 0.
- 5 Using the number pad on the Touch Screen, enter the quantity of bills loaded into the first cassette on the list.
- 6 After you have entered the number of bills for the first cassette, touch **SET** at the end of that row.
- 7 Touch **CLEAR** on the number pad before entering the next value.

- 8 Repeat steps 3-7 for the next cassette until you have set the bill quantities for all the cassettes in the Bill Dispenser at that Customer Station.
- 9 Touch **Main Menu** to return to **Maintenance Mode**.
- 10 Repeat this procedure for the other Customer Stations.

Reloading the Bill Dispenser Cassettes

Every time the Bill Dispenser cassettes are reloaded, you must set the bill quantities from **Maintenance Mode**. You will follow the same procedure as on the previous page, but now ensure that before you begin you touch **SET** for each cassette whose value is not 0.

If you reload the Bill Dispenser with money already in the cassettes:

- 1 Determine the total amount of bills loaded into the cassette, including the bills already there.
EXAMPLE: If you are loading \$100 into the \$1 Bill Dispenser cassette which already contains \$25, note that the new loading amount will be \$125. Therefore, enter a value of 125 for that cassette.
- 2 Touch **SET QUANTITY OF BILLS** from **Maintenance Mode** at the Customer Station. The message **Please enter the quantity of bills in each cassette** appears at the top of the screen.
- 3 Touch **CLEAR** on the number pad.
- 4 Touch **SET** for the first cassette denomination to ensure the values are reset to 0.
- 5 Using the number pad on the Touch Screen, enter the quantity of bills loaded into the first cassette on the list.
- 6 After you have entered the number of bills for the first cassette, touch **SET** at the end of that row.
- 7 Touch **CLEAR** on the number pad before entering the next value.
- 8 Repeat steps 3-7 for the next cassette until you have set the bill quantities for all the cassettes in the Bill Dispenser at that Customer Station.
- 9 Touch **Main Menu** to return to **Maintenance Mode**.
- 10 Repeat this procedure for the other Customer Stations.

Change the Registry Settings

Changing the Number of Cassettes in the Registry

Perform this procedure if the Bill Dispenser is being upgraded from two cassettes to three cassettes.

- 1 Stop the Customer Station software.
- 2 Exit the **Launchpad**.
- 3 Go to **Start>Run...**
- 4 Enter **regedit**.
- 5 Click **OK**
The **Registry Editor** appears.
- 6 Go to **HKEY_CURRENT_USER\Software\OptimalRobotics\Devices\BillDispenser**.
Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.
- 7 Click **NumTrays**.
- 8 Change the value in the **Value data** text box to **3**. (The default registry setting for NumTrays is **2**.)
- 9 Exit the **Registry Editor**.
- 10 Start the Customer Station software.
- 11 Test the Bill Dispenser in the **Device Tester**.

Changing the Denomination Settings in the Registry

Perform this procedure if you need to change the denominations in the cassettes.

EXAMPLE: The Bill Dispenser now dispenses \$1 and \$10 instead of \$1 and \$5.

- 1 Stop the Customer Station software.
- 2 Exit the **Launchpad**.
- 3 Go to **Start>Run**.
- 4 Enter **regedit**.
- 5 Click **OK**. The **Registry Editor** appears.
- 6 Navigate to **HKEY_CURRENT_USER\Software\OptimalRobotics\Devices\BillDispenser**.
Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.
- 7 Click **BillDenominations**.
- 8 Add a **10** at the end of the string in the **Value data** text box. (The default registry setting for BillDenominations is **1, 5**.)

- 9 Set the dispense amount. To avoid manual registry editing, select **Start>Run>Explorer**. Navigate to C:\Robot\Data and double-click either *F53_BillDispenser_1_5_10.reg*
OR
F53_BillDispenser_1_5_20.reg. This will make all of the proper settings at once. Go to [step 11](#).
- 10 To perform [step 9](#) manually, navigate to **HKEY_CURRENT_USER\Software\OptimalRobotics\Robot**. Then set the **TestDispensersAmount** dword to 00003341 (if 20's) or 00002841 (if 10's) to ensure that the correct test amount is dispensed.
Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.
- 11 Verify the currency size setting:
 - a Navigate to **HKEY_CURRENT_USER\Software\OptimalRobotics\Devices\BillDispenser\Currency**.
Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.
 - b For **US** stores, ensure that the **DenomSizesUS** setting includes the following information:
 - c {1, 166, 146, 13};{5, 166, 146, 13};{10,166, 146, 13};{20,166, 146, 13};{50,166, 146, 13}
 - d For **Canadian** stores, ensure that the **DenomSizesCAN** setting includes the following information:
 - e { };{5,162, 142, 13};{10,162, 142, 13};{20,162, 142, 13};{50,162, 142, 13};{100,162, 142, 13}
 - f For **UK** stores, ensure that the **DenomSizesGBP** setting includes the following information:
 - g {5,175, 130, 15};{10,175, 130, 15};{20,175, 130, 15};{50,175, 130, 15}

- h** For stores that use the **Euro**, ensure that the DenomSizesEUR setting includes the following information:
 - i** {5,165, 120, 15};{10,165, 120, 15};{20,165, 120, 15};{50,175, 130, 15};{100,175, 130, 15};{200,175, 130, 15}

OR

- j** For **Polish** stores, ensure that the DenomSizesPLN setting includes the following information:
 - k** {10, 130, 110, 15};{20, 136, 116, 15};{50, 143, 121, 15};{100, 149, 127, 15};{200, 156, 132, 15}
- l** If this registry key does **not** include the information shown above, delete the setting. The proper setting will be installed when the Customer Station software starts.

12 Close the **Registry Editor**.

13 Start the Customer Station software.

14 Access the **Device Tester**.

15 Configure the cassettes to reflect the new denomination(s). Refer to [“Setting the Cassette Denominations”](#) on page 101.

16 Test the Bill Dispenser in the **Device Tester**.

Electrical Block Diagrams

The following diagrams represent the electrical connections for the F53.

Diagram 1

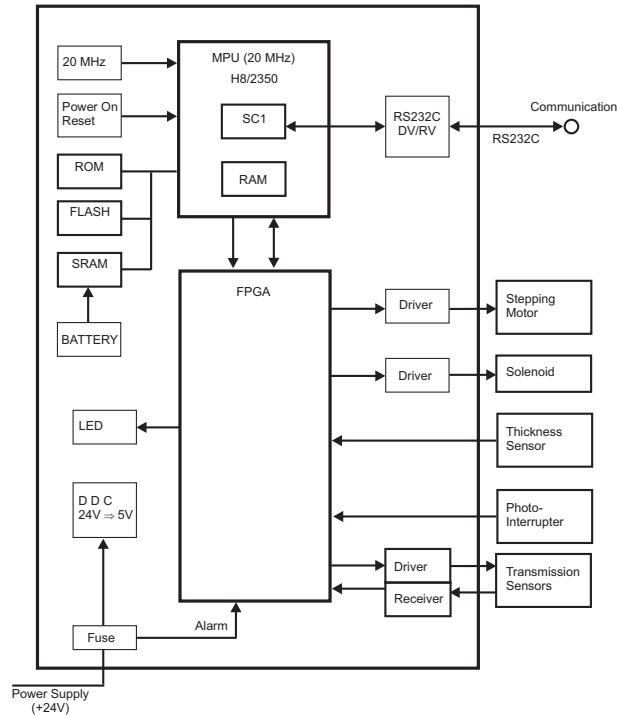
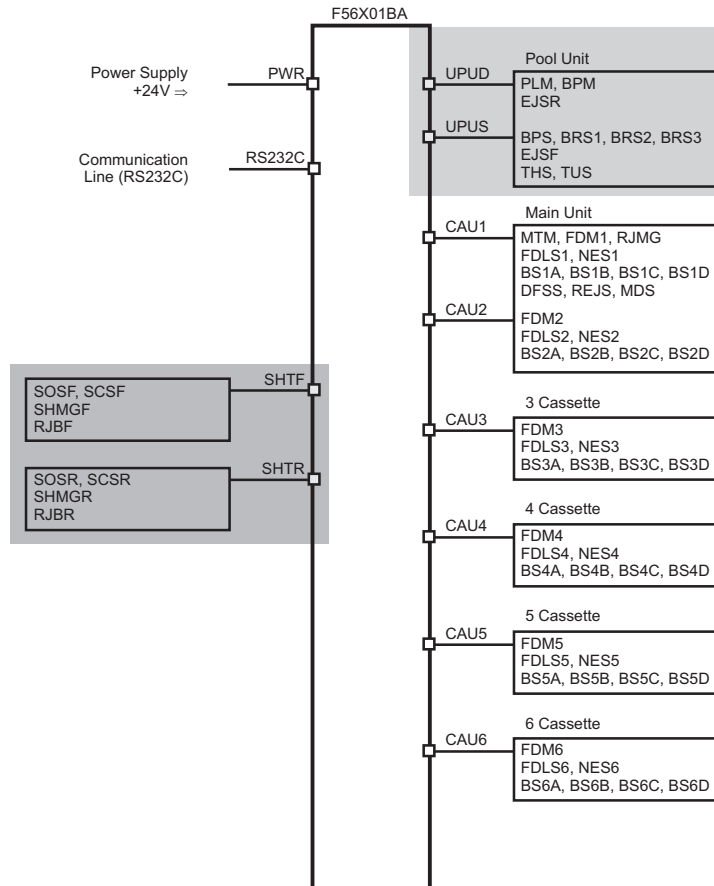


Diagram 2



*Note: The codes in the preceding diagram are used to label the internal device cables. For example, **FDM2** is printed on a small tag on the cable for cassette pick motor 2. Find the labeled tag to identify the location of the faulty component.*

Note: The grayed-out areas of the preceding illustration do not apply to the F53 Bill Dispenser.

Replacing the Bill Dispenser

Parts and Tools

Part	Quantity	Part Number
F53 two-denomination Bill Dispenser	1	KD03235-B053
Additional cassette module(s)	Depends on store configuration	12000081
Phillips screwdriver	1	N/A
Key to the bottom door	1	N/A

Bill Dispenser “Body” Replacement

- 1 Unlock and open the bottom door. Remove the cassettes.
- 2 Remove power from the Bill Dispenser via the switch on the Alarm board.
- 3 Remove the cassettes.
- 4 Fully extend the Bill Dispenser rails from the casing.
- 5 Disconnect the power and data cable.
- 6 Remove the two screws securing each slide rail plate to the rail.
- 7 Lift the Bill Dispenser up and off the slide rails.



- 8 If necessary, remove the locking door from the front of the unit.
- 9 Remove the two screws securing the slide rail plates to the Bill Dispenser.
- 10 Locate the new Bill Dispenser.
- 11 If necessary, install the additional cassette module(s) on the Bill Dispenser. See [page 113](#).
- 12 If necessary, install the locking metal door on the front of the F53.
- 13 Install the slide rail plates on the new Bill Dispenser.
- 14 Lower the Bill Dispenser through the rails so that the rail slide plates rest on the rails.
- 15 Secure each rail slide plate to the rail with two pan-head SEMS screws.
- 16 Reconnect and secure the power and data cable.
- 17 Ensure that the cassette magnets are set for the appropriate denominations. Refer to the F53 Device Servicing section of this manual. Re-insert the cassettes.
- 18 Return power to the Bill Dispenser via the switch on the Alarm board.
- 19 Push the Bill Dispenser back into the casing.
- 20 Test the Bill Dispenser using the **Device Tester**. See “Using the Device Tester” in Chapter 2.

Replacing the Bill Presenter

- 1 Unlock and open the top door.
- 2 Rack out the Bill Dispenser to provide access to the presenter.
- 3 Reach through and grasp the bill presenter.
- 4 Firmly pull the bill presenter up then towards you to remove it.
- 5 Align the guides on the replacement bill presenter with the grooves on the bracket.
- 6 Push the bill presenter firmly back into position.
- 7 Rack the Bill Dispenser back into the casing. Watch the Bill Dispenser mesh with the bill presenter and assure that the connection is made properly.
- 8 Test the Bill Dispenser using the **Device Tester**. See “Using the Device Tester” in Chapter 2.

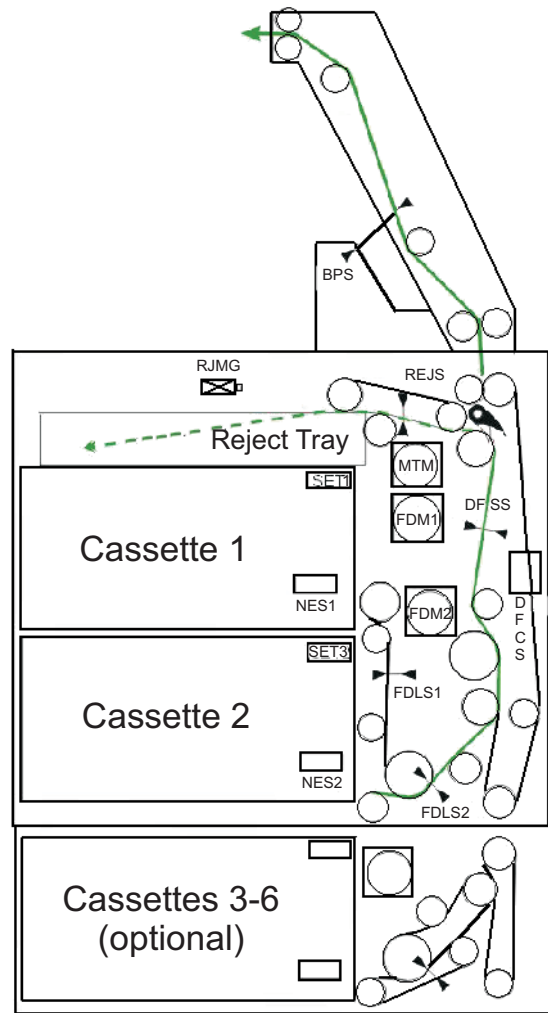
F53 Bill Dispenser - Software Error Codes

IOC Error Codes

Legend

Note: The codes in the table below are used to label the internal device cables. For example, DFSS is printed on a small tag on the cable for the gate route sensor. Find the labeled tag to identify the location of the faulty component.

BPS: Bill Count Exit Sensor	SET1 - 6: Denomination Sensors BSnA-D (n=Lower Unit #; A-D=Magnet Position)
REJS: Reject Count Sensor	FDM1-6: Cassette Pick Motor PLM: Pool Motor
DFCS: Thickness Sensor	MTM: Transport Motor, Lower Units 1-2
NES1-6: Near End Sensor; approx. 40 bills remaining	FDLS1 - 6: Bill Count, Length and Timing Between Bills Sensor
RJMG: Reject Gate Solenoid	DFSS: Gate Route Sensor; Start Thickness Measurement Sensor



F53 Error Codes

Only the error codes listed in the table below pertain to the U-Scan F53.

1000	No Cassette - CC # 1	
1100	Cassette Empty - CC # 1	
1800	Pick Error - CC # 1	
2000	No Cassette - CC # 2	
2100	Cassette Empty - CC # 2	
2800	Pick Error - CC #2	
3000	No Cassette - CC # 3	
3100	Cassette Empty - CC # 3	
3800	Pick Error - CC # 3	
4000	No Cassette - CC # 4	
4100	Cassette Empty - CC # 4	
4800	Pick Error - CC # 4	
70xx	Media remained when command is received	
	7001FDLS1	7005FDLS5
	7002FDLS2	7009DFSS
	7003FDLS3	700BBPS
	7004FDLS4	
7801	Jam at FDLS1	
7802	Jam at FDLS2	
7803	Jam at FDLS3	
7804	Jam at FDLS4	
7805	Jam at FDLS5	
7811	Jam between FDLS1 and DFSS	
7812	Jam between FDLS2 and DFSS	
7813	Jam between FDLS3 and DFSS	
7814	Jam between FDLS4 and DFSS	
7815	Jam between FDLS5 and DFSS	
7821	Media remains after count at FDLS1	
7822	Media remains after count at FDLS2	
7823	Media remains after count at FDLS3	
7824	Media remains after count at FDLS4	
7825	Media remains after count at FDLS5	
7831	Media remains after clearing at FDLS1	
7832	Media remains after clearing at FDLS2	
7833	Media remains after clearing at FDLS3	
7834	Media remains after clearing at FDLS4	
7835	Media remains after clearing at FDLS5	

F53 Error Codes (continued)

7841	FDLS1 was activated without a bill
7842	FDLS2 was activated without a bill
7843	FDLS3 was activated without a bill
7844	FDLS4 was activated without a bill
7845	FDLS5 was activated without a bill
7A01	Jam occurred at DFSS
7A02	Jam between DFSS and BPS
7A03	Jam at BPS
7A29	Media remains after count at DFSS
7A2A	Media remains after count at BPS
7A39	Media remains after clearing at DFSS
7A3A	Media remains after clearing at BPS
7A49	DFSS was activated without a bill
7B01	Jam between DFSS and REJS
7B4B	REJS was activated without a bill
8200	Long bill
8300	Short bill
8400	Thickness is abnormal
8501	Pick from wrong cassette: 1
8502	Pick from wrong cassette: 2
8503	Pick from wrong cassette: 3
8504	Pick from wrong cassette: 4
8505	Pick from wrong cassette: 5
8600	Spacing between bills is abnormal
8800	Count mismatch # requested - BPS
8801	BPS on when no bill should be present
8803	Bill(s) passed BPS during Jam Clearing
8900	Thickness sensor failure
B5xx	Reject Box Full: REJS

Software Errors (program downloading to firmware)

C000	Rec D-Level Command during
C001	Rec LE during RAM Program Mode
C002	Rec LE before LD command
C100	Download program lost after receiving RT
C101	Flash ROM Write Error
C102	Program Load Checksum Error
C103	Version Error after receiving RT
C104	Flash ROM erase error
C105	File Name error
C106	Data Size error
C201	D-Level Command did not include: RT, LD, DE
C301	Download Header Error: D-code is not 00
C302	Download Header Error: D-code is not 1 or H
C303	Block Number error: D-code is LD
C304	Data Length error
E000	Undefined RAS command received
E100	Parameter not registered (count)
E401	No Bill info for 1st CC
E402	No Bill info for 2nd CC
E403	No Bill info for 3rd CC
E404	No Bill info for 4th CC
E405	No Bill info for 5th CC
E5xx	Count sequence specification error
E6xx	Invalid ISO code parameter
E8xx	Invalid thickness/length parameter
EAx	Invalid transport parameter
ECxx	FS Error
EExx	Command format error
F1xx	Over current: 24V 2A norm, 3.5A bad
F2xx	Option error
F6xx	Checksum error of log data

Software Errors (continued)

F8xx	Sensor abnormal	
	01 FDLS1	87 DFSS off check error
	02 FDLS2	88 REJS off check error
	03 FDLS3	89 BPS off check error
	04 FDLS4	A1 FDLS1 on check error
	05 FDLS5	A2 FDLS2 on check error
	07 DFSS	A3 FDLS3 on check error
	08 REJS	A4 FDLS4 on check error
	09 BPS	A5 FDLS5 on check error
	81 FDLS1 off check error	A7 DFSS on check error
	82 FDLS2 off check error	A8 REJS on check error
	83 FDLS3 off check error	A9 BPS on check error
	84 FDLS4 off check error	F0 Sensor level write DAC error
	85FDLS5 off check error	
FC00	Illegal operation	
FD00	Power off during count	

Error code	Possibly faulty location																			
	Check	Cleaning /Check																		
7C03 7C04 7C05 7C06 7C07 7C2C 7C2D 7C3C 7C3D	Medium remain	1																		
	PWR																			
	RS232C																			
	UPUS		3																	
	UPUD																			
	CAU1																			
	CAU2																			
	CAU3 _ CAU6																			
	SHTF																			
	SHTR																			
	FDLS1																			
	FDLS2																			
	FDLS3																			
	FDLS4																			
	FDLS5																			
	FDLS6																			
	DFSS																			
	REJS																			
	BPS																			
	BRS1/BRS2/BRS3		2	2	2	2	2	2	2											
EJSR																				
EJSF		2	2																	
SOSF, SCSF																				
SOSR, SCSR																				
BS1A, BS1B, BS1C, BS1D																				
BS2A, BS2B, BS2C, BS2D																				
BS3A, BS3B, BS3C, BS3D																				
BS4A, BS3B, BS4C, BS4D																				
BS5A, BS3B, BS5C, BS5D																				
BS6A, BS3B, BS6C, BS6D																				
RJBF, FSHT, FRBOX																				
RJBR, RSHT, RRBOX																				
THS, TUS																				
DFCS RAS31																				
Gap of the gate																				
Cassette guide																				
Transfer motor(MTM)																				
Transfer motor(BPM)																				
Table motor(PLM)																				
Pick/ Sub roller																				
Top unit		4	4	4	4	4	4	4												
Lower unit																				
PCB		4	4	4	4	4	4	4												
Command sequence																				
Cassette installation																				
Bill replenishment																				
Program download																				

Error code	Possibly faulty location												
	Check	Cleaning /Check											
	Medium remain												
	PWR												
	RS232C												
	UPUS												
	UPUD												
	CAU1												
	CAU2												
	CAU3_ CAU6												
	SHTF												
	SHTR												
	FDLS1												
	FDLS2												
	FDLS3												
	FDLS4												
	FDLS5												
	FDLS6												
	DFSS												
	REJS												
	BPS												
	BRS1/BRS2/BRS3												
	EJSR												
	EJSF												
	SOSF, SCSF												
	SOSR, SCSR												
	BS1A, BS1B, BS1C, BS1D												
	BS2A, BS2B, BS2C, BS2D												
	BS3A, BS3B, BS3C, BS3D												
	BS4A, BS3B, BS4C, BS4D												
	BS5A, BS3B, BS5C, BS5D												
	BS6A, BS3B, BS6C, BS6D												
	RJBF, FSHT, FRBOX												
	RJBR, RSHT, RRBOX												
	THS, TUS												
	DFCS RAS31												
	Gap of the gate												
	Cassette guide												
	Transfer motor(MTM)												
	Transfer motor(BPM)												
	Table motor(PLM)												
	Pick/ Sub roller												
	Top unit												
	Lower unit												
	PCB			2							1	1	1
	Command sequence												
	Cassette installation												
	Bill replenishment												
	Program download												
C103													
C104													
C105													
C106													
C201													
C301													
C302													
C303													
C304													
E000													
E100													
E401													
E402													

Status Register Description

BYTE 1/2 - IOC Error Code					BYTE 8 - Sensor Output Register 3					
BYTE 3 - Error Classification Register					7 Battery Alarm BALM					
7	Parameter is abnormal				6	- Not Used -				
6	Media position is abnormal				5	- Not Used -				
5	No media at the position indicated				4	- Not Used -				
4	Internal conflict				3	- Not Used -				
3	Hardware failure				2	- Not Used -				
2	Counting is not complete				1	TUS, Pool is at upper position				
1	Jam				0	THS, Pool is at home position				
0	Unit is not in ready state				BYTE 9 - Sensor Output Register 4					
BYTE 4 - Error Detail Register					MODEL TYPE; 0: F56 1: F53					
7	Pool Section Failure				6	F56; 0: Front Spray Transport 1: Rear Spray Transport				
6	Main hardware failure				5	ROtion: 0: N/A 1: Available				
5	Sensor is abnormal or media remains				4	ROption Type 0: Shutter 1: Capture Box				
4	Shutter Failure (with Shutter Option Only)				3	Rear Capture Box not specified - RJBR				
3	Number of counted bills does not balance				2	FOtion: 0: N/A 1: Available				
2	Reject box is overflowing				1	FOption Type 0: Shutter 1: Capture Box				
1	- NOT USED -				0	Front Capture Box not specified - RJBR				
0	Cash cassette is not in ready state				BYTE 10 - Sensor Output Register 5					
BYTE 5 - Counting Error Detail Register					7 Shutter Open (Front)					
7	Bill is too long				6	Shutter Solenoid Triggered (Front)				
6	Bill is too short				5	Shutter Open (Front)				
5	- Not Used -				4	Shutter Closed (Front)				
4	Bill thickness is abnormal (multiple feed)				3	Shutter has Open (Rear)				
3	Bill spacing too short				2	Shutter Solenoid Triggered (Rear)				
2	Bills are fed from wrong cassette:				1	Shutter Open (Rear)				
		1st	2nd	3rd	4th	0	Shutter Closed (Rear)			
1	1	1	0	0	BYTE 11 - Sensor Output Register 6					
0	1	0	1	0	7 - Not Used -					
BYTE 6 - Sensor Output Register 1					6 - Not Used -					
7	- Not Used -				5 Sensor Level Down					
6	- Not Used -				4 Thickness Sensor changed greatly - DFCS					
5	CC # 6 Media Exit - FDLS6				3 UNNOTE; 0: No Data					
4	CC # 5 Media Exit - FDLS5				2 Bill rejected by initialization command					
3	CC # 4 Media Exit - FDLS4				1 Bill rejected by initialization command or count					
2	CC # 3 Media Exit - FDLS3				0 Bill retrieved by initialization command					
1	CC # 2 Media Exit - FDLS2				BYTE 12 - 15 - Cassette Registers					
0	CC # 1 Media Exit - FDLS1				7 Bill near end sensor - C#LL					
BYTE 7 - Sensor Output Register 2					6 - Not Used -					
7	Media at Pool Section - BRS1				5 Cassette not set / denom = 000					
6	Media at Pool Section - BRS2				4 Cassette not in place (same as above)					
5	Media at Pool Section - BRS3				3 Magnet Position 'A'					
4	Media at front pool exit - EJSF				2 Magnet Position 'B'					
3	Media at rear pool exit - EJSR				1 Magnet Position 'C'					
2	Media at Reject Sensor - REJS				0 Magnet Position 'D'					
1	Media exists at Count path sensor - BPS				P POM Level (Thickness Sensor Value)					
0	Media exists at Gate path sensor - DFSS				E7 +/- 4 (E3 - EB)					

Chapter 9: MEI BNR Bill Recycler

This chapter contains servicing information for the Fujitsu F53 Bill Dispenser, found in U-Scan Genesis Stations. *At this time, cash recycling is only available in U-Scan systems sold in Europe.*



Features

The BNR Cashflow bill recycler features:

- Denomination and validation of “street” bills from many countries
- Temporary bill storage for current transaction (escrow capacity 15 bills)
- Provides change to consumers using temporary stores, including recyclers and loader cassette.
- Puts bills in a permanent store (cash box - maximum capacity 600 bills)

Technical Specifications

Environment

- Environment: Indoors
- Operating Temperature: 0 to 60° C (32° F to 140° F)
- Non-Operating Temperature: -40° C to 70° C (-40° F to 158° F)
- Operating Humidity: 5 to 95%, non-condensing

Communications

- Main Comm - USB “A” connector connects to TP3K USB Port B
- Aux. Comm - USB B receptacle on front of unit, can be accessed for service and repair

Agency Requirements

- Certifications: RoHS, EN, UL

Power

- 24 V DC (-10% +20%), 0.5 A standby 10 A peak

Weight

- Complete unit (not loaded): 25.7 kg., Cashbox 1.6 kg., Loader 2.0 kg.

Bill Capacities

- Bill width: 60-83 mm. wide, 182 mm. length

Recycler Module Configurations

The bill recycler contains two recycler modules, each containing two recyclers.

- The first module contains recyclers 3 (30 bill capacity) and 4 (60 bill capacity)
- The second module contains recyclers 5 (30 bill capacity) and 6 (60 bill capacity)



Main module



**Cash box
(11003096)**



**Loader
(11003094)**



Recyclers 3 and 4



Recyclers 5 and 6

The current U-Scan bill recycler configurations are listed below for reference (“RE” indicates “recycler”):

[RE3] max. 30, [RE4] max. 60, [RE5] max. 30,
[RE6] max. 60

USD - Loader [1]

[RE3]: \$10, [RE4]: \$1, [RE5]: \$20, [RE6]: \$5
[Accepted, Not Recycled]: \$2, \$50, \$100

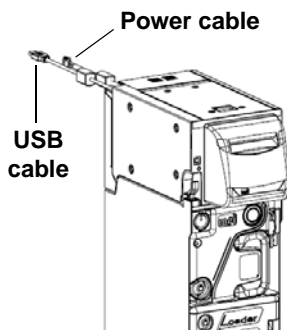
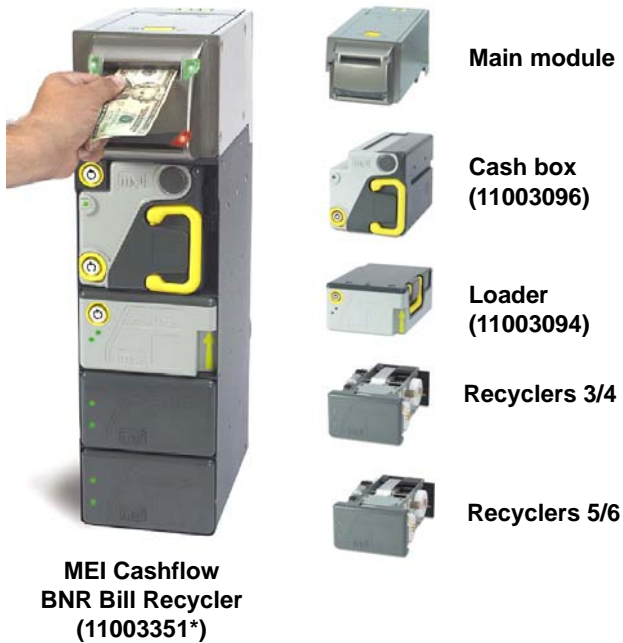
CAD - Loader [5]

[RE3]: \$50, [RE4]: \$5, [RE5]: \$20, [RE6]: \$10
[Accepted, Not Recycled]: \$100

EUR - Loader [5]

[RE3]: 50€ [RE4]: 5€ [RE5]: 20€ [RE6]: 10€
[Accepted, Not Recycled]: 100€
[Inhibited]: 200€ 500€

Loading the BNR



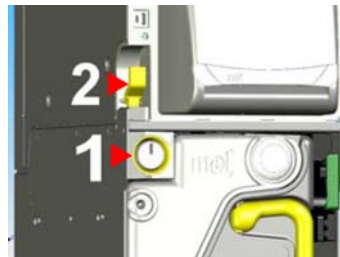
Remove and Fill the Loader

Note: Under normal use, the attendants remove the loader and cashbox when the store closes, and replace them when the store opens. All other modules normally remain in the unit.

Running operation

Where possible, you should keep the float in the recyclers on a day to day basis, removing only the Loader and the Cash box at the end of the day. This will allow the BNR to give the optimal change to the users at all times.

- 1 Unlock and open the lower door of the Customer Station.
- 2 Turn the key (1) and pull the lever (2) toward you to release the general cash lock modules from the bill recycler unit. Remove the loader module by pulling it out with your finger.

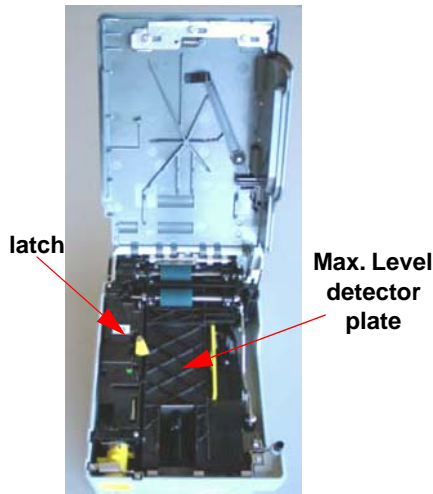


- 3 Turn the locking key clockwise to release the lid.



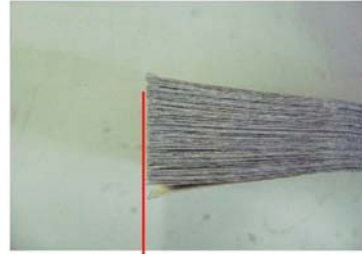
- 4 Fully open the lid until it hits the stop.
 - a Release the small yellow latch by pushing it aside. Lift the Max. Level detector plate.

- b** Push the pressure plate down to the stop.

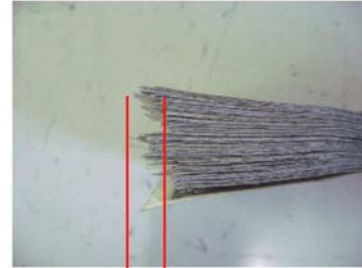


- 5** Inspect the quality of the bills you plan to load. Do **NOT** load any of the following:
- a** Torn bills (including bills with ripped corners)
 - b** Taped bills
 - c** Bills with staples attached
 - d** Badly stained bills
 - e** Severely wrinkled bills
 - f** Bills with holes
- 6** Attempt to straighten and smooth out any folded or crumpled bills.

- 7** Align the bills in a neat stack. Ensure that no bills protrude from the stack.



Like This



NOT Like This

- 8** Fan the bills to ensure that they are not stuck together.



Note: If you are loading a large quantity of bills, ensure that they are not all facing the same direction.

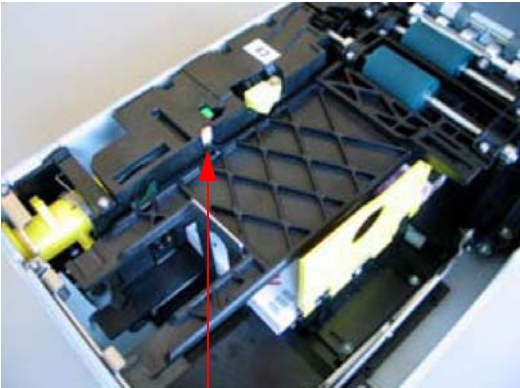
- 9** If the bills are new, be sure to remove any packing paste from the bills.
- 10** Lift to flip open the side guide and insert an adequate number of bills, with the lower denominations at the bottom of the stack (for European customers, only 5€ bills can be placed in the loader). Make sure that the bottom bill does not twist or fold.

11 If the bills contain any kind of metal security strip, ensure that they are positioned so that the strip is toward the back of the cassette. The loader can hold 250 bills (+/- 50), depending on the currency, its condition, and the climatic conditions.

12 Next, re-position the side guide as it was originally. Take note of the number of bills that you inserted.



13 Reposition the Max. level detector plate. The detector flag should change to green. If it is red, then remove bills until it turns to green (once the plate is back in position).



Detector flag

14 Close the lid of the loader.

a Turn the key slightly clockwise, then push down.



b Turn the key fully vertical, in order to release the pressure plate mechanism.



15 Before replacing the loader, enter Maintenance Mode to set the bill levels.

Enter Maintenance Mode

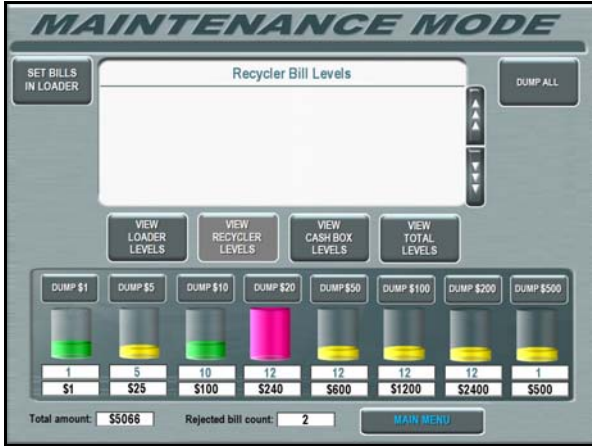
- 1 Scan the control bar code.
- 2 **Attendant Mode** is accessed.
- 3 Touch **Manager Functions**.
- 4 A number pad displays.
- 5 Enter the Manager Password (01), then touch **Done**.
- 6 The Manager Function buttons display.
- 7 Touch **Robot Maintenance**.
- 8 The **Maintenance Mode** screen displays.



Set Bill Quantities

- 1 Make sure you know how many bills were physically loaded.
- 2 On the Customer Station **Maintenance Mode** screen, touch **Bill Recycler Maintenance**.

- By default, the following **Total Bill Levels** screen is shown first.



- Press **SET BILLS IN LOADER** to indicate the number of bills you intend to load. The following screen is displayed:



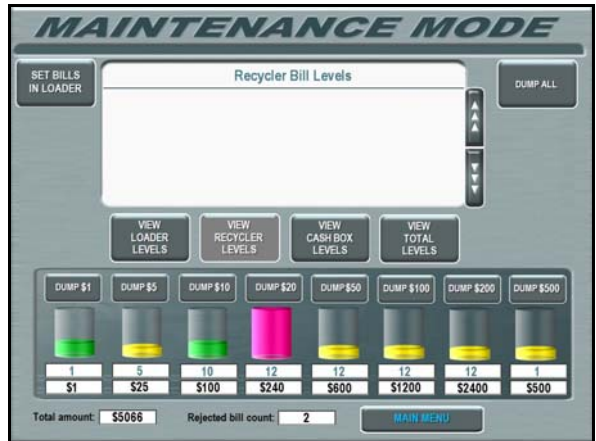
*Note: On this screen you are indicating the number of bills you intend to place in the loader — **not** the total number of bills that are in the system.*

- Touch **MAIN MENU**.
- Touch **EXIT MAINTENANCE**.
- Replace the loader module as explained in the next section.
- When the system is up and running, you can view these screens to determine the current amounts that are in the loader, recyclers, cash box, or the total for all devices.

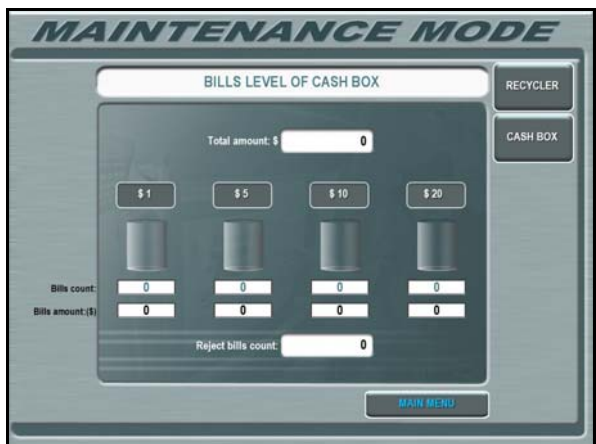
- In Maintenance Mode, press **VIEW LOADER LEVELS** to see how many bills are in the Loader. One “cylinder” image represents the loader. The bill counts and the value of the bills are shown in separate boxes.



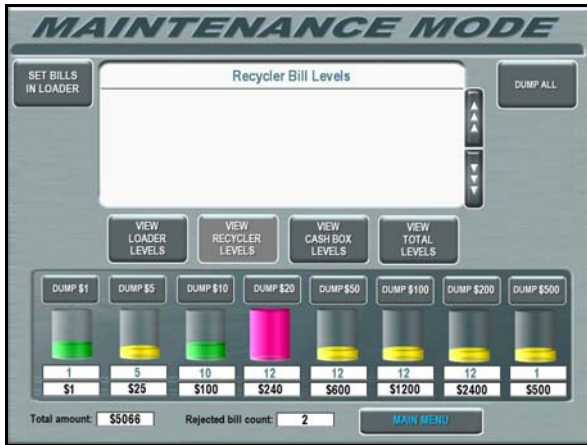
- Press **RECYCLER** to see how many bills are in the recyclers. One “cylinder” image represents each denomination in the bill recyclers.



- Press **CASH BOX** to see how many bills are in the cash box. One “cylinder” image represents each denomination in the cash box. The number of rejected bills is also indicated.

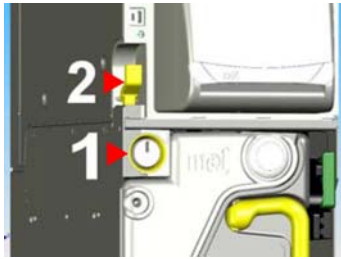


- Press **MAIN MENU** to see how many bills are in all of the modules of the bill recycler unit (this is the default view). One “cylinder” image represents each denomination found in all of the modules. The number of rejected bills is also indicated.



Install the Loader

- 1 Replace the Loader back into the unit, locking it into place by turning the key (1) and then lifting the lever (2).



- 2 The bills are immediately moved to the recycler module.
- 3 Close and lock the lower door of the U-Scan Customer Station.

Testing

Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In **Device Tester**, click both the **Bill Acceptor** and **Bill Dispenser** tabs.
- 2 For each tab, ensure that the settings are:

(TP3K computer):

Setting	Value
Device Model	MEI BNR
COM	USB B

(TP3600 Series computer):

Setting	Value
Device Model	MEI BNR
COM	USB C

*Note: The other settings that display in the **Device Tester** window are greyed out and cannot be changed.*

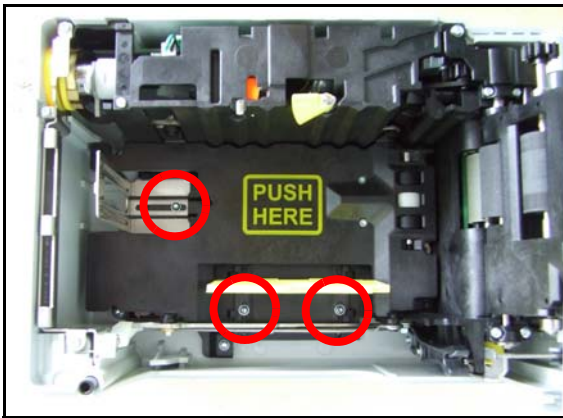
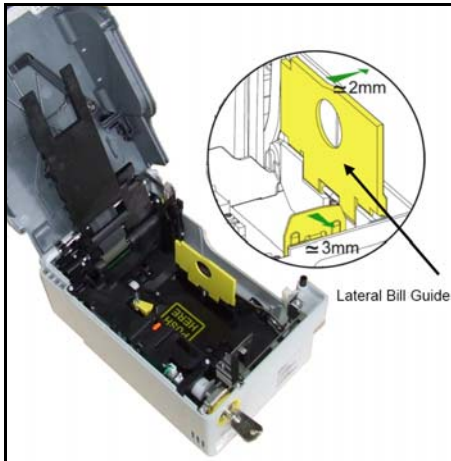
- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Adjusting the Loader Cassette for Bill Width and Length

Requirements:

- Torx No. 8 screwdriver
 - Bills to be loaded, test money
- 1 Remove and open the loader cassette (see [page 144](#)).
 - 2 Using a Torx screwdriver, adjust the housing to accommodate the bundle of bills, leaving an approximately 2 mm gap for the side flap, and 3 mm gap for the short edge (metal guide).

The screw locations are indicated by red circles in the photo on the left.



- For currencies with different sized bills, *all notes placed in the loader cassette must be of the same length and width.*
- Close and install the loader cassette into the bill recycler.

Verify the Bill Recycler using Device Tester

The **Device Tester** program is used to observe and control certain device activities. U-Scan must be running to use the program: use Alt+Tab to switch to Launchpad, then touch the **Stop Robot** button. Next, touch the **Device Tester** button when it becomes available.

Provide the password (the default is “1379”). Select the tab that corresponds to the device you are interested in testing. Note that recycler operations are accessed via the separate “Acceptor” and “Dispenser” tabs (there are no tabs identified as “Recycler”).

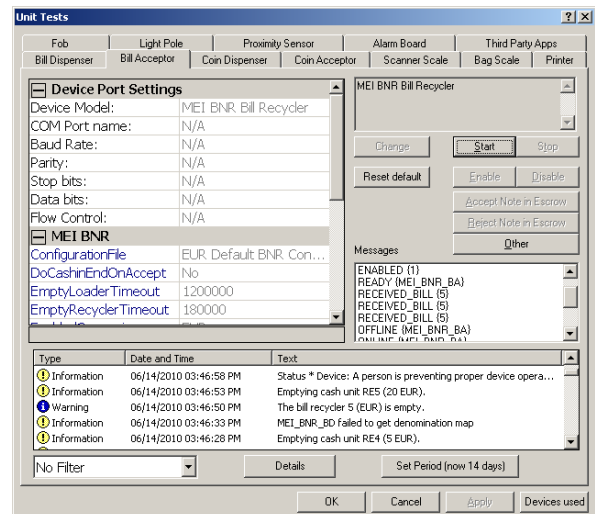
Other configurations can be specified in the software deliverable, or on the fly in the Windows registry, but such changes are outside the scope of this document.

Refer to the screen image below to see the available boxes:

- The **Device Port Settings** panel displays basic connection information, plus configuration for each device. Scroll down to the device of interest to view or change its settings. To change a setting, press the (*) asterisk key on the physical keyboard to enable the **Change** button. Next, click **Change**, then click on a cell in order to change it.
- The **Messages** box presents messages received by U-Scan directly from the device.
- The panel that stretches across the bottom provides access to the event messages. Note that you can use the **Filter** dropdown to filter out unwanted message types (Warning, Information, etc.).

Bill Recycler (Bill Accepting)

- Select the **Bill Acceptor** tab. If you want to see the device settings, scroll down to reveal the listing under **MEI BNR**.



- Press the **Start** button to start the device, then click **Enable** to enable it and wait for the device to come online (the green lights on the front of the device will be lit).
You can add bills directly by inserting them into the input slot on the front of the device.
- To add bills to the loader, unlock the Bill Recycler and remove the loader. Add bills to the loader:
 - Euros (bills of differing sizes): only one denomination (5€) can be added directly to the loader. All other denominations must be fed into the input slot on the front of the device.
 - Other (bills of standard size): put the lowest denomination at the bottom of the stack of bills in the loader, with the rest of the denominations on top.

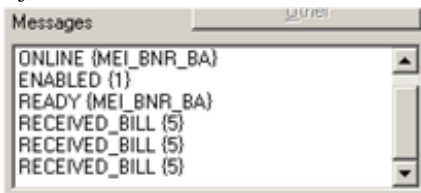
- Replace the loader, locking the device afterward. At this point, the device processes the bills.

The Bill Recycler can accept more denominations than it can recycle. It makes no difference whether you add bills to the loader, or add bills by feeding them into the device's input slot; the Bill Recycler will accept and validate the bills in the same manner.

- All valid bills are accepted by the device. Rejected bills are expelled via the output slot on the front of the device.
- Denominations that are *not* part of the recyclable set of bills are sent to the cash box.
- Denominations that *are* part of the recyclable set of bills are sent to the appropriate recycler unit. If a recycler is full, the accepted bills for it will go directly to the cash box. Note that all bill management is handled internally by the Bill Recycler device.

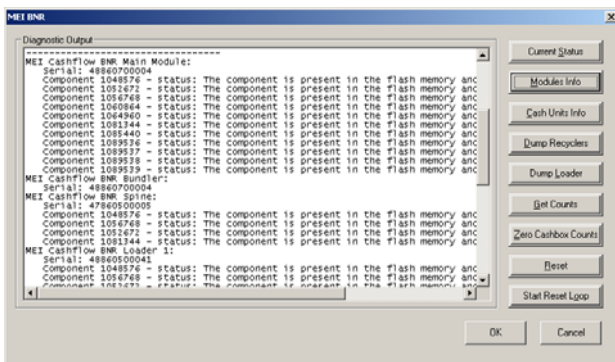
The **Accept Note in Escrow** and **Reject Note in Escrow** buttons do not apply to the Bill Recycler.

As the bills are being processed, the Device Tester **Messages** box indicates whether they are accepted or rejected.



- Press the **Other** button to access the unit test dialog box. This permits you to view the MEI/U-Scan API interaction while bills are being processed. (Note that the **Other** buttons on both the **Bill Acceptor** and **Bill Dispenser** tabs both open this same dialog box.)

Click a button on the right to view the corresponding diagnostic output. The screen image below shows the **Modules Info** output. Note: the **Diagnostic Output** window does not clear with each button press, so the various sets of information accumulate in the window.



- Here is an example of the **Current Status** information:

```

-----
BNR Status:
Devices: The device is present and operational.
Dispenser: One of the dispenser logical cash units present is in an abnormal s
Stacker: The intermediate stacker is empty.
Safe Doors: The cash module lock (safe door) is closed and locked.
Shutter: The shutter is closed.
Transport: The transport is in a good state.
-----
  
```

- Here is an example of the **Cash Units Info** information (for the recycler #4 unit):

```

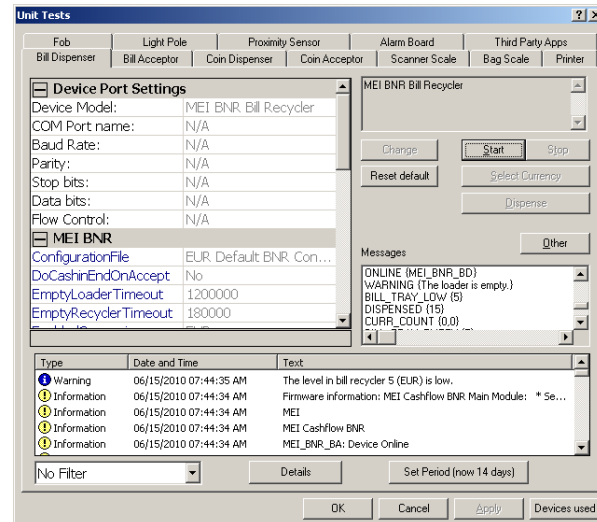
Physical unit (RE4):
Id: 47860700015
Count: 3
Threshold: Full: 55 high: 45 low: 10 empty: 0
ThresholdMode: count
ThresholdStat: The cash unit is almost empty.
Status: OK
Lock: false
  
```

- Press the **Disable** button to disable the device, then press the **Stop** button to stop it.

Note that bill accepting and dispensing can also be controlled from Maintenance Mode, which is available from within the U-Scan software by going to Attendant Mode (usually by scanning a control barcode).

Bill Recycler (Bill Dispensing)

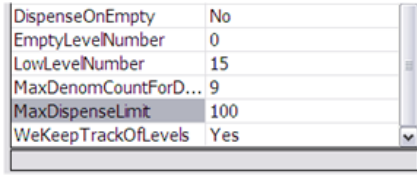
- Select the **Bill Dispenser** tab. If you want to see the device settings, scroll down to reveal the listing under **MEI BNR**.



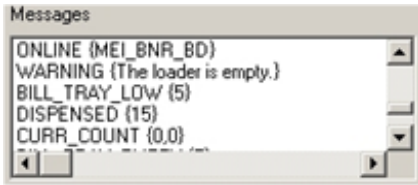
- Press the **Start** button to start the device.
- Click the **Dispense** button to dispense bills. In the **Enter dispense amount** dialog box, enter the amount you would like to dispense, then click **OK**.
- Note: the maximum value of bills that can be set and dispensed in a single operation is set to 40 by default. If you wish to change this value:

- Press the asterisk (*) key (on the numeric keypad) of the physical keyboard. This enables the **Change** button.
- Click **Change**.

- Click the cell under **Device Port Settings** that is labeled **MaxDispenseLimit**:



- Click the numeric cell to the right of this label. The **Numeric Pad** dialog box opens. Enter the new value and click **OK**.
- The **Select Currency** button only applies to stores that accept multiple currency types. It is not normally available.
 - As you dispense coins, the Device Tester **Messages** box indicates the denomination dispensed and other status information.



- Click the **Dump** button to send all bills from all devices (loader, recyclers) to the cash box.
- Press the **Stop** button to stop the device.
- Note that bill accepting and dispensing can also be controlled from Maintenance Mode, which is available from within the U-Scan software by going to Attendant Mode (usually by scanning a control barcode).

Troubleshooting the Bill Recycler



You will be able to identify most issues with the Bill Recycler if you follow all of the tasks outlined in this section.

Follow the Testing Procedure

See “Testing” on page 148.

Inspect the Cable Connections

- Unlock and open the lower door.
- Push the green release handle on the left and extend the bill recycler tray completely out toward you on the rails.
- Ensure that two cables are securely connected to the unit, and that the cables and extensions are securely connected to computer:

TP3K computer only:

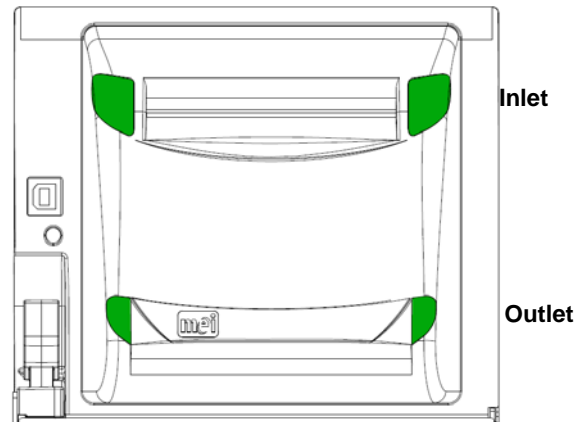
Ensure that the communication cable is securely connected to USB Port B.

TP3600 Series computer only:

Ensure that the communication cable is securely connected to USB Port C.

Inspect the LEDs

- Locate the LEDs on the front bezel.



- The front bezel contains two inlet arrow lights and two outlet arrow lights that provide transaction messages to the operator, or warning and failure messages to field engineers. The Inlet arrows can be lit in green or red. The Outlet arrows can be lit in green only.

Transaction messages

Inlet Arrows	Outlet Arrows	Message
Solid green	Off	Bill can be inserted
Off	Off	Insertion is disabled
Blinking green 1 flash	Off	Bill returned at the Inlet. The user must pull it back out.
Off	Blinking green 1 flash	Bills are given out at the Outlet.

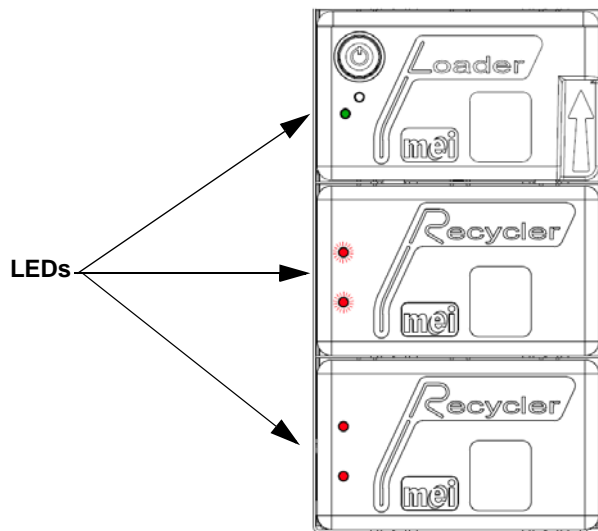
Failure/Warning messages

Inlet Arrows	Outlet Arrows	Message
Solid red	Off	Error or failure requiring reset command. Servicing required.
Blinking red red Mode D	Off	Bill jam. Servicing required.

Note: Transaction, warning, and failure message categories can be configured to be active or inactive.

Module LEDs

- Each BNR module contains red and green LEDs that indicate global status information.

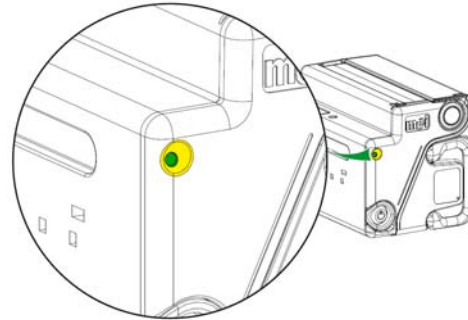


LED messages

Inlet Arrows	Message
Off	Module is not powered.
Solid green	Module is functional.
Off	Insertion is disabled
Solid red	Failure requiring reset command. Servicing required.
Blinking red red Mode E	Bill jam. Servicing required.

Cash Box Indicator (Mechanical)

A solid green mechanical indicator shows that the box can be inserted. A grey indicator shows that the cash box should be re-armed. Unlock and open the box to re-arm the system.

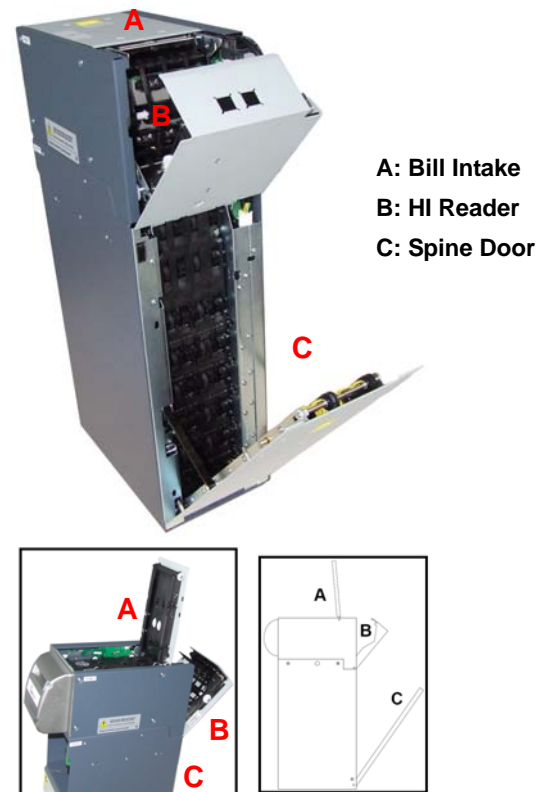


Bill Flap Doors

When the unit is in an out-of-service condition, it may be necessary to open the BNR bill path access doors in order to clear possible bill jams. The bill flap doors must always be closed to operate the unit.

Unlock and open the lower door of the U-Scan Customer Station and rack out the BNR to access these doors.

When the unit is to be placed back into operation, the bill flap doors must be closed in the order (A, B, C) shown below:



Logs

Event logging can be enabled in

C:\Robot\Dll\ConfigLog.ini, as shown below. Set **ONOFF=1** in each section for which you wish to enable logging. The maximum log file size is 10 MB, as set below:

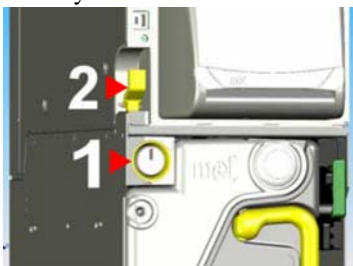
```
# settings for log files
[GLOBAL]
PATH="C:\Robot\Log\Mei_Bnr.tra";
// access path of the log files | Current folder is "."
[REQUEST]
SIZE=10000000;
// size of the request log file
ONOFF=0; When 1, log is active. When 0, log is inactive.
[API]
SIZE=10000000;
// size of the API log file
ONOFF=0; When 1, log is active. When 0, log is inactive.
[ERROR]
SIZE=10000000;
// size of the error log file
ONOFF=0;
// When 1, log is active. When 0, log is inactive.
LEVEL=0;
// level of error record
# end of file
```

Advanced Bill Jam Clearing

If the bill recycler is not dispensing bills and the recyclers are not empty, perform the steps below to check for bill jams.

Jam Underneath Main Module

- 1 Unlock the interlock mechanism and remove the cashbox:
 - a Turn the key (1) and pull the lever (2) toward you to release the general cash lock modules from the bill recycler unit. Remove the cashbox module by pulling it out by the handle.



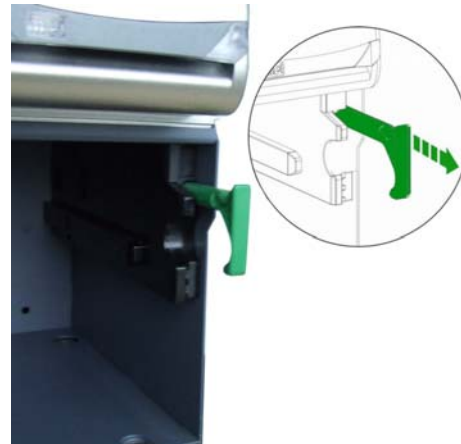
- 2 If there is a jammed bill underneath the main module, as shown below, carefully remove it.



- 3 Replace the cashbox with an empty one.

Jam in Main Module Bundler

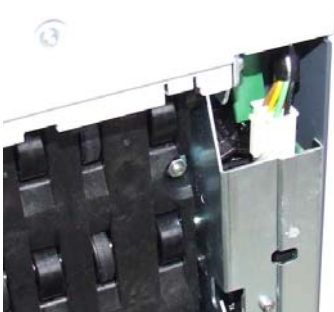
- 1 Remove the main module:
 - a Switch off the power and unplug the power and USB cables.
 - b Release the interlock system using the key and lever.
 - c Remove the cashbox and release the 'Shockblocker' by pulling the green unlocking lever to the second stop.



- d** Push up on the yellow release to open the spine door.
This will provide access to the rear of the main module.



- e** Unplug the cable that connects the main module to the spine.

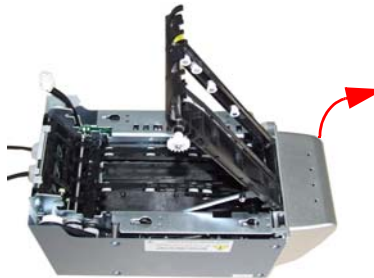


- f** Pull the main module 'remove lever' up while sliding the main module backward.

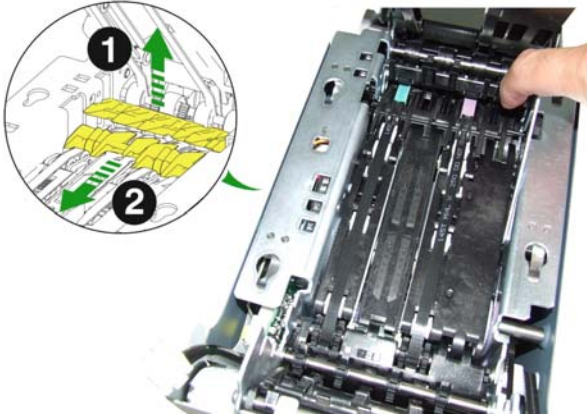


- g** Carefully raise up the main module.

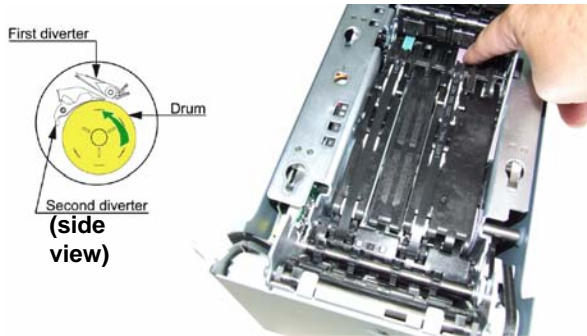
- 2 Place the main module upside down on a table.
- 3 Push the two yellow opening levers together (1) and raise the bottom assembly (2). When the bottom assembly is fully open, a mechanism will hold it in place.



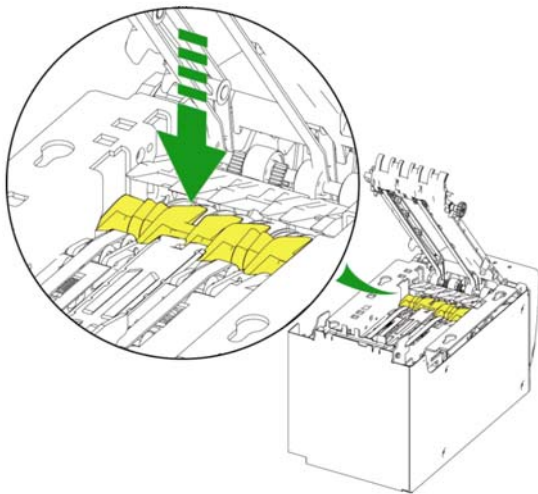
- Turn the main module. Raise the first diverter at the outlet of the bundler (1) and move the second diverter (2).



- Manually rotate the drum with your finger, using the green or pink rubber wheel.



- The bill will appear at the bundler exit.
- Continue to turn the drum and press on the second diverter, in order to direct the bill out of the bundler.



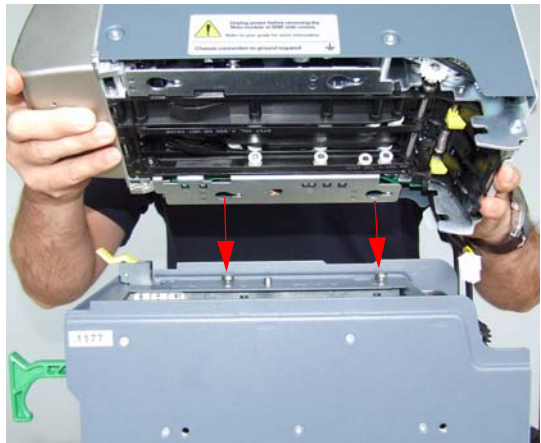
- Carefully withdraw the bill.
- Close the bottom assembly and lock it by moving the two yellow opening levers together.

Re-install the Main Module

- If not already done, remove the cashbox from the unit as explained on [page 153](#).
- In the back, push up on the yellow release to open the spine door. The spine door is held open at an angle by a plastic lanyard. This will provide access to the rear of the main module.

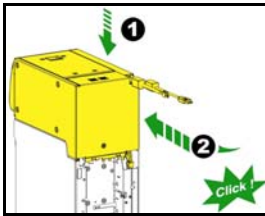


- Carefully place the main module on top of the unit. You will be able to align holes in the bottom of the main module with four 'pan head' pins on the chassis.

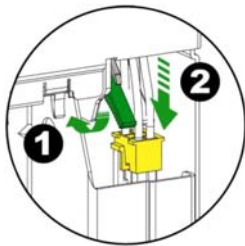
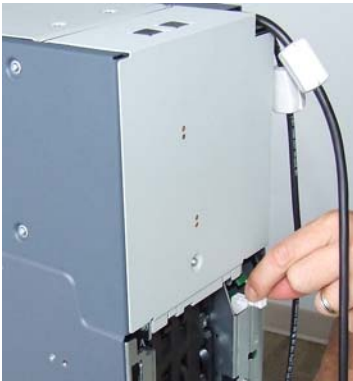


The edges of the main module casing must be *outside* the chassis of the bill recycler unit.

- 4 Shift the main module toward the front, until the back of the main module is flush with the chassis. You will hear a click when the main module is correctly locked in place.



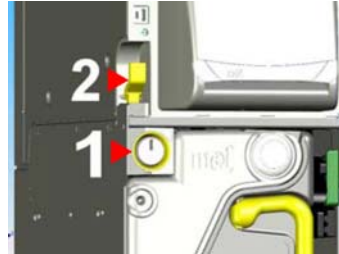
- 5 Push the 'main module remove lever' down toward the spine (1). Be sure not to raise it up, since this is a system that locks the main module in place.
- 6 Connect the electrical cable to the 6-pole connector on the chassis (2).



- 7 Close the rear spine door and install the cashbox:
- Note that installing the cashbox does not require a lot of force.
 - If the cashbox is not sitting flush with the unit, first check that the interlock lever is locked.

- Next, check that the cashbox arming indicator is green. If it is not green, you must re-arm the cashbox by opening, emptying, and closing it. (To open the cashbox, press slightly on its top, above the lock, and turn the key clockwise; to close it, press slightly on its top and turn the key counter-clockwise.)

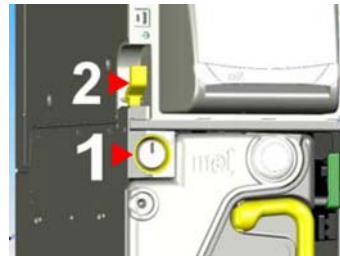
- 8 Turn the key (1) and counterclockwise and push the lever (2) away from you to lock the bill recycler unit.



- 9 Connect the power and USB cables and rack the unit back into the Customer Station. Close and lock the lower station door.

Jam in Recyclers

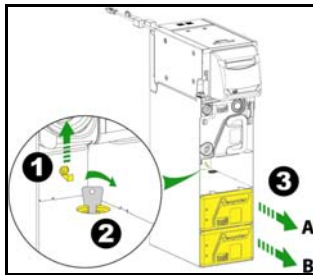
- 1 Remove the recyclers:
- Release the interlock system using the first key (1) and lever (2).



- Remove the loader cassette.
- Reach into the back of the empty loader cassette chassis on the bill recycler and raise the lower locking pin. (See the drawing in the next step to identify this location.)



- d Position the second key with your left hand to unlock the first recycler. **The first key (step 1 a) must remain in the interlock in order for the second key to work.**



- e Push and turn the key 90° to the right (2). Remove the key before removing recycler A (3).
- f Repeat the preceding two steps if you need to remove recycler B (this recycler has no locking pin).



Jam in Recyclers 3 or 5 (30 bill capacity)

For reference, see [“Recycler Module Configurations”](#).

- 1 If there is a bill jam in [RE3] or [RE5], position the recycler so that the front is facing you.

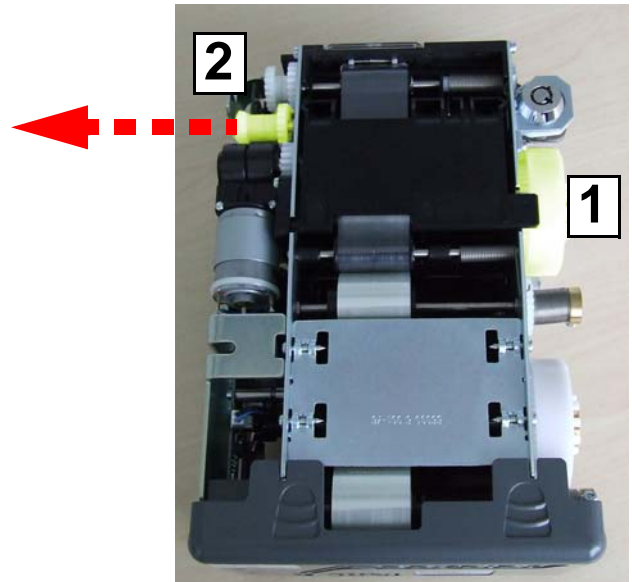


- 2 Locate and hold the white puck labeled “load 30” on the right hand side. (Note that components of interest are highlighted in yellow.)



Note: Do not release the white puck; otherwise the system will rewind.

- 3 On the left hand side, pull and hold the ‘disengageable’ gear in order to de-couple the gears (2).



WARNING: Do not attempt to dis-assemble or destroy the spring box, since the flat spring roll will release itself, and this could cause an injury.

- 4 Manually turn the puck on the right hand side clockwise. The bills will move to the exit on the rear side of the recycler.



- 5 Continue to turn white puck until all bills are removed from the recycler.
- 6 When the bills are emptied from the recycler, release the 'disengageable' gear first, and then release the white puck.

Jam in Recyclers 4 or 6 (60 bill capacity)

For reference, see ["Recycler Module Configurations"](#) on page 143.

- 1 If there is a bill jam in [RE4] or [RE6], position the recycler so that the front is facing you.

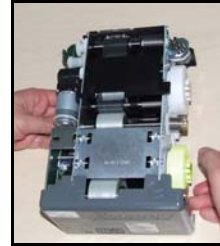
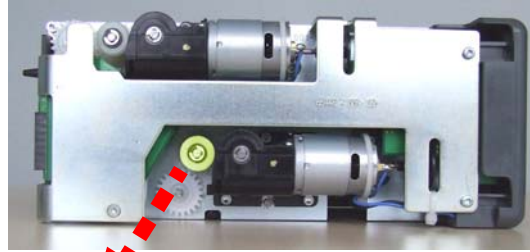


- 2 Locate and hold the white puck labeled "load 60" on the right hand side. (Note that components of interest are highlighted in yellow.)



Note: Do not release the white puck; otherwise the system will rewind.

- 3 On the left hand side, pull and hold the 'disengageable' gear in order to de-couple the gears (2).



WARNING: Do not attempt to dis-assemble or destroy the spring box, since the flat spring roll will release itself, and this could cause an injury.

- 4 Manually turn the puck on the right hand side counter-clockwise. The bills will move to the exit on the rear side of the recycler.



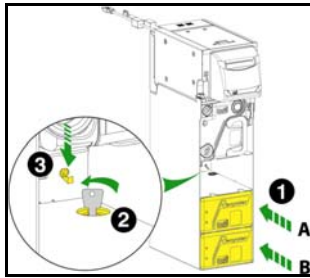
- 5 Continue to turn white puck until all bills are removed from the recycler.
- 6 When the bills are emptied from the recycler, release the 'disengageable' gear first, and then release the white puck.

Re-install the Recyclers

- 1 Re-install the recycler modules in the chassis (1).

 - The recycler labeled “B” in the following illustration is installed at the bottom.
 - The recycler labeled “A” is installed over recycler “B”
 - Install and lock the bottom recycler (“B”) *before* you install the top recycler (“A”).

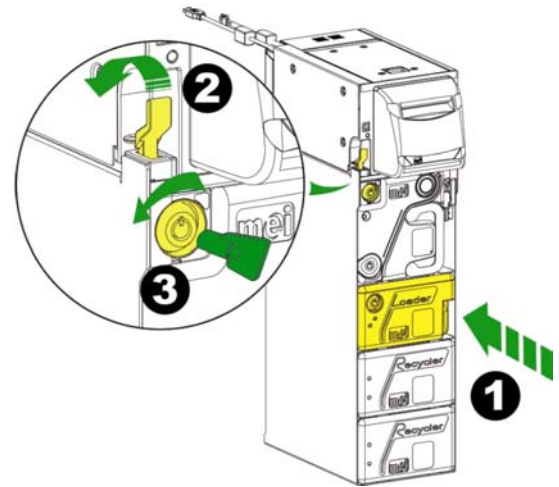
 - a After you insert the recycler modules, reach into the back of the empty loader cassette chassis on the bill recycler.
 - b Position the key with your left hand to lock the top recycler. Push and turn the key 90° to the left (2).



- c Remove the key and lower the lower locking pin (3). (See the drawing in the preceding step to identify this location.)



- d Install the loader module.



- 2 Lock the interlock system with lever (2) and lock (3), using the key.
- 3 Re-connect the power and USB cables.
- 4 Switch the power on and re-start the bill recycler.

Piston Stuck in Cashbox

- 1 When the piston of the main module plunges into the cashbox and jams, you cannot remove the cashbox, but it is possible to remove the main module.
- 2 For this operation, you will need the keys for the interlock system and the cashbox.
- 3 Open the cashbox while it is still in the unit (insert the key in the lock located in the bottom left corner and turn it clockwise).



- 4 A mechanical system will release the main module via the interlock system.
- 5 Remove the main module as explained on [page 153](#). (In this case, the cashbox will remain inside the chassis of the bill recycler.)
- 6 Identify and repair the failure.

Cleaning and Maintenance

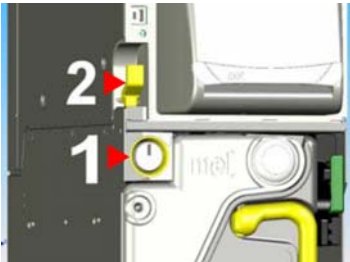
Cleaning Operations

In order to avoid dust accumulation which can cause the main module to go out of service, the main module must be cleaned every 60 days (or every 50,000 cycles). Dust is generally caused by banknote fibers accumulating around critical parts.

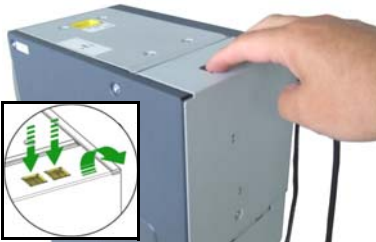
The best method of cleaning the main module is to blow the dust away with compressed air. You will need a spray of filtered and compressed air with a maximum pressure of 50 PSI (=3.5 bars).

1 Remove the cashbox:

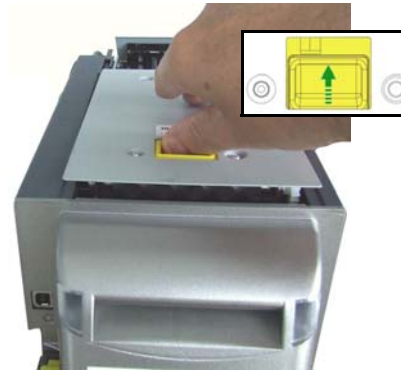
- a Turn the key (1) and pull the lever (2) toward you to release the general cash lock modules from the bill recycler unit. Remove the cashbox module by pulling it out by the handle.



2 At the back, open the recognition sensor door.



- 3 At the front, open the positioner door by pulling back the yellow latch on the top of the unit and then lifting the door.



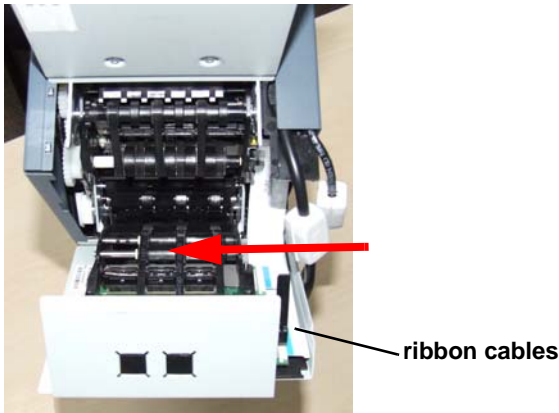
- 4 Clean the inlet by blowing air out the inlet, from the inside.



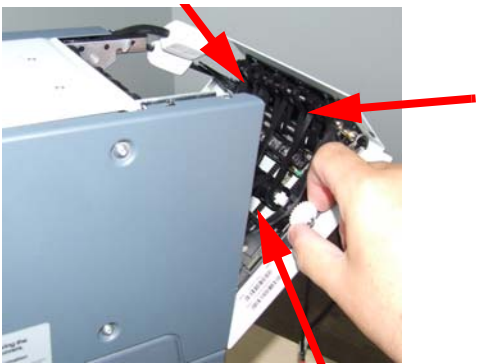
- 5 Clean the bill intake and the positioner, blowing air toward the recognition sensor.



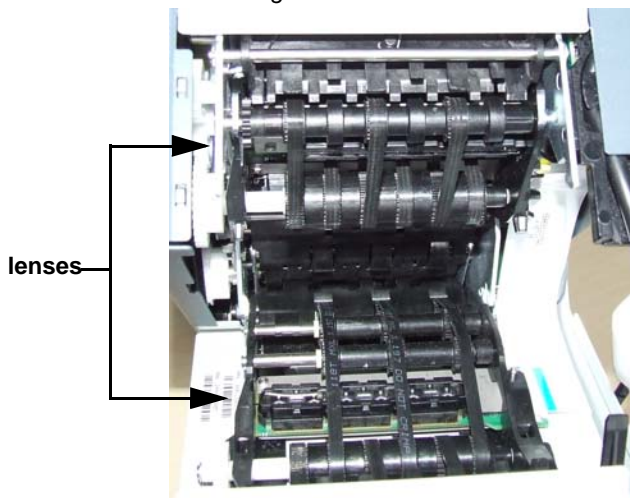
- 6 Blow air into the inner part of the recognition sensor, from the side where you see two white ribbon cables (i.e. from the side where the communication and power cables emerge).



- 7 To clean the rear part of the recognition sensor, turn the coding wheel while blowing compressed air all over the area.

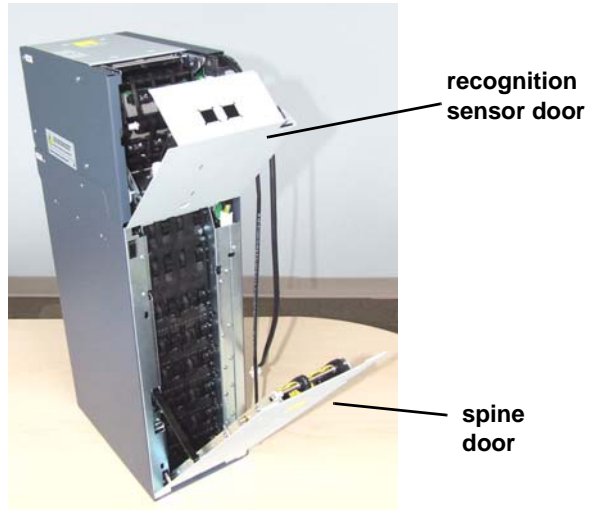


Warning: Do not allow the air cleaner to place any residue or liquid on the unit. Carefully clean the recognition sensor lenses to remove dust, but be careful not to scratch or damage the lenses.



- 8 Close the positioner door and the recognition sensor door.

- 9 At the rear, open the spine door (raise and hold the yellow release while pulling the door out) and re-open the recognition sensor door.

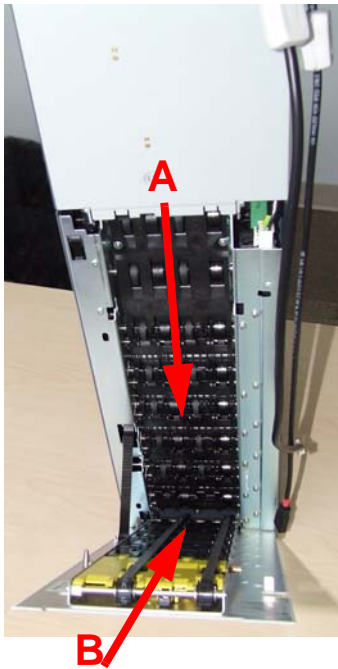


- 10 Clean the rotating diverters inside the recognition sensor door, to clean the sensor on the bottom transport.



- 11 Close the recognition sensor door and clean the spine:
 - a Blow air into the inner part of the spine.

- b Blow air into the rear part of the spine.



- 12 Close the spine door.

- 13 At the front, clean underneath the main module.

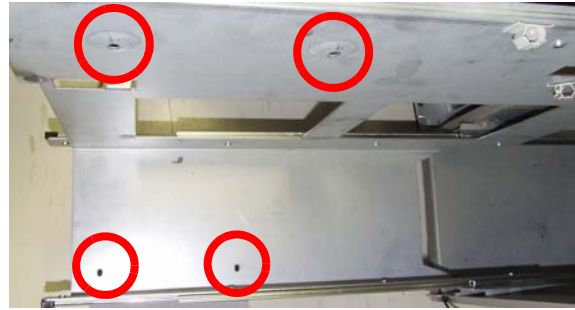


Installing the Bill Recycler into Genesis

The Bill Recycler is secured to the sheet metal tray on the left, with two M5 screws on the side (install these first) and two M4 countersink screws and Keps nuts, secured from inside the Bill Recycler unit on the bottom.

The procedure for installing the Bill Recycler is presented in the following steps. To remove the Bill Recycler from Genesis, follow these steps in reverse.

- 1 The four screw locations are identified below:



- 2 Align the holes on the side of the tray and the Bill Recycler unit. Secure the Bill Recycler unit to the Bill Recycler tray, starting with the two M5 screws on the side, followed by the two M4 countersink screws on the bottom.



align the two sets of holes

- 3 To install the bottom screws, you will have to remove and subsequently replace the two bottom recycler modules as explained in 'Remove the recyclers' starting on [page 156](#) and 'Re-install the recyclers' starting on [page 159](#).
- 4 Secure the two M4 countersink screws and Keps nuts through the floor of the Bill Recycler, into the floor of the station casing.
- 5 Re-install the recycler modules in the chassis (1).
- 6 Install the loader module.
- 7 Lock the interlock system with lever (2) and lock (3), using the key.

- 8 Route the cables that emerge from the Bill Recycler unit through the wall clamps shown below. The cable connections to the computer are described on [page 252](#) (TP3K) and [page 265](#) (TP3600 Series).



Chapter 10: MicroCoin QL3 Coin Acceptor

This chapter contains servicing information for the Microcoin QL3 Coin Acceptor, found in U-Scan Genesis Stations.



Features

- Capable of validating up to 12 coins
- High security and discrimination
- On-board diagnostics

Technical Specifications

Environment

- Temperature: 32°F to 131°F (0° to 55°C)
- Relative humidity: 10% to 90% non-condensing

Power Supply Requirements

- Input: 100 to 240 V, 50 to 60 Hz
- Output: 12 V, 1.0 A
- Output Power: 12 W Max.

Power and Communication Interface

- TeamPOS 3000 computer: 12V DC power and RS-232 serial cable (11001354) to Port 5 (COM21)
- TeamPOS 3600 Series computer: 12V DC power from USB-D via split cable 11003443 and RS-232 serial cable (11001354) to Expansion Port module Port 1 (COM3)

Components of the Microcoin Coin Acceptor

The Microcoin QL Coin Acceptor for U-Scan Genesis includes the following components:

F53 Components

Microcoin QL3 Coin Acceptor (part number depends on geographical location). US: 11001353, Canada: 11004113, Mexico: 11001349, Sweden: 11003599

10-pin to DE-9 F communication cable from Coin Acceptor to computer (11001354)



MicroCoin
Coin Acceptor



12V DC/Serial
RS-232 cable
(11001354)

Testing

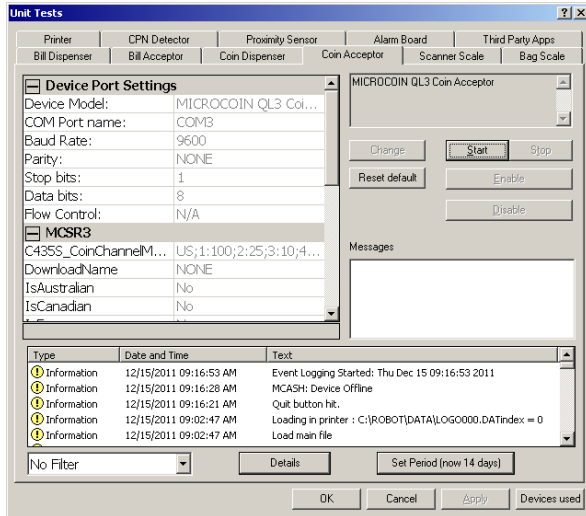
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Coin Acceptor** tab.



- 2 Ensure that the settings are:

(TP3K computer):

Setting	Value
Device Model	MICROCOIN QL3 Coin Acceptor
COM	COM21 (Port 5)
Baud Rate	9600
Parity	NONE
Data Bits	8
Stop Bits	1

(TP3600 Series computer):

Setting	Value
Device Model	MICROCOIN QL3 Coin Acceptor
COM	COM3 (Exp.Port 1)
Baud Rate	9600
Parity	NONE
Data Bits	8
Stop Bits	1

- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.

- d Click **Apply**.

Test the Device

*Note: For an explanation of error messages, see “Coin Acceptor Error Messages” later in this section. Error messages are also stored in the **Eventlog Viewer** and can be viewed after you exit the Device Tester.*

- 1 Click **Start**.
- 2 Click **Enable**.
The message **DEVICE::ONLINE{Coin Acceptor}** appears in the **Messages** box.
- 3 Insert a coin into the device.
If the coin was accepted, the **Messages** box displays **COIN_ACCEPTOR::RECEIVED_COIN{n}**, where **n** represents the coin inserted into the Coin Acceptor. If the coin was not accepted, it falls through the coin return slot and no message is displayed.
- 4 Click **Disable**.
- 5 Click **Stop**.

Coin Acceptor Error Message

The **MECHANICAL ERROR** message is a general message indicating that the device has failed and may need to be replaced.

Common Problems and Solutions

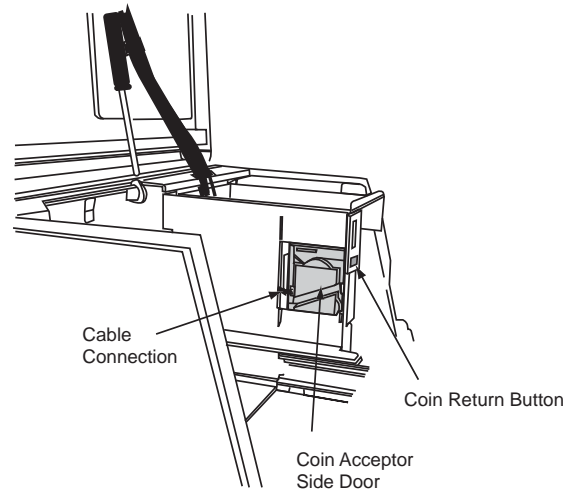
Refer to “[Troubleshooting the Microcoin QL3 Coin Acceptor](#)” on page 168 for the full troubleshooting procedures.

Issue(s)	Possible Cause(s)	Possible Solution
Coin Acceptor rejects all coin denominations	No power, no LED Low voltage Water in coin path	Check incoming voltage. Monitor the voltage Allow Coin Acceptor to dry
Coin jam	Coin Acceptor is full. Coin Acceptor is not sitting properly in the coin bracket Coin path is blocked	Empty the Coin Acceptor. Remove the Coin Acceptor from the bracket and reinsert it. Remove the object that is blocking the coin path.

Servicing Considerations

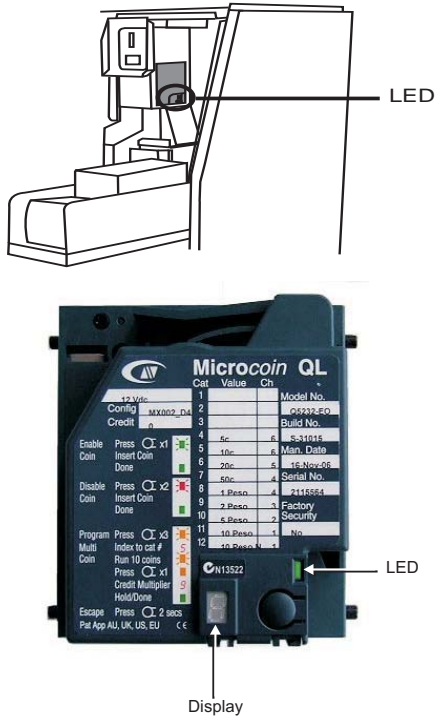
The Microcoin is installed in the top compartment beside the Bill Acceptor. The power is provided through the 12V DC power/RS-232 serial cable that connects to a serial port on the computer.

The Coin Acceptor faceplate includes a coin return button that can be used to clear minor jams inside the Coin Acceptor. An opening on the wall between the Coin Acceptor and Coin Dispenser allows technicians (or attendants) to fully open the Coin Acceptor door and clear a more serious jam without removing the Coin Acceptor. The cable connection is also accessible through this opening.



The Microcoin is installed on a bracket on the side wall of the casing. A coin guide is installed on the bottom of the bracket to funnel the coins into the coin bucket located below the Coin Acceptor. The coin bucket slides out of the casing to be emptied.

Lower the Bill Acceptor bracket if you need to access the Coin Acceptor for servicing. The LED is accessible through a cutout in the Coin Acceptor bracket.



The Microcoin QL3 for the Genesis requires a jumper setting of D4. This is set in the factory and requires no action on the part of field engineers or assembly personnel.

Troubleshooting the Microcoin QL3 Coin Acceptor

Follow the Testing Procedure

See ““Test the Device” on page 166.

Check the LEDs

- 1 Ensure that the LED on the Coin Acceptor is on.
- 2 Verify the indicator lamp status. Refer to “LED Status” on page 168.

Check the Cables

- 1 Ensure that the cable is connected to the computer.
(Power is provided through the cable connection to the computer.)

Inspect the LED

- 1 Locate the LED on the Coin Acceptor.
- 2 Verify the indicator lamp status. Refer to “LED Status” on page 168.

LED Status

Use the table below to determine the indication of the LED.

LED Status	Indication
Green	Validator is operational
Red	Validator fault
Flashes green when coin is inserted	Coin is accepted
Amber	Validator disabled
Off	No power to Coin Acceptor

Replacing the Microcoin QL3 Coin Acceptor

Parts and Tools

Part	Qty.	Part Number
Microcoin QL3 Coin Acceptor	1	11001353 (US) 11004113 (Canada) 11001349 (Mexico) 11003599 (Sweden)
Power and communication 12V DC power and RS-232 serial cable	1	11001354
Keys to the bottom and top doors	1 ea	N/A

- 1 Unlock and open the bottom door.
- 2 Shut down the computer.
- 3 Unlock and open the top door.

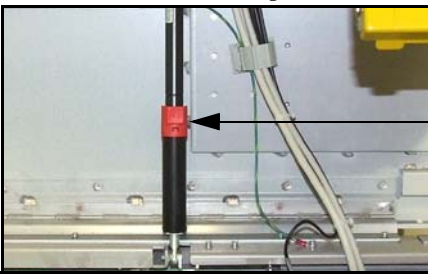
*Note: Be sure to push in the release handle when you open and close the upper door of the Genesis Station. The release handle is located beside the Scanner Scale, just above the **Change Out** compartment. Failure to push in this handle can break the locking mechanism.*



Door release handle

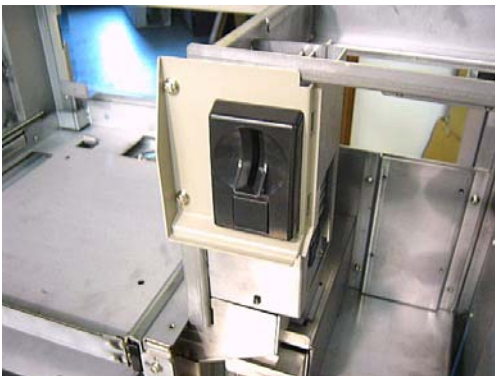
Push up on the door release handle, then lift the door up until the gas strut mechanism locks into place.

To close the upper door, press the red release button labeled "PRESS" to release the gas strut that holds the door open. (If there is red no button, press on the strut to release it.)



Strut release handle

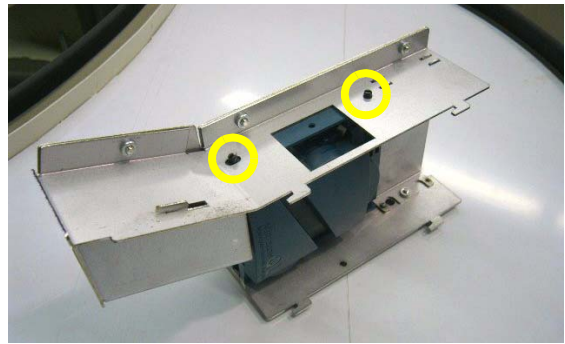
- 4 Lower the Bill Acceptor bracket.
- 5 Remove the two screws that secure the front Coin Acceptor bracket to the casing.



- 6 Remove the screw that secures the Coin Acceptor assembly to the casing.



- 7 Lift and remove the Coin Acceptor assembly from the casing.
- 8 Remove the two screws on each side (one side indicated below) to disengage the Coin Acceptor unit from the bracket.



- 9 Slide the Coin Acceptor out of the bracket.
- 10 With the help of a screwdriver, carefully disconnect the cable from the white cable connector of the Microcoin Coin Acceptor (the black connector is not used).
- 11 Connect the cable to the new Coin Acceptor. (Refer to the table above for the part number.)
- 12 Slide the Coin Acceptor back into place in the bracket.

Caution: Be sure to install the bracket the correct orientation as shown below. It is possible to install this device upside down and backwards. When correctly positioned, the writing on the back of the Coin Acceptor should be right side up:



- 13 Align the bottom guide.
- 14 Fasten the two screws you removed earlier to assemble bracket.
- 15 Install the Coin Acceptor assembly in the casing.

- 16 Fasten the screw to secure the assembly to the casing.



- 17 Replace the two screws to secure the front bracket to the casing.



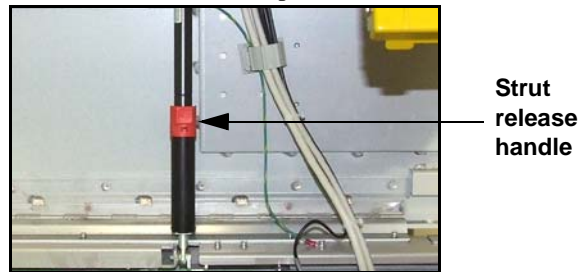
- 18 Close the upper door.

*Note: Be sure to push in the release handle when you open and close the upper door of the Genesis Station. The release handle is located beside the Scanner Scale, just above the **Change Out** compartment. Failure to push in this handle can break the locking mechanism.*



Push up on the door release handle, then lift the door up until the gas strut mechanism locks into place.

To close the upper door, press the red release button labeled "PRESS" to release the gas strut that holds the door open. (If there is red no button, press on the strut to release it.)

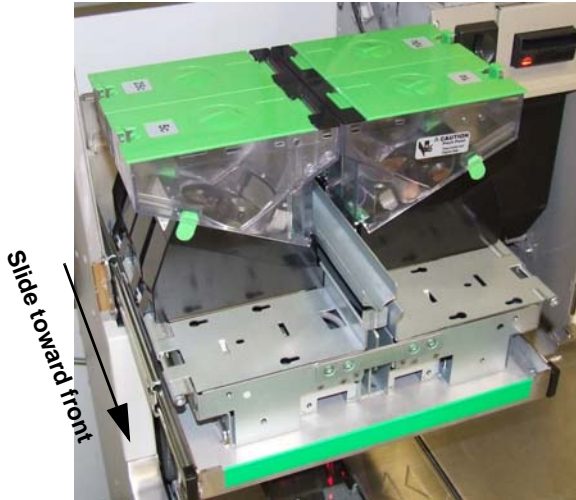


- 19 Re-start the computer.

- 20 Test the Coin Acceptor in the **Device Tester**.

Chapter 11: Telequip CX25 Coin Dispenser

This chapter contains servicing information for the Telequip CX25 Coin Dispenser (hopper), found in U-Scan Genesis Stations.



Features

- Four- or six-bin configuration (the first two bins on one side are not included in the four-bin configuration). See [page 172](#) for the currency configuration of the bins, by country.
- Even depletion of bins to reduce bin refilling
- Low coin LED indication
- Optional alarm buzzer for low coin alert (currently disabled by default)
- Easy “coin dump” loading
- Pivoting bins to allow for easy “dump” unloading
- “Coin Dump” feature can be activated from **Maintenance Mode** to clear coin jams
- Maximum capacity: \$387 USD, \$1,597 CAD, £574.83 UK, €1134.15 Euro. See [page 172](#) for the exact coin counts.

Technical Specifications

Environment

- Operating temperature: 0° to 40° C (32 - 104°F)
- Humidity: 0 to 80% relative humidity, non-condensing

Power Supply Requirements

- 24 V DC, 2 A max
- 120 to 240 V AC, 50 or 60 Hz, 24 V external switch mode power supply
- 40 W power consumption

Communication

- TeamPOS 3000 computer: USB (USB Hub Port 6)
- TeamPOS 3600 Series computer: USB-D

Part Numbers

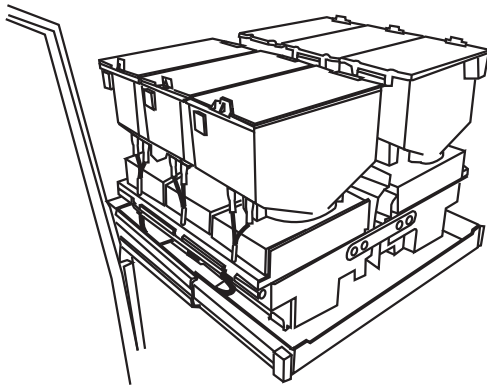
Note: US stores use a four-bin model; Canadian and Mexican stores use a six-bin device.

Component	Part Number
Four-bin hopper (US) Left	11003604Z-LAX
Four-bin hopper (US) Right	11003604Z-RAX
Six-bin hopper (Canada) Left	11003604Z-LCX
Six-bin hopper (Canada) Right	11003604Z-RCX
Six-bin hopper (Euro) Left	11003604Z-LDX
Six-bin hopper (UK006)	11003991
Six-bin hopper (UK007)	11004129
Plastic hopper shutter	11001437
Plastic Coin Dispenser chute	11001441
Power cable	11000413
Data cable	11000267
Power Supply	provided by manufacturer

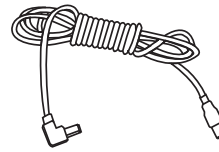
Components of the Telequip CX25 Coin Dispenser

The Telequip CX25 Coin Dispenser for U-Scan Genesis includes the following components:

- Four- or six-bin Coin Hopper
- Right-angle USB cable
- Power supply adapter and power cable



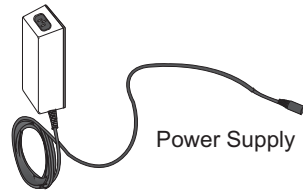
Coin XPress



USB Cable



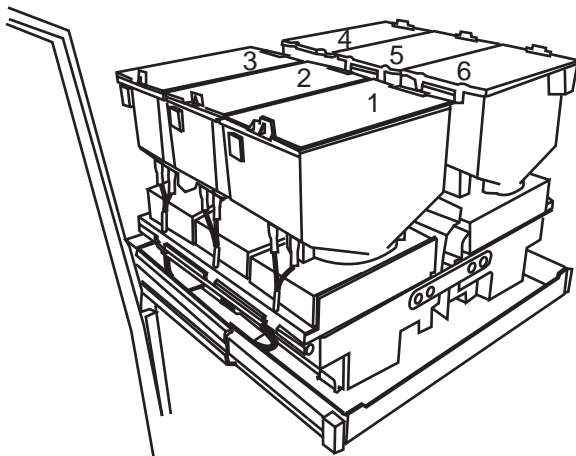
Power Cable



Power Supply

Bin configuration for different currencies

The U-Scan Genesis expects certain coin denominations in the specific bins of the CX25 hopper as shown below (Canadian 6-bin unit shown):



Bin #	USA denom. [max. # coins]	Canada denom. [max. # coins]	UK (006) denom. [max. # coins]	UK (007) denom. [max. # coins]
1	None	dimes (\$0.10), [1,880]	5-pence, [900]	1-pence, [660]
2	nickels (\$0.05), [530]	quarters (\$0.25), [460]	20-pence, [540]	10-pence, [400]
3	quarters (\$0.25), [460]	2-dollar (\$2.00), [380]	1£ (pound), [310]	2-pence
4	dimes (\$0.10), [1,880]	1-dollar (\$1.00), [450]	1£ (pound), [310]	1£ (pound), [310]
5	pennies (\$0.01), [890]	nickels (\$0.05), [530]	10-pence, [400]	20-pence, [540]
6	None	pennies (\$0.01), [890]	1-pence, [660]	5-pence, [900]

Testing

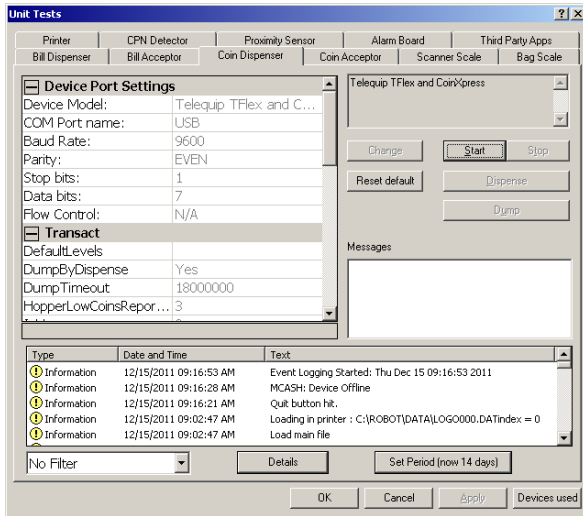
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Coin Dispenser** tab.



- 2 Ensure that the settings are:

(TP3K computer):

Setting	Value
Device Model	TELEQUIP
COM	USB USB Hub Port 6

(TP3600 Series computer):

Setting	Value
Device Model	TELEQUIP
COM	USB USB Port D

- 3 If you need to change a setting,
 - a Press ALT+*. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Test the Device

*Note: The **Dump** button will dispense all of the coins in the bins. This button is intended to clear coins or jams that remain in the bin after it has been emptied. Do **not** use this button before emptying the coin bins, as the coin cup cannot hold an excessive number of coins.*

- 1 Click **Start**.
- 2 Click **Enable**.
- 3 Click **Start**.
The message **DEVICE::ONLINE{Coin Dispenser}** appears in the **Messages** box.
- 4 Click **Dispense**.
A numeric keypad appears.
- 5 Enter an amount to dispense.

*Note: In US stores, only a two-digit amount may be entered. In Canadian and UK stores, a three-digit amount (maximum **500**) can be entered. Mexican stores can enter four digits (maximum **2000**). (This amount is configurable depending on the store's requirements.)*

- 6 Click **OK**.
If the test was successful, the Coin Dispenser dispenses the indicated amount and the **Messages** box displays **COIN_DISPENSER::DISPENSED{amount}**.
- 7 Verify the amount dispensed.
- 8 Click **Disable**.
- 9 Click **Stop**.
- 10 Click **OK**.

Common Problems and Solutions

Refer to [“Troubleshooting the CX25” on page 175](#) for the full troubleshooting procedures.

Issue(s)	Possible Cause(s)	Possible Solution
<p>The CX25 is not dispensing change.</p> <p>The CX25 is OFFLINE in the Device Tester.</p>	<p>The cables are not properly connected.</p> <p>One of the bins is empty.</p> <p>The settings are incorrect in the Device Tester.</p>	<p>Check the cable connections.</p> <p>Ensure that the power bar and UPS are on.</p> <p>Ensure that none of the bins is empty. Reload the bin(s) if necessary.</p> <p>Ensure that the Device Model and other settings are correct in Device Tester. Refer to “Test the Device” on page 173.</p>
<p>The CX25 dispensed an incorrect amount of change.</p>	<p>The coin bins are not loaded correctly.</p> <p>There is a coin jam in one of the bins.</p>	<p>Ensure that the correct denomination is loaded in each bin. (The denomination is labelled on the top cover.)</p> <p>If the issue is not resolved, refer to “Check for Coin Jams” on page 177 for instructions on how to clear a coin jam.</p> <p>If the issue cannot be resolved, contact your support center.</p>
<p>The yellow LED did not come on when the Coin Dispenser attempted to dispense coins.</p>	<p>The communication between the Coin Dispenser and the host is broken.</p> <p>Device error.</p>	<p>Check the communication cable connections, including the USB Hub connection.</p> <p>Check the cables for signs of damage. Replace any damaged cables.</p> <p>If the issue is not resolved, contact your support center.</p>
<p>The green LED is not on.</p>	<p>The device is not receiving power.</p>	<p>Ensure that the device is turned on.</p> <p>Ensure that the power cables are connected.</p> <p>Check the cables for any signs of damage. Replace any damaged cables.</p> <p>If the issue is not resolved, contact your support center.</p>
<p>The red LED is flashing</p>	<p>Low coin alarm for one or more bins.</p>	<p>Refill the coin bins.</p> <p>Check the sensor value on the red wire: 2.7V DC = low 0V DC = bin is not low</p>
<p>The red LED is on solid.</p>	<p>One of the bins is empty.</p> <p>Mechanical error.</p>	<p>Ensure that the bins all contain coins.</p> <p>If the issue is not resolved, contact your support center.</p>
<p>You notice an increase in dispense times where the motor is frequently reversing to find a coin.</p> <p>You notice an increase in dispense time-outs.</p> <p>You notice signs of wear in the bins that could affect dispense performance.</p>	<p>The bin is damaged or worn out.</p> <p>The rotor is damaged or worn out.</p>	<p>Inspect the rotor for signs of wear and damage.</p> <p>Inspect the coin bins for signs of wear and damage.</p> <p>Replace the damaged rotor or coin bin. Refer to “Replacing the Coin Bins” on page 179 or “Replacing the Rotor” on page 179.</p>

Troubleshooting the CX25



You will be able to identify most issues with the CX25 if you follow all of the tasks outlined in this section.

Follow the Testing Procedure

See “Test the Device” on page 173.

Inspect the Power

- 1 Unlock and open the upper door.

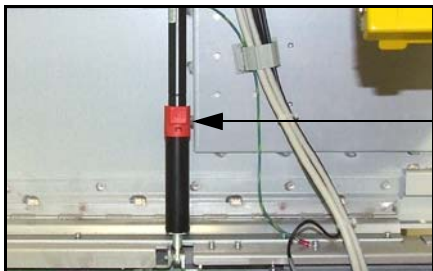
*Note: Be sure to push in the release handle when you open and close the upper door of the Genesis Station. The release handle is located beside the Scanner Scale, just above the **Change Out** compartment. Failure to push in this handle can break the locking mechanism.*



Door release handle

Push up on the door release handle, then lift the door up until the gas strut mechanism locks into place.

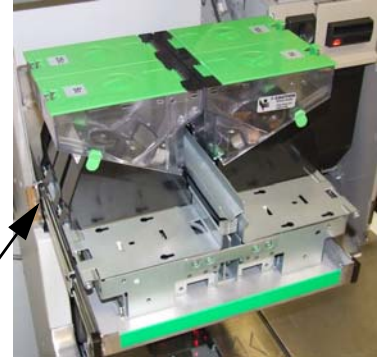
To close the upper door, press the red release button labeled “PRESS” to release the gas strut that holds the door open. (If there is red no button, press on the strut to release it.)



Strut release handle

- 2 Pull the Coin Hopper towards you on the rails.

- 3 Ensure that the power switch on the side of the Coin Hopper is set to the **ON** position.



Power switch location



- 4 Ensure that the power cable is securely connected to the side of the Coin Hopper.

Note: A cable inlet on the bottom of the tray provides access to the cable connections on the side of the device.

- 5 Ensure that the power cable is securely connected to the power strip beside the UPS.
- 6 Turn the Coin Hopper off then on again to cycle the power.

Inspect the Cable Connections

- 1 Ensure that the communication cable is securely connected to the side of the device.
- 2 Ensure that the communication cable is securely connected to Port 6 of the USB Hub.
- 3 Ensure that the LED for Port 5 of the USB Hub is lit green.



Red power indicator should be ON

Front View

- 4 Ensure that the black and red wires are securely connected to each bin.

- 5 If one of the wires is disconnected,
 - a Turn off the Coin Hopper.
 - b Inspect the end of the wire for damage, frayed ends or bare wire. Contact your support center if the wire is damaged.
 - c If the wire is not damaged, slide it onto the terminal to reconnect it. Compare it to the other bin connections to ensure that the wire is connected properly.
 - d Turn on the Coin Hopper.

Inspect the LEDs

- 1 Locate the LEDs on the cable connection side of the Coin Hopper.



LED location



- 2 Ensure that the green LED is on when the device is receiving power.
- 3 If the red LED is on (flashing or solid), refer to [“LED Indications”](#) on page 179.

Inspect the Coin Bins

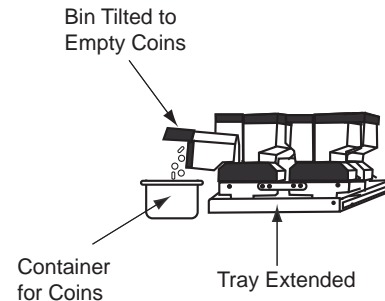


Keep your fingers clear of the hinged panels when you empty the coins.

- 1 Ensure that the correct denomination is loaded into each bin. (The denomination is labelled on the top cover.)
- 2 Ensure that each bin is loaded with an adequate number of coins.

Note: The CX25 cannot dispense coins from an empty bin. If the change to remit includes coins normally found in a hopper that is empty, an error message will be displayed. You should always maintain an adequate supply of every coin denomination.

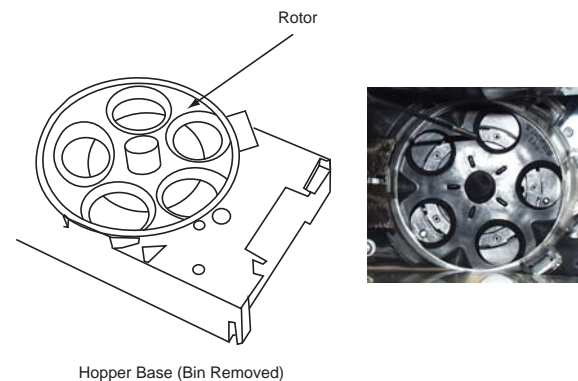
- 3 Turn off the CX25.
- 4 Tilt the coin bins and empty the coins.



- 5 Inspect the inside of the bins for signs of wear and damage. If there is significant wear or damage, refer to [“Replacing the Coin Bins”](#) on page 179.

Inspect the Rotors

- 1 Turn off the CX25.
- 2 Remove the coin bin to access the rotor:
 - a Disconnect the black and red wires (low coin terminals) on the side of the bin you wish to replace.
 - b Tilt and firmly hold the black base, then grasp the bottom of the bin and rotate it counterclockwise.
- 3 Locate the rotor. It is the round disc with four or five round holes in it (depending on the coin denomination).



- 4 If you notice excessive rounding in the edge of the holes in the rotor, replace the rotor. Refer to [“Replacing the Rotor”](#) on page 179.

Note: Telequip recommends replacing the rotor every 500,000 to 600,000 dispenses to maintain optimal performance. The amount of wear varies depending on the coin type and average coin inventory in a bin.

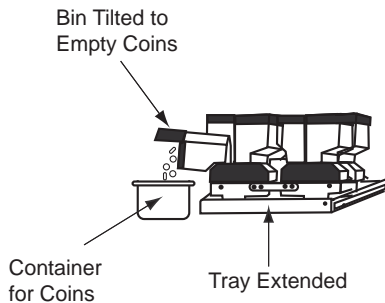
Check for Coin Jams

If the CX25 is not dispensing coins and the bins are loaded, perform the steps below to check for coin jams.



Keep your fingers clear of the hinged panels.

- 1 Turn off the CX25.
- 2 Tilt the coin bins and empty the coins.



- 3 Check the bins for debris or foreign objects that could cause a jam.
- 4 Ensure that you can move the coins that remain in the bottom of the bins easily with your fingers.
- 5 If not all coins move easily, there may be a mechanical jam. Follow the steps below to try and clear the coin jam:

- a Turn on the CX25.
- b Access the **Device Tester**.
- c Touch **Start**.
- d Touch **Dump**.

The Coin Hopper performs a purge operation.

*Note: This functionality is also available in **Maintenance Mode**. After you select **Test Dispensers**, you have the option to **Dump Coins**.*

- 6 If not all coins were dispensed or can be removed, follow the steps below to manually clear a coin jam in the Coin Hopper:

- a Identify the jammed coin bin.
- b Turn off the Coin Hopper.
- c Tilt the coin bin to access the mechanical screw on the side of the base of the bin.



Keep your fingers clear of the hinged panels when you tilt the coin bins.

- d Use a Phillips screwdriver to tighten the screw until the jammed coin is moved past the hopper ejector pin.

*Note: Do **NOT** overtighten the screw or apply excessive force and strip the screw.*

- 7 If the issue is not resolved, check the exit ramp in the rear of the casing:
 - a From the inside of the casing, remove the captive screw securing the rear panel.
 - b Remove the rear panel.
 - c From the rear of the casing, use a flashlight to check the exit ramp for any jammed coins or foreign objects.
 - d Clear the coins or foreign objects from the exit ramp.

Cleaning and Maintenance

Cleaning and Maintenance Schedule

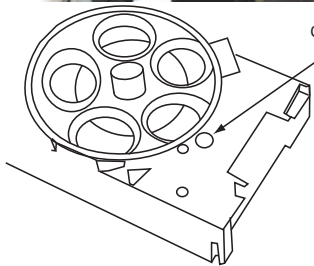
Task	Frequency	Description
Rotor inspection	Every 12 months	Inspect the hopper rotor for signs of wear and damage. Refer to “Inspect the Rotors” on page 176 . If the rotor shows signs of wear and damaged, refer to “Replacing the Coin Bins” on page 179 .
Bin inspection	Every 12 months	Inspect the bins for signs of wear and damage. Refer to “Inspect the Coin Bins” on page 176 . If a coin bin shows signs of wear and damage, refer to “Replacing the Coin Bins” on page 179 .
Clean the coin ejection sensor	Every 12 months	Use compressed air to clean the coin ejection sensor. Refer to “Cleaning the Coin Ejection Sensor” on page 178 .
Clean the CX25	Every service call	Use a soft, damp cloth to remove surface dirt.

Cleaning the Coin Ejection Sensor

- 1 Turn off the CX25.
- 2 Remove the coin bin. Refer to [“Replacing the Coin Bins” on page 179](#) for instructions on how to remove the coin bins.
- 3 Use compressed air to spray the coin ejection sensor for several seconds.



Coin Ejection Sensor

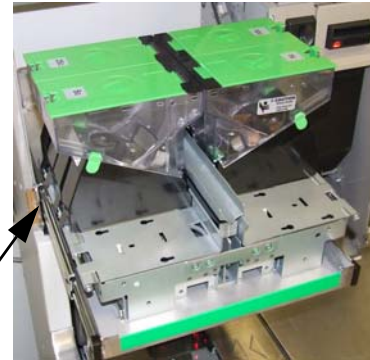


Hopper Base (Bin Removed)

- 4 Move the sensor to the open position and spray the sensor for several seconds while it is open.
- 5 Replace the coin bin. Refer to [“Replacing the Coin Bins” on page 179](#) for instructions on how to remove the coin bins.
- 6 Repeat the steps above to clean the coin ejection sensor on the remaining bins.
- 7 When you finish cleaning all of the sensors, turn on the CX25.
- 8 Perform a test dispense. Refer to [“Test the Device” on page 173](#).

Loading the CX25

- 1 Slide the CX25 out of the casing.
- 2 Turn off the power switch on the side of the CX25.

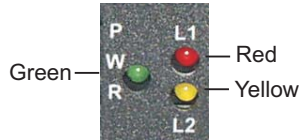


Power switch location



- 3 Note the denomination labels on the top covers of the bins.
- 4 Press the release tab and open the top cover of one of the bins.
- 5 Dump the number of coins you wish to load into the bin.
- 6 Close the top cover. Ensure that the release tab clicks into place.
- 7 Repeat the steps above for the remaining bins.
- 8 Turn on the power switch after you have filled all of the bins.
- 9 Slide the tray back into the casing.

LED Indications



LED Status	Indication	Solution
Green LED on solid	Device is receiving power and ready for dispensing.	N/A
Red LED on solid	Warning LED signalling a machine error. The red LED comes on solid when one of the bins is empty.	Ensure that the Coin Hopper bins all contain coins. Contact your support center.
Flashing red LED	Low coin alarm for one or more bins.	Refill the coin bins.
Flashing yellow LED	Flashes when the device receives data from or sends data to the U-Scan system. This LED should flash when the device dispenses.	N/A

Replacing the Coin Bins

Replace the coin bin(s) when one of the following conditions occurs:

- You notice an increase in dispense times where the motor is frequently reversing to find a coin.
- You notice an increase in dispense time-outs.
- You notice signs of wear in the bins that could affect dispense performance.

Telequip recommends replacing the bins every 500 000 to 600 000 dispenses to maintain optimal performance. The amount of wear varies depending on the coin type and average coin inventory in a bin.

Requirements

- Replacement bin (manufacturer part number 310-598)

- 1 Turn off the CX25.
- 2 Disconnect the black and red wires (low coin terminals) on the side of the bin you wish to replace.
- 3 Tilt and firmly hold the black base, then grasp the bottom of the bin and rotate it counterclockwise.
- 4 Remove and discard the bin.
- 5 Align the new bin on the base so that the latch on the top cover is facing out and the bin is slightly off-center.
- 6 Turn the bin clockwise until it snaps into place.
- 7 Return the base to the dispense position.
- 8 Reconnect the red and black wires. Refer to the other bins to ensure that you connect the wires to the correct terminal.
- 9 Load the bin with coins.
- 10 Turn on the CX25.
- 11 Perform a test dispense through the **Device Tester** (or **Maintenance Mode**) to ensure that the bin is correctly installed and is dispensing correctly. Refer to “[Test the Device](#)” on page 173 for instructions.

Replacing the Rotor

Replace the coin rotor when one of the following conditions occurs:

- You notice an increase in dispense times where the motor is frequently reversing to find a coin.
- You notice an increase in dispense time-outs.
- You inspect the rotor and notice excessive rounding in the edge of the holes in the rotor.

Note: Telequip recommends replacing the rotor every 500,000 to 600,000 dispenses to maintain optimal performance. The amount of wear varies depending on the coin type and average coin inventory in a bin.

Requirements

- Replacement bin (manufacturer part number 310-598)

Denom.	Replacement Rotor - US Part Number	Replacement Rotor - Canadian Part Number	Replacement Rotor - UK Part Number	Replacement Rotor - European Part Number	Replacement Rotor - Australian Part Number
0.01	310-611R	310-611R	310-609R	310-729R	N/A
0.02	N/A	N/A	310-664R	310-606R	N/A
0.05	310-601R	310-601R	310-611R	310-605R	310-611R
0.10	310-603R	310-603R	310-602R	310-606R	310-602R
0.20	N/A	N/A	310-605R	310-608R	310-675R
0.25	310-602R	310-679R	N/A	N/A	N/A
0.50	N/A	N/A	310-665R	310-607R	N/A
1.00	N/A	310-664R	310-610R	310-608R	310-676R
2.00	N/A	310-847R	N/A	310-607R	310-677R

- 1 Turn off the CX25.
- 2 Remove the bin to access the rotor you wish to replace. Refer to [“Replacing the Coin Bins” on page 179](#) for instructions on how to remove the bin.
- 3 Locate the rotor in the base. It is round disc with round holes.
- 4 Pull the rotor straight up to remove it.
- 5 Set the replacement rotor in the base.
- 6 Replace the bin. Refer to [“Replacing the Coin Bins” on page 179](#) for instructions on how to replace the bin.
- 7 Load the bin with coins.
- 8 Turn on the CX25.
- 9 Perform a test dispense through the **Device Tester** (or **Maintenance Mode**) to ensure that the bin is correctly installed and is dispensing correctly. Refer to [“Test the Device” on page 173](#) for instructions.

Replacing the CX25 Coin Dispenser

Parts and Tools

Part	Quantity	Part Number
Coin XPress Coin Hopper	1	US (four-bin model): 11003667 Canada (six-bin model): 11003668 Euro (six-bin model): 11003669 UK (six bin models): 11003991 [5-20-100-100-10-1] 11004129 [1-10-2-100-20-5]
Keys to the bottom and top doors.	1 of each	N/A
Phillips screwdriver	1	N/A

- 1 Unlock and open the lower door.
- 2 Shut down the computer.
- 3 Unlock and open the upper door.

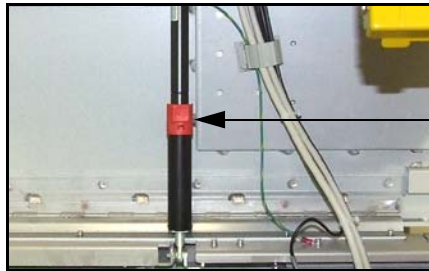
*Note: Be sure to push in the release handle when you open and close the upper door of the Genesis Station. The release handle is located beside the Scanner Scale, just above the **Change Out** compartment. Failure to push in this handle can break the locking mechanism.*



Door release handle

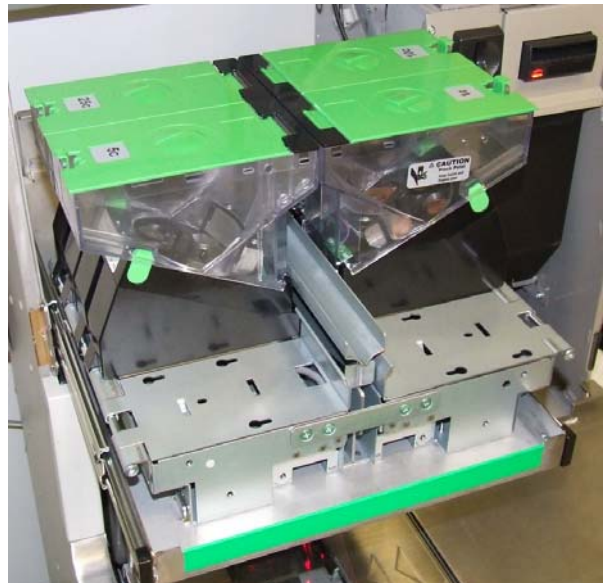
Push up on the door release handle, then lift the door up until the gas strut mechanism locks into place.

To close the upper door, press the red release button labeled "PRESS" to release the gas strut that holds the door open. (If there is red no button, press on the strut to release it.)



Strut release handle

- 4 Slide the Coin Hopper out of the casing on the rails,
- 5 Empty the coin bins.
- 6 Turn off the power button on the Coin Dispenser.
- 7 Disconnect the cables from the side of the Coin Dispenser.
- 8 From the underside of the Coin Dispenser tray, remove the four screws securing the Coin Hopper to the tray.



- 9 Lift and remove the Coin Hopper from the tray.
- 10 Remove the two screws securing the plastic shutter to the back of the Coin Hopper.
- 11 Install the shutter on the new Coin Hopper. (Refer to the table above for the part number.)
- 12 If the hopper bins are not installed, refer to the Refer to the Coin Dispenser Device Servicing section of this manual for instructions on how to replace the bins.
- 13 Set the Coin Hopper on the tray.
- 14 Fasten the four screws from the underside of the tray to secure the Coin Hopper to the tray.
- 15 Connect the cables.
- 16 Turn on the power button.
- 17 Close the upper door (see the previous Note).
- 18 Start the U-Scan Station.
- 19 Ask the store personnel to load the Coin Hopper bins with coins.
- 20 Test the Coin Hopper in the **Device Tester**.

Chapter 12: Telequip T-Flex Coin Dispenser

This chapter contains servicing information for the Telequip T-Flex Coin Dispenser, found in U-Scan Genesis Stations.



Features

- Durable construction withstands continuous high-volume operation
- High capacity coin canister
- Firmware upgrades easily performed

Technical Specifications

Environment

- Operating temperature: 32°F to 104°F (0° to 40°C)
- Storage temperature: 23°F to 122°F (-5° to 50°C)
- Relative Humidity: 10% to 85%

Power Supply Requirements

- 32 V DC, 4 A max.
- 120 to 240 V AC, 50 or 60 Hz, 32 VDC

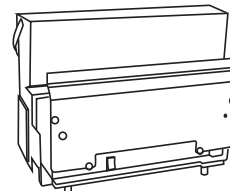
Communication

- TP3K computer: USB (USB Hub Port 6)
- TP3600 Series computer: USB-D

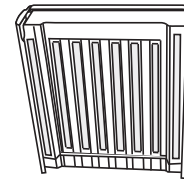
Components of the Telequip T-Flex Coin Dispenser

The Telequip T-Flex includes the following components:

- Telequip T-Flex Coin Dispenser base (11002901)
- Coin tray (11001433)
- Power supply cable (11000413)
- USB cable



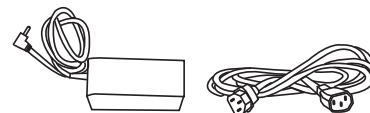
Coin Dispenser



Coin Tray



USB Cable



External Power Supply and Power Cable

Testing

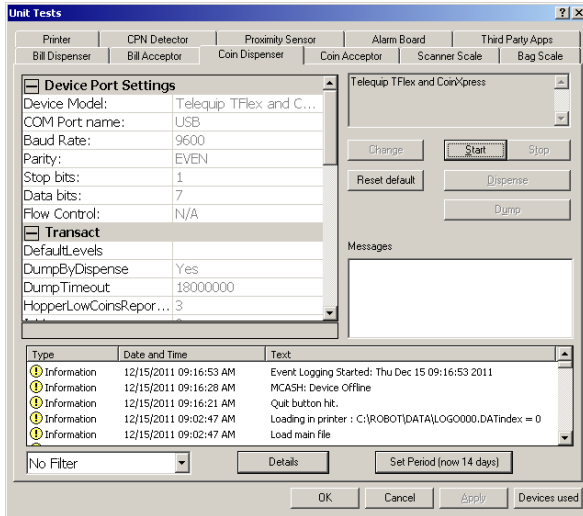
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Coin Dispenser** tab.



- 2 Ensure that the settings are:

(TP3K computer):

Setting	Value
Device Model	TELEQUIP
COM	COM23 (USB Hub Port 6)

(TP3600 Series computer):

Setting	Value
Device Model	TELEQUIP
COM	COM5 (USB-D)

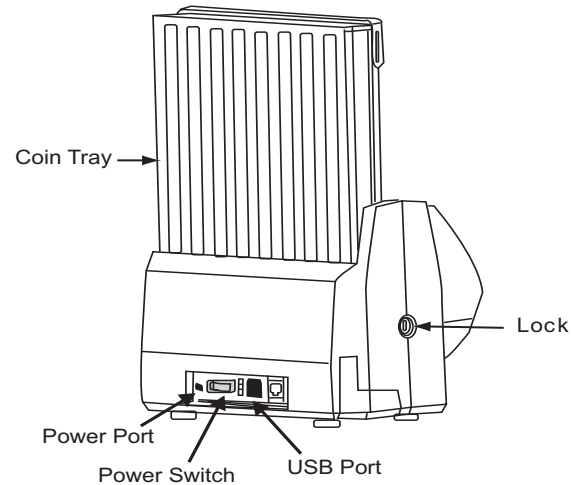
- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Check the Power

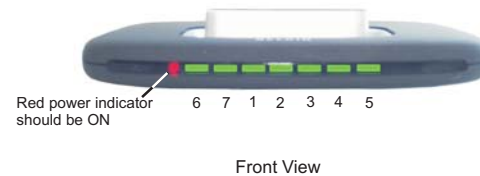
- 1 Ensure that the power cable is connected to the power bar.
- 2 Remove the coin tray.
- 3 Turn the device off, then back on.
If the alarm sounds, the Coin Dispenser is receiving power.

Inspect the Cable Connections

- 1 Ensure that the USB cable is connected to the USB port on the device.



- 2 Ensure that the USB cable is connected to Port 6 of the USB Hub.
- 3 Ensure that the LED for Port 6 of the USB Hub is lit green.



Inspect the Fuse

- 1 Turn off and unplug the device.
- 2 Remove the screws on the bottom of the device.
- 3 Turn the device to face forward.
- 4 Use a screwdriver to remove the fuse.
- 5 Inspect the fuse visually or with a multimeter.
- 6 If necessary, replace the fuse with a 1.6-Amp, 250-V Fast Blow-type fuse.
- 7 Turn on the Coin Dispenser.

Inspect the LEDs

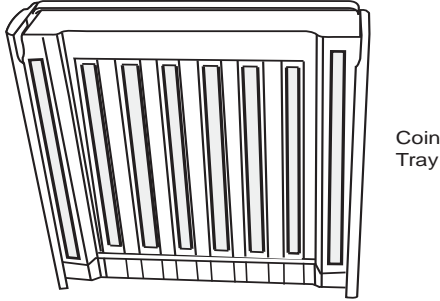
- 8 Locate the LEDs on the cable connection side of the Coin Dispenser.



- 9 Ensure that the green LED is on when the device is receiving power.
- 10 If the red LED is on (flashing or solid), refer to **“LED Indications”** on page 188.

Inspect the Coin Slide

- 1 Disconnect the power to the device.
- 2 Remove the coin tray from the Coin Dispenser.



- 3 Remove the coin cup and the side cover.
- 4 Locate the end of the coin slide on the side of the Coin Dispenser where you removed the coin cup.
- 5 Lift the coin slide so that it tilts in the opposite direction.
- 6 If necessary, clean any debris from the coin slide.
- 7 Return the coin slide to its original position.
- 8 Replace the coin tray.
- 9 Replace the coin cup and the side cover.

Inspect the Coin Tray

- 1 Turn off the device.
- 2 Remove the coin tray.
- 3 Slide back the cover of the coin tray.
- 4 Inspect the lanes for any obstructions.
- 5 Ensure that the coins line up and do not stick out.
- 6 Ensure that the coin tray is only 3/4 full.
- 7 Turn on the Coin Dispenser.

T-Flex Maintenance Procedures

Adding Coins to the Coin Dispenser

Note: The Coin Dispenser sounds a low coin alarm when the number of coins in a coin row is running low.

- 1 Ensure that all the Customer Station lanes are closed.
- 2 Open the upper door.

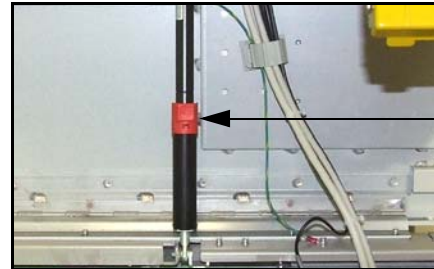
*Note: Be sure to push in the release handle when you open and close the upper door of the Genesis Station. The release handle is located beside the Scanner Scale, just above the **Change Out** compartment. Failure to push in this handle can break the locking mechanism.*



Door release handle

Push up on the door release handle, then lift the door up until the gas strut mechanism locks into place.

To close the upper door, press the red release button labeled “PRESS” to release the gas strut that holds the door open. (If there is red no button, press on the strut to release it.)



Strut release handle

- 3 Locate the Coin Dispenser platform (located behind the main panel door).
- 4 Extend this platform.
- 5 Set the power switch on the back of the device to the OFF position.
- 6 Pull the handle to remove the coin tray.
- 7 Position the handle under the coin tray.
- 8 Set the coin tray on a flat surface.
- 9 Push down on the two thumb points on the bottom of the coin tray while you slide the cover up.
- 10 Refill the coin tray according to the applicable table below.

US Coins

US Coins	No. of Columns	No. of Coins	Total
1¢	3	462	\$4.62
5¢	1	120	\$6.00
10¢	2	348	\$34.80
25¢	2	264	\$66.00
Total			\$111.42

Canadian Coins

Canadian Coins	No. of Columns	No. of Coins	Total
1¢	2	304	\$3.04
5¢	1	130	\$6.50
10¢	1	194	\$19.40
25¢	2	290	\$72.50
\$1.00	1	118	\$118.00
\$2.00	1	132	\$264.00
Total			\$483.44

Australian Coins

Coin	Number of Rows	Number of Coins	Amount (AUS)
\$2.00	2	156	\$312
\$1.00	1	87	\$87
\$0.20	2	196	\$39.20
\$0.10	2	254	\$25.40
\$0.05	1	172	\$8.60
TOTAL:			472.20

UK Coins

Coin	Number of coins per bag	Total per bag	# of bags	Total
£2.00	10	£20.00	8	£160.00
£1.00	20	£20.00	3	£60.00
0.50p	20	£10.00	6	£60.00
0.20p	50	£10.00	2	£20.00
0.10p	50	£5.00	2	£10.00
0.05p	100	£5.00	1	£5.00
0.02p	50	£1.00	2	£2.00
0.01p	100	£1.00	1	£1.00
Total				£318.00

11 Ensure that there is no debris in the coin rows.

12 Ensure that no coins are bent or protruding.

13 Replace the cover.

14 Replace the coin tray.

15 Turn the device on.

Cleaning the T-Flex

1 Dampen a clean, soft cloth.

2 Wring the cloth out thoroughly.

3 Wipe the coin tray and Coin Dispenser base with the cloth.

*Note: Do **NOT** use abrasive cleaners, solvents, or chemical cleaners on the device.*

*Note: Do **NOT** apply oil or lubricant to the any part of the device.*

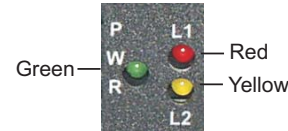
Troubleshooting

If the T-Flex is not working properly, check the following troubleshooting table. If all the solutions have been tried and there are still problems, call the U-Scan Support Center.

Problem	Solution
<p>Coin Dispenser does not turn on</p>	<ul style="list-style-type: none"> • Ensure that the power switch is in the ON position. • Check the power cable connections. • Check that power socket. Plug another device that you know is working into the power socket to ensure that it is a live power socket. • Check the USB cable connection. Ensure that the cable is not damaged. • Ensure that the device is on, then remove the coin tray. If the low coin alarm does not sound, replace the fuse.
<p>The amount in issued coins is not equal to the change amount due</p>	<ul style="list-style-type: none"> • Ensure that the coin tray is properly inserted. • Remove any jammed or bent coins from the coin tray. • Check the coin tray for debris. Do NOT remove the rear cover. High voltages are present. • Check the coin tray for damage or loose or missing screws. Tighten any loose screws and replace any missing screws. • Use a flashlight to check the coin slide for debris. Remove any debris.

Problem	Solution
Coins are jamming and not ejecting properly	<ul style="list-style-type: none"> • Ensure that the coin tray is properly inserted. • Remove any bent coins from the coin tray. • Check the coin tray for debris. Do NOT remove the rear cover. High voltages are present. • Check the coin tray for damage or loose or missing screws. Tighten any loose screws and replace any missing screws. • Use a flashlight to check the coin slide for debris. Remove any debris.
The Coin Dispenser is smoking or you smell burning	<ul style="list-style-type: none"> • Unplug the power cable. • Call the U-Scan Support Center. The Coin Dispenser will most likely be replaced.

LED Indications



LED Status	Indication	Solution
Green LED on solid	Device is receiving power and ready for dispensing.	N/A
Red LED on solid	Warning LED signalling a machine error. The red LED comes on solid when one of the bins is empty.	Ensure that the Coin Hopper bins all contain coins. Contact your support center.
Flashing red LED	Low coin alarm for one or more bins.	Refill the coin bins.
Flashing yellow LED	Flashes when the device receives data from or sends data to the U-Scan system. This LED should flash when the device dispenses.	N/A
Red LED on solid	Warning LED signalling a machine error. The red LED comes on solid when one of the bins is empty.	Ensure that the Coin Hopper bins all contain coins. Contact your support center.
Flashing red LED	Low coin alarm for one or more bins.	Refill the coin bins.
Flashing yellow LED	Flashes when the device receives data from or sends data to the U-Scan system. This LED should flash when the device dispenses.	N/A

Replacing the T-Flex Coin Dispenser

Parts and Tools

Part	Quantity	Part Number
Telequip T-Flex Coin Dispenser base	1	11002901
Coin tray	1	US: 11001374 Canada: 11001375 Mexico: 11001376
Power cable	1	11000413
USB cable	1	System-supplied

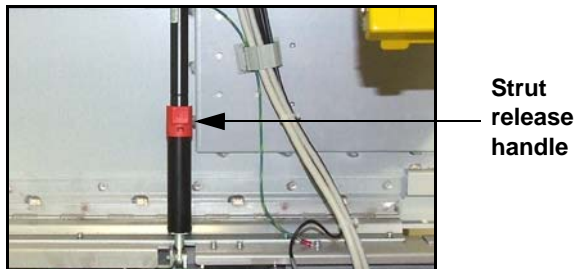
- 1 Unlock and open the lower door.
- 2 Shut down the computer.
- 3 Unlock and open the upper door.

*Note: Be sure to push in the release handle when you open and close the upper door of the Genesis Station. The release handle is located beside the Scanner Scale, just above the **Change Out** compartment. Failure to push in this handle can break the locking mechanism.*



Push up on the door release handle, then lift the door up until the gas strut mechanism locks into place.

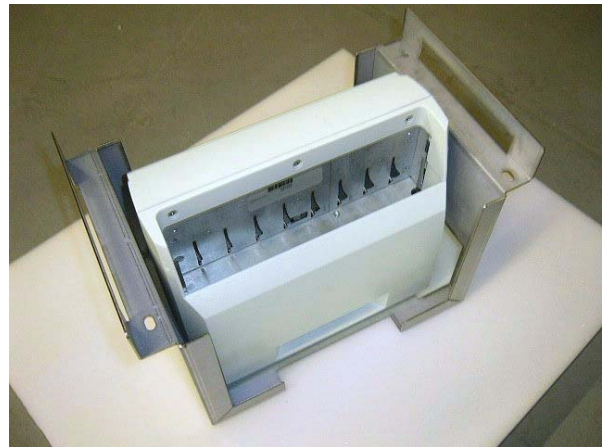
To close the upper door, press the red release button labeled “PRESS” to release the gas strut that holds the door open. (If there is red no button, press on the strut to release it.)



- 4 Remove the coin tray from the Coin Dispenser.
- 5 Remove the two screws that secure the cover plate.



- 6 Remove the cover plate.
- 7 Lift the U-shaped Coin Dispenser support bracket and set it on the shelf.
- 8 Turn the power switch OFF. Disconnect the cables from the Coin Dispenser.
- 9 From the underside of the support bracket, remove the screws that secure the Coin Dispenser. Remove the Coin Dispenser.
- 10 Position the new Coin Dispenser base in the support bracket.



- 11 Secure the four screws from the underside of the bracket.
- 12 Connect the cables to the Coin Dispenser. Ensure that the power button is in the ON position.

13 Set the bracket on the shelf.



14 Lower the Coin Dispenser in its support bracket into the opening in the casing.

15 Fasten the two screws to secure the cover plate.

16 If necessary, load the coin tray. Refer to [“Adding Coins to the Coin Dispenser”](#) on page 185.

17 Insert the coin tray into the Coin Dispenser.

18 Close and lock the upper door.

19 Start the U-Scan Station.

20 Close and lock the lower door.

21 Test the Coin Dispenser in the **Device Tester**.

Chapter 13: Telequip Coin Recycler

This chapter contains servicing information for the Fujitsu F53 Bill Dispenser, found in U-Scan Genesis Customer Stations. *At this time, cash recycling is only available in U-Scan systems sold in Europe.*



Features

- Four- or six-bin configuration (the first two bins on one side are not included in the four-bin configuration, shown above). See [page 192](#) for the currency configuration of the bins, by country.
- Even depletion of bins to reduce bin refilling
- Low coin LED indication
- Optional alarm buzzer for low coin alert (currently disabled by default)
- Easy “coin dump” loading
- Rotating tray and pivoting bins to allow for easy “dump” unloading
- “Coin Dump” feature can be activated from **Maintenance Mode** to clear coin jams
- Maximum capacity: \$338.40 USD, \$1,548.40 CAD. See [page 192](#) for the exact coin counts.

Technical Specifications

Environment

- Environment: Indoors
- Operating Temperature: 0 to 40 degrees C, not to exceed 20 degrees C change/hour

- Non-Operating Temperature: -20 degrees C to 60 degrees C
- Operating Humidity: 20 to 80%, non-condensing
- Non-Operating Humidity: 10 to 95%, non-condensing

Electrical Interface

- TeamPOS 3000 computer: RS-232C connection to Port 5 (COM21); USB connection to USB Hub Port 6
- TeamPOS 3600 Series computer: RS-232 connection to Port 4 (COM20); USB connection to USB-D

Reliability

- Lifecycle: 500,000 coins in, 1,000,000 out
- MCBF (Mean Coins Between Failures): 35,000
- MCBA (Mean Coins Between Assists): 1,000

Serviceability

- Coin Jams: Easy to inspect and clear jams
- Service Access: Serviceable from front of Genesis Unit
- MTTR: Individual recycler modules field swappable in 20 minutes
- Upgradeability: Limited hardware upgradeability
- Firmware Updates: Updateable in the field - detailed in Control Spec
- Tools: No special tools required for service of recycler modules

Agency Requirements

- ADA: Meets ANSI A117.1 (308.3.2)/ADA requirements
- Certifications: CE, RoHS

Power

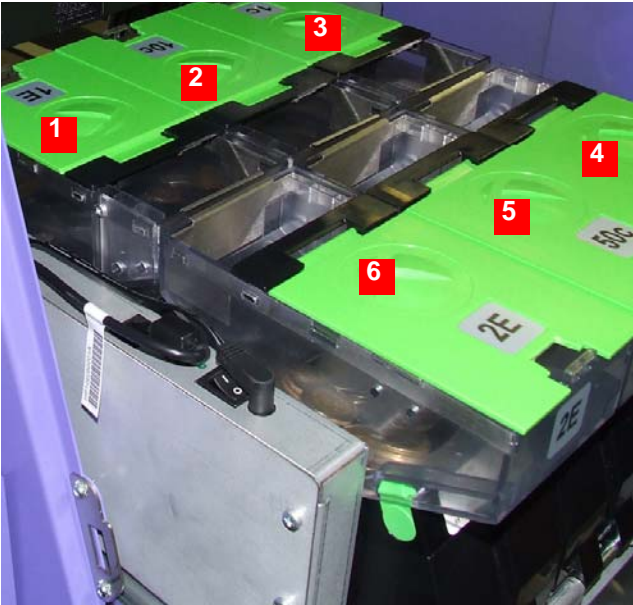
- 24 V DC, 2 A max
- 120 to 240 V AC, 50 or 60 Hz, 24 V external switch mode power supply
- 40 W power consumption

Communication

- USB, serial

Bin Configuration for Different Currencies

The U-Scan Genesis expects certain coin denominations in the specific bins of the CoinXpress hopper as shown below (Canadian 6-bin unit shown):



Bin #	USA denomination, [max. # coins]	Canada denomination, [max. # coins]
1	None	dimes (\$0.10), [1,880]
2	nickels (\$0.05), [530]	quarters (\$0.25), [460]
3	quarters (\$0.25), [460]	2-dollar (\$2.00), [380]
4	dimes (\$0.10), [1,880]	1-dollar (\$1.00), [450]
5	pennies (\$0.01), [890]	nickels (\$0.05), [530]
6	None	pennies (\$0.01), [890]

Loading the Coin Recycler

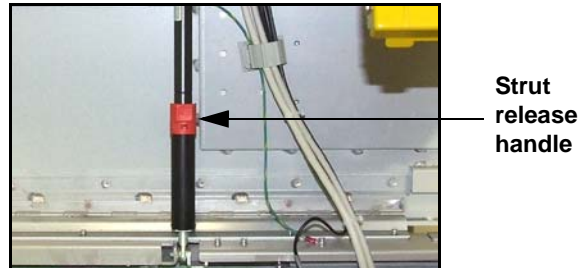
- 1 Unlock and open the upper door.

*Note: Be sure to push in the release handle when you open and close the upper door of the Genesis Station. The release handle is located beside the Scanner Scale, just above the **Change Out** compartment. Failure to push in this handle can break the locking mechanism.*



Push up on the door release handle, then lift the door up until the gas strut mechanism locks into place.

To close the upper door, press the red release button labeled "PRESS" to release the gas strut that holds the door open. (If there is red no button, press on the strut to release it.)

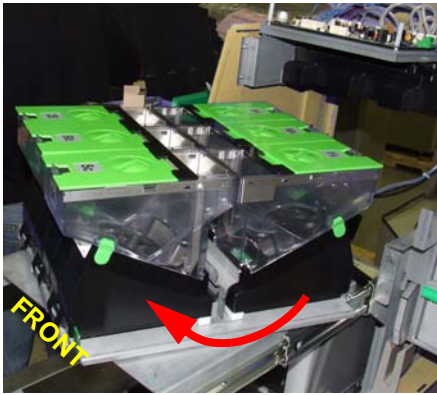


- 2 Pull Slide the Coin recycler tray forward out of the casing. Pull it by the handles on each side of the tray.
- 3 Turn off the power switch on the side of the CoinXpress.

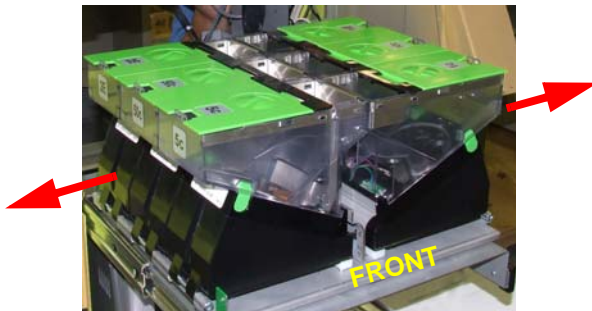


ON/OFF switch

- 4 Rotate the hopper 90 degrees.



- 5 This permits the bins to be tilted freely to the left and right.



- 6 Note the denomination labels on the top covers of the bins.
- 7 Press the release tab and open the top cover of one of the bins.
- 8 Dump the number of coins you wish to load into the bin.
- 9 Close the top cover. Ensure that the release tab clicks into place.
- 10 Repeat the steps above for the remaining bins.
- 11 Rotate the tray back to the way it was, then slide the tray back into the casing.
- 12 Turn on the power switch after you have filled all of the bins.

Testing

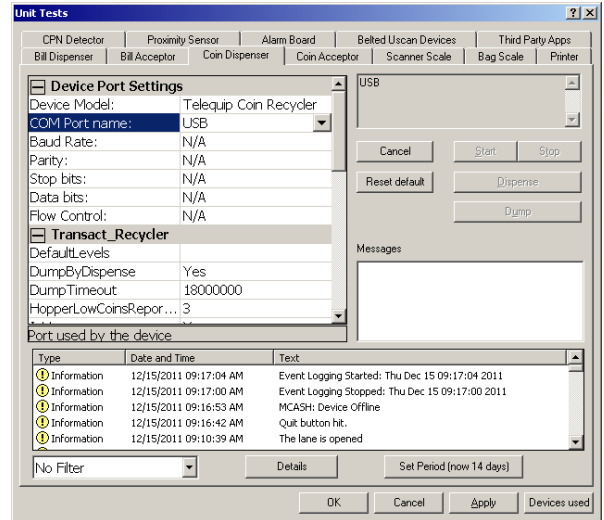
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Coin Dispenser** tab.



- 2 Ensure that the settings are:

(TP3K computer):

Setting	Value
Device Model	Telequip Coin Recycler
TP3K	USB (USB Hub Port 6)

(TP3600 Series computer):

Setting	Value
Device Model	Telequip Coin Recycler
TP3600 Series	Expansion Port module Port 1 (COM3)

*Note: The other settings that display in the **Device Tester** window are greyed out and cannot be changed.*

- 3 If you need to change the **COM Port**:
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

- 1 In Device Tester, click the **Coin Acceptor** tab.
- 2 Ensure that the settings are:

(TP3K computer):

Setting	Value
Device Model	MSCR3
TP3K	USB (USB Hub Port 6)

(TP3600 Series computer):

Setting	Value
Device Model	MSCR3
TP3600 Series	Expansion Port module Port 1 (COM3)

*Note: The other settings that display in the **Device Tester** window are greyed out and cannot be changed.*

Test the Device

*Note: The **Dump** button will dispense all of the coins in the bins. This button is intended to clear coins or jams that remain in the bin after it has been emptied. Do **not** use this button before emptying the coin bins, as the coin cup cannot hold an excessive number of coins. Errors are shown in the bottom pane of the Device Tester.*

- 1 Press the **Coin Dispenser** tab.
- 2 Click **Start**.
- 3 Click **Enable**.
- 4 Click **Start**.
The message **DEVICE::ONLINE{Coin Dispenser}** appears in the **Messages** box.

- 5 Click **Dispense**.
A numeric keypad appears.
- 6 Enter an amount to dispense.

*Note: In US stores, only a two-digit amount may be entered.
In Canadian stores, a three-digit amount (maximum **500**) can be entered.
Mexican stores can enter four digits (maximum **2000**). (This amount is configurable, depending on the store's requirements.)*

- 7 Click **OK**.
If the test was successful, the Coin Dispenser dispenses the indicated amount and the **Messages** box displays **COIN_DISPENSER::DISPENSED{amount}**.
- 8 Verify the amount dispensed.
- 9 Click **Disable**.

- 10 Click **Stop**.

- 11 Click **OK**.

Note: Errors are shown in the bottom pane of the Device Tester. Error messages are stored in the Eventlog Viewer and can be viewed when you exit the Device Tester.

- 1 Press the **Coin Acceptor** tab.
- 2 Click **Start**.
- 3 Click **Enable**.
The message **DEVICE::ONLINE{Coin Acceptor}** appears in the **Messages** box.
- 4 Insert a coin into the device.
If the coin was accepted, the **Messages** box displays **COIN_ACCEPTOR::RECEIVED_COIN{n}**, where **n** represents the coin inserted into the Coin Acceptor. If the coin was not accepted, it falls through the coin return slot and no message is displayed.
- 5 Click **Disable**.
- 6 Click **Stop**.

Verify the Coin Recycler using Device Tester

The Device Tester program is used to observe and control certain device activities. U-Scan must be running to use the program: use Alt+Tab to switch to Launchpad, then touch the **Stop Robot** button. Next, touch the **Device Tester** button when it becomes available.

Provide the password (the default is "1379"). Select the tab that corresponds to the device you are interested in testing. Note that recycler operations are accessed via the separate **Acceptor** and **Dispenser** tabs (there are no tabs identified as "Recycler").

Other configurations can be specified in the software deliverable, or on the fly in the Windows registry, but such changes are outside the scope of this document.

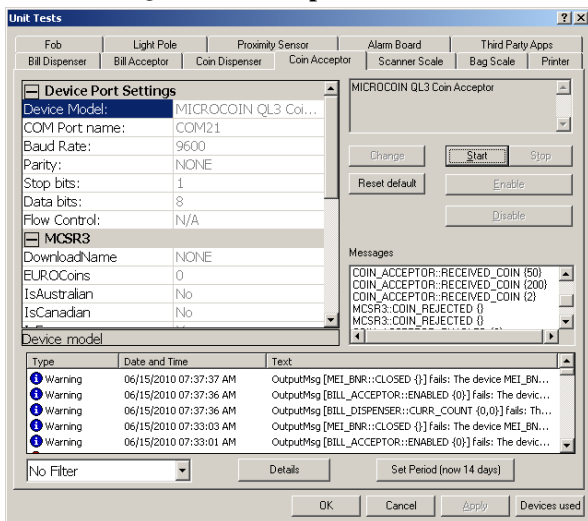
The **Device Port Settings** panel displays basic connection information, plus configuration for each device. Scroll down to the device of interest to view or change its settings. To change a setting, press the (*) asterisk key on the physical keyboard to enable the **Change** button. Next, click **Change**, then click on a cell in order to change it.

The **Messages** box presents messages received by U-Scan directly from the device.

The panel that stretches across the bottom provides access to the event messages. Note that you can use the **Filter** dropdown to filter out unwanted message types (Warning, Information, etc.).

Coin Recycler (Coin Accepting)

- 1 Select the **Coin Acceptor** tab. If you want to see the device settings, scroll down to reveal the listing under **MicroCoin QL3 Coin Acceptor**.

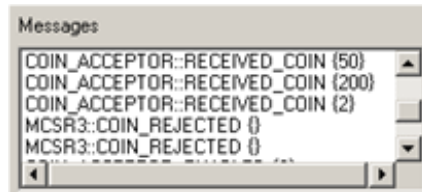


- 2 Press the **Start** button to start the device.

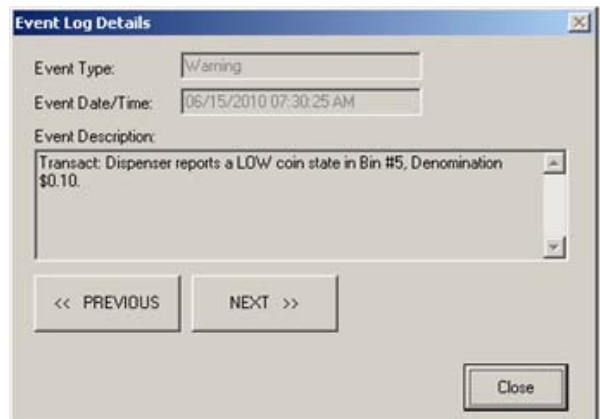
The Coin Recycler can accept more denominations than it can recycle.

- Valid coins of denominations that are not part of the recyclable set of coins are sent directly to the coin box.
- Valid coins that are part of the recyclable set of coins are sent to the appropriate hopper bin (unless the bin is full, in which case the coins are sent to the coin box).
- Invalid coins, or coin denominations that are not acceptable are returned to the customer via the coin return slot.

As you place coins on the coin acceptor belt, the Device Tester **Messages** box indicates whether they are accepted or rejected.



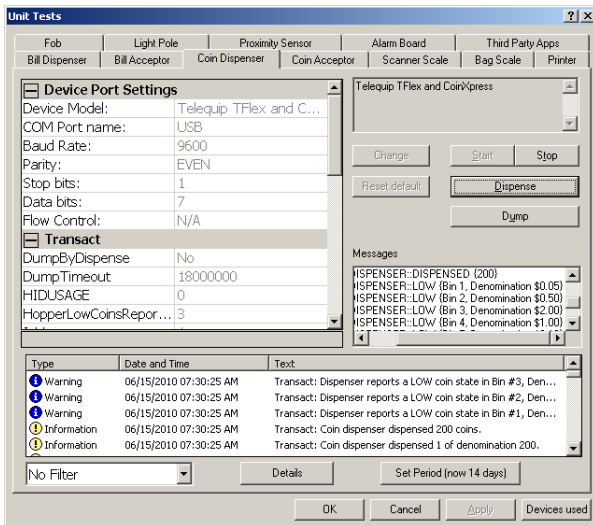
- 3 You can highlight an event message and click the **Details** button to see additional information, as shown below.



- 4 Press the **Stop** button to stop the device.
- 5 Note that coin accepting and dispensing can also be controlled from Maintenance Mode, which is available from within the U-Scan software by going to Attendant Mode (usually by scanning a control barcode).

Coin Recycler (Coin Dispensing)

- 1 Select the **Coin Dispenser** tab. If you want to see the device settings, examine the listing under **Transact**.



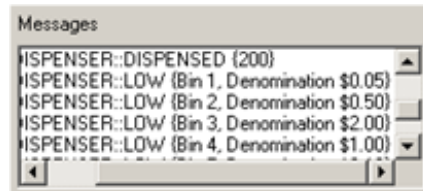
- 2 Press the **Start** button to start the device.
- 3 Click the **Dispense** button to dispense coins. In the **Enter dispense amount** dialog box, enter the amount you would like to dispense (in the example below, 150 = \$1.50), then click **OK**.



You cannot choose specific individual denominations directly, but by calculating the amounts you choose, you should be able to make the system dispense from a particular bin. For example, choose 1 to dispense from the 1 cent bin; choose 25 to dispense from the 10 cent [x2] and five cent [x1] bins.

- The amount you request is by default limited and must be less than the smallest Bill denomination that is set for the Bill Recycler on the system. For example: if the smallest bill denomination is set to \$5, the maximum value of coins that can be set and dispensed in a single operation is under \$5 (i.e. "499")

- As you dispense coins, the Device Tester **Messages** box indicates the denomination dispensed and other status information.



- 4 Click the **Dump** button to dispense a pre-configured number of coins of each denomination (this setting is controlled by the device's firmware).
- 5 Press the **Stop** button to stop the device.
- 6 Note that coin dispensing can also be controlled from Maintenance Mode, which is available from within the U-Scan software by going to Attendant Mode (usually by scanning a control barcode).

Coin Recycler Common Problems and Solutions

This section provides basic steps for resolving common problems. Refer to [“Troubleshooting the Coin Recycler” on page 198](#) for the full troubleshooting procedures.

Issue(s)	Possible Cause(s)	Possible Solution
The coin recycler is dispensing incorrect change.	<ul style="list-style-type: none"> The coin bins are not loaded correctly. There is a coin jam in one of the bins. 	<ul style="list-style-type: none"> Ensure that the correct denomination is loaded in each bin. (The denomination is labelled on the top cover.) If the issue is not resolved, refer to “Check for Coin Jams” on page 202 for instructions on how to clear a coin jam.
The yellow LED did not come on when the coin recycler attempted to dispense coins.	<ul style="list-style-type: none"> The communication between the coin dispenser and U-Scan is broken. Device error. 	<ul style="list-style-type: none"> Check the communication cable connections, including the USB Hub connection. Check the cables for signs of damage. Replace any damaged cables.
The green LED is not on.	<ul style="list-style-type: none"> The device is not receiving power. 	<ul style="list-style-type: none"> Ensure that the device is turned on. Ensure that the power cables are connected. Check the cables for any signs of damage. Replace any damaged cables.
The red LED is flashing	<ul style="list-style-type: none"> Low coin alarm for one or more bins. 	<ul style="list-style-type: none"> Refill the coin bins. Check the sensor value on the red wire: 2.7V DC = low 0V DC = bin is not low
The red LED is on solid.	<ul style="list-style-type: none"> One of the bins is empty. Mechanical error. 	<ul style="list-style-type: none"> Ensure that the bins all contain coins.
<ul style="list-style-type: none"> You notice an increase in dispense times where the motor is frequently reversing to find a coin. You notice an increase in dispense time-outs. You notice signs of wear in the bins that could affect dispense performance. 	<ul style="list-style-type: none"> The bin is damaged or worn out. The rotor is damaged or worn out. 	<ul style="list-style-type: none"> Inspect the rotor for signs of wear and damage. Inspect the coin bins for signs of wear and damage. Replace the damaged rotor or coin bin. Refer to “Replacing the Coin Bins” on page 212 or “Replacing the Rotors” on page 213.

Troubleshooting the Coin Recycler

Troubleshooting the Conveyor Belt

The following table provides basic steps for resolving Coin Recycler conveyor belt issues.

Issue(s)	Possible Cause(s)	Possible Solution
The belt will not move	<ul style="list-style-type: none"> Coins are jammed at the cup entrance Conveyor is stalled Conveyor is unplugged The motor has failed/unknown 	<ul style="list-style-type: none"> Manually remove the coins at the cup entrance; restart U-Scan If large non-coin objects are placed in the conveyor, they may stall it. Use your fingers to manually move the belt towards you to try to remove the object. Connect the conveyor motor wiring harness to the conveyor cable. Replace the conveyor

Troubleshooting the Bulk Validator

The following table provides basic steps for resolving Coin Recycler Bulk Validator issues.

Issue(s)	Possible Cause(s)	Possible Solution
The coin disk does not move	<ul style="list-style-type: none"> Coins or other objects are jammed in the coin queue 	<ul style="list-style-type: none"> The Bulk Validator will make six attempts to clear a jam. If the jam is still present, the coin recycler will go offline. Remove any coins/objects from the Bulk Validator with small pliers and restart U-Scan.
The coin disk does not move	<ul style="list-style-type: none"> Motor failure/unknown 	<ul style="list-style-type: none"> Replace the Bulk Validator
Coins fall out of the trash door	<ul style="list-style-type: none"> Conveyor coin output ramp is misaligned Non-coin object is holding the door open 	<ul style="list-style-type: none"> Loosen the three screws that secure the conveyor coin output ramp. Push the ramp until it almost touches the belt, then tighten the screws. Remove the object that is holding the door open.

Troubleshooting the Sorter

The following table provides basic steps for resolving Coin Recycler sorter issues.

Issue(s)	Possible Cause(s)	Possible Solution
Coin recycler is not sorting	<ul style="list-style-type: none"> The hoppers are full Coin is stuck in the gate or spacer; there are coins on the rail 	<ul style="list-style-type: none"> If a hopper is full, the coins will be directed to the Overflow Bin. Empty the full hoppers. Use small pliers to remove objects from the coin queue. If the object is too large to be removed from the rail, then manually open one of the rail gates and push the object off the rail through the open gate.
Coins are not reaching the hoppers/coins are delivered to the wrong hopper	<ul style="list-style-type: none"> The manifold is missing or mis-aligned 	<ul style="list-style-type: none"> Replace the coin manifold.

Troubleshooting the Coin Queue

The following table provides basic steps for resolving Coin Recycler coin queue issues.

Issue(s)	Possible Cause(s)	Possible Solution
Coin recycler is not sorting	<ul style="list-style-type: none"> Coin(s) jammed in coin queue/stuck in floor gate 	<ul style="list-style-type: none"> Remove the Bulk Validator. Use small pliers to remove coins from the coin queue
Coins are not reaching the coin queue from the Bulk Validator	<ul style="list-style-type: none"> Coin Recycler is in Bypass mode There is an obstruction between the Bulk Validator and coin queue 	<ul style="list-style-type: none"> Inspect and remove any objects from the sorter rail. Cycle power to the Coin Recycler Control Board. Remove any obstructions from the coin queue path.

Troubleshooting the Coin Dispenser

The following table provides basic steps for resolving Coin Recycler coin dispenser issues.

Issue(s)	Possible Cause(s)	Possible Solution
Coins overflow the hoppers	<ul style="list-style-type: none"> The High Coin cable to the recycler control board is defective. 	<ul style="list-style-type: none"> Replace the High Coin cable.
Coins are not reaching the coin cup	<ul style="list-style-type: none"> The hopper assembly is not properly set in place; failed hopper in place 	<ul style="list-style-type: none"> If the hopper assembly is not properly seated in detent position, the coin dispenser should be offline. If the recycler operates with the hopper not properly seated, rack the hopper assembly fully to the rear.
Coin recycler is not working	<ul style="list-style-type: none"> The hopper assembly is not properly set in place 	<ul style="list-style-type: none"> If the hopper assembly is not properly seated, the coin dispenser should be offline.

Troubleshooting the Overflow Bin

The following table provides basic steps for resolving Coin Recycler overflow bin issues.

Issue(s)	Possible Cause(s)	Possible Solution
Coins are not reaching the overflow bin	<ul style="list-style-type: none"> There is an obstruction in the overflow bin coin path. 	<ul style="list-style-type: none"> Remove the object/coin jam from the overflow bin coin path.
Coins are dropping outside the overflow bin	<ul style="list-style-type: none"> The Overflow Bin High sensor is unplugged The Overflow Bin Coin sensor is defective 	<ul style="list-style-type: none"> Verify the connection of the Overflow Bin High sensor. Replace the Overflow Bin High sensor.

General Troubleshooting

The following table provides basic steps for resolving general Coin Recycler issues.

Issue(s)	Possible Cause(s)	Possible Solution
Coins recycler is not working	<ul style="list-style-type: none"> The hopper assembly is not properly set in place 	<ul style="list-style-type: none"> If the hopper assembly is not properly seated, the coin dispenser should be offline. Re-seat the coin dispenser in the detent position.
Coins are not being sorted	<ul style="list-style-type: none"> The recycler is in Bypass mode. 	<ul style="list-style-type: none"> Inspect the coin queue and sorter rail; remove any stuck objects. Cycle power to the recycler control board.

Follow the Testing Procedure

See “Testing” on page 193.

Inspect the Power

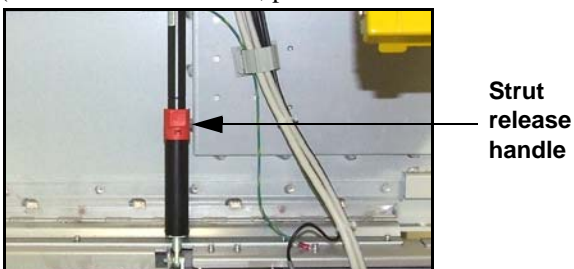
1 Unlock and open the upper door.

*Note: Be sure to push in the release handle when you open and close the upper door of the Genesis Station. The release handle is located beside the Scanner Scale, just above the **Change Out** compartment. Failure to push in this handle can break the locking mechanism.*



Push up on the door release handle, then lift the door up until the gas strut mechanism locks into place.

To close the upper door, press the red release button labeled “PRESS” to release the gas strut that holds the door open. (If there is red no button, press on the strut to release it.)



- Pull the hopper tray towards you on the rails.
- Ensure that the power switch on the side of the CoinXpress is set to the **ON** position.



ON/OFF switch

- Ensure that the power cable is securely connected to the side of the hopper tray.

Note: A cable inlet on the bottom of the tray provides access to the cable connections on the side of the device.

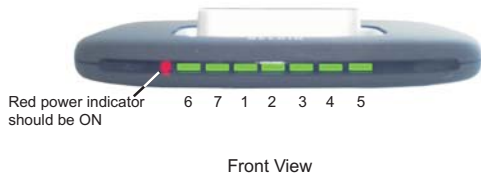
- Ensure that the power cable is securely connected to the power strip beside the UPS.
- Turn the hopper off then on again to cycle the power.

Inspect the Cable Connections

- Ensure that the communication cable is securely connected to the side of the device.
- Ensure that the black and red wires are securely connected to each bin.
- If one of the wires is disconnected:
 - Turn off the hopper.
 - Inspect the end of the wire for damage, frayed ends or bare wire. Contact your support center if the wire is damaged.
 - If the wire is not damaged, slide it onto the terminal to reconnect it. Compare it to the other bin connections to ensure that the wire is connected properly.
 - Turn on the hopper.

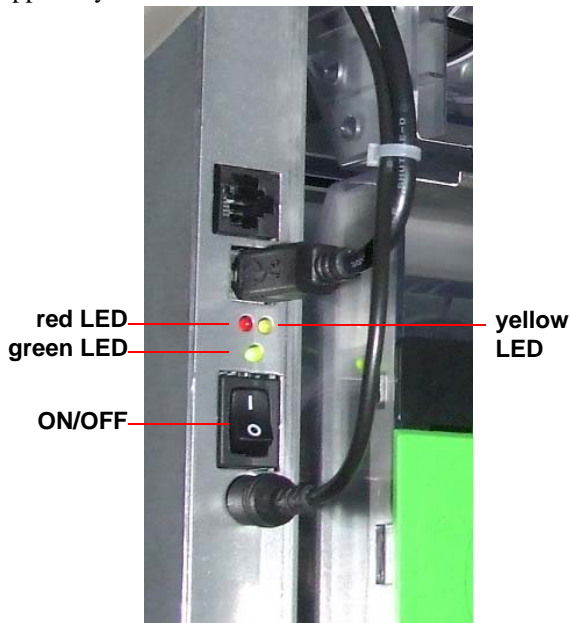
TP3K computer only:

- 4 Ensure that the communication cable is securely connected to Port 6 of the USB Hub.
- 5 Ensure that the LED for Port 6 of the USB Hub is lit green.



Inspect the LEDs

- 1 Locate the LEDs on the cable connection side of the coin hopper tray.



- 2 Ensure that the green LED is on when the device is receiving power.
- 3 If the red LED is on (flashing or solid), refer to [“Replacing the Coin Bins” on page 212.](#)

Inspect the Coin Bins



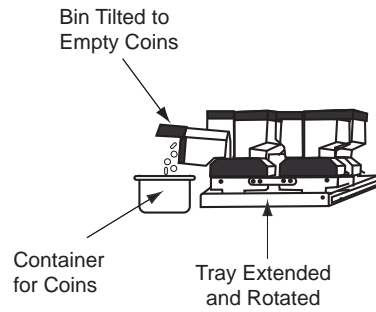
Keep your fingers clear of the hinged panels when you empty the coins.

- 1 Ensure that the correct denomination is loaded into each bin. (The denomination is labelled on the top cover.)
- 2 Ensure that each bin is loaded with an adequate number of coins.

Note: The coin recycler hoppers cannot dispense coins from an empty bin. If the change to remit includes coins normally found in a hopper that is empty, an error message will be displayed. You should always maintain an adequate supply of every coin denomination.

- 3 Turn off the hopper.

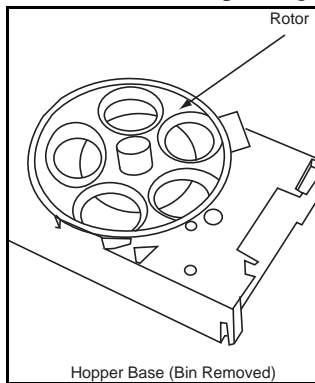
- 4 Rotate the hopper 90 degrees. (This permits the bins to be tilted freely to the left and right.)
- 5 Tilt the coin bins and empty the coins.



- 6 Inspect the inside of the bins for signs of wear and damage. If there is significant wear or damage, refer to [“Replacing the Coin Bins” on page 212.](#)

Inspect the Rotors

- 1 **Turn off the CoinXpress.**
- 2 Remove the coin bin to access the rotor:
 - a Disconnect the black and red wires (low coin terminals) on the side of the bin you wish to replace.
 - b Tilt and firmly hold the black base, then grasp the bottom of the bin and rotate it counterclockwise.
- 3 Locate the rotor. It is the round disc with four or five round holes in it (depending on the coin denomination).



- 4 If you notice excessive rounding in the edge of the holes in the rotor, replace the rotor. Refer to [“Replacing the Rotors” on page 213.](#)

Note: Telequip recommends replacing the rotor every 500,000 to 600,000 dispenses to maintain optimal performance. The amount of wear varies depending on the coin type and average coin inventory in a bin.

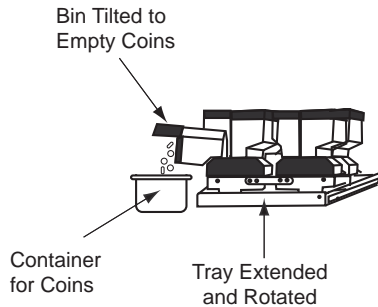
Check for Coin Jams

If the CoinXpress is not dispensing coins and the bins are loaded, perform the steps below to check for coin jams.



Keep your fingers clear of the hinged panels.

- 1 Turn off the CoinXpress.
- 2 Rotate the hopper 90 degrees. (This permits the bins to be tilted freely to the left and right.)
- 3 Tilt the coin bins and empty the coins.



- 4 Check the bins for debris or foreign objects that could cause a jam.
- 5 Ensure that you can move the coins that remain in the bottom of the bins easily with your fingers.
- 6 If not all coins move easily, there may be a mechanical jam. Follow the steps below to try and clear the coin jam:
 - a Turn on the CoinXpress.
 - b Access the **Device Tester**.
 - c Touch **Start**.
 - d Touch **Dump**.

The Coin Hopper performs a purge operation.

*Note: This functionality is also available in **Maintenance Mode**. After you select **Test Dispensers**, you have the option to **Dump Coins**.*

- 7 If not all coins were dispensed or can be removed, follow the steps below to manually clear a coin jam in the Coin Hopper:
 - a Identify the jammed coin bin.
 - b Turn off the Coin Hopper.
 - c Tilt the coin bin to access the mechanical screw on the side of the base of the bin.



Keep your fingers clear of the hinged panels when you tilt the coin bins.

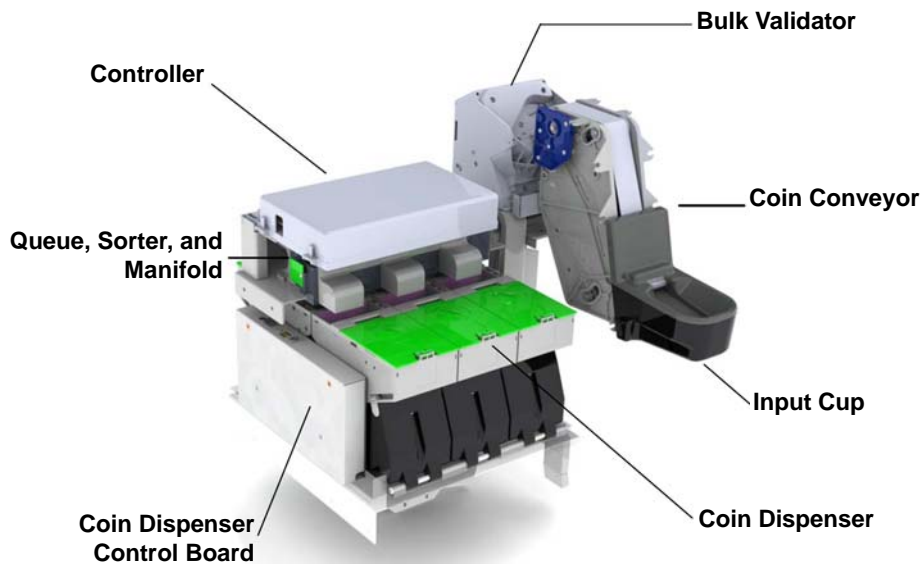
- d Use a Phillips screwdriver to tighten the screw until the jammed coin is moved past the hopper ejector pin.

*Note: Do **NOT** overtighten the screw or apply excessive force and strip the screw.*
- 8 If the issue is not resolved, check the exit ramp in the rear of the casing:
 - a From the inside of the casing, remove the captive screw securing the rear panel.
 - b Remove the rear panel.
 - c From the rear of the casing, use a flashlight to check the exit ramp for any jammed coins or foreign objects.
 - d Clear the coins or foreign objects from the exit ramp.

Cleaning and Maintenance

Task	Frequency	Description
Clean the Coin Recycler	Every service call	Use a soft, clean damp cloth to remove surface dirt.
Clean the conveyor belt	Once a month	Use a soft, clean damp cloth to clean the conveyor belt. Enable the Coin Acceptor via the Device Tester program. Hold the damp cloth on the conveyor cup while the belt runs. Afterwards, use a dry cloth to dry the belt. Cleaning with isopropyl alcohol is <i>not recommended</i> .
Clean the reservoir area	Once a month	Once a month, vacuum the Bulk Validator reservoir area while holding the trash door open with the manual lever.
Clean the trash receptacle	Routinely	Routinely check the trash receptacle for non-coin objects. Objects can be removed with a vacuum cleaner or tweezers.
Clean the coin queue	Periodically, or if necessary	In normal use, the coin queue requires no cleaning. If cleaning is required, first remove the Bulk Validator. Then use tweezers to remove debris from the coin queue.
Clean the sorting rail	Periodically, or if necessary	In normal use, the sorting rail does not require cleaning. Use tweezers to remove debris from the sorting rail.
Rotor inspection	Every 12 months	Inspect the hopper rotor for signs of wear and damage. Refer to “Replacing the Rotors” on page 213 . If the rotor shows signs of wear and damaged, refer to “Replacing the Coin Bins” on page 212 .
Bin inspection	Every 12 months	Inspect the bins for signs of wear and damage. Refer to “Inspect the Coin Bins” on page 201 . If a coin bin shows signs of wear and damage, refer to “Replacing the Coin Bins” on page 212 .
Clean the coin ejection sensor	Every 12 months	Use compressed air to clean the coin ejection sensor.

The Coin Recycler is comprised of the following sub-assemblies:

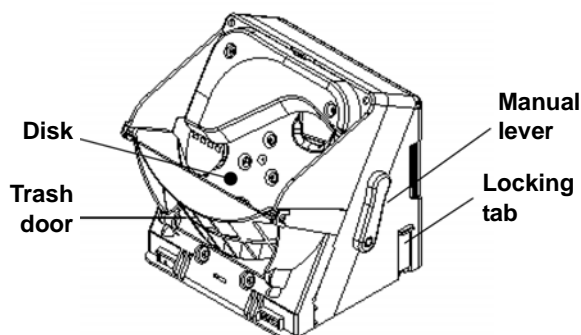


1. Coin Conveyor

The coin conveyor action causes coins to be oriented flat, and fed in a controlled manner to the Bulk Validator. Auto-reversing and periodic belt stoppage during payment is normal. In normal usage, no intervention is required.

2. Bulk Validator

Coins fed from the Conveyor are collected in the Bulk Validator reservoir and loaded onto the rotating coin disk. The disk presents each coin to the measurement area at the top of the Bulk Validator. Each coin is either validated and diverted to the sorting rail, or rejected and fed back to a return path. In normal operation, a very small percentage of valid coins may be rejected. The Bulk Validator also has a trash door for removing debris. A lever has been provided to actuate the trash door manually, although trash will be emptied automatically as part of normal Recycler operation.



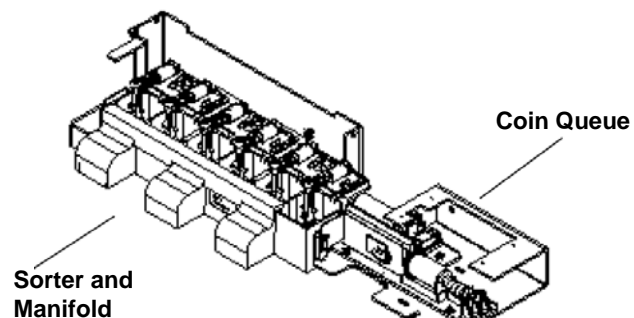
3. Trash System

A small trash receptacle is located below the Bulk Validator. After each transaction (or other configurable parameter), the Bulk Validator opens the trash door. Any non-coin objects will fall into the trash receptacle.

4. Coin Queue, Sorter, and Manifold

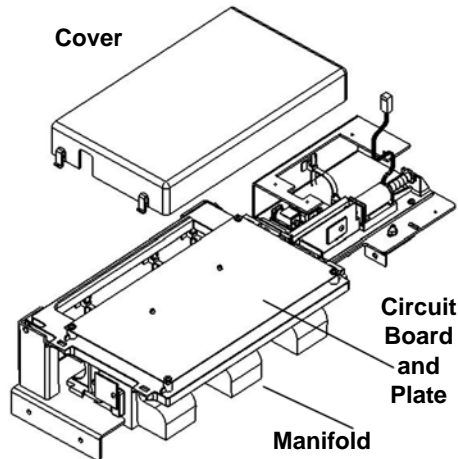
The Sorter directs coins fired from the Coin Queue to one of six gates. The coins pass from the gate to the hoppers below through a manifold. The Sorter rail uses two sensor PCBs to monitor that the coins have been directed from a gate through the manifold to a hopper below the manifold. The sensor must be functioning for proper operation of the Sorter rail.

The Coin Queue is located below the Bulk Validator and behind the reject coin chute. Three solenoids are used to direct validated coins to the sorting rail or to the Overflow path. Coin Queue sensor PCBs are located on either side of the Coin Queue. The sensor PCBs use a pair of optical sensors to monitor the status of the Coin Queue. Both sensors must be functioning for proper operation of the Coin Queue.



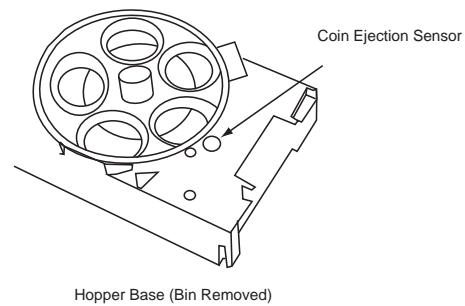
5. Controller

The Recycler Control Circuit Board is located just above the Sorter rail on a removable hinged plate, and shielded by a protective plastic cover. The plate can be tilted up to allow access to the Sorter rail and manifold. To gain access to the Recycler Control Circuit Board for replacement, first remove the protective cover.



Cleaning the Coin Ejection Sensor

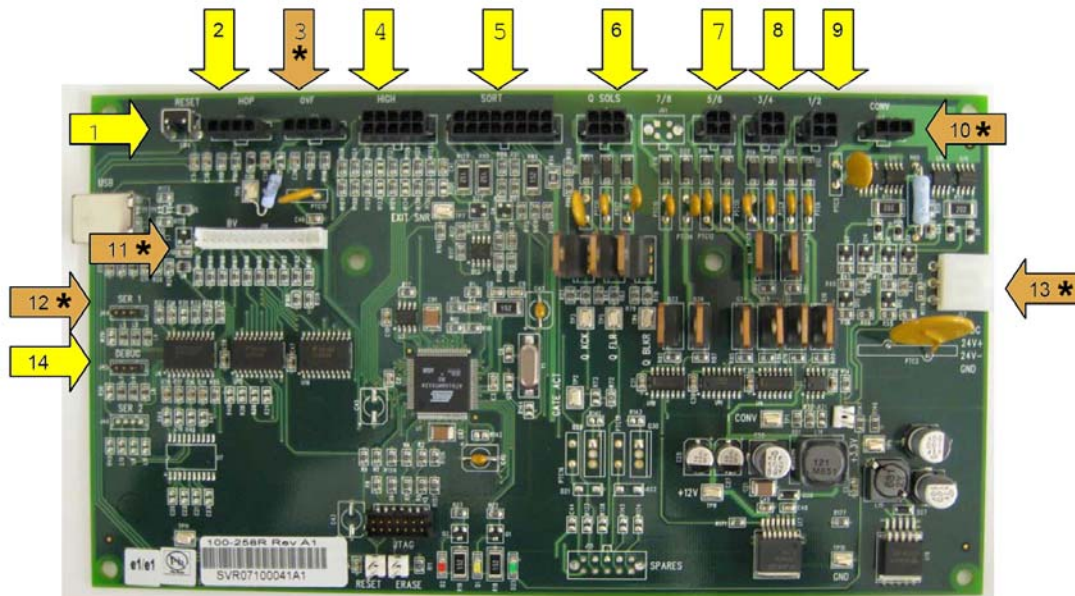
- 1 Turn off the CoinXpress.
- 2 Remove the coin bin. Refer to [“Replacing the Coin Bins” on page 212](#) for instructions on how to remove the coin bins.
- 3 Use compressed air to spray the coin ejection sensor for several seconds.



- 4 Move the sensor to the open position and spray the sensor for several seconds while it is open.
- 5 Replace the coin bin. Refer to [“Replacing the Coin Bins” on page 212](#) for instructions on how to remove the coin bins.
- 6 Repeat the steps above to clean the coin ejection sensor on the remaining bins.
- 7 When you finish cleaning all of the sensors, turn on the CoinXpress.
- 8 Perform a test dispense. Refer to [“Test the Device” on page 194](#).

Circuit Board Connectors

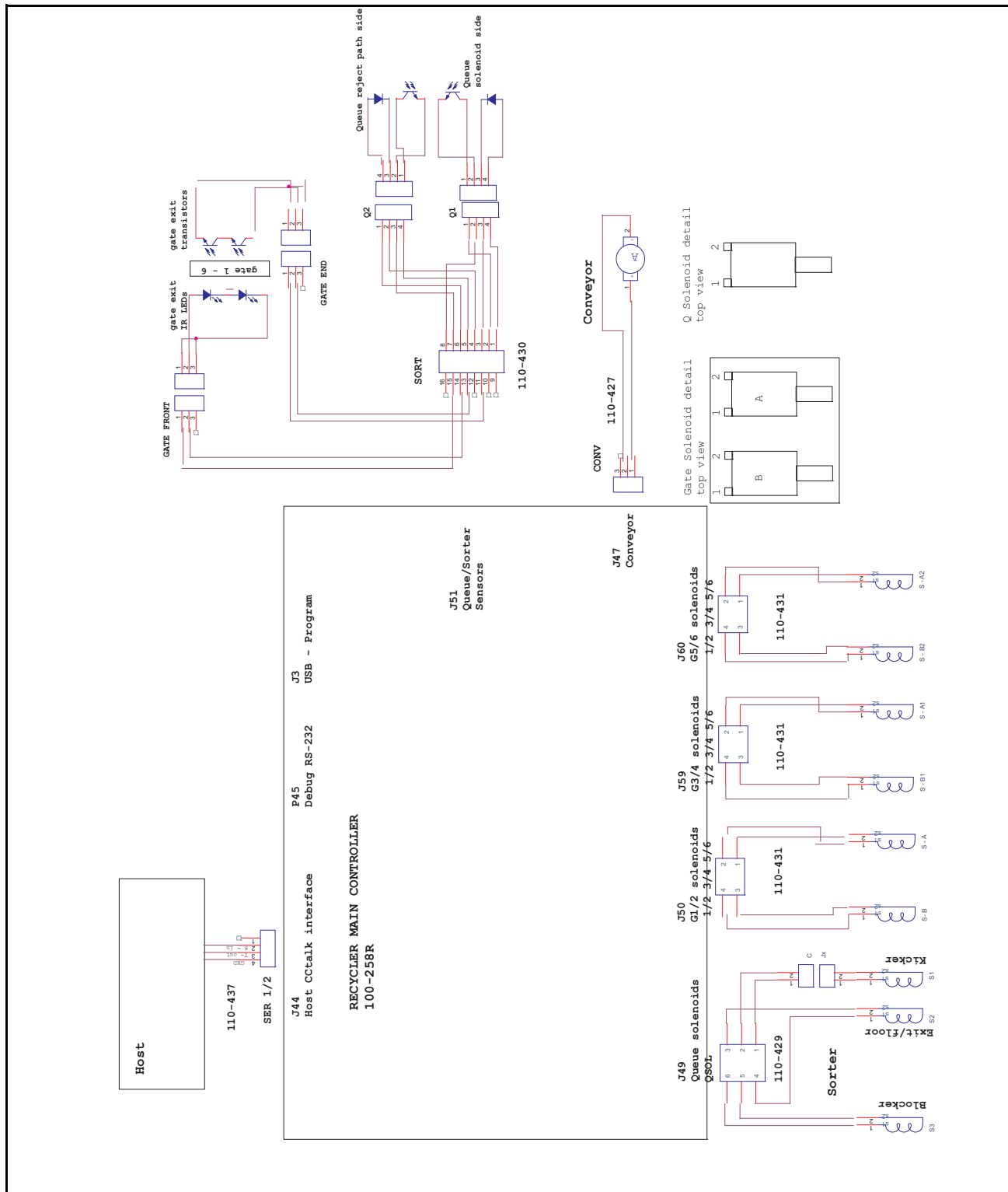
All of the input sensor and output device control cable assemblies connect to the Recycler Control circuit board. The connectors and their locations are presented below:



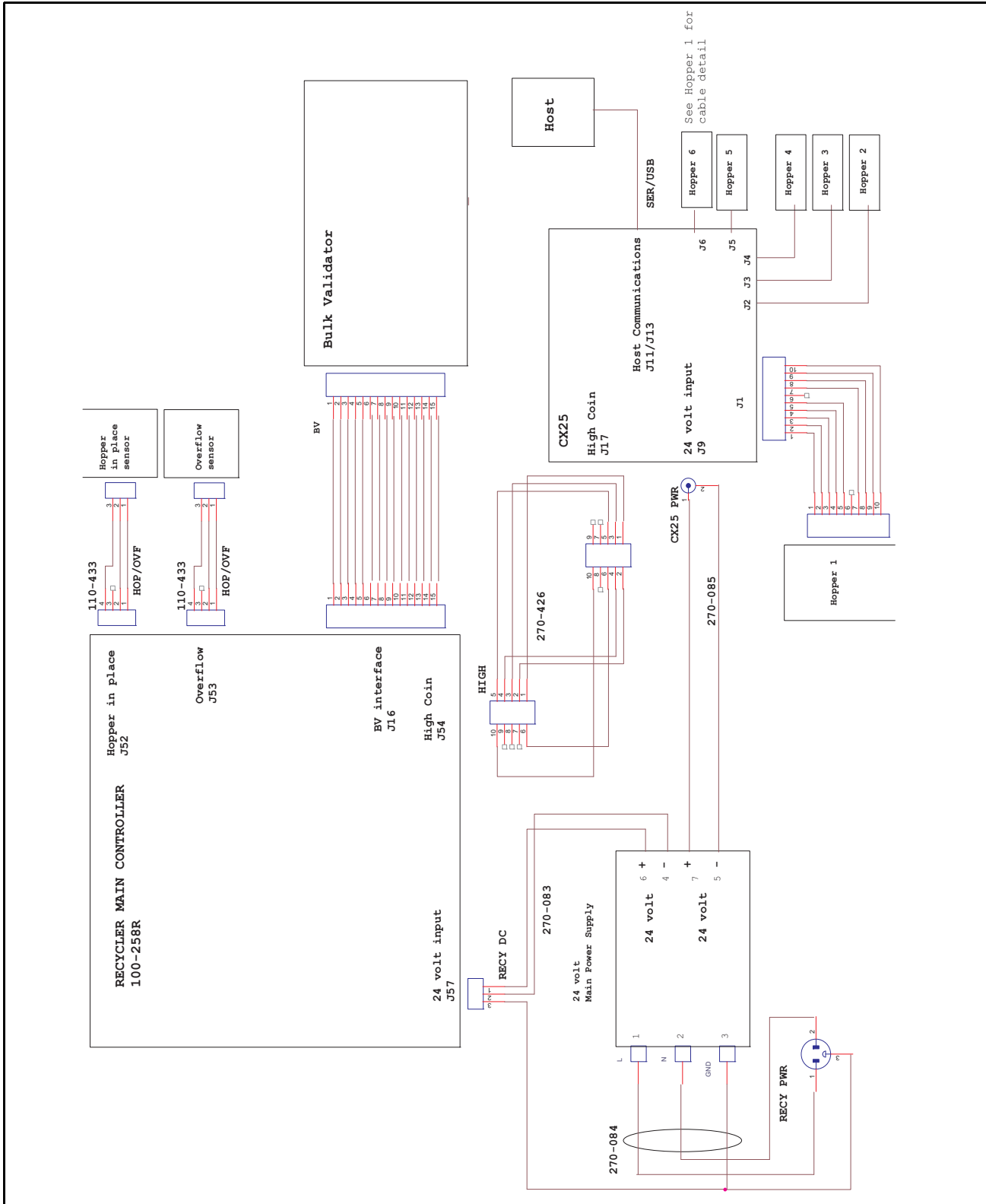
Arrow	PCB Reference	Function (*) indicates cable to connect for retrofit
1	RESET	Reset switch
2	HOP	Hopper in Place sensor
3	OVF	(*) Overflow Bin High sensor
4	HIGH	High Coin sensors (this cable is hard-wired to the coin hopper control box)
5	SORT	Sorter sensors
6	Q SOLS	Queue solenoids
7	5/6	Gate solenoids 5/6
8	3/4	Gate solenoids 3/4
9	1/2	Gate solenoids 1/2
10	CONV	(*) Conveyor motor
11	BV	(*) Bulk Validator Interface
12	SER 1	(*) RS-232 Host connection
13	RECY DC	(*) +24VDC input power
14	DEBUG	RS-232 debug

Wiring Schematics

Wiring Diagram 1



Wiring Diagram 2



Bypass Mode

In the event that a coin leaves the coin queue but does not reach the sorter exit gate, the recycler will enter “Bypass” mode. This is a state where the sorter is taken offline and all coins are sent to the overflow bin. The recycler will remain in this mode until either:

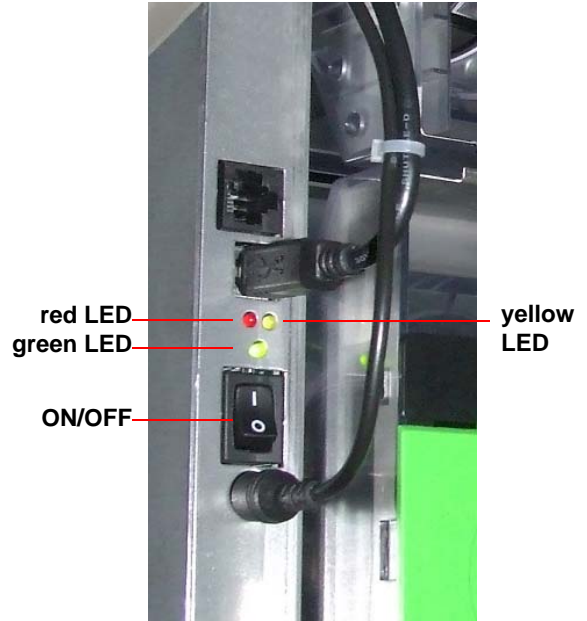
- Power is cycled to the Recycler Control circuit board
- The Recycler Control circuit board is reset

The Coin Conveyor and Bulk Validator will continue to function normally, allowing a customer to complete their transaction, but coins will not be recycled to the coin dispenser.

Color Mapping

The dispensing and accepting components of the coin recycler operate independently and have separate U-Scan host interface connections. Mapping of coins routing from the sorter to the hoppers is hard-coded in the coin recycler firmware, and is based on the country/currency.

LED Indicators



LED Status	Indication	Solution
Green LED on solid	Recycler is receiving power and ready for dispensing.	N/A
Red LED on solid	Warning LED signalling a machine error. The red LED comes on solid when one of the bins is empty.	Ensure that the hopper bins all contain coins.
Flashing red LED	Low coin alarm for one or more bins.	Refill the coin bins.
Flashing yellow LED	Flashes when the device receives data from or sends data to the U-Scan system. This LED should flash when the device dispenses.	N/A

Coin Recycler Component Removal and Replacement

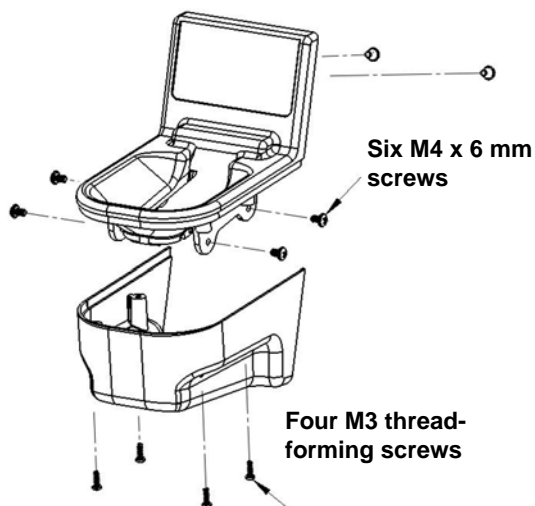
Remove the Cover



Observe all ESD precautions when accessing the Controller circuit board.

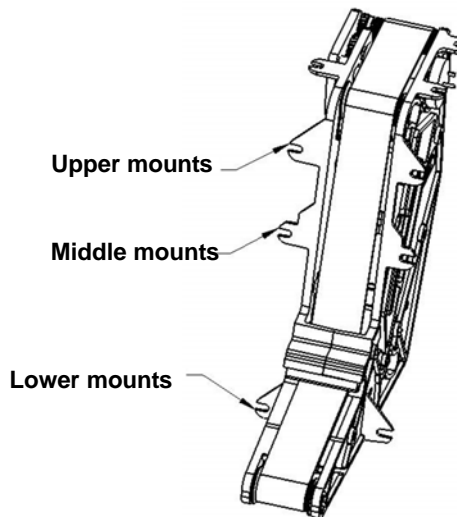
This section provides an overview of removal and replacement information. For more detailed steps that describe all components, please refer to Auchan Coin Recycler Field Upgrade (document D900000414).

- 1 Remove the circuit board cover to access the controller. Disconnect power from the conveyor. See “[Circuit Board Connectors](#)” on page 206 for the circuit board connector identifications. Loosen all conveyor cable-stays.
- 2 Remove the four exterior M3 Philips screws from the input cup, then remove the lower cup cover.



- 3 Remove the four exterior M4 x 6 Philips screws from the input cup. You may need an offset screwdriver for this.
- 4 Remove the two interior Philips cup mount screws while supporting the input cup. Remove the input cup.

- 5 Remove the upper and lower pairs of Philips mounting screws from the cabinet door.



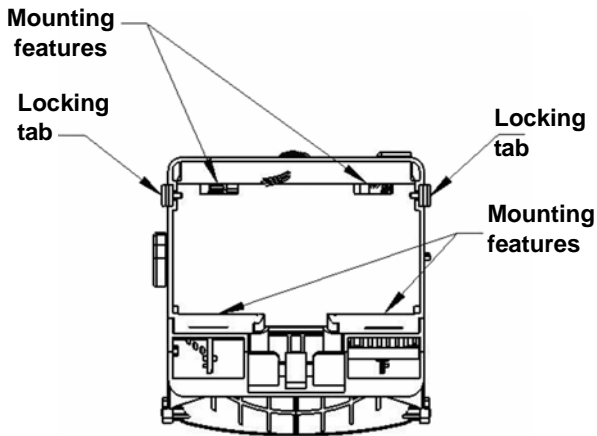
- 6 While supporting the conveyor, remove the remaining pair of mounting screws and remove the conveyor, guiding the power cable from the cabinet.

Install the Conveyor

- 1 Position the conveyor on the upper door of the Customer Station, and support it while loosely installing two conveyor screws at the middle mount locations.
- 2 Loosely install the four remaining conveyor screws to the upper and lower mount locations.
- 3 Position the input cup on the conveyor, guiding the input cup's mounting pins through the upper door of the station. Loosely install the two interior input cup mounting screws.
- 4 Align the exterior input cup mount holes by supporting the conveyor from the inside of the cabinet while pulling the input cup onto the exterior portion of the conveyor. Loosely install the four exterior cup screws, and then secure these screws while maintaining correct positioning of the input cup.
- 5 Tighten the two interior input cup mounting screws.
- 6 Tighten the six conveyor mounting screws.
- 7 Guide and connect the conveyor power cable to the controller circuit board, securing in the associated cable-stays. Re-position the circuit board's protective cover.

Remove the Bulk Validator

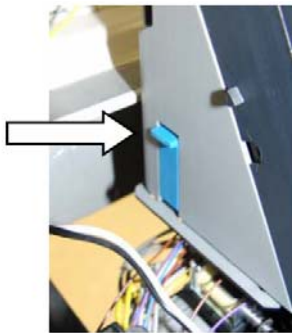
The Bulk Validator is held in place by four mounting features and locked into position by two locking tabs. Review the location and operation of these features before proceeding:



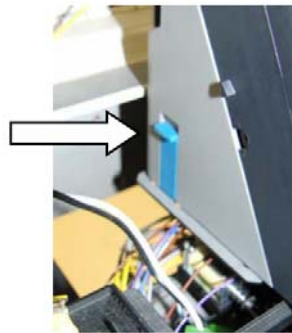
- 1 Unplug the communications/power connector from the Bulk Validator.
- 2 Lift the two locking tabs.
- 3 Slide the Bulk Validator forward and away from the Bulk Validator base plate.

Install the Bulk Validator

- 1 To mount the Bulk Validator start by lifting up the two locking tabs.
- 2 Position the Bulk Validator forward on the BV base plate. Slide the Bulk Validator back so the mounting features engage.
- 3 Push down the locking tabs to secure the Bulk Validator.
- 4 Re-connect the communications/power connector to the Bulk Validator.

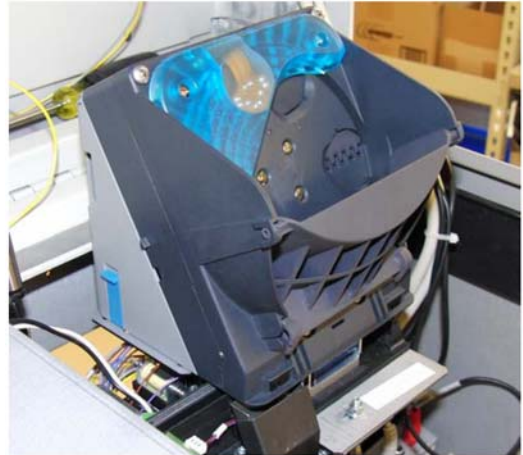


Locking tabs UP



Locking tabs DOWN

When the Bulk Validator is securely in place, it will be positioned as shown below.



Remove and Replace the Controller



Observe all ESD precautions when accessing the Controller circuit board.

- 1 Remove the circuit board's protective cover by pressing the cover mounting tabs toward the circuit board. Lift the cover away.
- 2 Unplug the power connector from the circuit board. See ["Circuit Board Connectors" on page 206](#) for the circuit board connector identifications.
- 3 Unplug the remaining cables from the circuit board.
- 4 Remove the four Philips mounting screws. Remove the circuit board to an ESD safe location.
- 5 Reverse the removal steps from re-installation of the Controller circuit board, matching the cable labels to the circuit board labels.

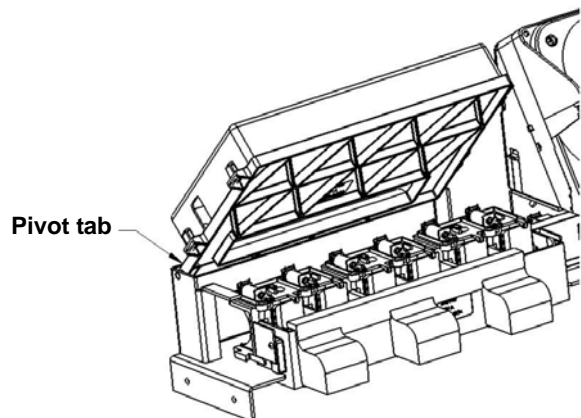
Remove and Replace the Sorter Rail



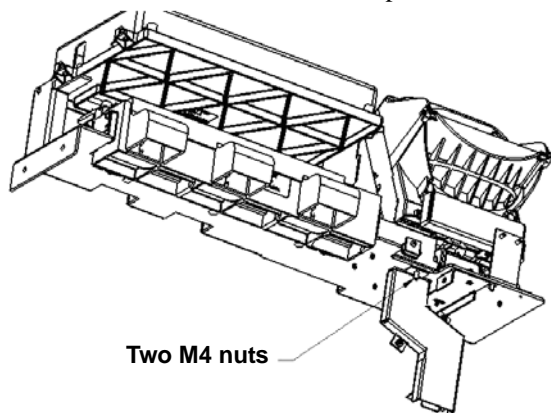
Observe all ESD precautions when accessing the Controller circuit board.

- 1 Remove the Bulk Validator (see [page 211](#)).
- 2 Remove the four screws that secure the Bulk Validator base plate. Remove the base plate.
- 3 Remove the Controller circuit board's protective cover by pressing the cover mounting tabs toward the circuit board. Lift the cover away.
- 4 Access the Controller circuit board and unplug the power connector. See ["Circuit Board Connectors" on page 206](#) for the circuit board connector identifications.
- 5 Unplug the remaining cables from the circuit board.

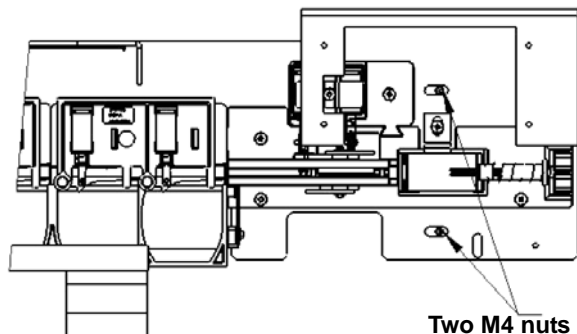
- 6 Pivot the Controller circuit board's support plate up by 90°.



- 7 Push the outer pivot tab inward to release the circuit board's support plate from the chassis.
- 8 Guide all of the connectors from the circuit board support plate while removing it.
- 9 Re-install the protective circuit board cover on the support plate and place this assembly in an ESD safe, secure location.
- 10 Remove the coin reject chute.
- 11 Slide the Coin Dispenser out to gain access to the overflow chute. Remove the two M4 mounting nuts and allow the chute to rest in a lowered position.



- 12 Remove the two M4 Sorter mounting nuts located on either side of the kicker solenoid.



- 13 Remove the rail sorter manifold.
- 14 While supporting the rail sorter, remove the remaining two M4 nuts from the left sorter mount plate. Remove the rail sorter.
- 15 To re-install the rail sorter, reverse the removal steps. Tighten the associated fasteners during re-installation.

Replacing the Coin Bins

Replace the coin bin(s) when one of the following conditions occurs:

- You notice an increase in dispense times where the motor is frequently reversing to find a coin.
- You notice an increase in dispense time-outs.
- You notice signs of wear in the bins that could affect dispense performance.

Note: Telequip recommends replacing the bins every 500 000 to 600 000 dispenses to maintain optimal performance. The amount of wear varies depending on the coin type and average coin inventory in a bin.

Requirements:

- Replacement bin (manufacturer part number 310-598)
- 1 **Turn off the coin recycler.**
 - 2 Disconnect the black and red wires (low coin terminals) on the side of the bin you wish to replace.
 - 3 Tilt and firmly hold the black base, then grasp the bottom of the bin and rotate it counterclockwise.
 - 4 Remove and discard the bin.
 - 5 Align the new bin on the base so that the latch on the top cover is facing out and the bin is slightly off-center.
 - 6 Turn the bin clockwise until it snaps into place.
 - 7 Return the base to the dispense position.
 - 8 Reconnect the red and black wires. Refer to the other bins to ensure that you connect the wires to the correct terminal.
 - 9 Load the bin with coins.
 - 10 Turn on the CoinXpress.
 - 11 Perform a test dispense through the **Device Tester** (or **Maintenance Mode**) to ensure that the bin is correctly installed and is dispensing correctly. Refer to [“Test the Device” on page 194](#) for instructions.

Replacing the Rotors

Replace the coin rotor when one of the following conditions occurs:

- You notice an increase in dispense times where the motor is frequently reversing to find a coin. You notice an increase in dispense time-outs.
- You inspect the rotor and notice excessive rounding in the edge of the holes in the rotor.

Note: Telequip recommends replacing the rotor every 500 000 to 600 000 dispenses to maintain optimal performance. The amount of wear varies depending on the coin type and average coin inventory in a bin.

Requirements:

- Replacement rotor for the correct denomination. Refer to the table on [page 180](#) for the appropriate rotor part numbers for your region.
- 1 Turn off the CoinXpress.
 - 2 Remove the bin to access the rotor you wish to replace. Refer to [“Replacing the Coin Bins” on page 212](#) for instructions on how to remove the bin.
 - 3 Locate the rotor in the base. It is round disc with round holes.
 - 4 Pull the rotor straight up to remove it.
 - 5 Set the replacement rotor in the base.
 - 6 Replace the bin. Refer to [“Replacing the Coin Bins” on page 212](#) for instructions on how to replace the bin.
 - 7 Load the bin with coins.
 - 8 Turn on the CoinXpress.
 - 9 Perform a test dispense through the **Device Tester** (or **Maintenance Mode**) to ensure that the bin is correctly installed and is dispensing correctly. Refer to [“Test the Device” on page 194](#) for instructions.

Chapter 14: TeamPOS 3000 Computer

This chapter contains servicing information for the TeamPOS 3000 (TP3K) computer found in U-Scan Genesis Stations.



Features

- 1.3 GHz Celeron M CPU
- 160 GB hard drive
- 512 MB DDR memory
- COMBO board
- COM board
- CD-RW/DVD-ROM drive
- RoHS-compliant

Technical Specifications

Environment

- Operating Temperature: 32°F to 104°F (0°C to 40°C)
- Non-operating Temperature: 23°F to 122°F (-5°C to 50°C)
- Operating Relative Humidity: 10 to 95% non-condensing
- Non-operating Relative Humidity: 8 to 95% non-condensing

Power Requirements

- Voltage: 100-240 V AC
- Frequency: 50-60 Hz
- Maximum dissipation power: 270 W DC

Inputs/Outputs and Expansion Slots

- 6x Powered USB ports (COMBO board)
- 2x Serial ports (COMBO board)
- 3x Serial ports (COM board)
- 2x Serial ports
- 1x Powered USB port
- 4x USB ports (two front, two back)
- 1x PS/2 keyboard
- 1x PS/2 Mouse
- On-board Video (1x 15 Pin D-Sub and 1x DVI)
- On-board sound
- On-board network card (NIC)
- Optional second network card (INTEL PRO/100 GT half-height card)

Part Numbers

- U-Scan TeamPOS 3000 Computer: KIT0300076
- USB Mouse: 11000970
- USB Keyboard: 11000973
- Optional second network card: 11000055

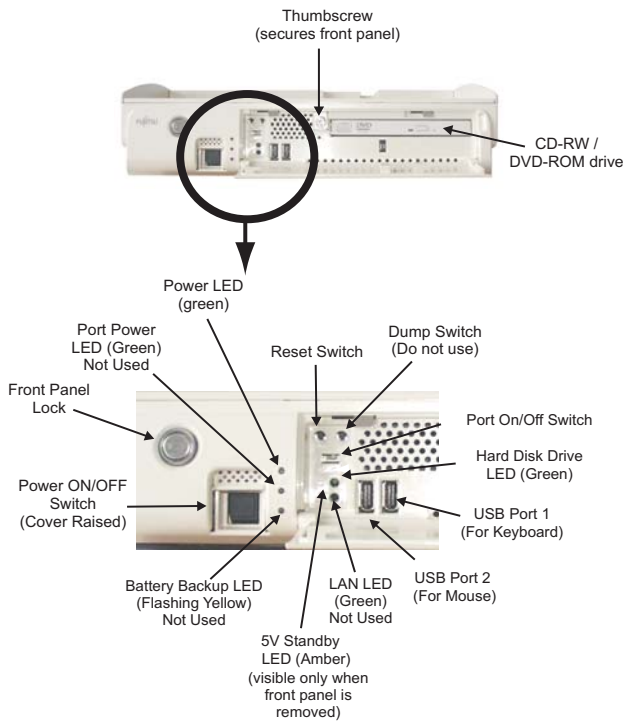
TeamPOS 3000 Front Panel Components

The following diagram illustrates the LEDs, switches, and ports located on the front of the TeamPOS 3000 computer.

To open the front cover:

- Locate the notch on the front cover.
- Slide your finger under the notch and pull the front cover down to open it.

Note: Some stores have a locked front cover on the TeamPOS 3000. You may have to unlock the front cover before opening it.



Switch/LED	Location	LED Color	Comment
Power Switch	Under drop down window in front panel	—	Depending on the BIOS setup, the power switch can be instant off or delayed off. *Currently set to instant off for U-Scan.
Power LED	Outside of front cover.	Green	Indicates AC power is supplied to the power supply and all DC voltages are available to the motherboard and other devices.
Port Power LED	Outside of front cover, below the Power LED.	Green	Indicates +24 and +5 V power is on the printer and RS-232 ports. Turning off the port switch will cause this light to turn off after five or more seconds.
Battery Backup LED	Outside of front cover below the Port Power LED.	Blinking Yellow	Indicates terminal is running on battery backup when ON.
Reset Switch	Inside front panel cover.	—	Resets terminal, all data in memory will be lost.
Dump Switch	Inside front panel cover.	—	Not used.
Port On/Off Switch	Inside front panel cover	—	Turns on/off power to all RS-232 ports (including COM1 and COM2).

Switch/LED	Location	LED Color	Comment
5VDC MB Power LED	Behind front panel.	Amber (yellow-orange)	Indicates AC power is supplied to the power supply and standby voltages for motherboard are available. Do not remove motherboard from chassis when light is ON. Unplug the power cable before removing motherboard.
HDD LED	Inside front panel cover.	Green	Indicates hard disk drive activity.
LAN LED	Inside front panel cover.	Green	Indicates activity on the LAN when lit.
USB-IF2 & IF	Inside front panel cover.	—	USB ports with +5V power supplied when AC power light is ON. For U-Scan systems, the USB keyboard connects to the left port, and the USB mouse to the right port.

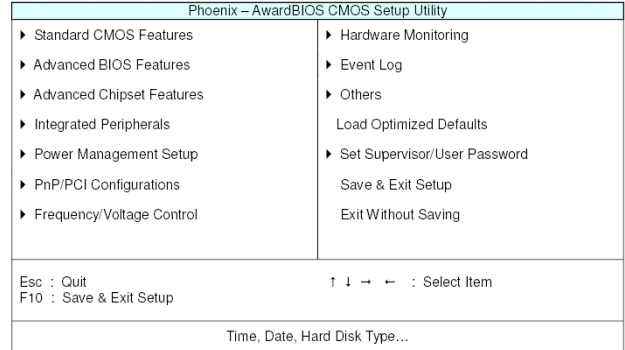
TeamPOS 3000 BIOS Settings

*Note: You only need to perform this task if you are imaging a **new** computer. Continue with the next task if you are re-imaging an existing computer.*

Only change the settings mentioned in these steps. Leave all other settings unchanged.

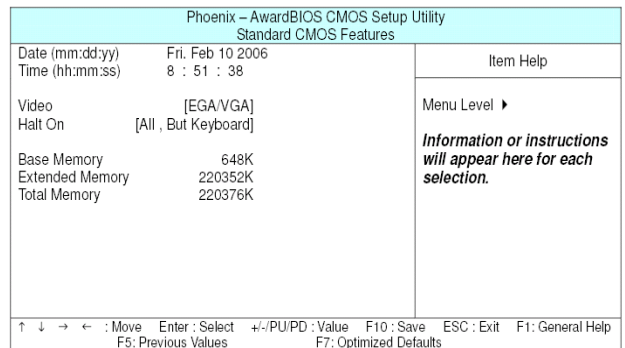
Enter the BIOS

- 1 Press the **Power** button to restart the computer.
- 2 While the computer is starting, press **F2** to enter the BIOS while the computer is going through the power-on self test. The **CMOS Setup Utility** screen displays the following options.



Set Up the Time and Date

- 1 Press **ENTER** to select the **Standard CMOS Features** option.
The menu options appear. The **month** field is highlighted.



- 2 Use the **+** or **-** keys to adjust the value of the field.
- 3 Use the arrow keys to move to the next field.
- 4 Repeat the steps above until all fields in the date and time are set up correctly.

Settings for the KD02906-1100 model Secondary Power Supply

If the Customer Station is equipped with the KD02906-1100 model Secondary Power Supply unit, follow the instructions below:

WARNING NOTICE: To avoid failure or damage of the PSU KD02906-1100, make sure that the BIOS setting for "Hardware Monitoring" is "Enabled", and that the "PSU Temperature" settings are as indicated below. These are default settings and must not be changed.

- 1 Press **ESC** to exit the current menu and display the **CMOS Setup Utility** screen.
- 2 Use the arrow keys to select **Hardware Monitoring**.
- 3 Press **ENTER**. The message **Enable?** appears.
- 4 Press **Y** then press **ENTER**.
- 5 Make sure that **PSU Temp Warning Action** is set to Shutdown and that **PSU Temp for Warning** is set to **70°C/158°F**.

Load the Optimized Defaults

- 1 Press **ESC** to exit the current menu and display the **CMOS Setup Utility** screen.
- 2 Use the arrow keys to select **Load Optimized Defaults**.
- 3 Press **ENTER**.
The message **Load Optimized Defaults?** appears.
- 4 Press **Y** then press **ENTER**.

Save the Changes and Exit the BIOS

- 1 Press **F10**.
The message **Save configuration changes and exit setup?** appears.
- 2 Press **ENTER** to select **Yes**.
The computer restarts.

Customer Station Cable Connections (Platform Bag Scales-TP3K)

The cables and AC plugs of site-installed components are in the cabinet, ready to be connected. The store must provide the EFT equipment, which is installed on site.

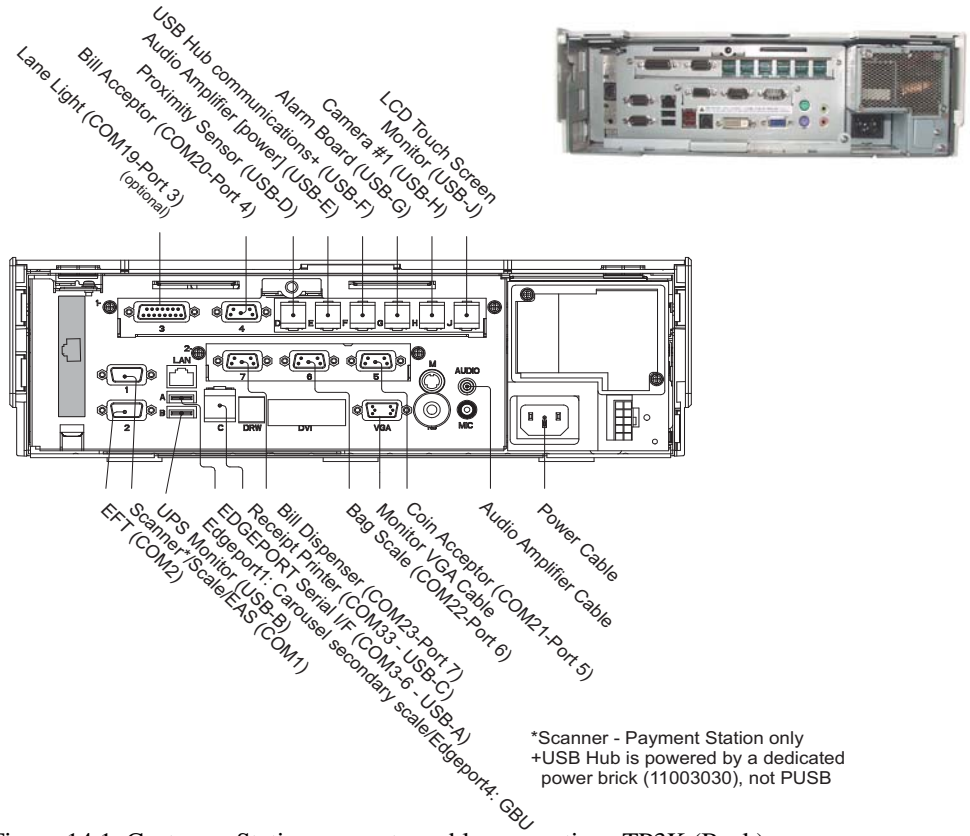


Figure 14.1 Customer Station computer cable connections TP3K (Back)

The above illustration is based on controlled document D900000257.

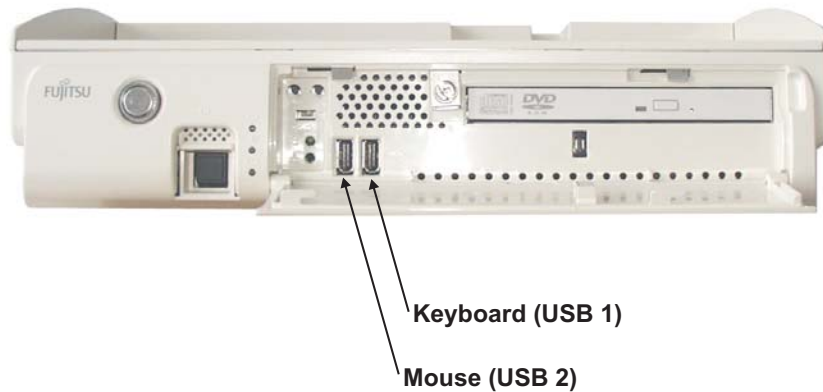


Figure 14.2 Customer Station computer cable connections TP3K (Front)

Component	Connects To	Cable No.	Description	Length (m)	Connection Port	Virtual Port	DLL	B.P. DB, SB
1 Monitor (VGA)	TP3K	11001758	15-pin D-sub (M) VGA	3.00	VGA	--	--	--
2 Audio cable	TP3K	11001668	-	2.20	Audio (6)	--	--	--
3 Scanner Scale	TP3K	system-supplied	DB9-M RS-232	--	COM1	COM1	NCRCOMPLIANT_SS.DLL	9600.O.7.1
4 EFT Pinpad	TP3K	customer-supplied	DB9-M RS-232	--	COM2	COM2	--	9600.7.O.1
5 PATLITE Lane Light	TP3K COMBO	11001392	DB15-F RS-232 +24V D-Sub 15 serial	3.00	COM3	COM19	PATLITE.DLL	9600.N.8.1
6 Bill Acceptor	TP3K COMBO	11001407	+12V DE-9 (M) powered RS-232 serial	3.20	COM4	COM20	CCMFL.DLL	9600.N.8.1
7 Coin Acceptor	TP3K COM card	11001354	+12V DE-9 (M) powered RS-232 serial	3.00	COM5	COM21	MCSR3.DLL	9600.N.8.1
8 Bag Scale	TP3K COM card	11001397	+12V DE-9 (M) powered RS-232 serial	2.00	COM6	COM22	SCALTRON.DLL	9600.E.7.1
8 Bag Scale (2nd transmitter)	Edgeport1	11000405	RS-232 Extension cable	3.00	--	--	SCALTRON.DLL	--
8 Bag Scale (GBU)	Edgeport4	system-supplied	USB	--	USB-A	COM3-6	--	--
9 Bill Dispenser	TP3K COM card	11001411	DE-9 (F) RS-232 serial	4.00	COM7	COM23	F56BD.DLL	9600.E.8.1
10 Edgeport1/Edgeport4	TP3K	system-supplied	USB	--	USB-A	COM3-6	--	--
11 UPS monitor	TP3K	11001398	+5V USB A-B	2.00	USB-B	--	--	--
12 Receipt Printer	TP3K	11002783	+24V powered USB	3.00	USB-C	COM33	PRN7193.DLL	9600.N.8.1
13 Proximity Sensor	TP3K COMBO	11000267	+5V powered USB	3.00	USB-D	--	FUJITS.DLL	--
14 Amplifier 12V Supply	TP3K COMBO	11002806	+12V powered USB	2.00	USB-E	--	--	--
15 USB Hub (power brick)	TP3K COMBO	system-supplied	Mini USB-A	--	USB-F	--	--	--
16 Alarm Board	TP3K COMBO	11002808	+12V powered USB	1.90	USB-G	COM24/25	ALARM_BOARD.DLL	--
17 Produce Camera (#1)	TP3K COMBO	11000145	+5V USB A-B	3.50	USB-H	--	--	--
18 Monitor (touch screen)	TP3K COMBO	11002807	+12V powered USB	3.00	USB-J	--	--	--
19 2ND PSU Interface (PS-ON)	Alarm Board	11001423	1P 10-pin	1.00	PSUPWR	--	--	--
20 2ND PSU Fan Alarm	Alarm Board	11001424	5 VSB, 5 VB 16-pin power cable	1.00	PSUCTL	--	--	--
21 LEDs (1-4)	Alarm Board	11001427	8-pin	3.00	LED	--	--	--
22 Bill Exit Sensors	Alarm Board	11001416	6-pin	3.00	BLSENS	--	--	--
23 Chassis Fan	Alarm Board	11001351	3-pin	1.00	CHFAN	--	--	--
24 Door Sensors (2)	Alarm Board	11001391	6-pin	3.00	DRSNS	--	--	--
25 MSR/MCR	USB Hub	system-supplied	USB	3.00	USB HUB-1	--	MTEK211.DLL	--
26 Signature Capture extension	USB Hub	11000267	USB	3.00	USB HUB-2	--	TOPAZ.DLL	--
27 Electronic Key	USB Hub	11000267	USB	3.00	USB HUB-3	--	--	--
28 1000i Scanner (Payment Station)	USB Hub	system-supplied	USB	3.00	USB HUB-4	--	IBMU/USB_HS.DLL	--
29 Coupon Detector	USB Hub	11000267	USB	3.00	USB HUB-5	--	CPNDETECT.DLL	--
30 Coin Dispenser	USB Hub	11000267	USB (right-angle USB for CoinXpress)	3.00	USB HUB-6	--	TRANSACT.DLL	9600.E.7.1
31 Payment Camera (#2)	USB Hub	11000267	USB	3.00	USB HUB-7	--	--	--
32 Speaker	Amplifier	11001309	RCA to 2-terminal speaker cable	1.00	--	--	--	--
33 Bill Dispenser	2ND PSU	11001412	+24 V 8-pin/18-pin power	4.00	--	--	--	--

Notes: Certain USB devices have virtual COM port assignments. DLL for Metrologic Scanner Scale is NCRCOMPLIANT_SS.DLL; DLL for Magellan Scanner Scales is MAGELLAN.DLL. Magellan cable is 11001389.

Customer Station Cable Connections (Cash Recyclers-TP3K)

The cables and AC plugs of site-installed components are in the cabinet, ready to be connected. The store must provide the EFT equipment, which is installed on site.

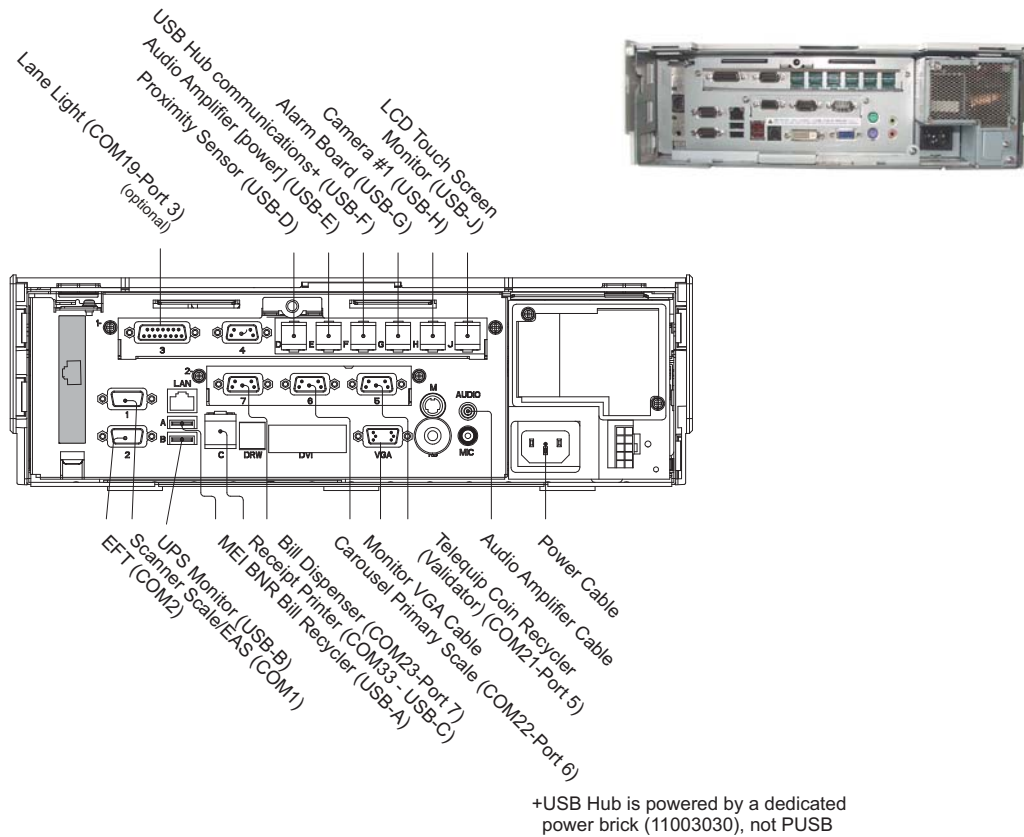


Figure 14.4 Customer Station computer cable connections TP3K (Back)

The above illustration is based on controlled document D900000257 - special edition.

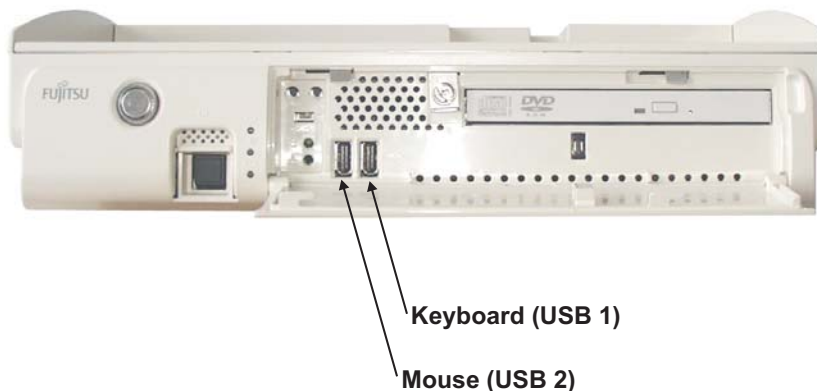


Figure 14.5 Customer Station computer cable connections TP3K (Front)

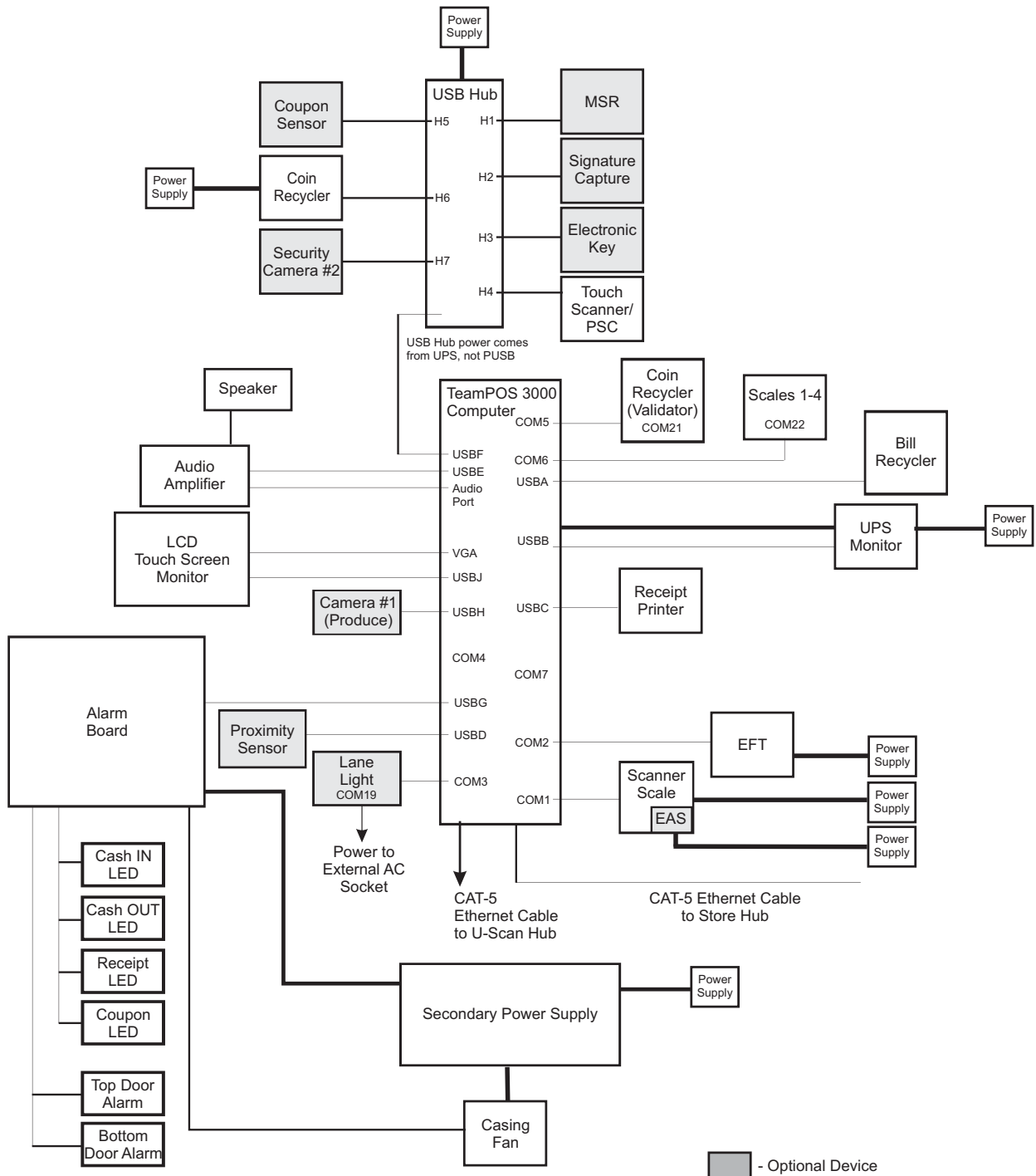


Figure 14.6 Customer Station (Cash Recyclers) cable requirements (TP3K)

Your store's Customer Station may not include all of the devices listed above.

The boxes representing the **devices** are identified by their **virtual COM port** designations; the labels in the box that represents the **computer** refer to **physical COM port** designations. This illustration is based on controlled document D900000xxx - TBD.

Cashless Station Cable Connections

Both the Customer Station and Payment Station are available in “cashless” configurations. In such cases there are no cash devices like the bill and coin acceptors or bill and coin dispensers. Also, no secondary power supply is required.

The cables and AC plugs of site-installed components are in the cabinet, ready to be connected. The store must provide the EFT equipment, which is installed on site.

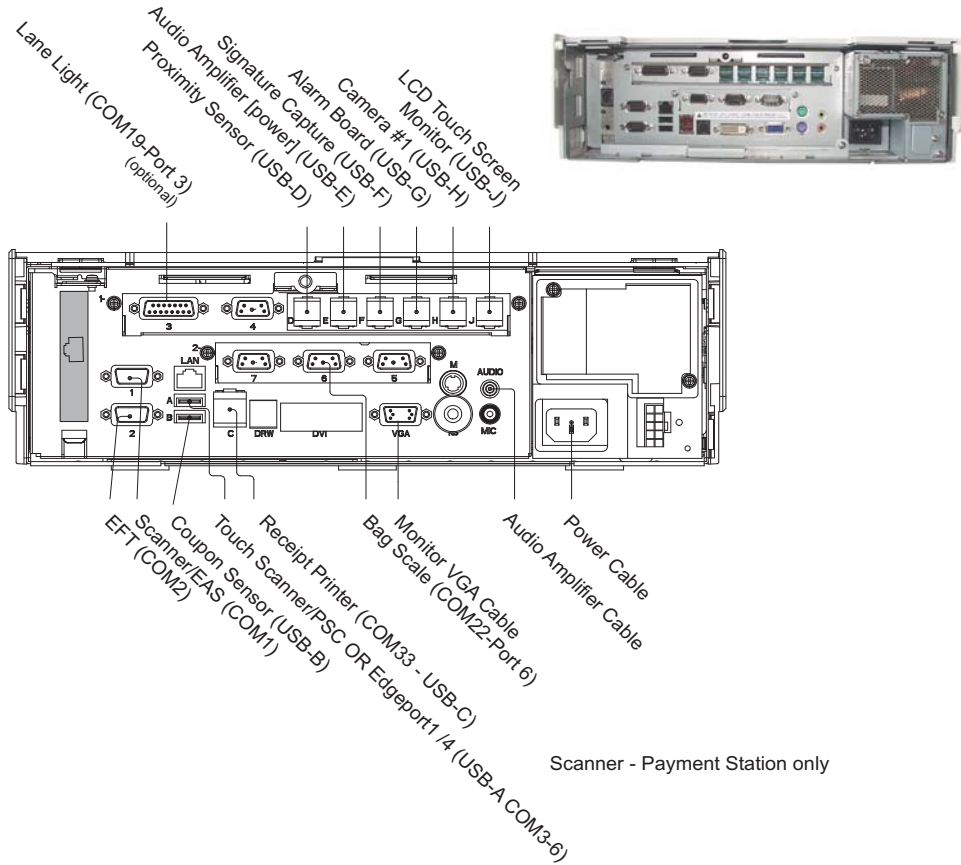


Figure 14.7 Cashless Station computer cable connections (Back)

NOTE: The above illustration is based on controlled document D900000300.

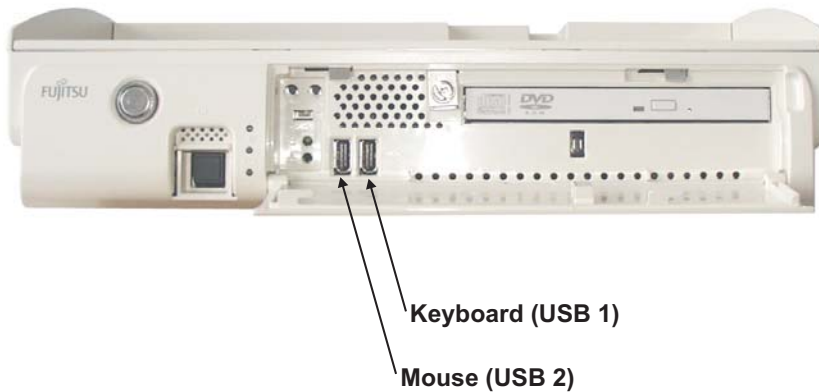


Figure 14.8 Cashless Station computer cable connections (Front)

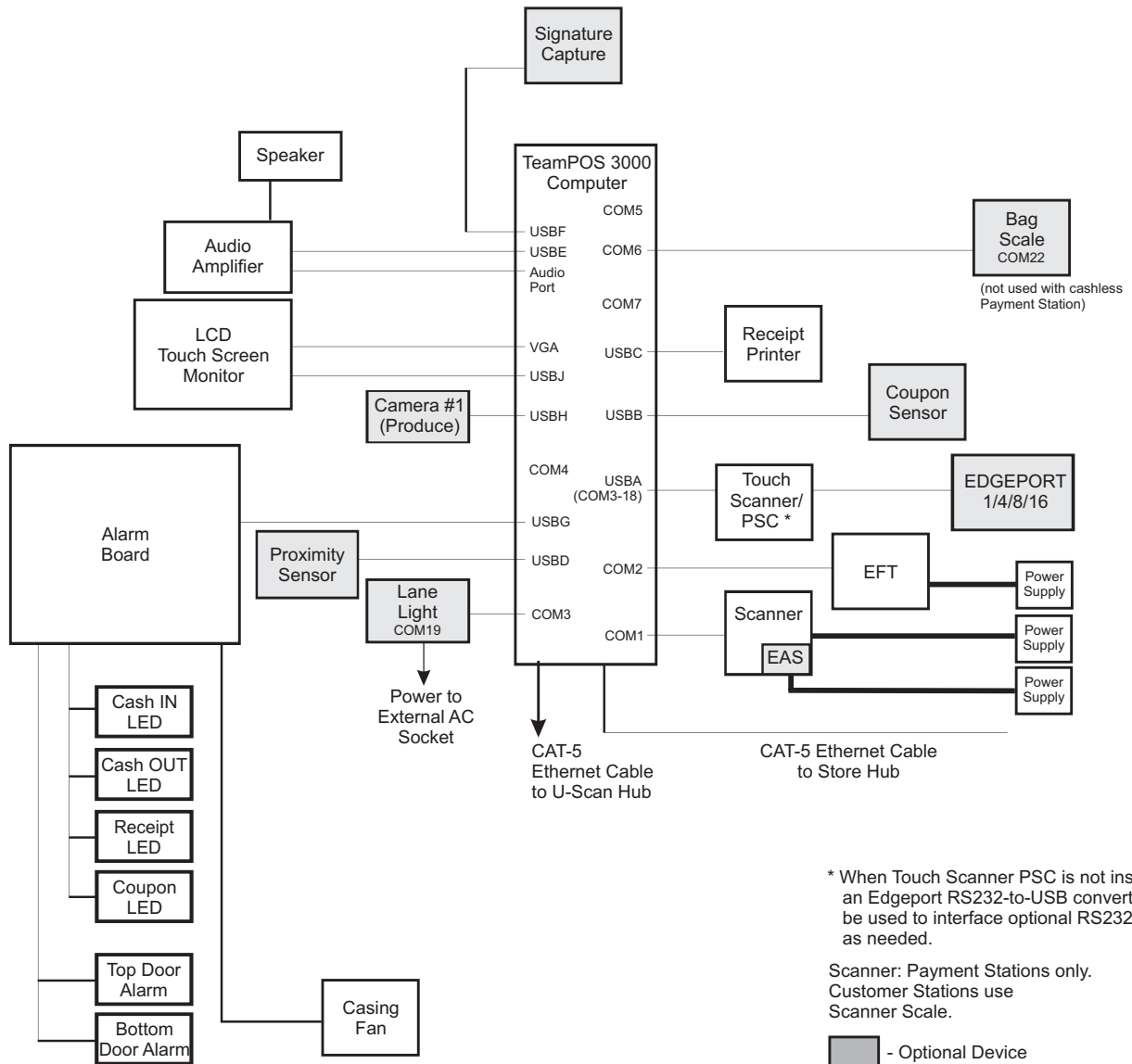


Figure 14.9 Cashless Customer or Payment Station cable requirements

NOTE: Your store's Cashless Customer or Payment Station may not include all of the devices listed above.

The boxes representing the **devices** are identified by their **virtual COM port** designations; the labels in the box that represents the **computer** refer to **physical COM port** designations. This illustration is based on controlled document D900000300.

Carousel Station Cable Connections - TP3K

When a Customer Station is attached to a standard Carousel scale, the following cable connections apply.

The cables and AC plugs of site-installed components are in the cabinet, ready to be connected. The store must provide the EFT equipment, which is installed on site.

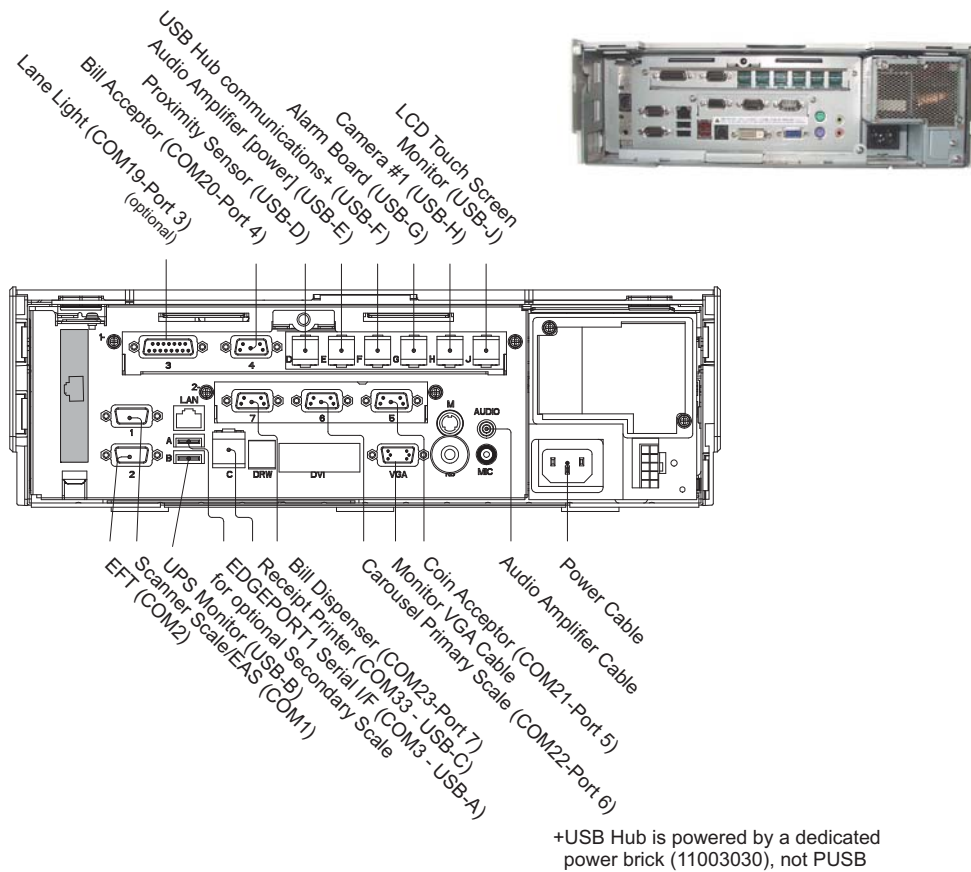


Figure 14.10 Carousel Station computer cable connections TP3K (Back)

The above illustration is based on controlled document D900000257.

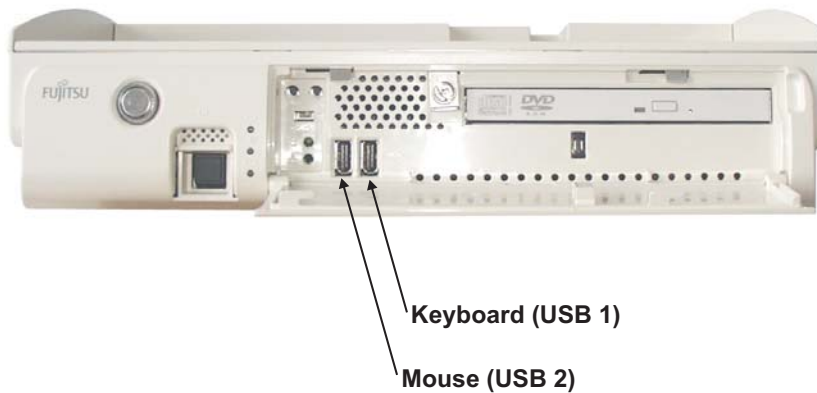


Figure 14.11 Carousel Station computer cable connections TP3K (Front)

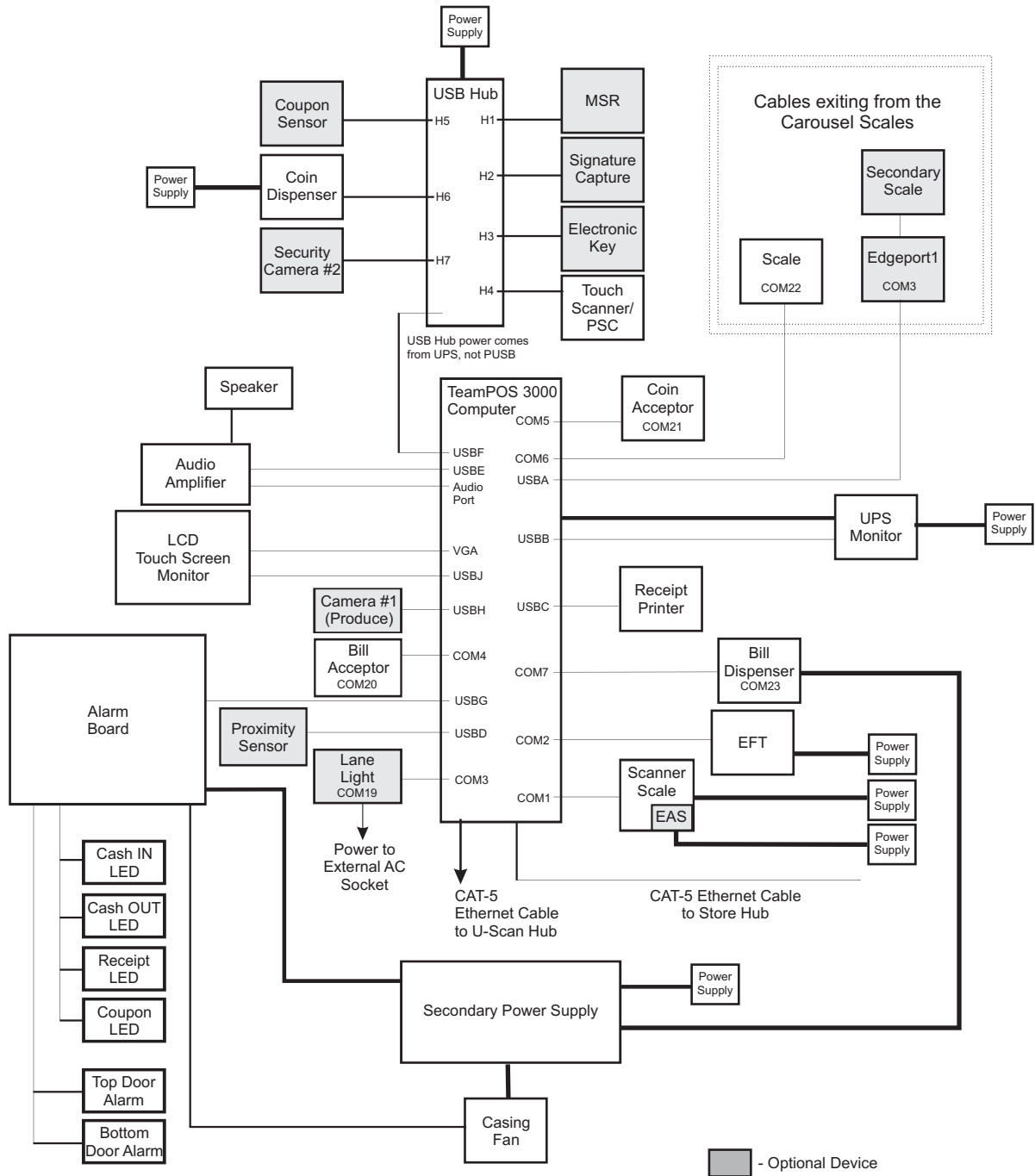


Figure 14.12 Customer Station (Carousel) cable requirements (TP3K)

Your store's Customer Station may not include all of the devices listed above.

The boxes representing the **devices** are identified by their **virtual COM port** designations; the labels in the box that represents the **computer** refer to **physical COM port** designations. This illustration is based on controlled document D900000260.

Mini Carousel Station Cable Connections - TP3K

When a Customer Station is attached to a Mini Carousel scale, the following cable connections apply.

The cables and AC plugs of site-installed components are in the cabinet, ready to be connected. The store must provide the EFT equipment, which is installed on site.

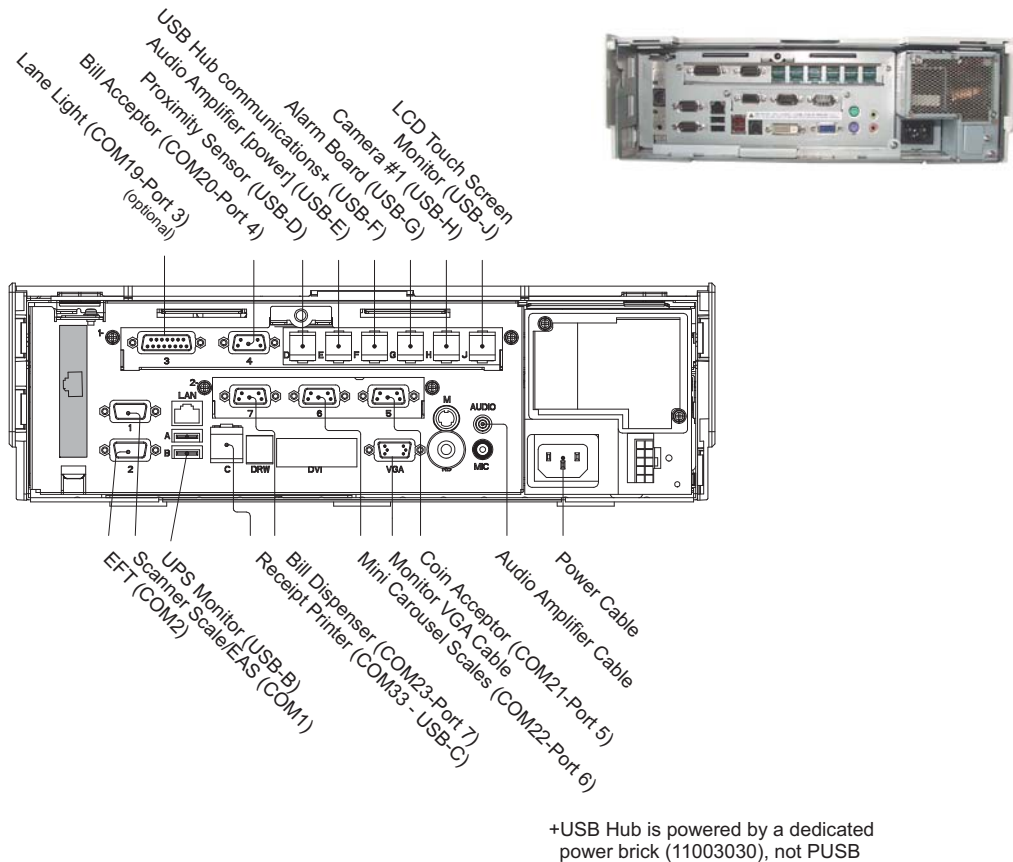


Figure 14.13 Mini Carousel Station computer cable connections TP3K (Back)

The above illustration is based on controlled document D900000257.

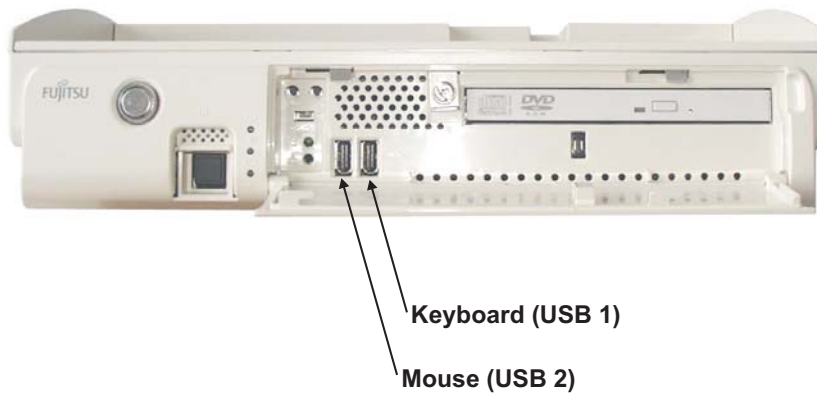


Figure 14.14 Mini Carousel Station computer cable connections TP3K (Front)

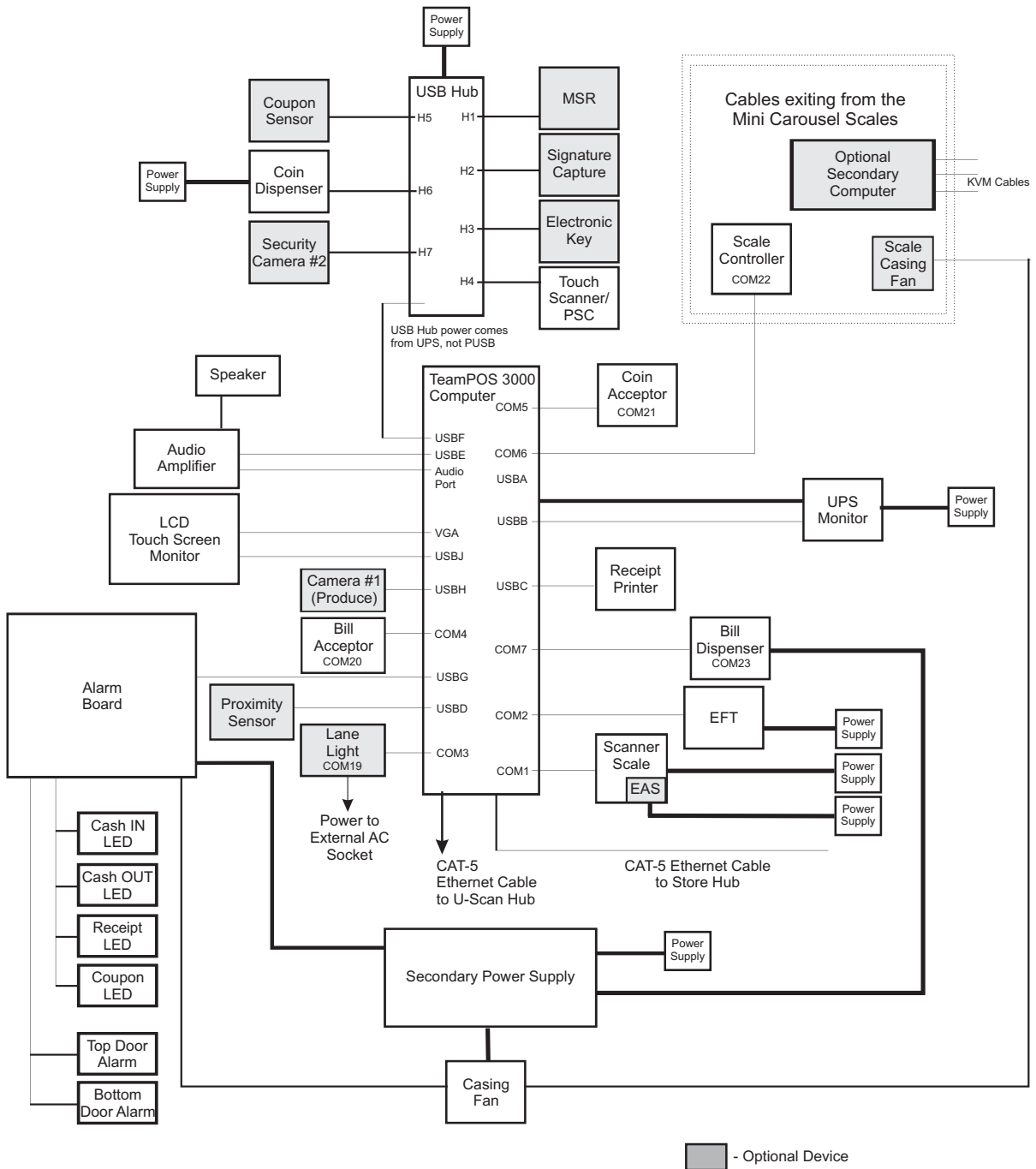


Figure 14.15 Customer Station (Mini Carousel) cable requirements (TP3K)

Your store's Customer Station may not include all of the devices listed above.

The boxes representing the **devices** are identified by their **virtual COM port** designations; the labels in the box that represents the **computer** refer to **physical COM port** designations. This illustration is based on controlled document D900000260.

GBU Station Cable Connections - TP3K

When a Customer Station is attached to a GBU (Genesis Belted Unit) conveyor, the following cable connections apply. The cables and AC plugs of site-installed components are in the cabinet, ready to be connected. The store must provide the EFT equipment, which is installed on site.

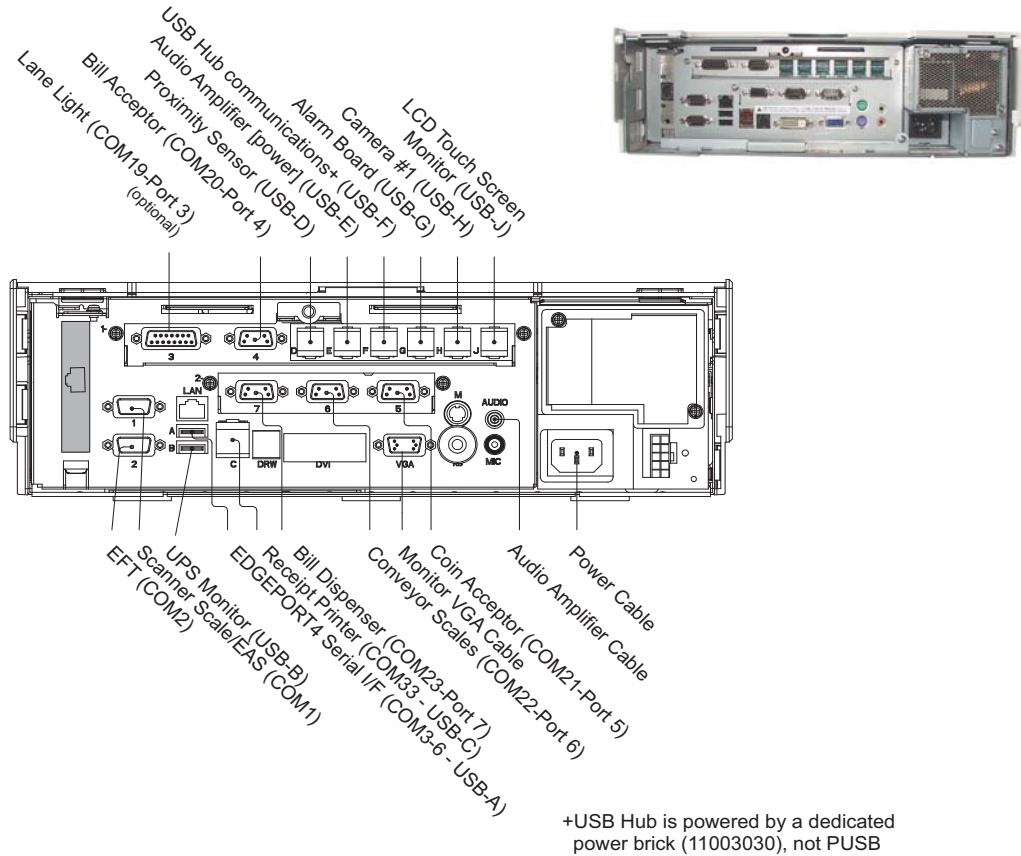


Figure 14.16 GBU Station computer cable connections TP3K (Back)

The above illustration is based on controlled document D900000257.

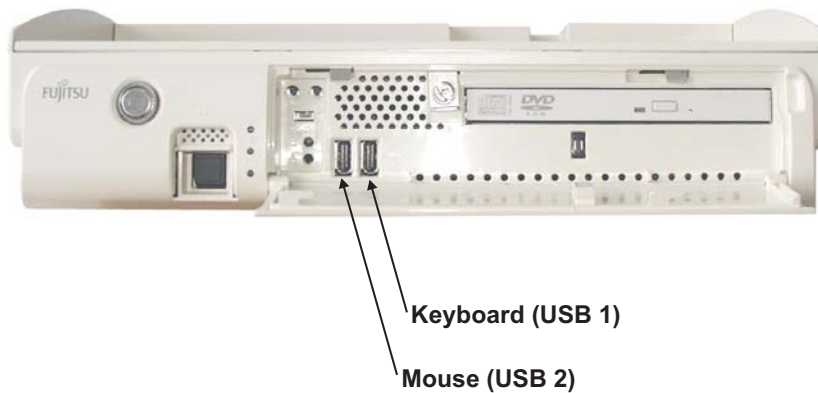


Figure 14.17 GBU Station computer cable connections TP3K (Front)

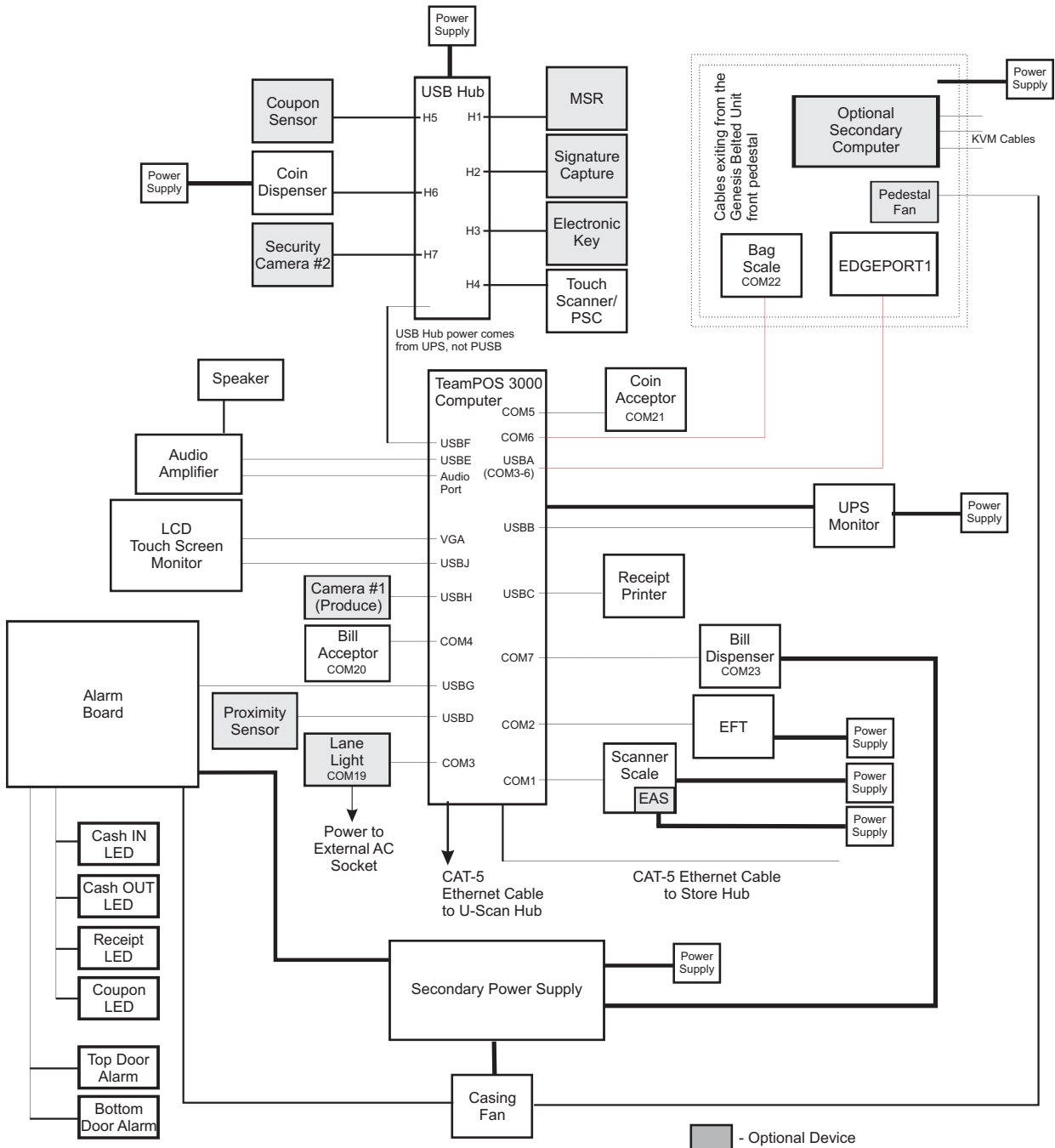


Figure 14.18 Customer Station (GBU) cable requirements (TP3K)

Your store's Customer Station may not include all of the devices listed above.

The boxes representing the **devices** are identified by their **virtual COM port** designations; the labels in the box that represents the **computer** refer to **physical COM port** designations. This illustration is based on controlled document D900000260.

Attendant Station Cable Connections

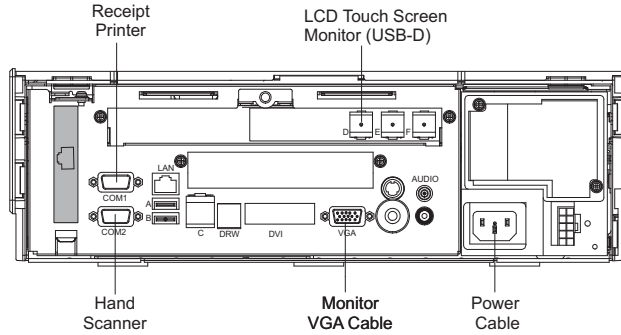


Figure 14.19 Attendant Station Computer (Back)

Note: The above illustration is based on controlled document D900000261.

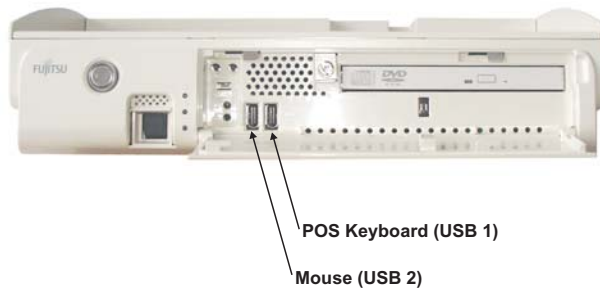


Figure 14.20 Attendant Station Computer cable connections (Front)

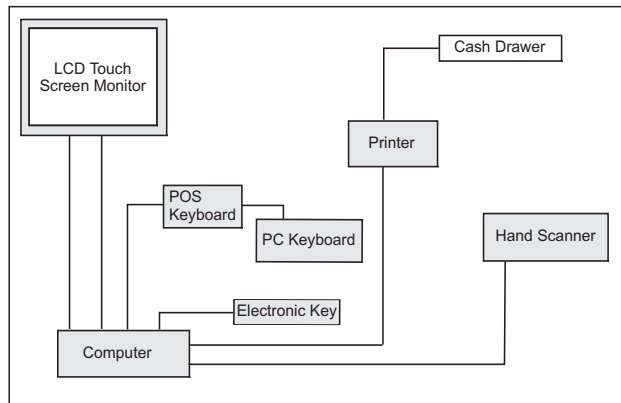


Figure 14.21 Attendant Station cable requirements

Note: If your Attendant Station is equipped with an older TeamPOS 2000 computer, this illustration does not apply — see your original documentation.

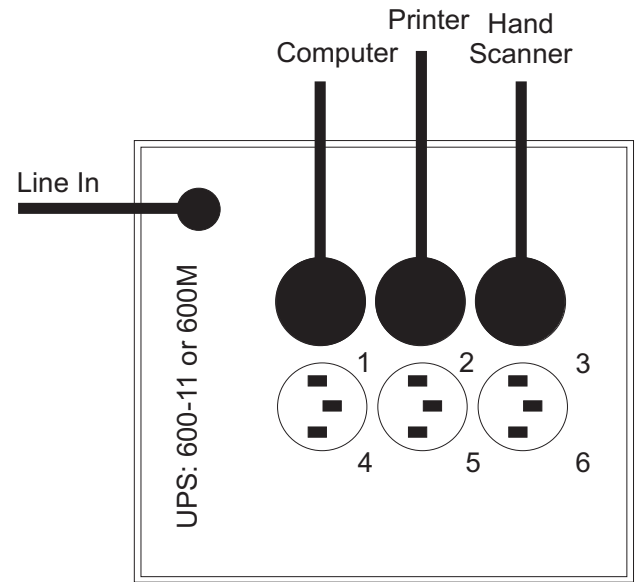
The following table lists the required internal cable connections that correspond with Figure 14.21.

Core Component	Required Cable
Touch Screen USB ↔ Computer	11001683
Touch Screen VGA ↔ Computer (AGP)	11001758
Cash Drawer ↔ Printer/Endorser	System supplied cable
Computer Keyboard ↔ POS Keyboard	System supplied cable
POS Keyboard ↔ Computer	System supplied cable
Hand Scanner ↔ Computer	System supplied cable
Printer/Check Endorser ↔ COM1	System supplied cable
Optional USB Electronic key	11000267

Attendant Station Electrical Connections

The default Genesis electrical connection setup utilizes one power strip to provide electrical power to the Attendant Station devices. We recommend using a UPS or UPS/Conditioner.

UPS connection



Plug #	Location	Device	Cable	Adapter
1	UPS	TP3K Computer	11000049	—
2	UPS	Receipt Printer	—	—
3	UPS	Hand Scanner	—	—

Upon request by a customer, the UPS option can be removed if a sufficiently-protected in-store power source is available. In that case, a power bar is used instead of a UPS.

TP3K Motherboard

SATA1_SW

1	2	3	4	Panel
ON	ON	ON	ON	J4 (for M/M)
OFF	OFF	OFF	OFF	J11 (for KIOSK)
Other Settings Prohibited				

LCD_SW

1	2	3	4	
OFF	OFF	OFF	OFF	12.1" SVGA
OFF	OFF	OFF	OFF	15" XGA
OFF	OFF	OFF	OFF	171" SGA
OFF	OFF	OFF	OFF	10.42" VGA
Other Settings Prohibited				

SATA2_SW

1	2	3	4	Panel
ON	ON	ON	ON	J4 (for M/M)
OFF	OFF	OFF	OFF	J11 (for KIOSK)
Other Settings Prohibited				

BEEP Sound Enable

Short	Enable
Open	Disable

CLR_CMOS

1-2	CMOS Clear
2-3	Normal

JP5 VCCA Voltage Selection

1-2	VCCA = 1.8V 400MHz FSB
2-3	VCCA = 1.5V 533 MHZ FSB

JP1 Video Source Selection Display #1

1-2	DVI Interface (for M/M)
2-3	LVSD Interface (for KIOSK)

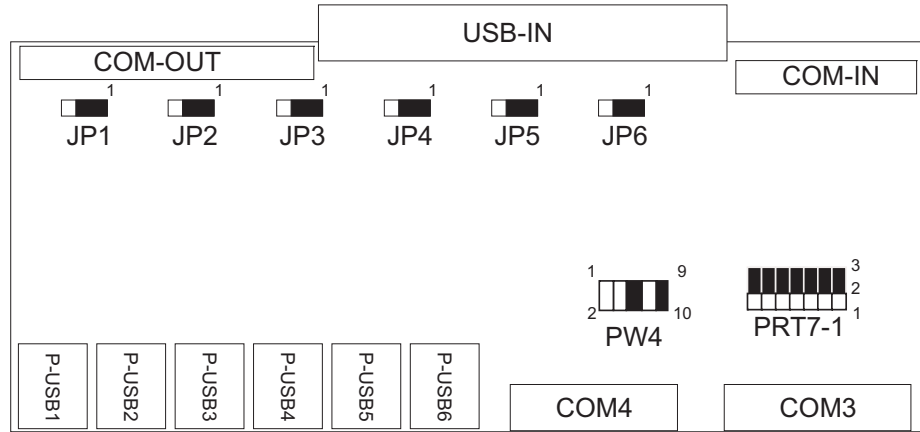
This section illustrates the switch and jumper settings for the TeamPOS 3000 motherboard (default values above are in **bold**).

Setting Pin #	Function	Default Setting
JP1	Video source selection for first display	1-2
JP5	VCCA voltage selection	1-2
J13	Beep sound enable	Short
CLR_CMOS	CMOS clear	2-3
LCD_SW	Panel selection for LVDS panel	All OFF
SATA1	Connector selection for first SATA HDD	All ON
SATA2	Connector selection for second SATA HDD	All ON

I/O Boards

COMBO Board

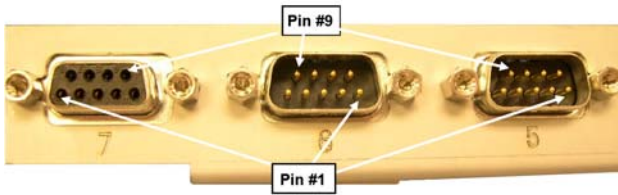
The following illustration depicts the TeamPOS 3000 Option boards and corresponding jumper configurations.



PRT1-7 (7-connectors) and PW4 define the printer type to be used on COM3. The default (all seven jumpers toward the wire harness connectors) supports ESC POS printers. The jumper settings are shown below:

Jumper	Function	Default Setting
JP1	Power source selection for USB connector 1 1-2 Normal +5V / 2-3 Standby +5V	1-2
JP2	Power source selection for USB connector 2 1-2 Normal +5V / 2-3 Standby +5V	1-2
JP3	Power source selection for USB connector 3 1-2 Normal +5V / 2-3 Standby +5V	1-2
JP4	Power source selection for USB connector 4 1-2 Normal +5V / 2-3 Standby +5V	1-2
JP5	Power source selection for USB connector 5 1-2 Normal +5V / 2-3 Standby +5V	1-2
JP6	Power source selection for USB connector 6 1-2 Normal +5V / 2-3 Standby +5V	1-2
PW4 (defines COM4)	Signal selection for D-Sub 9 connector 1-2 RI 3-4 +5V 5-6 +12V 7-8 DCD 9-10 N.C.	1-2 open 3-4 open 5-6 short 7-8 open 9-10 short
PRT1-7 (defines the printer interface)	Signal selection for D-Sub 9 connector 1-2 DTR 2-3 GND 4-5 GND 5-6 CTS 7-8 GND 8-9 DSR 10-11 N.C. 11-12 DCD 13-14 N.C. 14-15 RI 16-17 +5V 17-18 DTR 19-20 +5V 20-21 RTS The defaults indicated are for Epson, Citizen, and TPG (Axiohm) printers.	2-3 short 5-6 short 8-9 short 11-12 short 14-15 short 17-18 short 20-21 short

COM board



There are two jumper blocks on the COM card (PW1 for COM5 and PW2 for COM6). Each block determines if a voltage or RI (ring) signal is on pin 9 of the DB9 connector, and whether the Data Carrier Detect (DCD) signal is used on pin 1. See the illustration and table on the next page for the jumper positions.

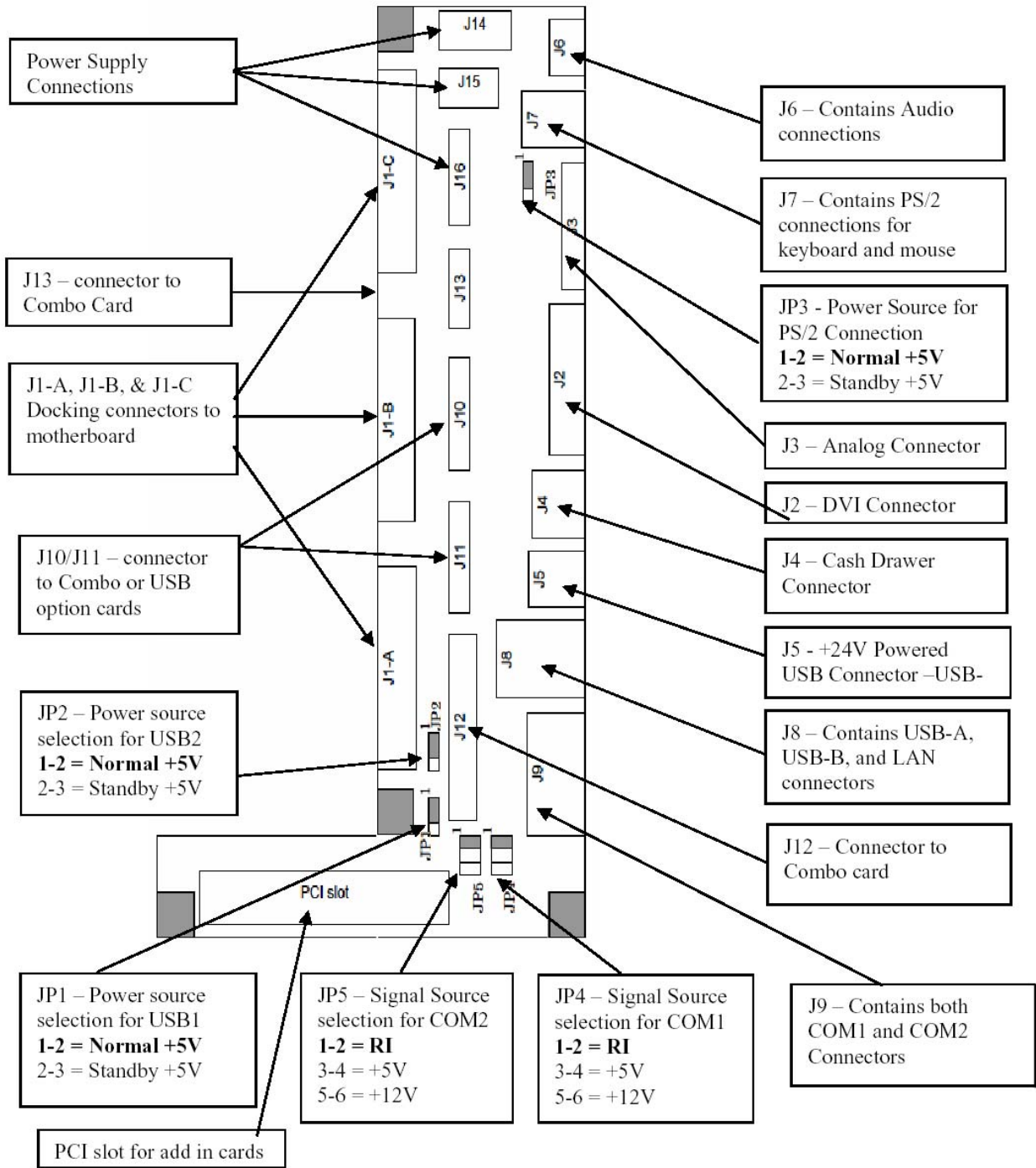


Pin	COM7 Female Connector	COM6 Male Connector	COM5 Male Connector
1	Ground	Data Carrier Detect (DCD)	Data Carrier Detect (DCD)
2	RX	RX	RX
3	TX	TX	TX
4	24V	DTR	DTR
5	Ground	Ground	Ground
6	+5V	DSR	DSR
7	RTS	RTS	RTS
8	CTS	CTS	CTS
9	Ground	RI or +5V or +12V, depending on the settings for jumper PW2	RI or +5V or +12V, depending on the settings for jumper PW1

PW2 COM22		PW1 COM21	
1-2	RI	1-2	RI
3-4	+5VSB	3-4	+5VSB
5-6	+12V	5-6	+12V
7-8	DCD	7-8	DCD
9-10	NC	9-10	NC

Note: Genesis defaults are in bold and shaded in the table (the third and fifth rows). Only one of the above settings can be used for pins 1 to 6 (RI, +5VSB, or +12V). Pins 2, 4, and 6 are tied together, so only one source can be used.

Docking Backplane

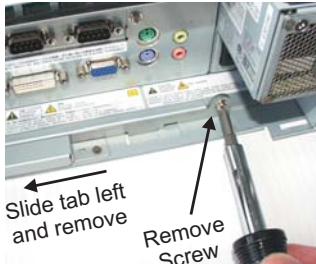


Genesis default values are in **bold**.

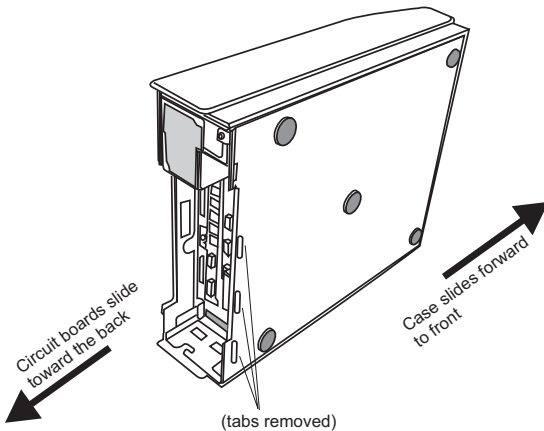
Genesis Customer Station Jumper Settings

On Genesis Stations, COM20, COM21, and COM22 need to be configured as +12V powered serial ports. Refer to the photos below for the jumper settings.

- 1 Remove the screw that secures the sliding locking bar, then slide the bar to the left to remove it.



- 2 Pull back to slide the computer out of the cover.



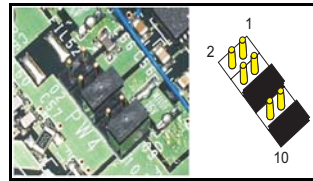
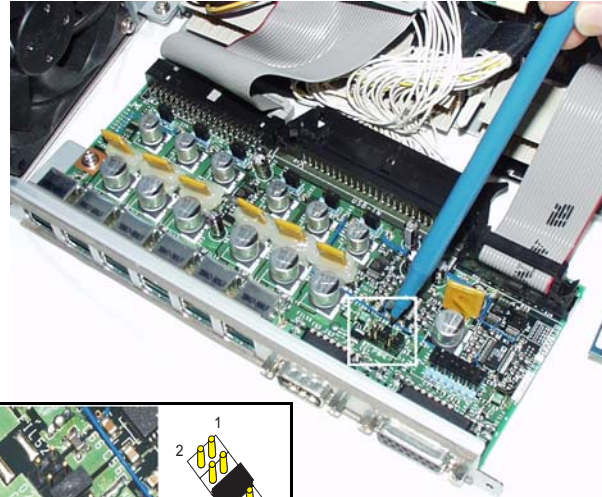
COMBO board removal

- 1 Remove the two screws that secure the COMBO board (6 powered USB ports + 2 serial ports).
- 2 Push out the black release button from behind (shown below) to remove the locking tab.



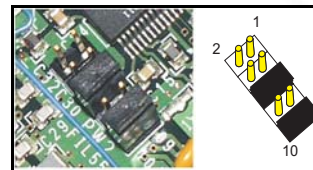
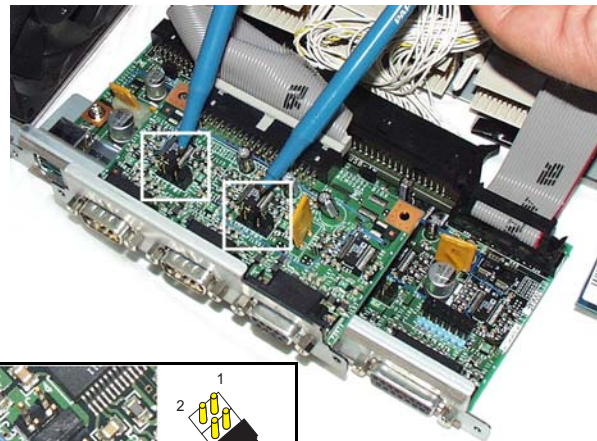
- 3 Remove the board by lifting slightly upwards to clear the bottom tabs, then pull the board away. Flip it over without disconnecting the ribbon cables to view the circuit board.
- 4 On the COMBO board, locate the **PW4** (COM20) jumper.

- 5 Position the jumper on pins 5-6 and 9-10 as shown below for +12V power:



COM board removal

- 1 Remove the two screws that secure the COM board (three serial ports).
- 2 Remove the board by lifting slightly upwards to clear the bottom tabs, then pull the board away. Flip it over without disconnecting the ribbon cables to view the circuit board.
- 3 For COM21, position the jumper on pins 5-6 and 9-10 as shown below for +12V power.



- 4 For COM22, also position the jumper on pins 5-6 and 9-10 as shown above.

COM board and COMBO board replacement

The removal procedures for the COM board and COMBO board are presented on the preceding two pages. To replace the boards, follow the instructions in reverse order.

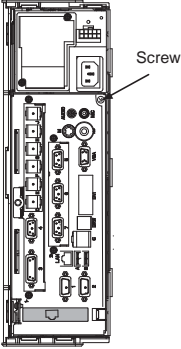
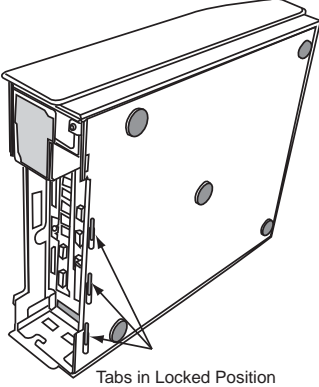
TeamPOS 3000 Common Problems and Solutions



CAUTION:

Before replacing any boards, properly shut down the computer, unplug the power cable and make sure the motherboard standby power LED light is off.

Be sure to observe all ESD precautions when working with the internal computer components.

Issue(s)	Possible Solution
<p>Message Unknown Error: Please contact your vendor displays.</p>	<p>Ensure that the screw on the back is securely fastened and that the bottom tabs are locked into place.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>
<p>Power cannot be turned on. The power LED next to the power switch does not come on.</p>	<p>Check the power connections. Ensure that the UPS is on. Test the external AC power socket to ensure that it is good. If the issue is not resolved, the computer should be replaced.</p>
<p>TeamPOS 3000 powers on but powers off after a few minutes.</p>	<p>Press F2 while the computer is starting to access the BIOS. Load the optimized defaults. If the issue is not resolved, go to Hardware Monitoring in the BIOS and check for any warnings. If a warning is present, correct the situation as required (e.g. replace the fan, clean the vents, etc.). If the issue is not resolved, ensure that the cable between the operation panel and the motherboard is securely installed inside the computer.</p>
<p>The 5V standby LED light is on.</p>	<p>Inspect the pins on the docking backplane. Ensure the pins are not bent or shorted together. If necessary, replace the docking backplane.</p>

Issue(s)	Possible Solution
The system fails to start (boot) up even though the power is turned on.	<ul style="list-style-type: none"> • Press the Power button to start the computer. • Look for an error message during the power-on self test. If no data displays on the monitor during the power-on self test or if the monitor goes blank immediately after the power-on self test, there may be an issue with the monitor rather than the computer. • If an error message is present, correct the situation as required. • If the issue is not resolved, load the BIOS defaults, then save and exit the BIOS. • If the issue is not resolved, try starting the system in Safe Mode by pressing F8 during the power-on self test. • If you cannot start the system in Safe Mode, ensure that the hard drive and DVD-ROM drive cables are connected inside the computer. • If the issue is not resolved, reload the operating system. • if the issue is still not resolved, the computer should be replaced.
The system does not complete the power-on self test without “hanging up.”	<ul style="list-style-type: none"> • Contact your support center. One or more of the following components may need to be replaced: memory, CPU chip, motherboard, hard drive, docking backplane, entire computer.
Cannot access the BIOS by pressing F2 during startup.	<ul style="list-style-type: none"> • Contact your support center. One of the following components may need to be replaced: motherboard, hard drive, docking backplane.
The system operating system (OS) is not installed.	<ul style="list-style-type: none"> • Install the operating system and restart the computer.
<ul style="list-style-type: none"> • Cannot input data using the keyboard. • Abnormal keyboard input. 	<ul style="list-style-type: none"> • Check the keyboard connections. • If the issue is not resolved, restart the computer. • If the issue is not resolved, ensure that the keyboard is in USB mode by holding down the left CTRL key and the TAB key while powering up the computer until the keyboard beeps. At the time of publication, all U-Scan TP3K computer keyboards use a USB connection. However, if your system uses a PS/2 keyboard, hold down the left CTRL key and CAPS LOCK key while powering up the computer until the keyboard beeps. • If the issue is not resolved, replace the keyboard. • If the issue is not resolved, the docking backplane may need to be replaced.
<ul style="list-style-type: none"> • Date, time and disk setup information is deleted when the power is turned off. 	<ul style="list-style-type: none"> • Check the voltage of the lithium battery on the motherboard to ensure that it is normal. • Check the "Clear CMOS" jumper on the motherboard set to ensure that it is set to "normal" (jumper between pins 2-3). • If the issue is not resolved, the motherboard may need to be replaced.

Replacing the TeamPOS 3000 Computer

Parts and Tools

Part	Quantity	Part Number
TeamPOS 3000	1	
AC power cable	1	11000049
Phillips screwdriver	1	N/A
U-Scan TP3K Image CD	1	
U-Scan TP3K Image Customization CD	1	
U-Scan Software Installation CD (Store-specific)	1	

- 1 Shut down the computer.
- 2 Remove the two screws that secure the computer mounting bracket to the floor of the casing.



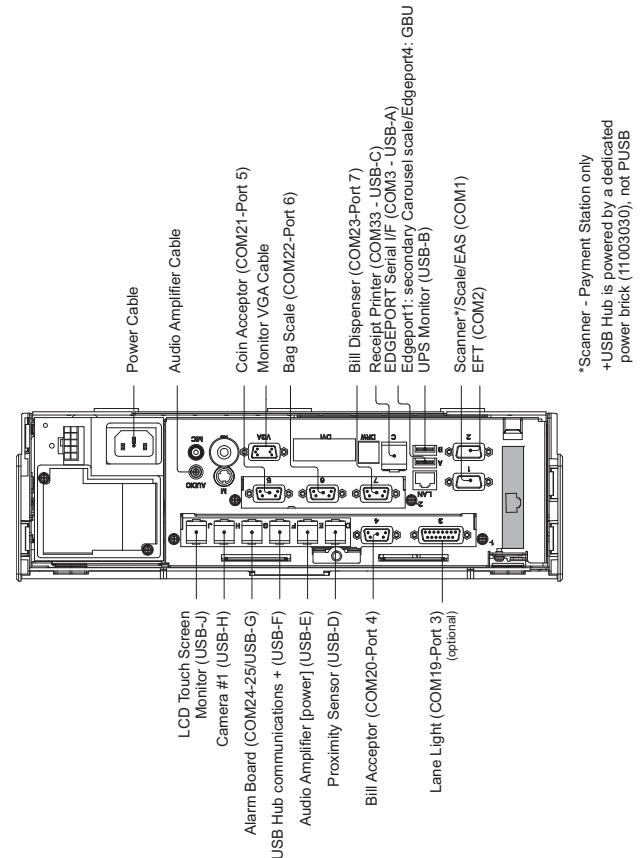
- 3 Pull the computer bracket out from the casing.
- 4 Disconnect the cables from the front and rear ports of the computer. The cables should be gathered and tied into a service loop. Ensure that you do not interfere with this cable bundle.

- 5 Remove the two screws that secure the computer to the side of the mounting bracket.



- 6 Remove the computer from the bracket.
- 7 Position the new computer in the bracket.
- 8 Fasten the two screws to secure the computer to the bracket.
- 9 Position the bracket inside the casing.
- 10 Connect the cables to the rear and front of the computer.

The keyboard and mouse are connected to the front USB ports on the computer. Be sure to follow the correct connection diagram for the exact model of bag scale installed (Universal Bag Scale connection shown below).



- 11 Replace the computer in the casing, taking care to not interfere with the cable service loop as you re-insert the computer in the casing.
- 12 Fasten the two screws to secure the mounting bracket to the floor of the casing.
- 13 Turn on the computer.
- 14 Re-image the computer and install the U-Scan software. Refer to the **TeamPOS 3000 Software Imaging and Installation for U-Scan Customer Station** document or the customized document for your store.

Chapter 15: TP3600 Series Computer

This chapter contains servicing information for the Fujitsu TeamPOS 3600 Series computer, found in U-Scan Genesis Stations.



Features

- Chipset: Q35 and ICH9
- 160 GB or greater 7,200 RPM hard drive (optional second RAID HD supported)
- 1 GB to 8 GB DDR2 (non-ECC) RAM
- Powered USB I/O board and Legacy I/O board
- PCI Express X16 slot for video card
- External I/O Expansion Port module
- CD-RW/DVD-ROM drive
- RoHS-compliant

Technical Specifications

Environment

- Operating Temperature: 32°F to 104°F (0°C to 40°C)
- Non-operating Temperature: 23°F to 122°F (-5°C to 50°C)
- Operating Relative Humidity: 10 to 90% non-condensing
- Non-operating Relative Humidity: 8 to 95% non-condensing
- Weight: 26.7 lb (13 kg)

Power Supply Requirements

- Voltage: 100-240 V AC
- Frequency: 50/60 Hz
- Maximum dissipation power: 350 W DC

Inputs/Outputs and Expansion Slots

- 8x powered USB 2.0 ports (COMBO board)
- 3x powered Serial ports (COMBO board)
- 2x Serial ports
- 4x USB 2.0 ports (one front, three back)
- 1x PS/2 keyboard
- 1x PS/2 Mouse
- On-board Video (1x 15 Pin D-Sub)
- On-board sound
- On-board network card (NIC)

Part Numbers

- U-Scan TeamPOS 3600 Series computer (refer to the Intelligent PIN Configuration information in the *TeamPOS 3600 Series Support Planning Guide*)
- USB Mouse: 11000970
- USB Keyboard: 11000973
- Optional second network card: 11000055

Documentation Sources

- Information in this document is based on the *TeamPOS 3600 Series Installation and Maintenance Manual* and the *TeamPOS 3600 Series Support Planning Guide (SPG)*.
- Connection details are based on revision controlled document D900000371: *Genesis SCO Cash Devices, TP3600 (PUSB/Legacy), Configuration/Setup*.

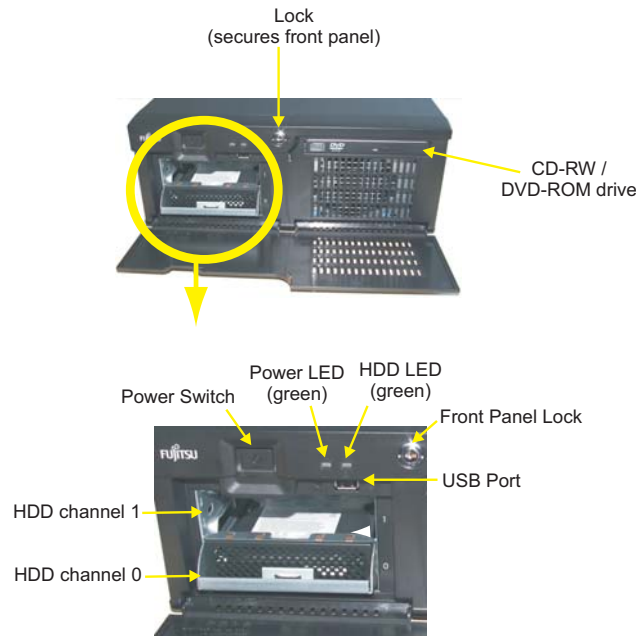
TeamPOS 3600 Series Front Panel Components

The following diagram illustrates the LEDs, switches, and ports that are located on the front of the TeamPOS 3600 Series computer.

To open the front cover:

- Locate the notch on the front cover.
- Slide your finger under the notch and pull the front cover down to open it.

Note: You may have to unlock the front cover before opening it.



Switch/LED	Location	LED Color	Comment
Power Switch	Outside front panel	—	Depending on the CMOS setup, the power switch can be instant off or delayed off. *Currently set to instant off for U-Scan.
Power LED	Outside of front cover.	Green	Indicates AC power is supplied to the power supply and all DC voltages are available to the motherboard and other devices.

Switch/LED	Location	LED Color	Comment
HDD LED (hard disk drive)	Outside front panel cover.	Green	Indicates hard disk drive activity.
USB	Inside front panel cover.	—	USB ports with +5V power supplied when AC power light is ON.
Reset Switch	Inside front panel cover.	—	Resets terminal, all data in memory will be lost.

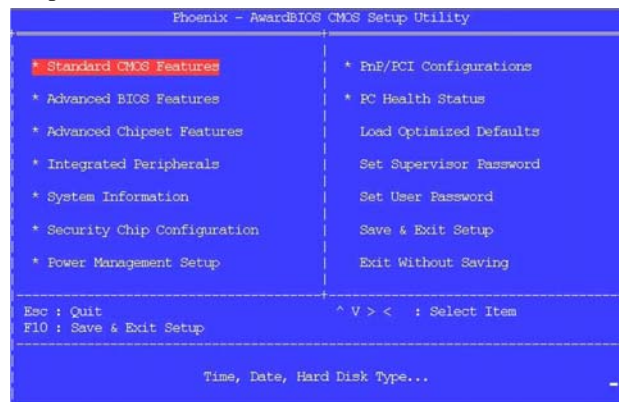
TeamPOS 3600 Series BIOS Settings

*Note: You only need to perform this task if you are imaging a **new** computer. Continue with the next task if you are re-imaging an existing computer.*

Only change the settings mentioned in these steps. Leave all other settings unchanged.

Enter the BIOS

- 1 Press the **Power** button.
- 2 While the computer is starting, press the **Delete** key to enter the BIOS while the computer is going through the power-on self test.
The **CMOS Setup Utility** screen displays the following options.



Set Up the Time and Date

- 1 Press **ENTER** to select the **Standard CMOS Features** option. The menu options appear. The **month** field is highlighted.



- 2 Use the + or - keys to adjust the value of the field.
- 3 Use the arrow keys to move to the next field.
- 4 Repeat the steps above until all fields in the date and time are set up correctly.

Load the Optimized Defaults

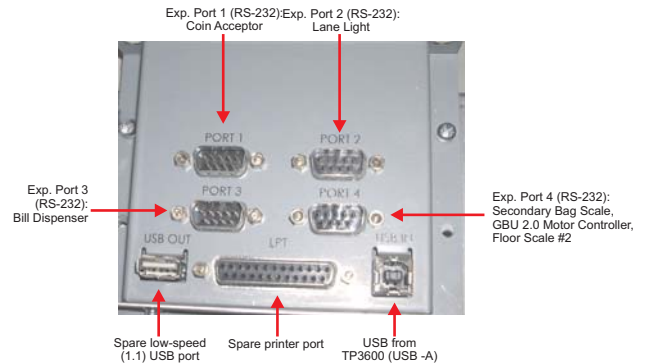
- 1 Press **ESC** to exit the current menu and display the **CMOS Setup Utility** screen.
- 2 Use the arrow keys to select **Load Optimized Defaults**.
- 3 Press **ENTER**.
The message **Load Optimized Defaults?** appears.
- 4 Press **Y** then press **ENTER**.

Save the Changes and Exit the BIOS

- 1 Press **F10**. The message **Save configuration changes and exit setup?** appears.
- 2 Press **ENTER** to select **Yes**. The computer restarts.

Expansion Port Module Connections

The following diagram illustrates the ports that are located on the Expansion Port module (11002516).



Customer Station Cable Connections (SCO-TP3600 Series)

The cables and AC plugs of site-installed components are in the cabinet, ready to be connected. The store must provide the EFT equipment, which is installed on site.

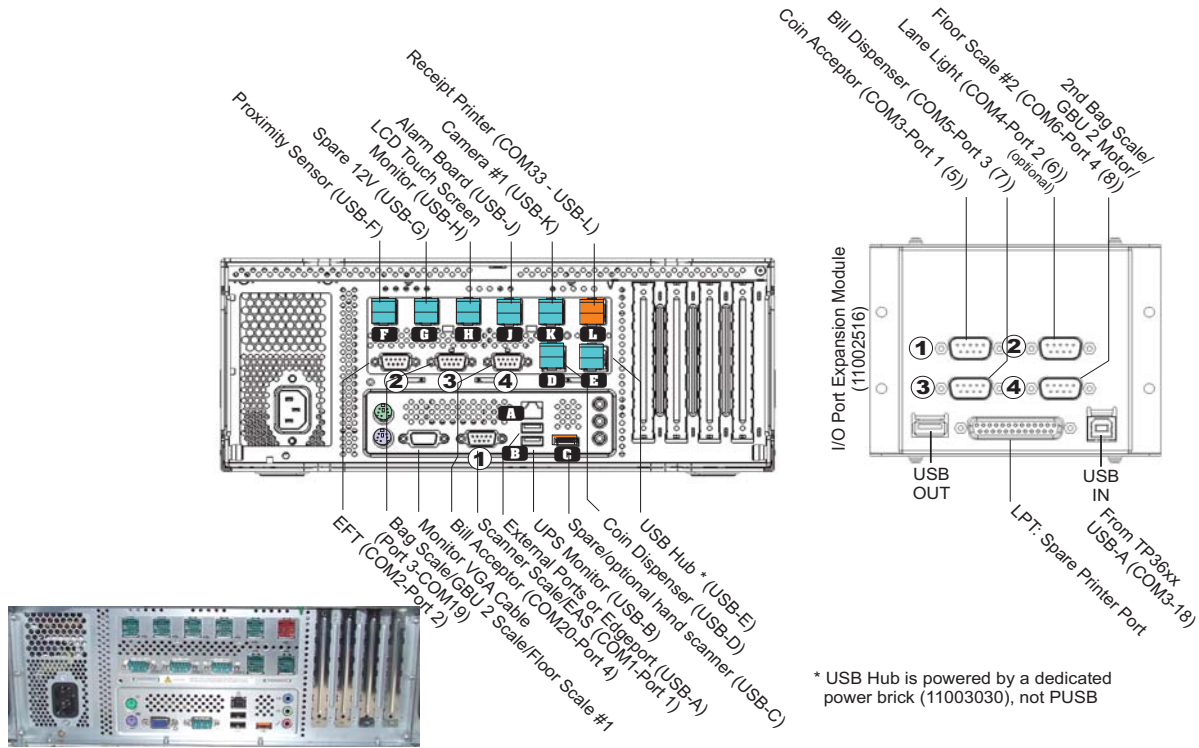


Figure 15.22 Customer Station computer cable connections TP3600 Series (Back)

The above illustration is based on controlled document D900000371.

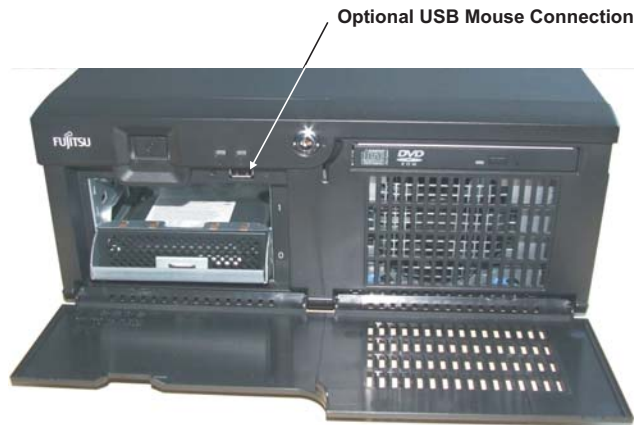


Figure 15.23 Customer Station computer cable connection TP3600 Series (Front)

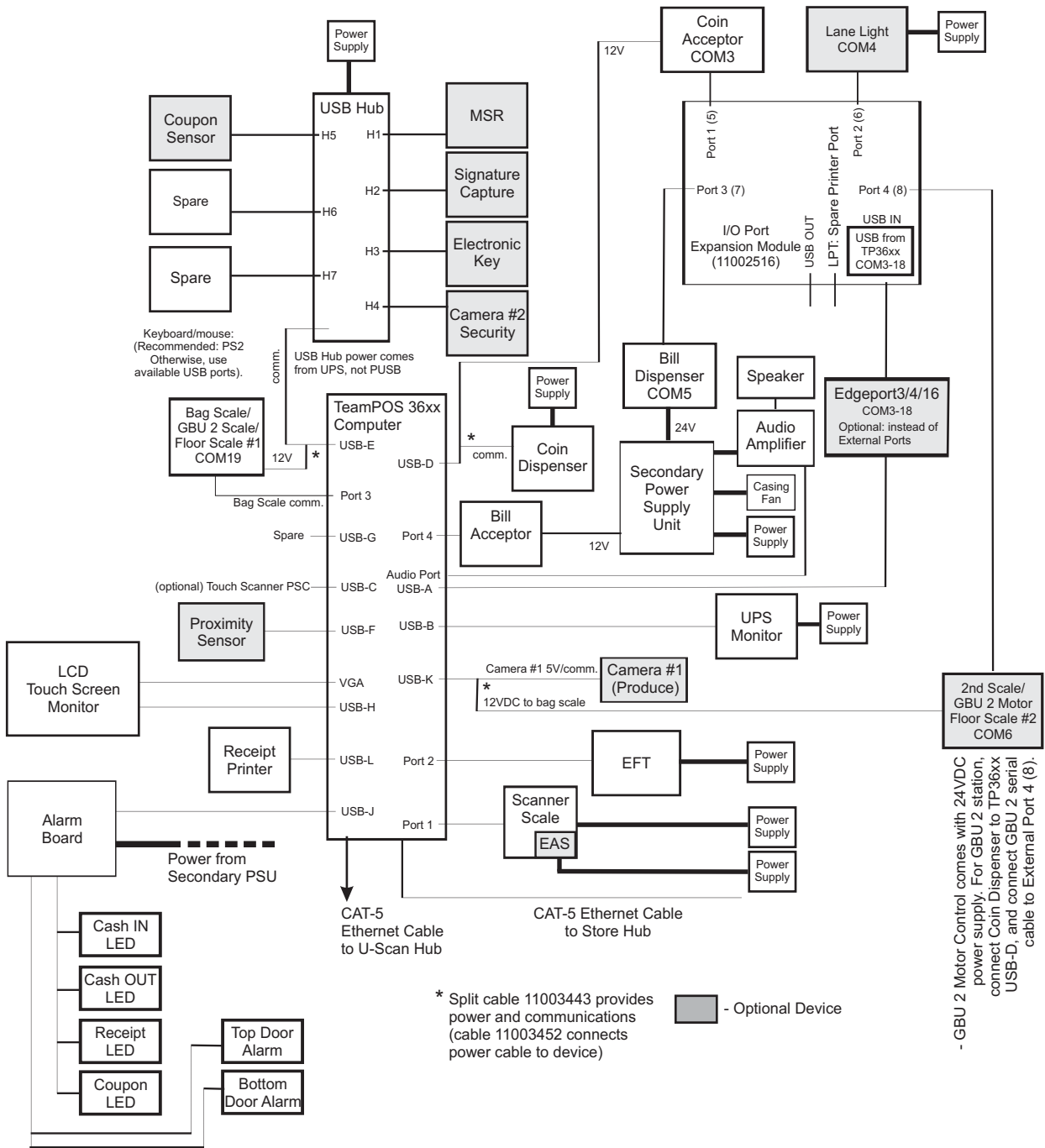


Figure 15.24 Customer Station cable requirements (TP3600 Series)

Your store's Customer Station may not include all of the devices listed above. The boxes representing the **devices** are identified by their **virtual COM port** designations; the labels in the box that represents the **computer** refer to **physical COM port** designations. This illustration is based on controlled document D900000371.

Customer Station Cable Connections (Cash Recycler-TP3600 Series)

The cables and AC plugs of site-installed components are in the cabinet, ready to be connected. The store must provide the EFT equipment, which is installed on site.

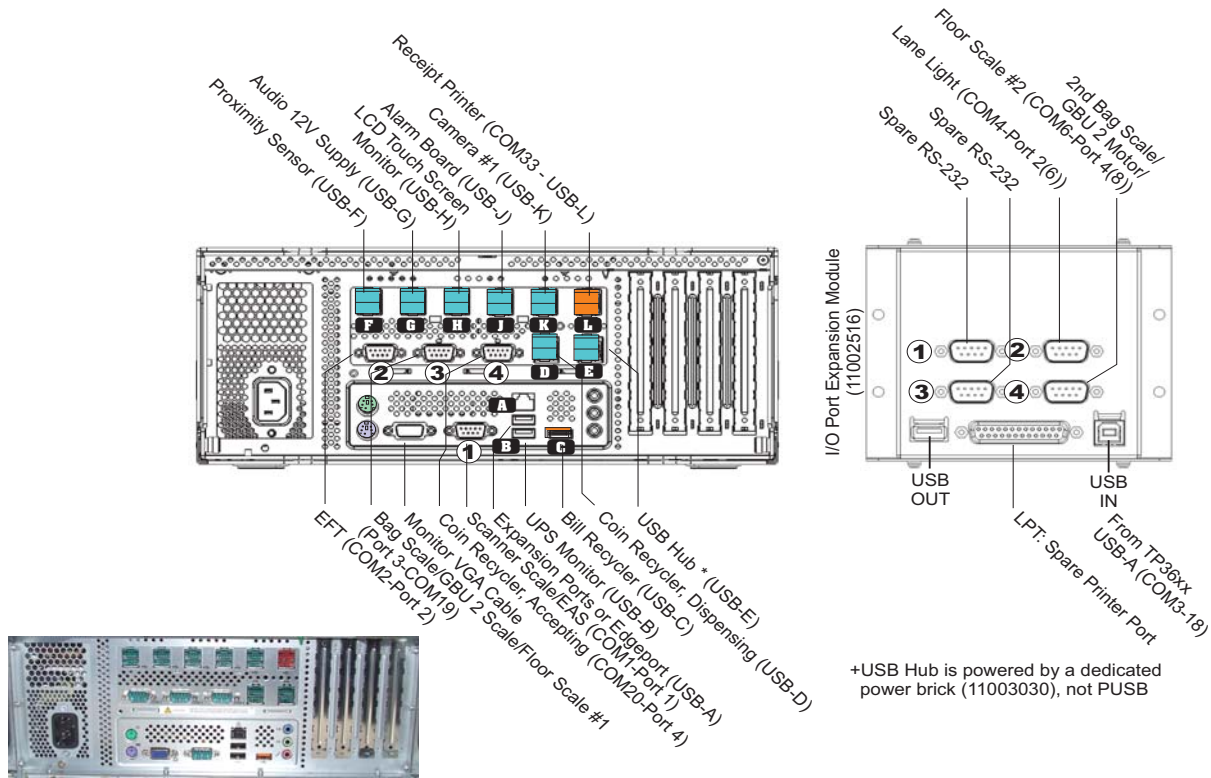


Figure 15.25 Customer Station computer cable connections TP3600 Series (Back)

The above illustration is based on controlled document D900000371.

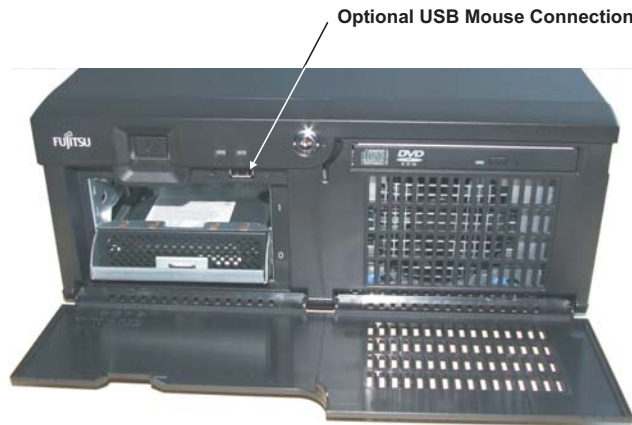


Figure 15.26 Customer Station computer cable connection TP3600 Series (Front)

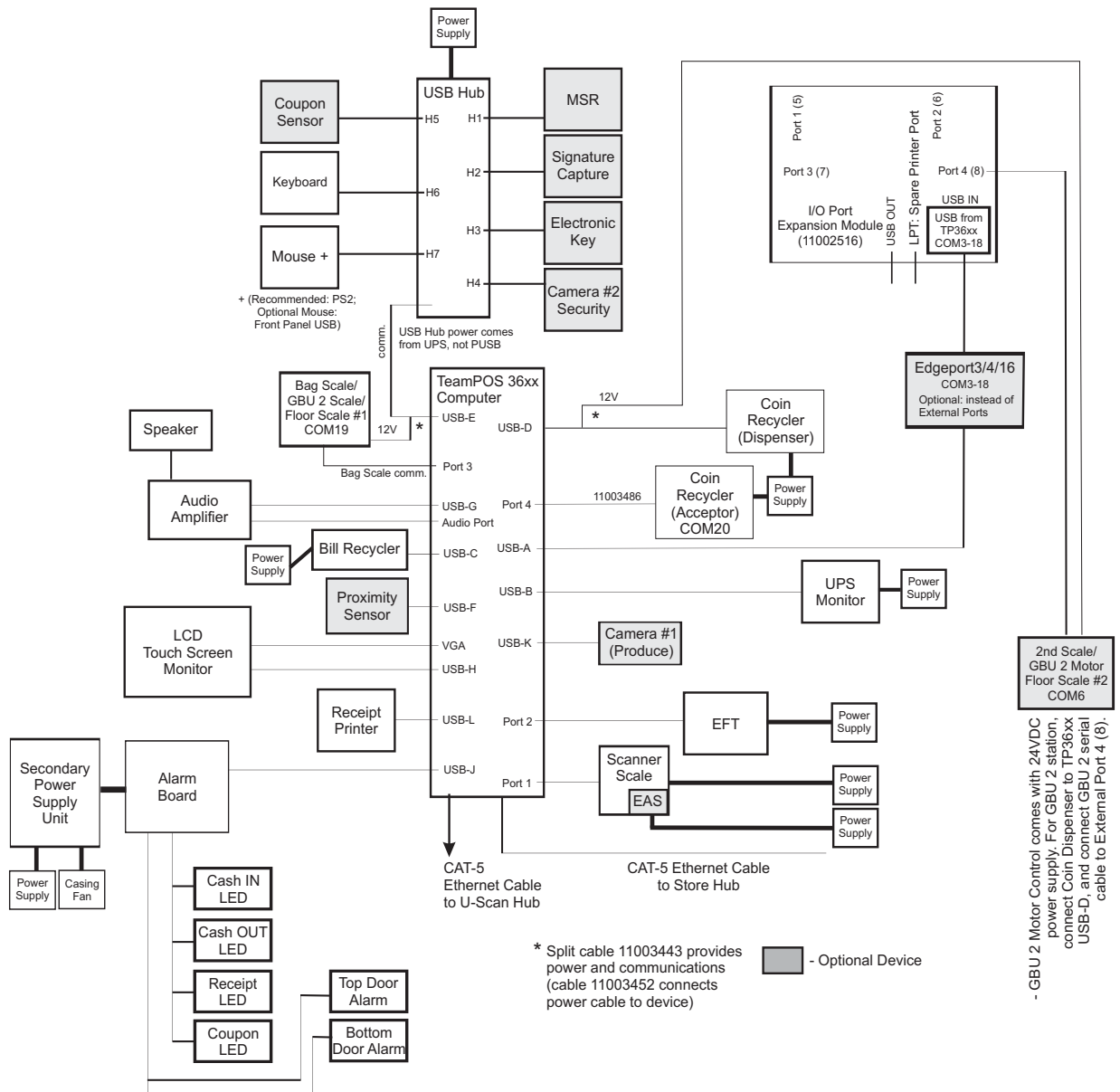


Figure 15.27 Customer Station cable requirements (TP3600 Series)

Your store's Customer Station may not include all of the devices listed above. The boxes representing the **devices** are identified by their **virtual COM port** designations; the labels in the box that represents the **computer** refer to **physical COM port** designations. This illustration is based on controlled document D900000372.

Customer Station Cable Connections (Mini Carousel-TP3600 Series)

The cables and AC plugs of site-installed components are in the cabinet, ready to be connected. The store must provide the EFT equipment, which is installed on site.

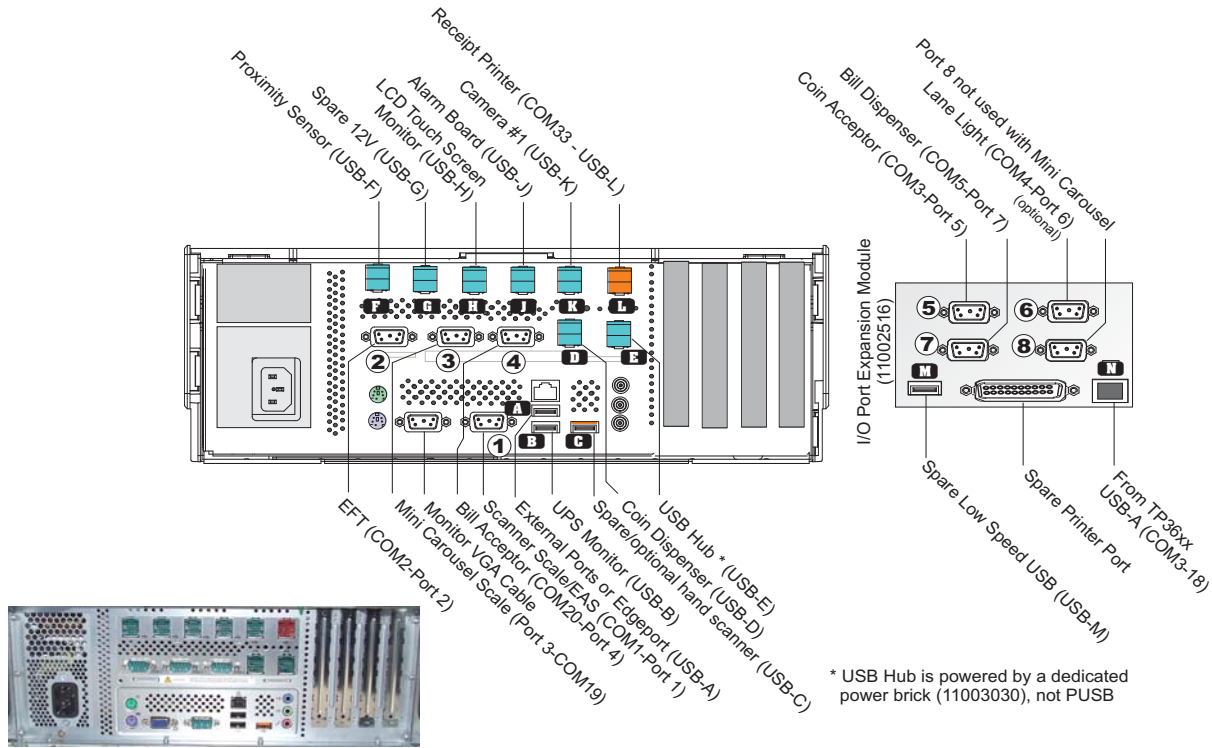


Figure 15.28 Customer Station computer cable connections TP3600 Series (Back)

The above illustration is based on controlled document D900000371.

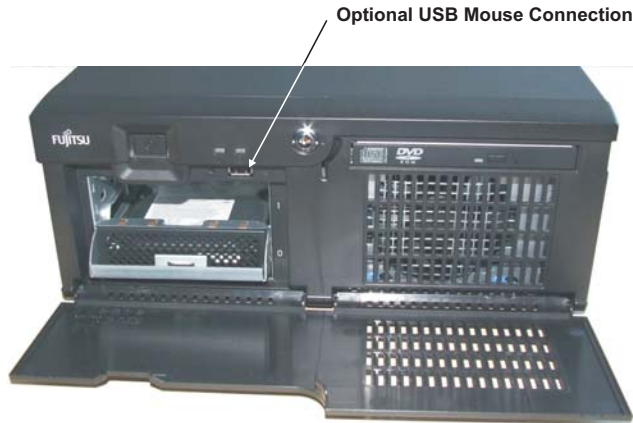


Figure 15.29 Customer Station computer cable connection TP3600 Series (Front)

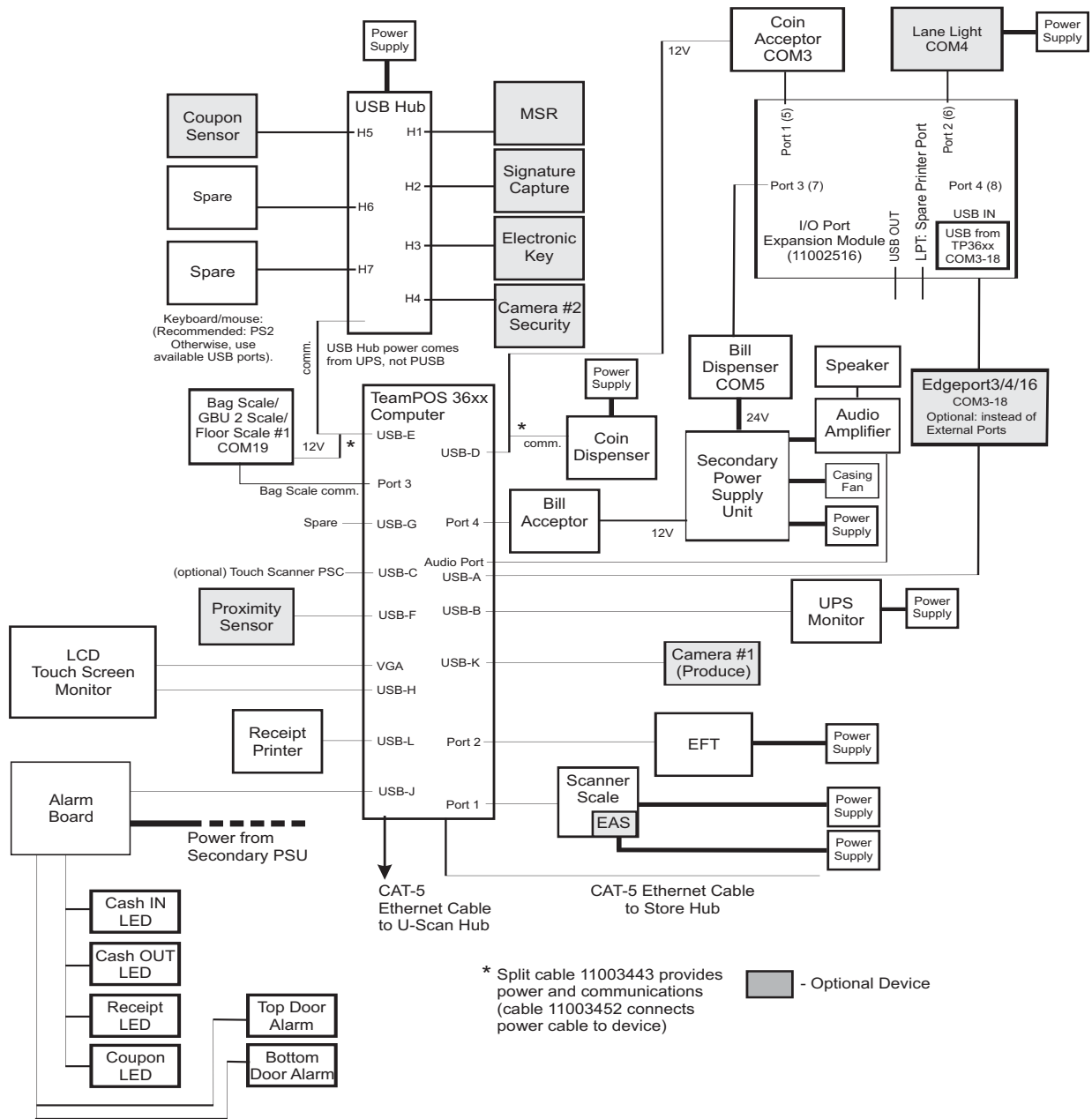


Figure 15.30 Customer Station cable requirements (TP3600 Series)

Your store's Customer Station may not include all of the devices listed above. The boxes representing the **devices** are identified by their **virtual COM port** designations; the labels in the box that represents the **computer** refer to **physical COM port** designations. This illustration is based on controlled document D90000371.

TP3600 Series Motherboard



CAUTION:

Before accessing internal components, properly shut down the computer and unplug the power cable.

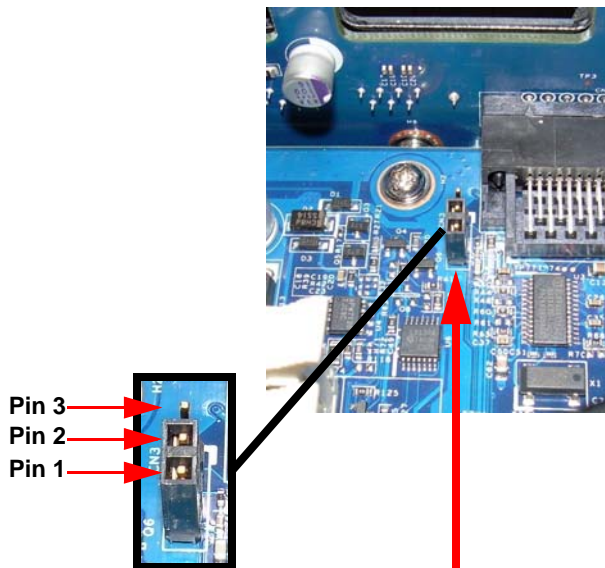
Be sure to observe all ESD precautions when working with the internal computer components.

There are two jumpers on the motherboard: Clear CMOS, and Test.

Clear CMOS jumper

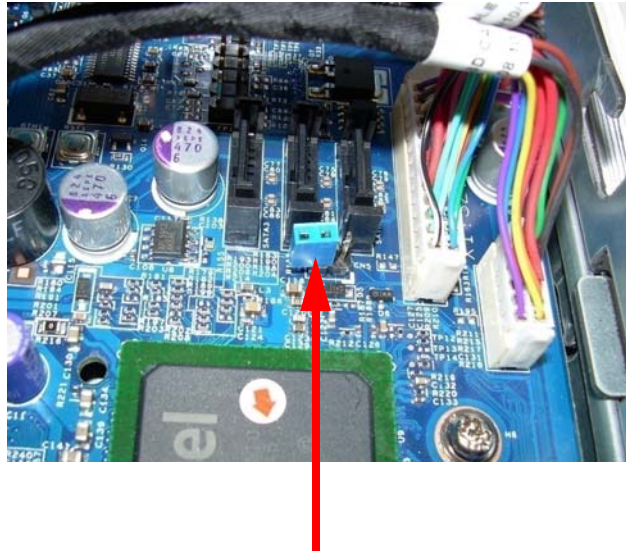
The Clear CMOS jumper is located next to the connector that leads to the HDD converter board. The label on the jumper is CN3, shown below in its normal operational state: Pins 1-2 are shorted. Take the following steps to clear the CMOS:

- Turn off the power switch and remove the AC plug.
- Move the jumper from the 1-2 to the 2-3 position.
- Plug in the AC power cord.
- Remove the AC power cord.
- Move the jumper back to the 1-2 position.
- Plug in the AC power cord and power up the computer. This will clear the CMOS.



Test jumper

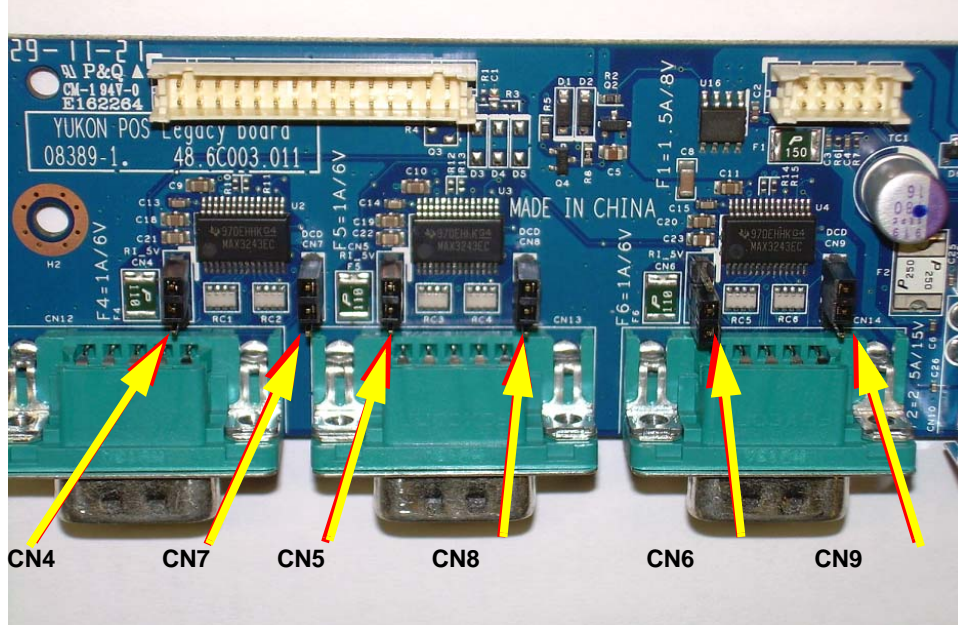
The second jumper on the motherboard is the Test jumper, located next to the SATA 1, 2, and 3 plugs. The label on the jumper is CN5. DO NOT use this jumper (shown below in its normal operational state; the two pins are *not* shorted together).



I/O Boards

Legacy I/O board jumpers

The Legacy I/O board contains six jumpers. Three of the jumpers (CN4, CN5, CN6) will either provide +5 V on pin 9 of the DB9 connector or provide the RI signal on that pin. The default is set as RI on that pin. Jumpers CN7, CN8, CN9 enable the Data Carrier Detect (DCD) signal on pin 1 of the DB9 connector and should remain in this default position.



Jumper Position (*)	Jumper ID	Default Function
	CN4	RI signal
	CN7	Enable DCD on Pin 1 of DB9 connector
	CN5	RI signal
	CN8	Enable DCD on Pin 1 of DB9 connector
	CN6	RI signal
	CN9	Enable DCD on Pin 1 of DB9 connector
(*) Jumper positions shown in the same orientation as the photo above.		

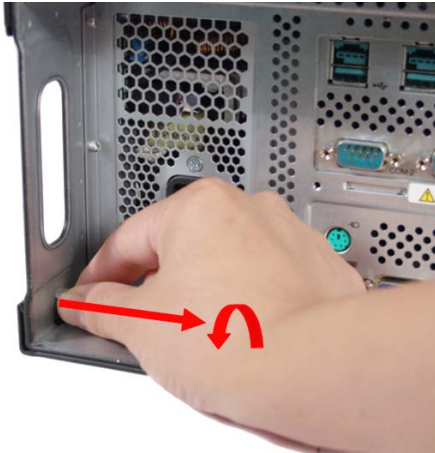
Legacy I/O board replacement

There are four available I/O board options. TP3600 series systems used in U-Scan SCOs are equipped with the “Powered USB Legacy I/O board” option (eight powered USB ports and three RS-232 ports).

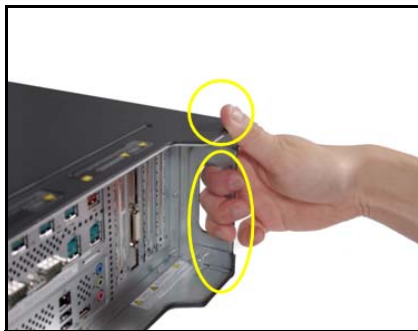
- 1 Disconnect the AC power cord from the computer.

Access the I/O board by removing the motherboard assembly

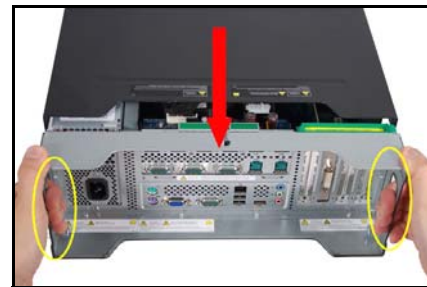
- 1 Open the computer by taking the following steps, OR, open the top cover by following the instructions on [page 254](#).
 - a At the rear of the computer, pull the release tabs out on both sides and turn them to disengage the lock.



- b Grab the two side handles with three fingers each, placing your thumbs on the top cover.



- c Pull the entire assembly out of the computer by holding the top cover by the thumb and pulling the side handle.



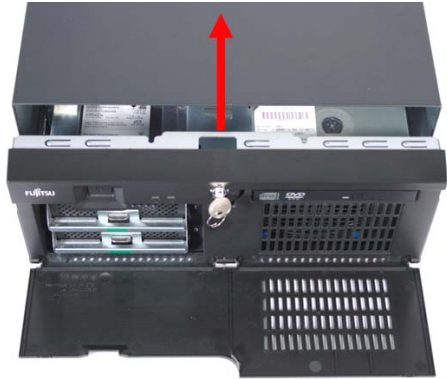
Access by opening the top cover

- 1 Remove the top cover by first unlocking the front key lock and depressing the buttons on either side of the computer (2-3 mm).

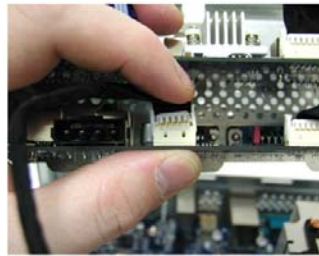
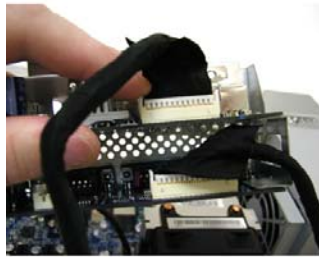
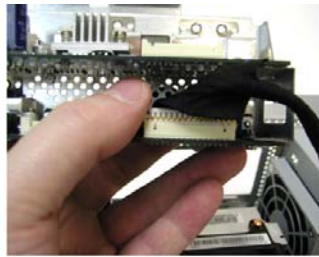


push in this button (both sides of the computer)

- a Slide the cover back while depressing the buttons, then lift the cover up and off.

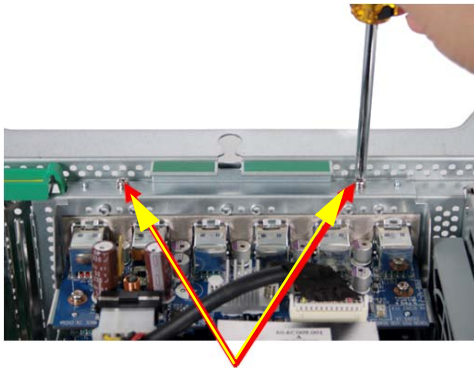


- 5 Connect the data cables to the new I/O board.



Replacing the board

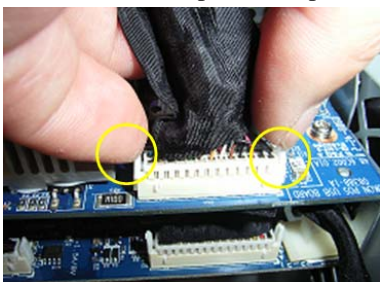
- 1 Remove the two screws that secure the I/O board to the chassis.



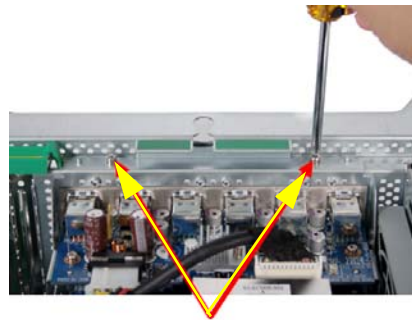
- 6 Insert the I/O board into the fitted slots on the motherboard assembly.



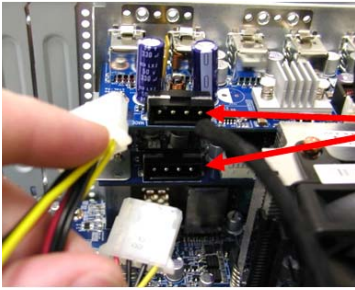
- 2 Remove the I/O board.
- 3 Remove the power cable.
- 4 Pinch the locks on either side of the data cable connector, and lift the cable up while depressing the locks.



- 7 Secure the I/O board with two screws.

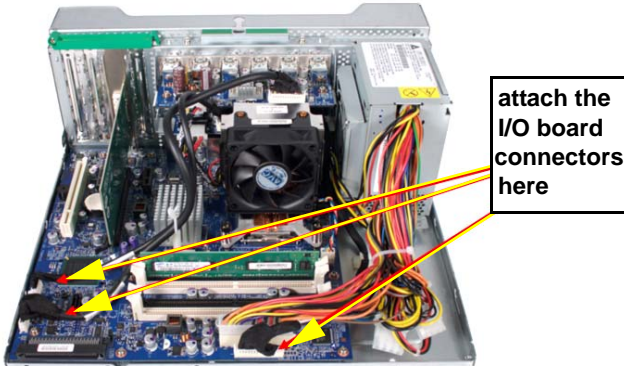


- 8 Connect the power cables to the I/O board.



power ports

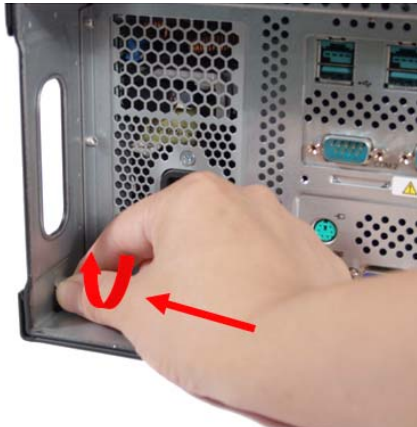
- 9 Connect the three I/O cables to the appropriate slots on the motherboard.



attach the
I/O board
connectors
here

- 10 Re-install the motherboard or top cover assembly.

- a Slide the motherboard assembly back into the chassis.
- b Push in firmly until the motherboard assembly engages, then lock it in place by releasing the locks on the rear of the computer.



OR

- a Secure the computer cover back into place.

- 11 Re-connect the power cable.

Replacing PCI Card(s)



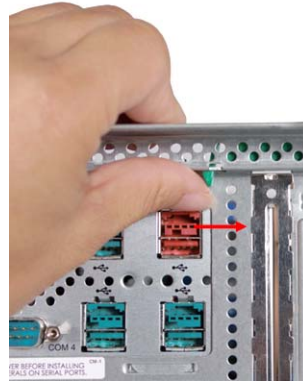
CAUTION:

Before replacing any boards, properly shut down the computer and unplug the power cable.

Be sure to observe all ESD precautions when working with the internal computer components.

Viewing the backplane assembly from the rear, there are four vertical slots on the right hand side that can accommodate four PCI cards.

- 1 Disconnect the AC power cord from the controller.
- 2 Remove the motherboard assembly (see [page 254](#)) or the top cover (see [page 254](#)).
- 3 Unlatch the locking arm from the PCI card slots and lift.



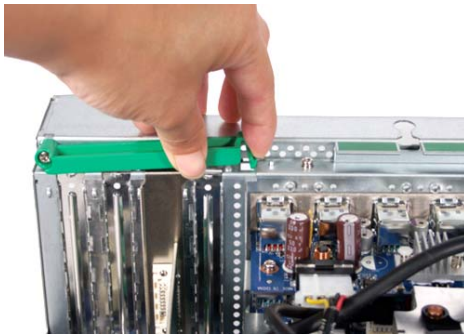
- 4 Remove the appropriate PCI filler plate by pushing the filler out and away from the chassis.



- 5 Insert the PCI card into the slot and seat it firmly. If installing PCIe cards, only use low profile cards.



- 6 Secure the PCI locking arm back into place.



- 7 Re-install the motherboard assembly or top cover and secure it in place.

TeamPOS 3600 Series Common Problems and Solutions



CAUTION:

Before replacing any boards, properly shut down the computer and unplug the power cable.

Be sure to observe all ESD precautions when working with the internal computer components.

Note: These procedures are intended for authorized service personnel only.

Issue(s)	Possible Solution
<ul style="list-style-type: none"> • Power cannot be turned on. 	<ul style="list-style-type: none"> • Check the power connections. • Ensure that the UPS is on.
<ul style="list-style-type: none"> • The power LED next to the power switch does not come on. 	<ul style="list-style-type: none"> • Test the external AC power socket to ensure that it is good. • If the issue is not resolved, the computer should be replaced.

Issue(s)	Possible Solution
----------	-------------------

TeamPOS 3600 series powers on but powers off after a few minutes.

- Press **Del** while the computer is starting to access the BIOS.
- Load the optimized defaults.
- If the issue is not resolved, go to **Hardware Monitoring** in the BIOS and check for any warnings.
- If a warning is present, correct the situation as required (e.g. replace the fan, clean the vents, etc.).
- If the issue is not resolved, ensure that the cable between the operation panel and the motherboard is securely installed inside the computer.

The system fails to start (boot) up even though the power is turned on.

- Press the **Power** button to start the computer.
- Look for an error message during the power-on self test.

Note: If no data displays on the monitor during the power-on self test or if the monitor goes blank immediately after the power-on self test, there may be an issue with the monitor rather than the computer.
- If an error message is present, correct the situation as required.
- If the issue is not resolved, load the BIOS defaults, then save and exit the BIOS.
- If the issue is not resolved, try starting the system in Safe Mode by pressing **F8** during the power-on self test (POST).
- If you cannot start the system in Safe Mode, ensure that the hard drive and DVD-ROM drive cables are connected inside the computer.
- If the issue is not resolved, reload the operating system.
- If the issue is still not resolved, the computer should be replaced.

Issue(s)	Possible Solution
The system does not complete the power-on self test without “hanging up.”	<ul style="list-style-type: none"> One of the following components may need to be replaced: <ul style="list-style-type: none"> Memory CPU chip Motherboard Power supply Speaker Keyboard
Cannot access the BIOS by pressing F2 during startup.	<ul style="list-style-type: none"> One of the following components may need to be replaced: <ul style="list-style-type: none"> Motherboard Keyboard
The system operating system (OS) is not installed.	<ul style="list-style-type: none"> Install the operating system and restart the computer.
<ul style="list-style-type: none"> Cannot input data using the keyboard. Abnormal keyboard input. 	<ul style="list-style-type: none"> Check the keyboard connections. If the issue is not resolved, restart the computer. If the issue is not resolved, ensure that the keyboard is in USB mode by holding down the left CTRL key and the TAB key while powering up the computer until the keyboard beeps. <p><i>Note: At the time of publication, all U-Scan TP3600 series computer keyboards use a USB connection. However, if your system uses a PS/2 keyboard, hold down the left CTRL key and CAPS LOCK key while powering up the computer until the keyboard beeps.</i></p> <ul style="list-style-type: none"> If the issue is not resolved, replace the keyboard. If the issue is not resolved, the docking backplane may need to be replaced.

Issue(s)	Possible Solution
<ul style="list-style-type: none"> Date, time and disk setup information is deleted when the power is turned off. 	<ul style="list-style-type: none"> Check the voltage of the lithium battery on the motherboard to ensure that it is normal. Check the “Clear CMOS” jumper on the motherboard set to ensure that it is set to “normal” (jumper CN3). If the issue is not resolved, the motherboard may need to be replaced.

Replacing the TeamPOS 3600 Series Computer

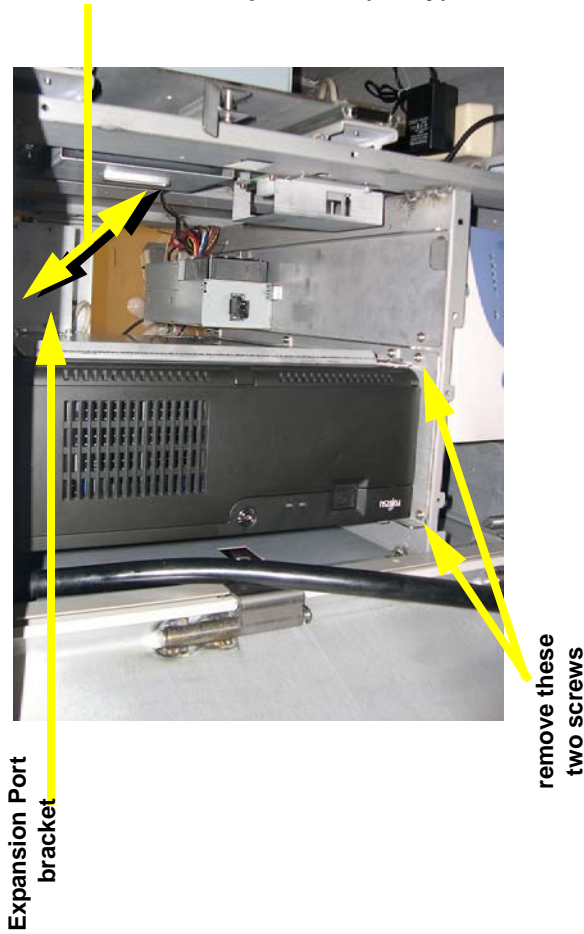
Parts and Tools

Part	Quantity	Part Number
TeamPOS 3600 series	1	See “Part numbers” on page 243
U-Scan TP3600 series Image CD	1	
U-Scan TP3600 series Image Customization CD	1	
U-Scan Software Installation CD (Store-specific)	1	
Phillips screwdriver	1	

- 1 Shut down the computer.
- 2 Remove the two screws that secure the computer tray to the bracket on the shelf.
- 3 **Important:** verify the clearance near the USB Hub, which is mounted on the wall of the casing. You will have to unplug any cables that are attached to the top ports of the USB Hub.

- 4 Carefully pull the computer tray out from the casing, paying attention to the following details.
 - a Note that there is an alignment guide bracket affixed to the casing above the computer. Do not try to force the computer bracket out of the guide.
 - b Be careful not to damage the Expansion Port module, bracket, or cable, which are secured to the side of the computer tray in the rear.

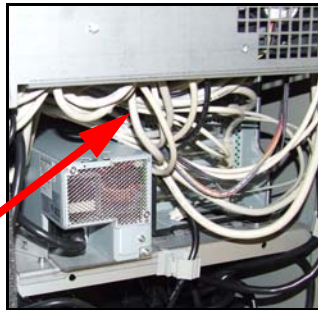
Verify clearance of Expansion Port and USB Hub top cables (if any)



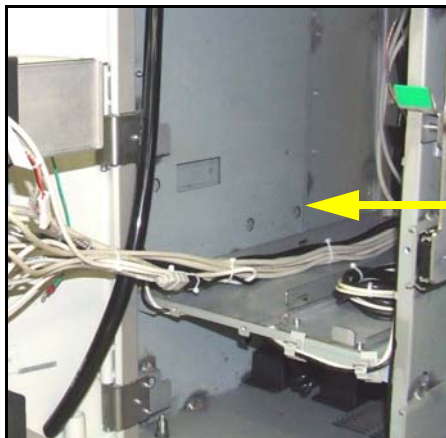
- c The cables connected to the computer are secured in a service loop. Unfurl this loop carefully.



Service loop, as seen from the front of the Station



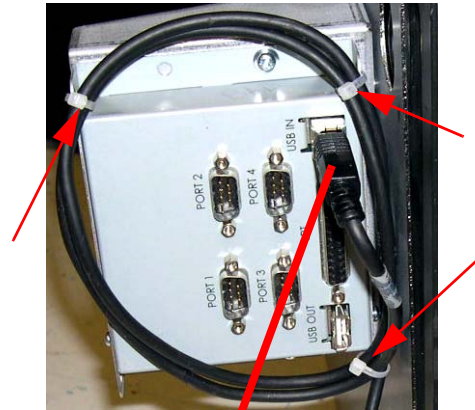
Service loop, viewed from behind



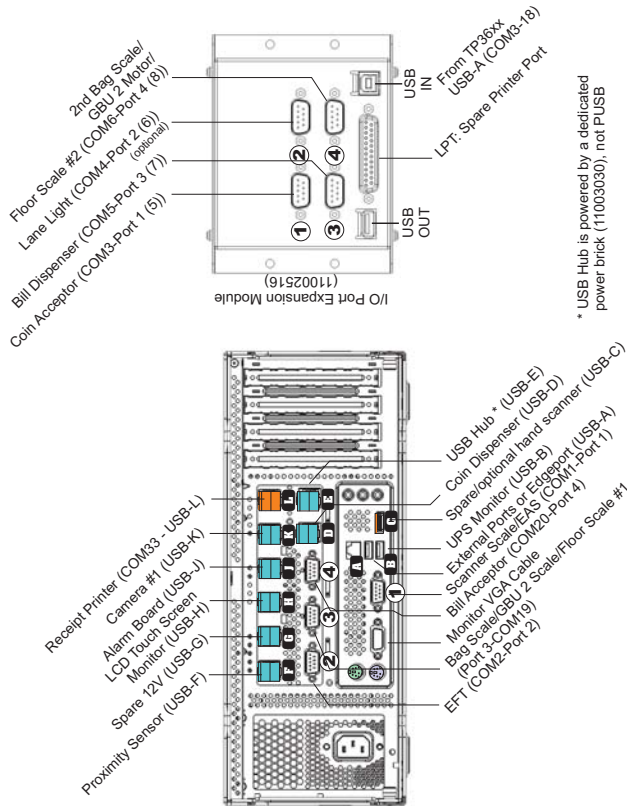
Service loop, extending out of the Station as the computer is pulled out

- 5 Disconnect the cables from the front and rear ports of the computer, as well as from the Expansion Port module. You should find the cables gathered and tied into a service loop. Ensure that you do not interfere with this cable bundle.

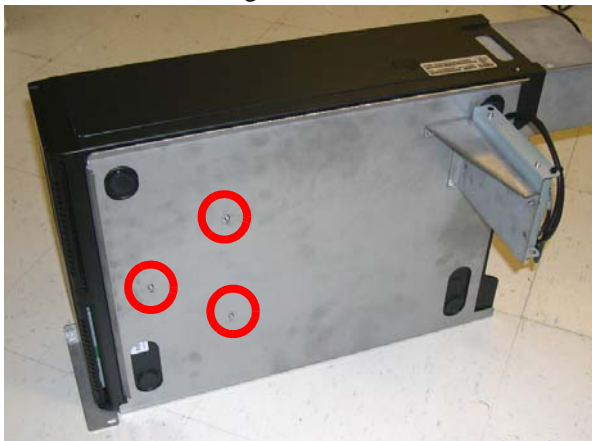
Note: You do not need to disconnect the Expansion Port cable that is plugged into the connector labeled USB IN on the Expansion Port. This cable is secured with three tie wraps to the Expansion Port module bracket as shown below. It connects the Expansion Port module to USB Port A on the computer.



- 6 Note the current cable connections. For a standard bagging platform installation, the connections should be similar to the diagram below (if not, note the differences so that you can re-connect the cables correctly at the end of this procedure):



- 7 Remove the three M3 screws that secure the computer to the side of the mounting bracket.



- 8 Turn the entire computer and tray assembly upside down. With gravity assisting you, slide the computer out of the tray.

- 9 Remove the fan duct from the original computer:

- a The fan duct and a plastic cable clamp are secured to the back of the computer chassis with a single M3 screw.

- b Unhook the AC power cable from the plastic clamp. Remove the screw and pull off the fan duct.



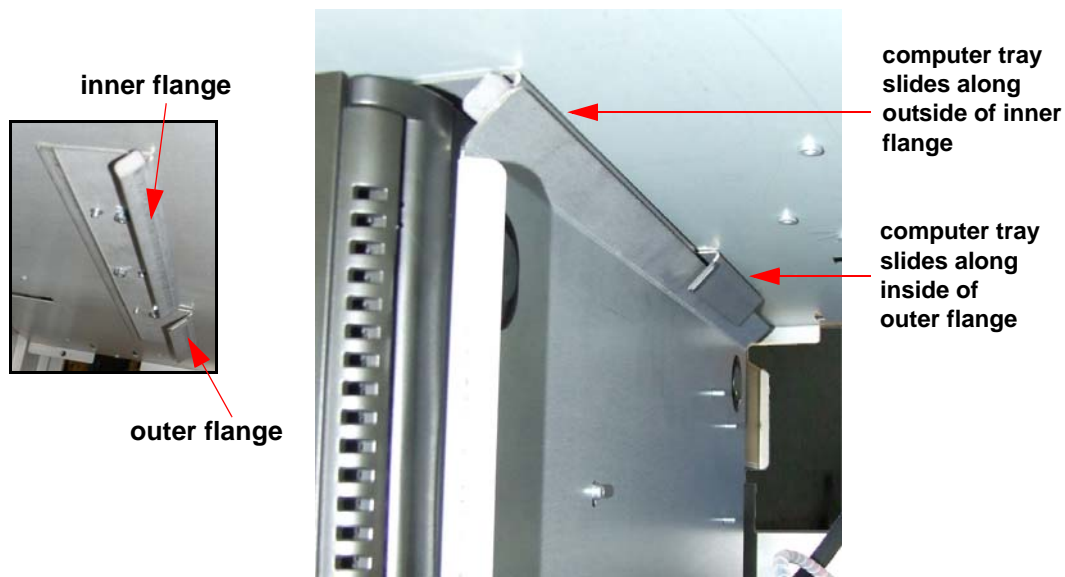
- c Slide the duct downward, then lift it away from the chassis (the duct is retained by slots that slide over the knurled metal and rivets).



- d Lift off the duct and then unplug the power cable from the computer.



- 10 Follow steps 9 a, b, c, and d in reverse to plug in the power cable and attach the fan duct to the replacement computer.
- 11 Insert the replacement TP3600 series computer into the tray.
- 12 Secure the computer in place in the tray with the three M3 screws you removed earlier.
- 13 Connect the cables to the computer and Expansion Port module. Refer to the connection diagram under “Customer Station Cable Connections” earlier and to your notes.
- 14 Install the computer tray assembly in the Customer Station. Carefully slide the unit into the casing, making sure that the computer slides easily onto the upper and lower guide brackets. The computer will stop sliding when the bracket reaches the stoppers in the rear.
- 15 Take care not to pinch or otherwise interfere with the service loop when manipulating the computer (see [page 260](#)). Coil the service loop the same way that you found it.
- 16 If applicable, replace the cables that you unplugged from the top connectors of the USB Hub (see [page 259](#)).
- 17 Fasten the two screws to secure the computer tray to the shelf of the casing.
- 18 Turn on the computer.
- 19 Re-image the computer and install the U-Scan software. Refer to the **Software Imaging and Installation for U-Scan Customer Station** document or the customized document for your store.



Chapter 16: Coupon Detector

This chapter contains servicing information for the Coupon Detector found in U-Scan Genesis Stations.

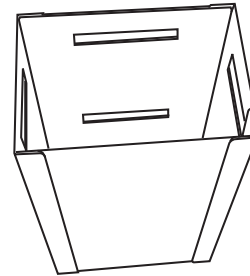


Communication

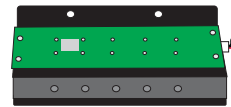
- USB

Components

- Coupon Detector circuit board and mounting plate (11000576)
- Coupon Detector power and communication cable (11000267)
- Coupon box



Coupon Box



Coupon Detector



Power and Communication cable

Features

- Equipped with a one-way sensor
- Detects coupons when they are inserted into the coupon slot
- Prevents customers from continuing an order if a coupon is not inserted

Technical Specifications

Environment

- Temperature: 41°F to 104°F (5°C to 40°C)
- Relative humidity: 10% to 90% non-condensing

Power Supply Requirements

- 12 VDC

Testing

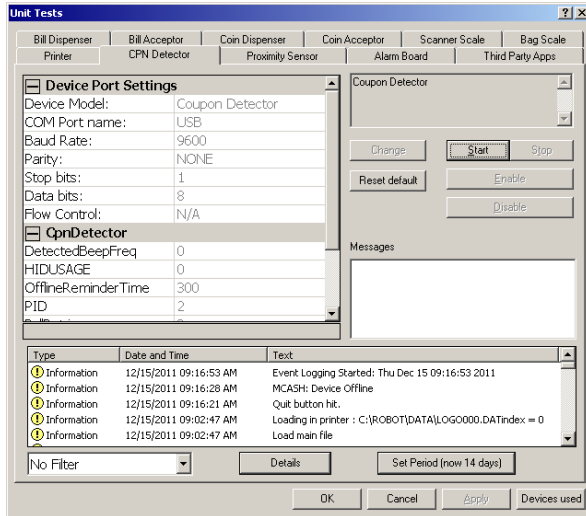
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Coupon Detector** tab.



- 2 Ensure that the settings are:

Setting	Value
Device Model	Coupon Detector
COM	USB (USB Hub Port 5)

- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Test the Device

- 1 Click **Start**.
- 2 Click **Enable**.
The message **DEVICE::ONLINE{CpN_Detector}** appears in the **Messages** box.
- 3 Slide a coupon into the coupon slot.
- 4 Ensure that the message **CPN_DETECTOR::CPN DETECTED** displays in the **Messages** box.
- 5 Click **Disable**.
- 6 Click **Stop**.
- 7 Click **OK**.

Coin Detector Common Problems and Solutions

Issue	Possible Cause(s)	Solution
Coupons inserted but not detected in the Device Tester	<ul style="list-style-type: none"> • No connection to coupon sensor • The coupon sensor is incorrectly configured • Faulty port 	<ul style="list-style-type: none"> • Verify the Coupon Detector communication cable connections. • Verify the Device Tester settings. • If necessary, correct the COM port setting in the Device Tester. • Try connecting the communication cable to another port on the USB Hub, Computer, or Edgeport. • If necessary, replace the Coupon Detector Power and Communication cable. • If the issue is still not resolved, replace the Coupon Detector.
Status LED does not come on when a coupon is inserted and coupons are not recognized in the Device Tester	<ul style="list-style-type: none"> • No power to Coupon Detector 	<ul style="list-style-type: none"> • Verify the Coupon Detector power cable connections. • If necessary, replace the Coupon Detector Power and Communication cable. • If the issue is still not resolved, replace the Coupon Detector.

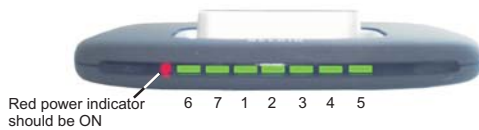
Troubleshooting the Coupon Detector

Follow the Testing Procedure

See “Accessing the Device Tester” on page 263.

Inspect the Cabling

- 1 Unlock and open the bottom door.
- 2 Ensure that the cable is securely connected to the circuit board.
- 3 Ensure that the cable is connected to Port 5 of the USB Hub.
- 4 Ensure that the LED for Port 5 of the USB Hub is lit green.



Front View

Observe the Coupon Detector Functionality

- 1 Unlock and open the bottom door.
- 2 Locate the Coupon Detector on the inside of the door.
- 3 Slide a sheet of paper in front of the sensor.
- 4 Ensure that the red LEDs come on.
- 5 Remove the sheet of paper.
- 6 Ensure that the green LED comes on.

Installing the Coupon Detector

Perform this procedure to install the coupon detector. When the coupon detector is installed and enabled on a system, customers must scan and then insert each coupon into the coupon slot. The device only allows customers to continue if a coupon is fully inserted into the slot.

Parts and Tools

Part	Quantity	Part Number
Coupon Detector (circuit board and mounting plate)	1	11000576
Coupon Detector cable	1	11000267
Philips screwdriver		
Software version 398.1z or later		
Installer 61B or later		

Remove the Current Coupon Box

- 1 Unlock and open the bottom door.
- 2 Locate the coupon box hanging on the back of the door.
- 3 Slide the box upward to disengage it from its support on the door and remove it.

Install the Coupon Detector

- 1 Unlock and open the bottom door.
- 2 Orient the coupon detector so that the sensor board with its plastic cover are facing upward and the screw holes on the assembly face the back of the door.
- 3 Connect the power and communication cable to the black connector on the coupon detector’s circuit board.
- 4 Position the coupon detector on the bracket on the back of the door.
- 5 Fasten two screws to secure the coupon detector to the door.

screws attach coupon detector to the door



- 6 Connect the power and communication cable to Port 5 of the USB Hub.
- 7 Tie up the power and communication cable in the cable conduit.
- 8 Set the coupon box on the door support.
- 9 Close and lock the door.
- 10 Test the Coupon Detector in the **Device Tester**.

To remove the Coupon Detector, follow these instructions in reverse.

Set Up the Registry

- 1 Stop the U-Scan software.
- 2 Select **Start/Run**.
The **Run** dialog box appears.
- 3 Enter **regedit**, then press **ENTER**.
The Registry Editor opens.
- 4 Go to
HKEY_CURRENT_USER\Software\OptimalRobotics\Devices\CpnDetector.

Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.

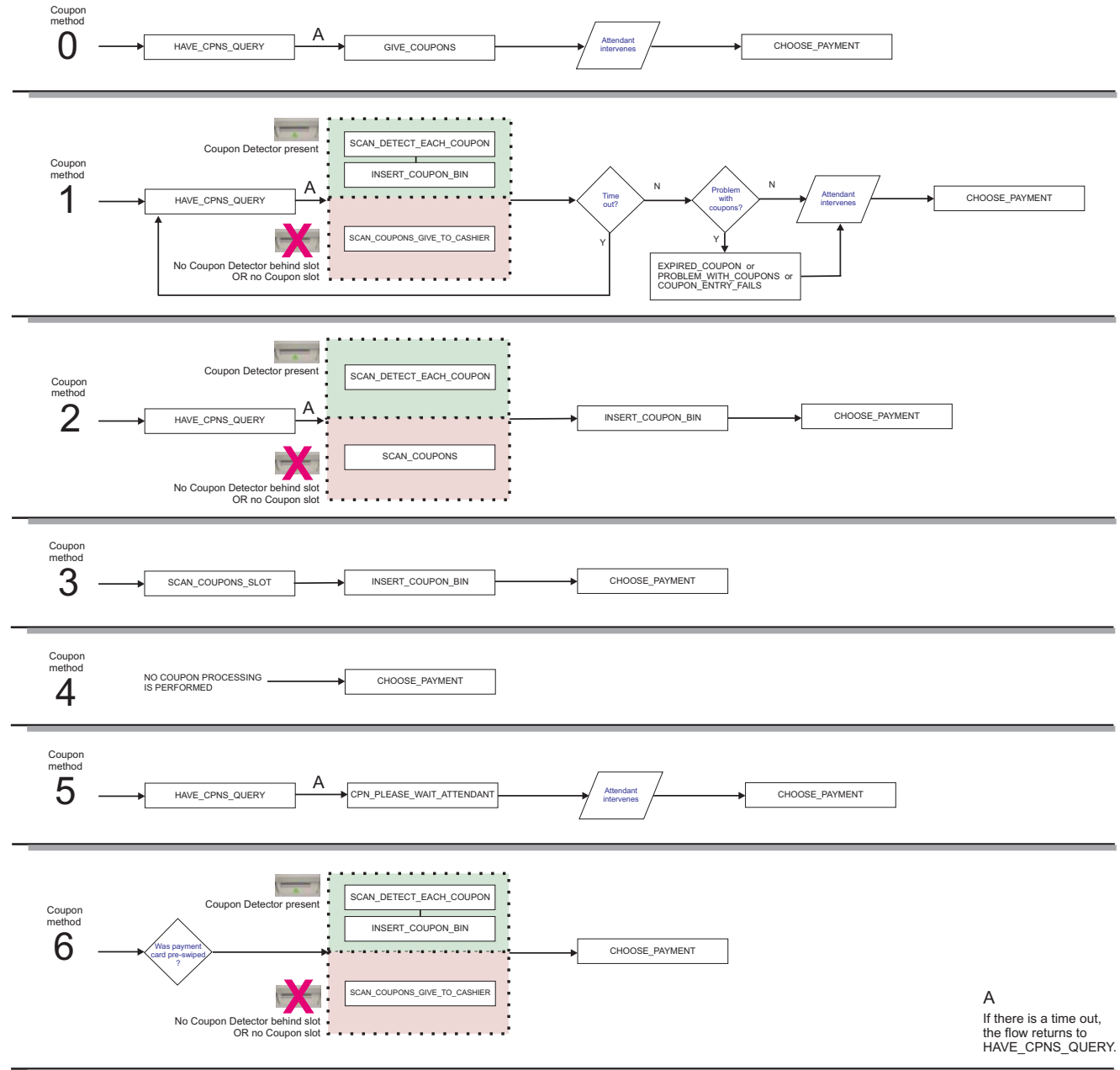
- 5 Double-click the **Used** registry setting.
- 6 Set the setting to **1**.
- 7 Go to
HKEY_CURRENT_USER\Software\OptimalRobotics\Devices\Display\Options.

Note: That this registry key has been located under HKEY_LOCAL_MACHINE as of U-Scan software version 4.3.

- 8 Double-click **Coupon Method**.
- 9 Set the setting to **2**. See [page 267](#) for an overview of the coupon methods.
- 10 Exit the Registry Editor.
- 11 Restart the computer.

Coupon Process

Seven configurable coupon methods have been created to determine the screen order flow for coupon processing. Refer to the chart below for an outline of the coupon process for each method (0-6). Note that when method 4 is selected, no coupon processing is done.



Chapter 17: LS4278 Hand Scanner

This chapter contains servicing information for the LS4278 hand Scanner found in U-Scan Genesis Stations.



Features

- 650 nm laser diode
- 50Hz scan element frequency
- Decode rate of 200 decodes per second
- Minimum radio range 33' (10 m), 50' (15 m) in typical warehouse environment

Technical Specifications

Environmental

- Operating temperature: 32°F - 122°F (0°C to 50°C)
- Charging temperature: 32°F - 104°F (0°C to 40°C) nominal, 41°F to 95°F (5°C to 35°C) ideal
- Storage temperature: -40°F to 158°F (-40°C to 70°C)
- Relative humidity: 5 to 95% non-condensing

Power Requirements

- 4.75 - 14.0 V dc

Note: The LS4278 can be powered through an external power supply or through the communication cable (host power). Currently, an external power supply is used for U-Scan.

Battery Specifications

- 720maH NiMH - (3) AAA
- Number of scans per full charge: 32,000+ at 1 scan/second
- Charge time for fully discharged battery: less than 3 hours for systems with external power supply OR approximately 4.5 hours for systems powered through the host (communication cable)

Note: Under typical conditions (4000 scans a day), the battery fully charges within 1 hour.

Communication

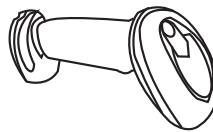
- RS-232 to Attendant Station computer

Note: A USB model of the device is also available. This model is not currently used for U-Scan Genesis.

Components of the LS4278 Hand Scanner

The Symbol LS4278 consists of the following components:

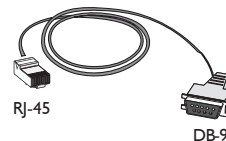
- Symbol LS4278 Hand Scanner (11000697)
- RJ-45 to DE-9 female communication cable
- DE-9 male to DB-25 female adapter (11000403)
- Power supply adapter (11001321)



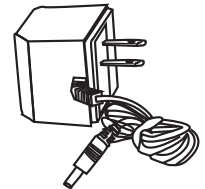
LS4278 Hand Scanner



Charging Base



Communication Cable



Power Supply Adapter

Common Problems and Solutions

This section provides basic steps for resolving common problems. Refer to [“Troubleshooting the Symbol LS4278 Hand Scanner” on page 271](#) for the full troubleshooting procedures.

Issue	Possible Cause(s)	Solution
A laser beam does not appear when you pull the trigger.	<ul style="list-style-type: none"> No power to the scanner. Cable connections are loose. 	<ul style="list-style-type: none"> Ensure that the power cables are connected to the charging base and to the power bar. Ensure that the communication cable is connected to the charging base and to the Edgeport. Ensure that the cap on the battery chamber is secure. If the issue is not resolved, contact your support center.
Scanner emits five long low beeps after a bar code is read.	<ul style="list-style-type: none"> Conversion or format error was detected. The scanner’s conversion parameters are not properly configured. 	<ul style="list-style-type: none"> Reprogram the Hand Scanner. Refer to “LS4278 Barcode Programming Sequence” on page 275. If the issue is not resolved, contact your support center.
Scanner reads the bar code, but does not transmit the data to the host.	<ul style="list-style-type: none"> Communication cable is disconnected. Hand Scanner is not paired to the base. Hand Scanner has lost connection to the host. Hand Scanner is not programmed properly. 	<ul style="list-style-type: none"> Ensure that the communication cable is securely connected to the charging base and to the Edgeport. If the issue is not resolved, scan the bar code on the charging base to pair the Hand Scanner to the base. If the issue is not resolved, refer to “Reset the Hand Scanner” on page 271 to attempt to restore connection to the host. If the issue is not resolved, refer to “LS4278 Barcode Programming Sequence” on page 275.
Scanner emits the laser, but does not read the bar code.	<ul style="list-style-type: none"> Bar code is unreadable. Distance between scanner and bar code is incorrect. Scanner is not aimed at the proper angle to read the bar code. Scanner is not programmed to read that type of bar code. 	<ul style="list-style-type: none"> Try scanning another bar code. The item may have a bad bar code. Move the scanner closer to or further from the bar code and try to scan the bar code again. Try aiming the Hand Scanner at different angles. If the issue is not resolved, refer to “LS4278 Barcode Programming Sequence” on page 275. If the issue is not resolved, contact your support center.

Troubleshooting the Symbol LS4278 Hand Scanner

Check the Power

- 1 Ensure that the power cable is connected to the base of the Hand Scanner.



- 2 Ensure that the power cable is connected to the power strip.
- 3 Ensure that the laser works.
- 4 Ensure that the charge LED comes on when the Hand Scanner is placed on the base.



Inspect the Cable connections

- 1 Ensure that the communication cable is connected to the base.
- 2 Ensure that the communication cable is connected to the Attendant Station computer.

Pair the Hand Scanner to the Base

Scan the bar code on the Hand Scanner charging base.

Reset the Hand Scanner

Note: You must follow the steps in exact order given below.

- 1 Disconnect the power cable from the underside of the charging base.
- 2 Disconnect the communication cable from the underside of the charging base.
- 3 Wait three seconds, then reconnect the communication cable.
- 4 Reconnect the power cable.
- 5 Scan the bar code on the base of the Hand Scanner.

Re-program the Hand Scanner

Scan the bar codes in "[LS4278 Barcode Programming Sequence](#)" on page 275.

Cleaning and Maintenance

- 1 If dirt particles are visible on the scan window, use a cloth dampened with water to clean the window.
- 2 Prepare a solution of one-part glass cleaner (or ammonia) and one-part water.
- 3 Spray the solution onto a lint-free cloth or cleaning pad.
- 4 Wipe the scan window with the cloth.



*Note: Do **NOT** spray the cleaning solution directly onto the device.
Do **NOT** use abrasive cleaning material or products or harsh chemicals.*

LED Indications

The LS4278 has two LEDs: a scanning LED and a charging LED.



LED Status	Indication	Action
Scanning LED		
Green flash	<ul style="list-style-type: none"> Bar code successfully read. 	<ul style="list-style-type: none"> No action required.
Charging LED		
Green - Slow continuous flash	<ul style="list-style-type: none"> Non-critical battery temperature fault. Battery above or below normal operating temperature. 	<ul style="list-style-type: none"> Stop using the Hand Scanner until the battery temperature normalizes. Move the Hand Scanner to a location that is within normal operating temperature. The Hand Scanner can be placed on the charging base.
Green - Fast continuous flash	<ul style="list-style-type: none"> Scanner is charging. 	<ul style="list-style-type: none"> No action is required.
Green - Solid	<ul style="list-style-type: none"> Scanner is fully charged. 	<ul style="list-style-type: none"> No action is required.
Amber - continuous flash	<ul style="list-style-type: none"> Critical battery temperature fault. 	<ul style="list-style-type: none"> Stop using the Hand Scanner until the battery temperature normalizes. Move the Hand Scanner to a location that is within normal operating temperature. The Hand Scanner can be placed on the charging base.

Beeper Indications

Beeper Tone or Sequence	Possible Cause(s)	Solution
Low - medium - high beeps	<ul style="list-style-type: none"> Power up 	<ul style="list-style-type: none"> No action is required.
High beep	<ul style="list-style-type: none"> Hand Scanner successfully read a bar code. 	<ul style="list-style-type: none"> No action is required.
Four high beeps when you release the trigger	<ul style="list-style-type: none"> Hand Scanner requires charging. 	<ul style="list-style-type: none"> Set the Hand Scanner in the charging base to charge. Ensure that the power cable is connected to the base and to the power bar.
Low - high - low	<ul style="list-style-type: none"> Advanced Data Format (ADF) transmit error. 	<ul style="list-style-type: none"> Refer to “LS4278 Barcode Programming Sequence” on page 275. If the issue is not resolved, contact your support center.
Low - high - low - high beep sequence	<ul style="list-style-type: none"> Out of memory. Hand Scanner cannot store a new bar code. 	<ul style="list-style-type: none"> Refer to “LS4278 Barcode Programming Sequence” on page 275. If the issue is not resolved, contact your support center.
Long low - long high beeps	<ul style="list-style-type: none"> Input error, incorrect bar code or Cancel bar code was scanned. Page timeout; remote device (base) is out of range or not powered. 	<ul style="list-style-type: none"> Move the scanner back into range of the charging base. Press the trigger to try to reconnect to the base. Scan the bar code on the base to pair the Hand Scanner to the base. If the issue is not resolved, refer to “LS4278 Barcode Programming Sequence” on page 275. If the issue is not resolved, contact your support center.
Long low - long high - long low - long high beeps	<ul style="list-style-type: none"> Out of host parameter storage space. Out of memory for ADF rules. 	<ul style="list-style-type: none"> Refer to “LS4278 Barcode Programming Sequence” on page 275. If the issue is not resolved, contact your support center.
High - high - high - low beeps	<ul style="list-style-type: none"> RS-232 receive error. 	<ul style="list-style-type: none"> Host was reset. Normally, no action is required. If the beeping continues, refer to “LS4278 Barcode Programming Sequence” on page 275.

Beeper Tone or Sequence	Possible Cause(s)	Solution
High - low beeps	<ul style="list-style-type: none"> • The scanner is buffering Code 39 data. • Keyboard parameter selected. • Hand Scanner is out of range of base. 	<ul style="list-style-type: none"> • Normal if the Hand Scanner is buffering Code 39 data. • If a keyboard parameter is selected, enter the value using the bar code keypad. • If the issue is not resolved, ensure that the power cable is connected to the base and to the power bar. • If the issue is not resolved, move the Hand Scanner closer to base. • If the issue is not resolved, scan the bar code on the base.
Three long high beeps	<ul style="list-style-type: none"> • Code 39 buffer is full. • Store may be using unsupported bar code formats. 	<ul style="list-style-type: none"> • Contact your support center
Four long low beeps	<ul style="list-style-type: none"> • Data was not received by base. • The Hand Scanner may be out of range of the base or not paired to the base. • A transmission error was detected in a scanned symbol. The Hand Scanner may not be properly configured. 	<ul style="list-style-type: none"> • Data may have been received by the host. Check the Attendant Station receipt screen to see if the bar code scanned. • If the bar code was not scanned, try scanning the bar code again. • Move the Hand Scanner closer to the base. • If the issue is not resolved, scan the bar code on the base. • If the issue is not resolved, refer to “LS4278 Barcode Programming Sequence” on page 275.
Five low long beeps.	<ul style="list-style-type: none"> • Conversion or format error. 	<ul style="list-style-type: none"> • Refer to “LS4278 Barcode Programming Sequence” on page 275. • If the issue is not resolved, contact your support center.

LS4278 Barcode Programming Sequence

Default Parameters: Set All Defaults:



Scan the bar code on the Hand Scanner charging base. The Hand Scanner will not recognize certain programming bar codes if this is not done at this point.

DO NOT SCAN THE BAR CODE ON THE BASE BEFORE YOU SCAN THE “SET ALL DEFAULTS” BAR CODE OR AT ANY OTHER POINT IN THIS SEQUENCE. If you accidentally scan the bar code on the base at the wrong time, scan the “Set All Defaults” bar code to begin the sequence again.

Transmit Check Digit: Do Not Transmit UPC-A Check Digit



Transmit CheckDigit: Do Not Transmit UPC-E Check Digit



Type Is EAN-8



Symbol Code ID Character



Scan Suffix



1



0



1



3



Scan Options



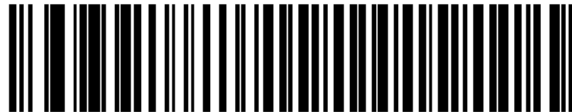
Data Suffix



Enter



7-Bit ASCII Format



7-Bit

Rules for UPC-E

Begin New Rule



UPC-E



Skip Ahead 1 Character



Send E



Send All Data That Remains



Send Enter Key



Save Rule



Rules for EAN-8

Begin New Rule



EAN-8



Skip Ahead 1 Character



Send G



Send Next 7 Characters



Send Enter Key



Save Rule



Rules for EAN-13

Begin New Rule



EAN-13



Skip Ahead 1 Character



Send F



Send Next 12 Characters



Send Enter Key



Save Rule



Rules for Interleaved 2 of 5

Begin New Rule



I 2 of 5



Skip Ahead 1 Character



Send I



Send Next 13 Characters



Send Enter Key



Save Rule



Chapter 18: Gryphon GD4310 Hand Scanner

This chapter contains servicing information for the Gryphon GD4310 Hand Scanner, found on U-Scan Attendant Stations.



Features

- Over 100 scans/second
- 19" (47 cm) depth of field
- Reads all major barcode symbologies

Technical Specifications

Environment

- Temperature: 32°F - 131°F (0°C to 55°C)
- Relative humidity: 5 to 90% non-condensing
- Ambient light: 0 - 100,000 lux

Power

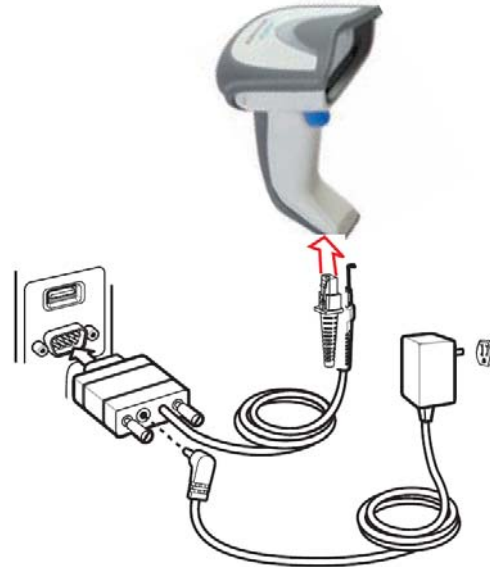
- Operating (typical): 185 mA @ 5 VDC
- Input voltage: 4.5 - 14 VDC

Communication

- RS-232 to DIGI Box or Edgeport

Components of the Gryphon GD4310 hand scanner

The Gryphon GD4310 hand scanner consists of the following components:)

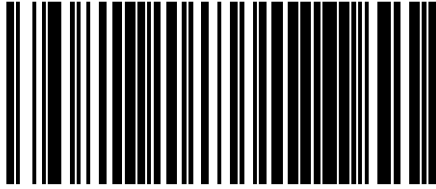


- hand scanner unit
- DB-25 communication cable
- Power adapter

Programming the Hand Scanner

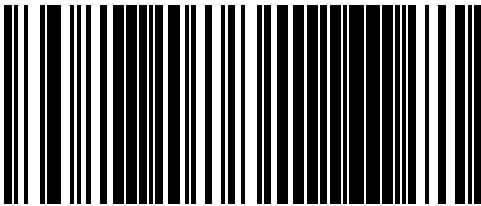
Note: For longer barcodes, hold the hand scanner farther away from the page to extend the beam.

Return to Factory settings. Scan either (USA):



Restore USA Factory Configuration

OR (Europe):



Restore EU Factory Configuration

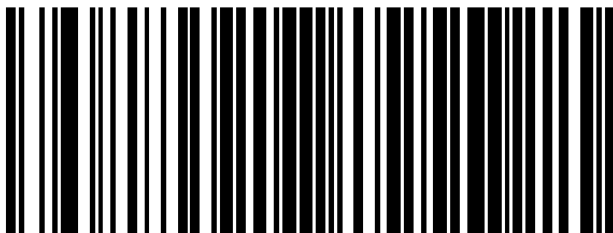
Programming Mode Enter/Exit



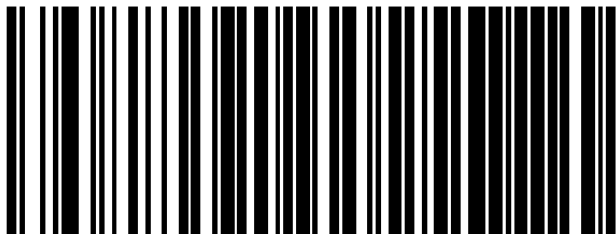
Baud 19,200



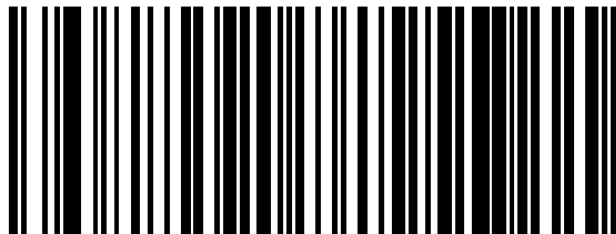
Parity: None



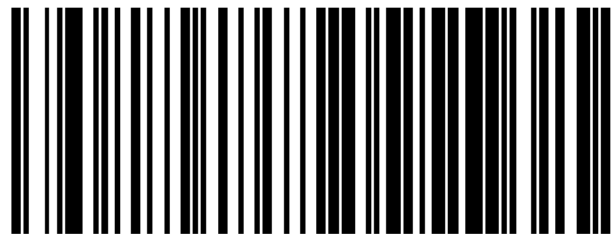
Stop Bits: One



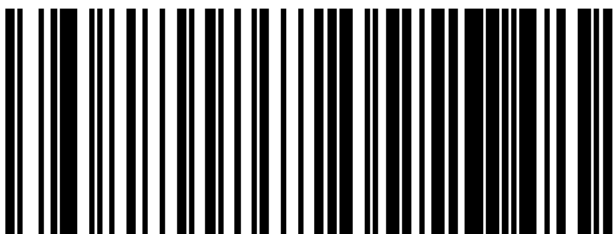
Data Bits: Seven Bits



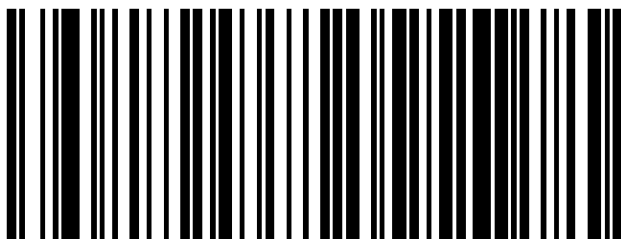
UPC-A: Don't Send Check Digit



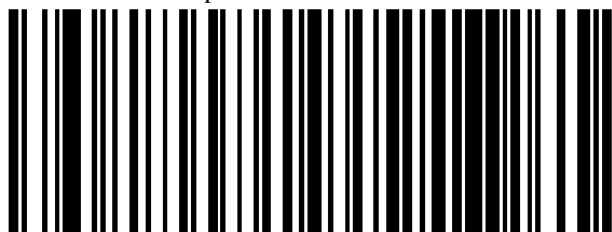
UPC-E: Don't Send Check Digit



EAN13: Don't Send Check Digit



UPC to EAN13: Expand

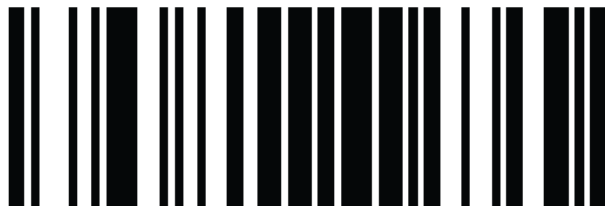


Programming Mode Enter/Exit

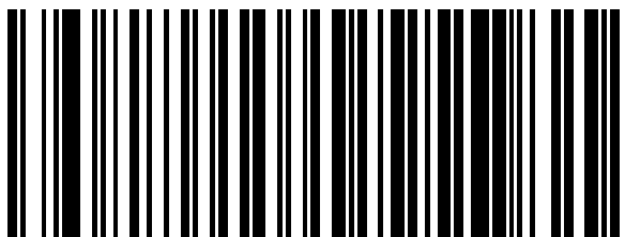


Programming the Beeper Volume

Programming Mode Enter/Exit

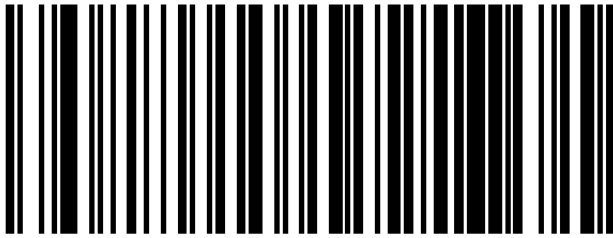


Scan either Low:



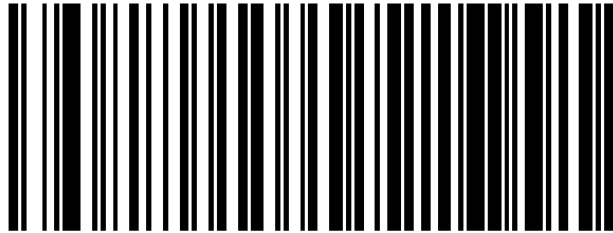
OR

Medium

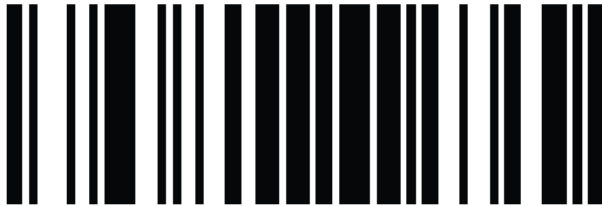


OR

High

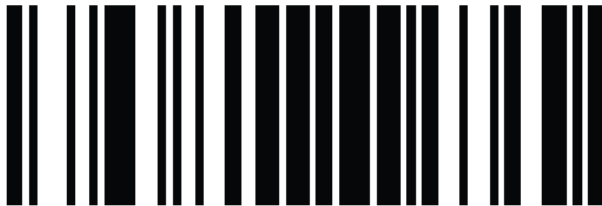


Programming Mode Enter/Exit

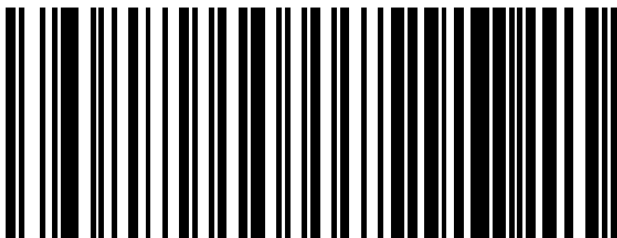


Setting the Beep Duration

Programming Mode Enter/Exit

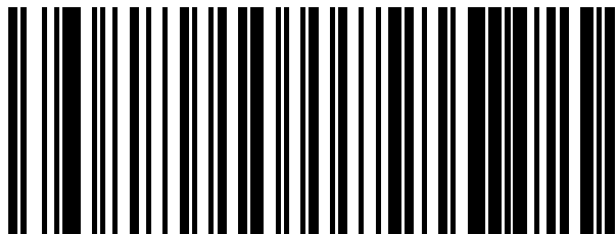


Scan either 80 ms (Short):



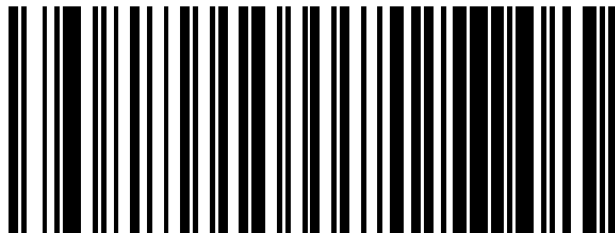
OR

140 ms (Medium):

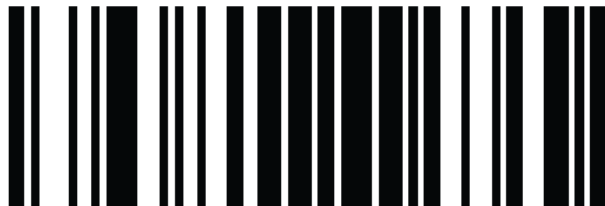


OR

200 ms (Long)



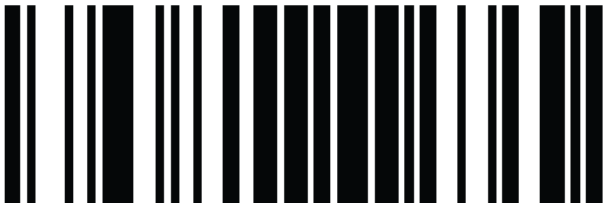
Programming Mode Enter/Exit



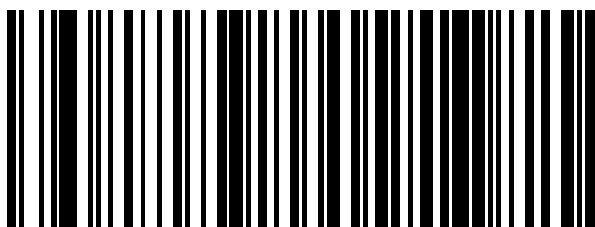
Enabling Code 128

Scan the following barcodes to allow the hand scanner to read Code 128 barcodes.

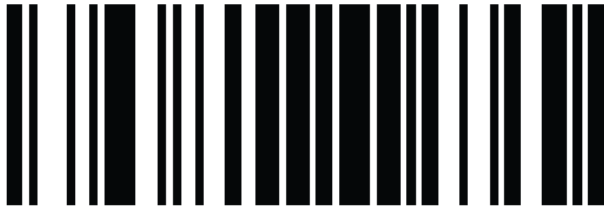
Programming Mode Enter/Exit



Enable Code 128



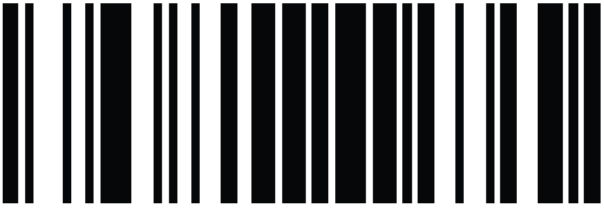
Programming Mode Enter/Exit



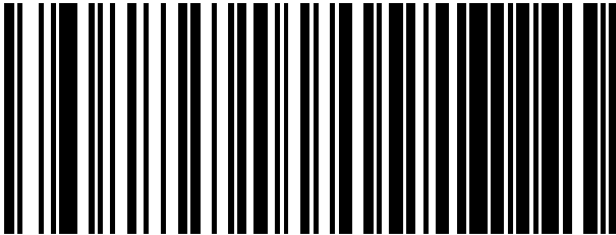
Enabling Interleaved 2 of 5

Scan the following barcodes to allow the hand scanner to read Interleaved 2 of 5 barcodes.

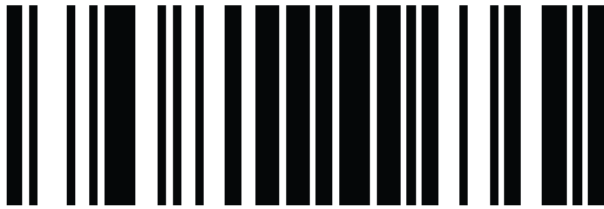
Programming Mode Enter/Exit



Enable Interleaved 2 of 5

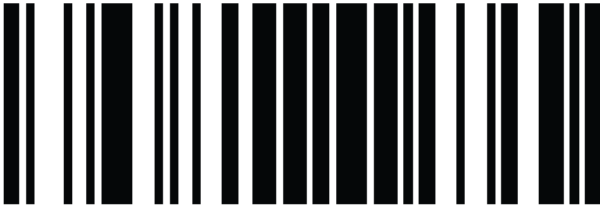


Programming Mode Enter/Exit

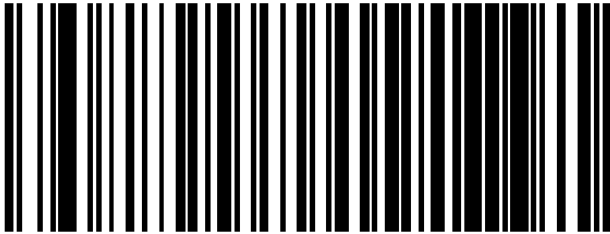


Enabling GS1 Databar

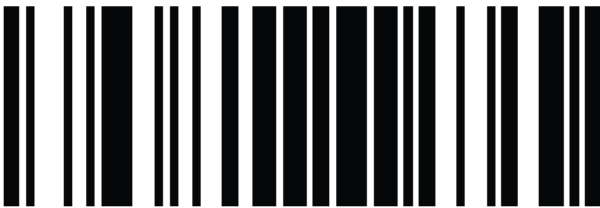
Programming Mode Enter/Exit



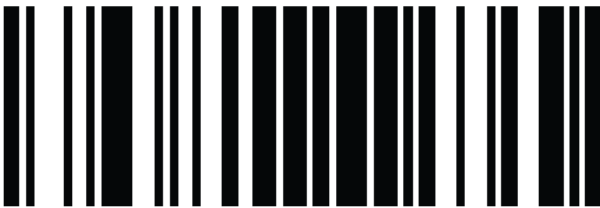
Enable GS1 Databar Omnidirectional



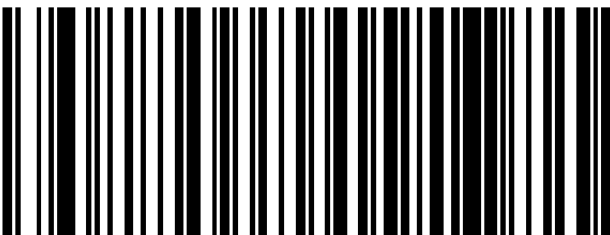
Programming Mode Enter/Exit



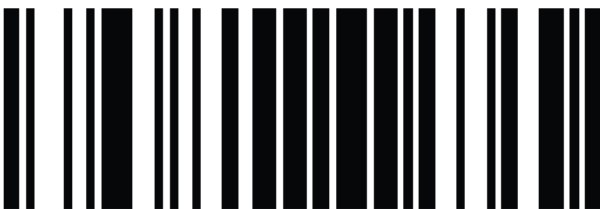
Programming Mode Enter/Exit



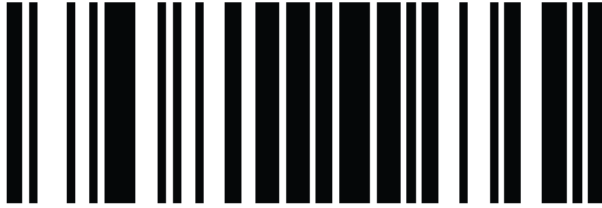
Enable GS1 Databar Expanded



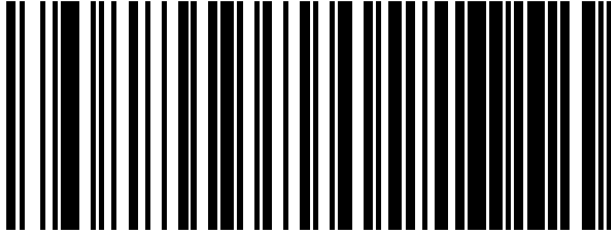
Programming Mode Enter/Exit



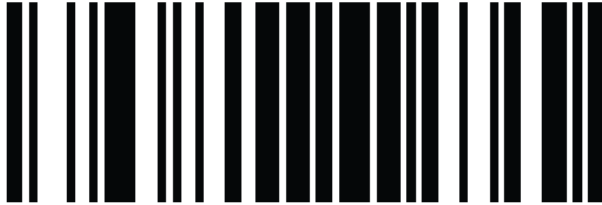
Programming Mode Enter/Exit



Enable GS1 Databar Limited



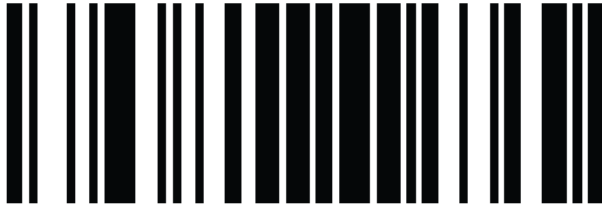
Programming Mode Enter/Exit



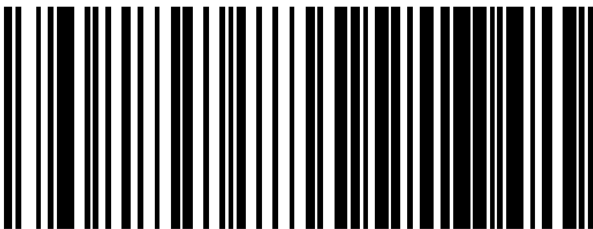
Configuring GS1 Databar Label IDs

If the GS1 Databar symbology is to be used, the Label IDs must be customized as follows (scan **all** of the following barcodes, in order):

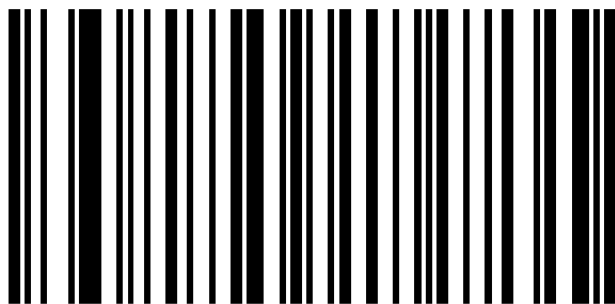
Enter Programming mode:



Set Label ID transmission as a prefix:



Scan to configure GS1 Databar Expanded:



With the next two barcodes, you are actually entering the hexadecimal value “58” by scanning the 5, then the 8 (this represents the Label ID “X”).

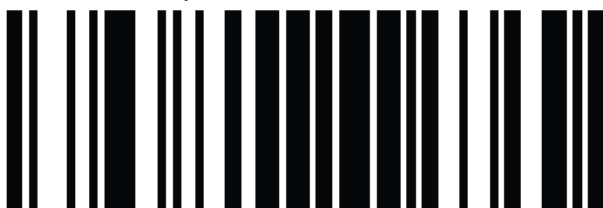
Set the hex value “5”:



Set the hex value “8”:



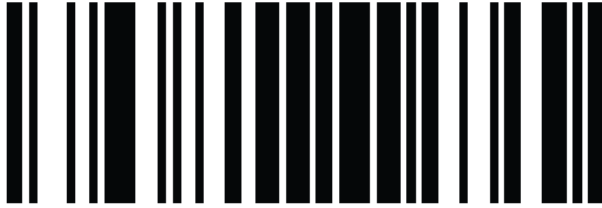
Exit Label ID Entry mode:



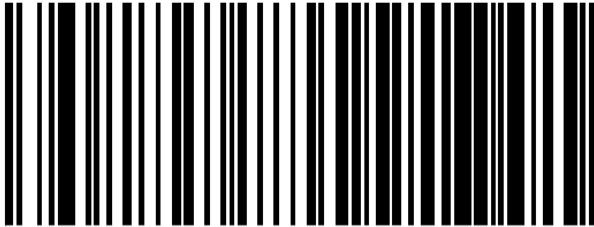
Exit Programming mode:



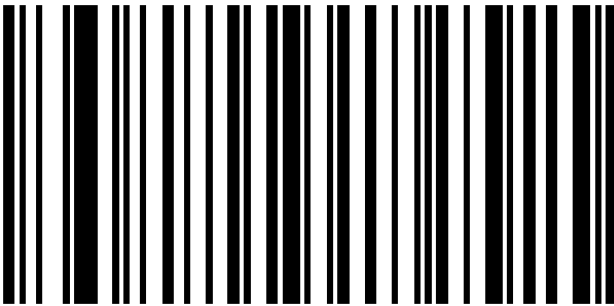
Re-enter Programming mode:



Set Label ID transmission as a prefix:



Scan to configure GS1 Databar Limited:



With the next two barcodes, you are actually entering the hexadecimal value “52” by scanning the 5, then the 2 (this represents the label ID “R”).

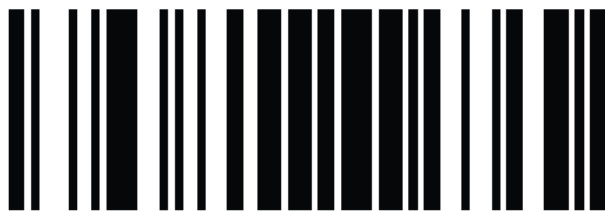
Set the hex value “5”:



Set the hex value “2”:



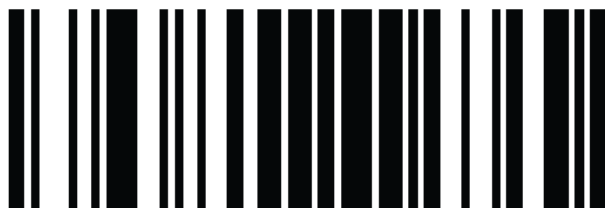
Exit Label ID Entry mode:



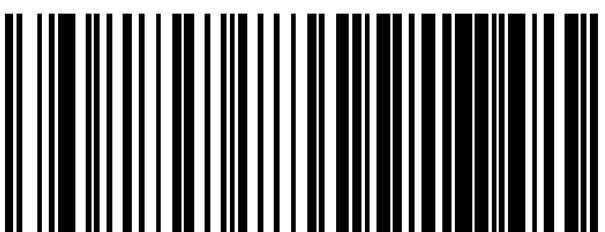
Exit Programming mode:



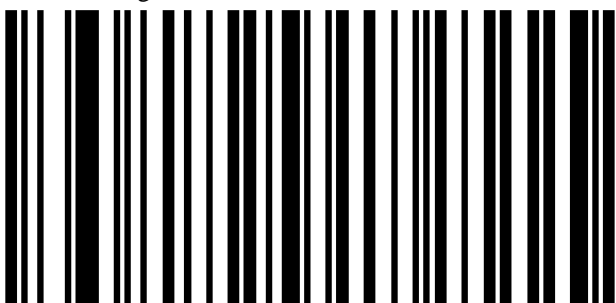
Re-enter Programming mode:



Set Label ID transmission as a prefix:



Scan to configure GS1 Databar Omnidirectional:



With the next two barcodes, you are actually entering the hexadecimal value “52” by scanning the 5, then the 2 (this represents the label ID “R”).

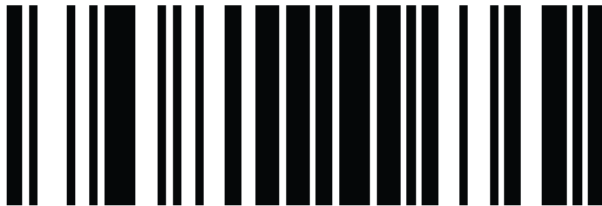
Set the hex value “5”:



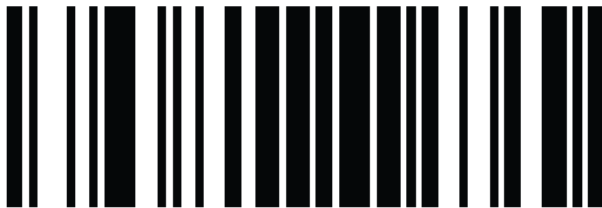
Set the hex value “2”:



Exit Label ID Entry mode:



Exit Programming mode:



GS1 Databar label ID Configuration is complete.

Chapter 19: PATLITE Lane Light

This chapter contains servicing information for the Coupon Detector found in U-Scan Genesis Stations.



Features

- LED type light
- Continuous or flashing light
- Optional audible alarm with two selectable tones
- Red, yellow, and green colors available for light modules
- Light modules are interchangeable and stackable, up to 3 modules are supported by the U-Scan software for red, yellow, and green.
- 1000mm steel pole
- Manual ON/OFF switch for light bulb to indicate if the Station is open or closed

Technical Specifications

Power

- Input: 100-240V 1.6A Max 50-60Hz
- Output: +24V 1.25A
- Output Power: 30W Max

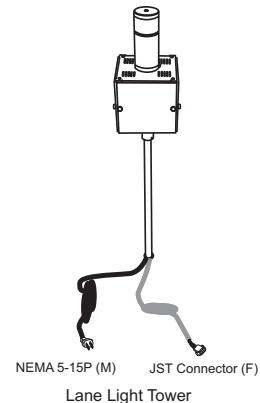
Communication

- RS-232 serial cable (COM 19, Port 3)

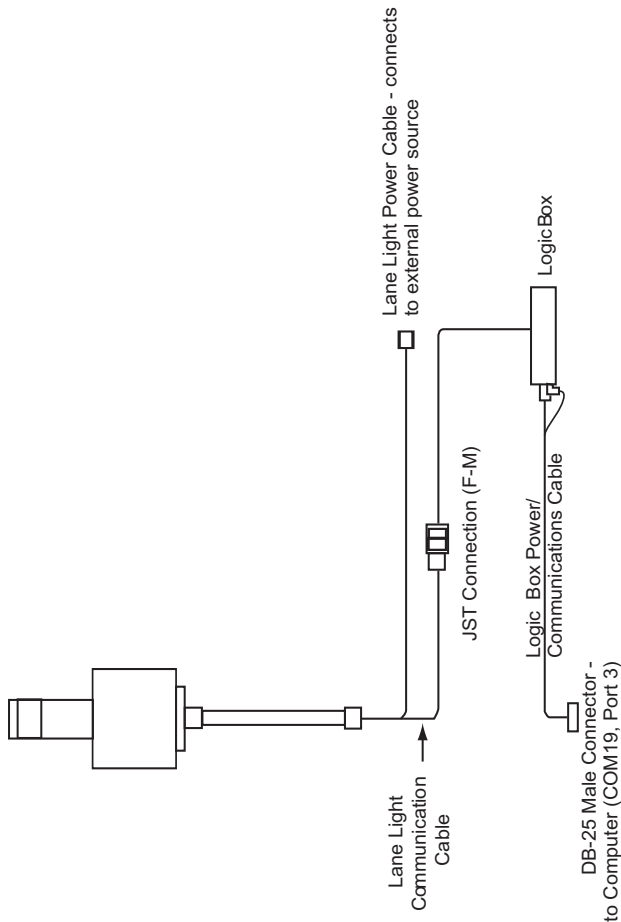
Components of the PATLITE Lane Light

The PATLITE Lane Light kit consists of the following components:

- PATLITE lane light tower (11001217*), which includes:
 - Three-colored LED type light
 - Logic Box
 - DB-9 female to DB-25 female communication cable with DC power plug
 - Power cable



Lane Light Cable Connection Overview



Note: For the 120V unit, the cord is hard-wired as NEMA 5-15P, which is the standard plug for North American wall sockets.

Note: For the 230V unit, the IEC60320-C14 male connector on the Patlite will need the appropriate country-specific power cord, which is supplied by the customer. On this cord, one end will have a IEC60320-C13 (female) end to plug into the male Patlite connector, and the other end is the appropriate male end for the country to plug into the wall AC. The supplied cord should meet a rating of 3A/250V min. and be safety agency certified (TUV, VDE, etc.).

Testing

Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.

- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Lane Light** tab.
- 2 Ensure that the settings are:

(TP3K computer):

Setting	Value
Device Model	PATLITE
COM	COM19 (Port 3)

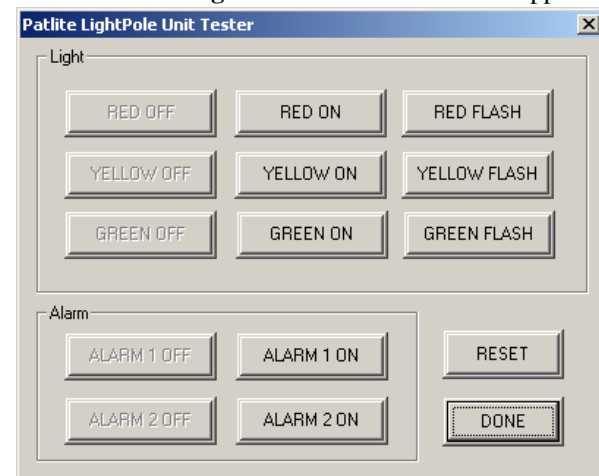
(TP3600 Series computer):

Setting	Value
Device Model	PATLITE
COM	COM4 (Expansion Port 2)

- 3 If you need to change a setting,
 - a Press ALT+*. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Test the Device

- 1 Click **Start**.
The message **DEVICE::ONLINE{Light pole}**, appears in the **Messages** box.
- 2 Click **Enable**.
- 3 Click **Test**. The **Light Pole Unit Tester** screen appears.



4 Click **RED ON**.

Note: Currently, only one (color) light can be on at one time. If you activate a second light while one light is on, it will turn off the first light and turn on the second.

5 Ensure that the red light comes on.

6 Click **RED FLASH**.

7 Ensure that the red light flashes.

8 Click **RED OFF** or **RESET** to turn off the red light.

9 Repeat the steps above to test the yellow and green lights.

10 If necessary, test the alarms. Currently, the alarm functionality is present in the **Device Tester** but is not implemented in the U-Scan software.

11 Click **Done** to exit the **Lane Light Unit Test** screen.

12 Click **Disable**.

13 Click **Stop**.

14 Click **OK**.

Lane Light Common Problems and Solutions

This section provides basic steps for resolving common problems. Refer to [“Troubleshooting the Lane Light” on page 297](#) for the full troubleshooting procedures.

Issue(s)	Possible Cause(s)	Possible Solution
Lane light does not light when the ON/OFF switch is in the ON position.	<ul style="list-style-type: none"> The lane light is not receiving power. Light bulb has burned out. 	<ul style="list-style-type: none"> Check the power cable connections. Refer to “Inspect the Cable Connections” on page 297. Replace the light bulb. Refer to “Inspect the Light Bulb” on page 297.
Lane light colored LEDs do not come on as required during order.	<ul style="list-style-type: none"> Communication cables are disconnected. 	<ul style="list-style-type: none"> Check the cable connections. Refer to “Inspect the Cable Connections” on page 297. If the issue is not resolved, reset the Logic Box. Refer to “Reset the Logic Box” on page 298.

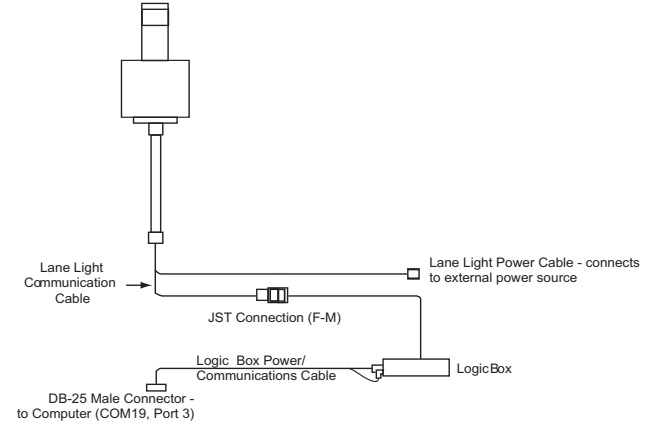
Troubleshooting the Lane Light

Follow the Testing Procedure

See [“Accessing the Device Tester” on page 296](#).

Inspect the Cable Connections

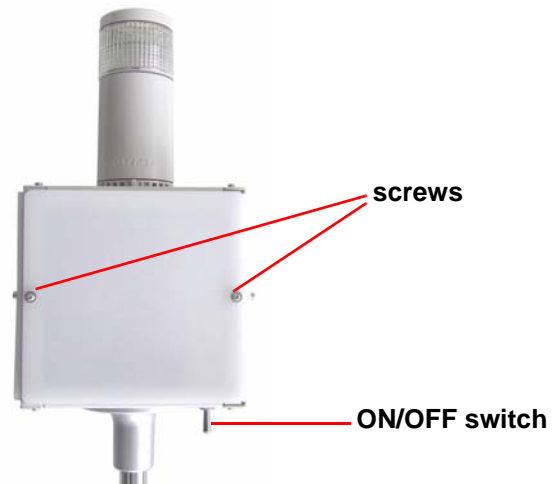
Cable Connection Overview



- 1 Ensure that the lane light power cable is securely connected to an external power source (do not plug the lane light into the U-Scan Genesis Power Strip, UPS, or Power Conditioner).
- 2 Ensure that the lane light communication cable is connected to the cable from the Logic Box.
- 3 Ensure that the DB-9 connector on the Logic Box communication cable is connected to the Logic Box.
- 4 Ensure that the DB-25 connector on the Logic Box communication cable is connected to:
 - TP3K - COM19 (Port 3);
 - TP3600 Series - COM4 Expansion Port 2.

Inspect the Light Bulb

- 1 Remove the two screws that secure one of the cover pieces.



- Remove the cover piece from the lane light box.



- Ensure that the bulb comes on when the ON/OFF switch is in the **ON** position.
- If necessary, replace the bulb with a 20-Watt bulb. The light bulb must be 20W max. (220V) or 60W max. (120V), and measure no more than 3.5 inches from top to bottom and 1.875 inches in width.

Reset the Logic Box

- Locate the Logic Box inside the Station. It is attached to the inside wall, behind the USB Hub.



Orientation: Logic Box seen from back of Station.

- Press the green **Reset** switch on the top of the Logic Box.

Reset switch



Installing or Replacing the Lane Light

Parts and Tools

Part	Qty	Part Number
PATLITE Lane Light tower kit, includes hardware plus:	1	11001217Z3-LXX (left, 120V) 11001217Z3-RXX (right, 120V)
mounting bracket	1	11002148
bottom bracket	1	11002153
plastic cover	1	11002149
20 Watt incandescent light bulb	1	(purchased separately)
M3 x 0.5 x 8 SEMS screws	2	11000596
M3 x 0.5 x 8 flat head screw	1	11001339
M5 x 12 screws	2	11000663
hammer		
screwdriver		
adjustable wrench		
tie wraps (2)		
cutters		

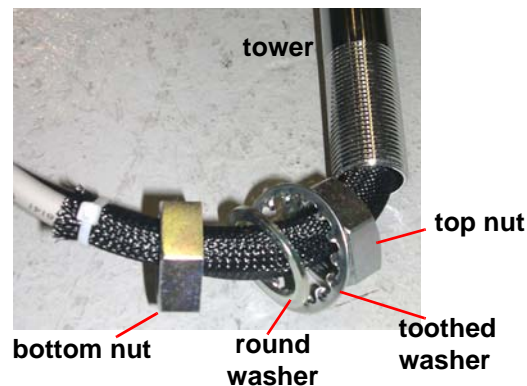
Installation

See [page 301](#) for lane light removal instructions.

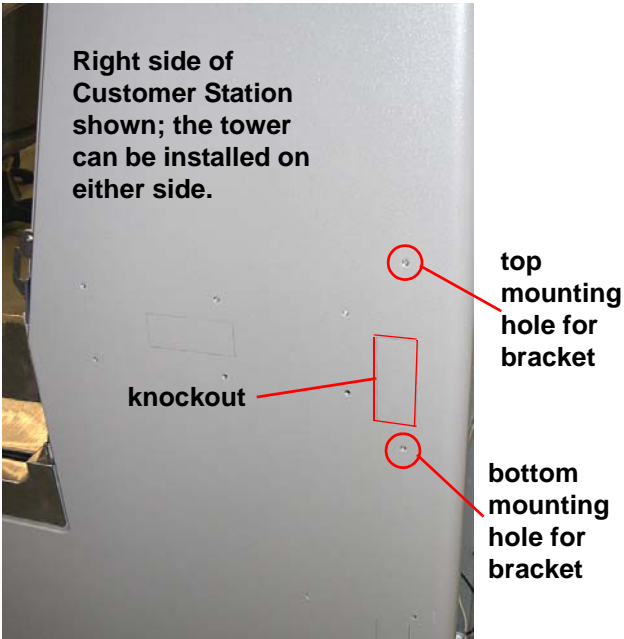
- Locate the lane light tower.
- Install a light bulb in the socket of the lane light tower.

Note: If the recommended bulb is not available (see Step 3, [page 298](#)), use the lowest wattage available.

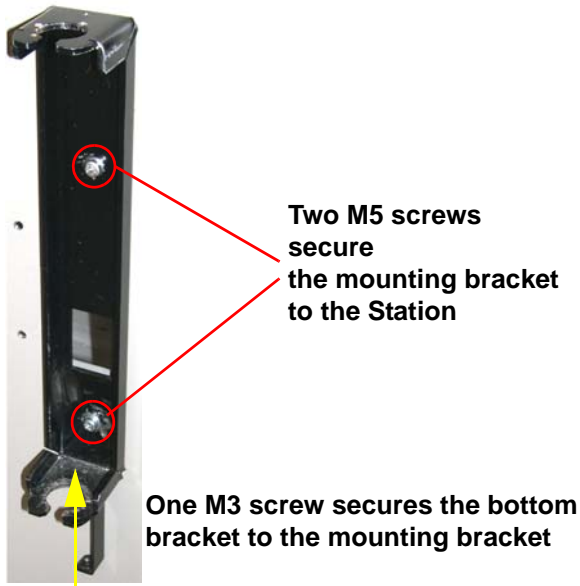
- Unscrew the top and bottom nuts at the bottom of the light tower.



- 4 If this is a first time installation, locate the knockout on the side of the casing and hammer it out from the inside.



- 5 Secure the mounting bracket (11002148) to the casing with two M5 screws.



- 6 Secure the bottom bracket (11002153) to the mounting bracket with one M3 pan head screw.
- 7 Feed the pole and cables through the mounting bracket, then screw the top nut all the way to the end of the thread, tightening it.
- 8 Raise the toothed washer so that it is positioned between the top nut and the bottom of the mounting bracket. This washer will minimize rotation of the pole when you tighten the bottom nut.

- 9 Raise the pole to allow room to insert the cables through the knockout hole in the casing. You will insert each cable on opposite sides of the pole:

- a Feed the power connector through the opening (on whichever side of the pole that the cable is coming from, to minimize bending or turning of the cable).
- b Feed the white Logic Box connector through the opening on the other side of the pole.



- 10 Before you feed the cables all the way into the Station, push the remaining washer up against the underside of the mounting bracket and loosely fit the bottom nut onto the thread.
- 11 With the light box at the top aligned on an axis with the Station, grip the pole to prevent it from turning, and tighten the bottom nut with a wrench. Make sure that the light box does not rotate out of alignment.



- 12 Bend the cables so that they enter completely into the Station, then secure them with two tie wraps as shown in the preceding photograph. The cables must bend enough so that they fit within the cover, without being bent so much that they risk breaking.

- 13 Push the plastic cover onto the pole as shown below (you should use a quick push, to minimize the length of time that the plastic is deformed):



- 14 Slide the cover down and then press it against the Station wall, covering the brackets and cables.

- 15 Secure the bottom of the cover to the bottom bracket with the M3 flat head screw, as shown below.



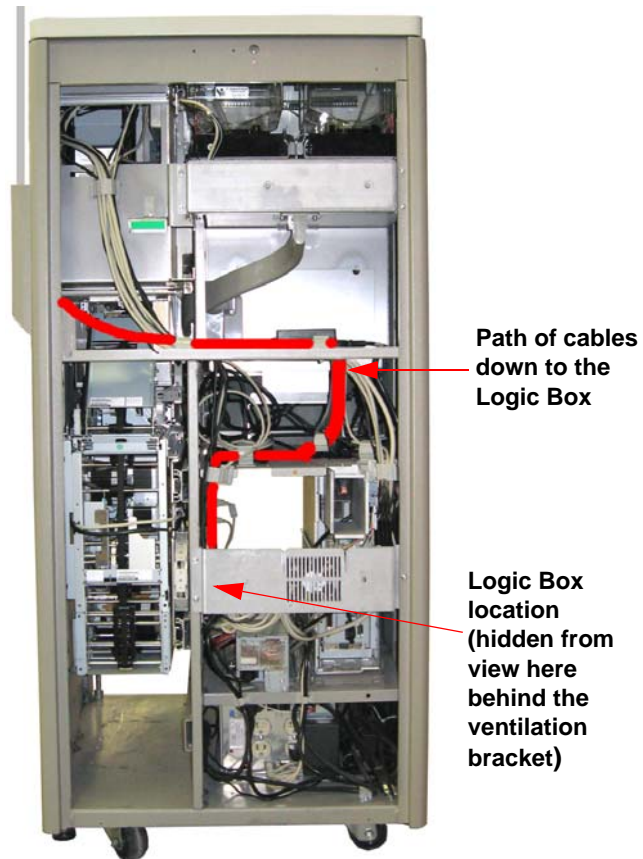
Secure the cover from below

- 16 The completed hardware installation is shown below.

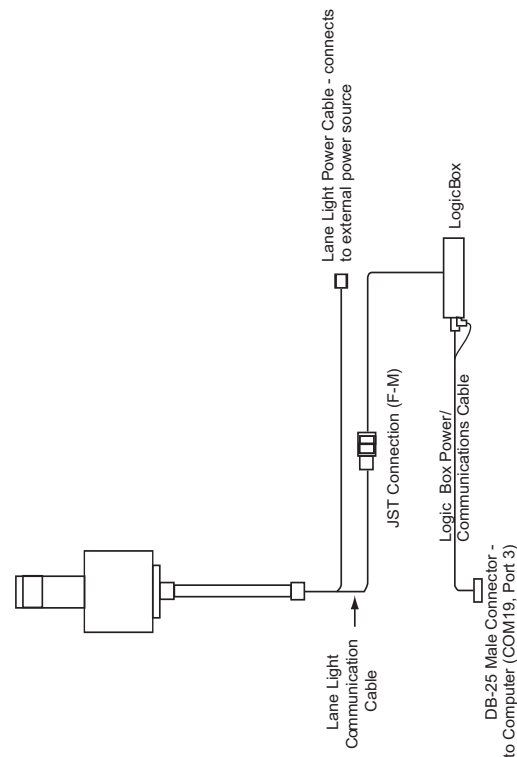


Connect the Cables

- 1 Route the cables through the casing according to the path indicated in red below.



- 2 Connect the lane light communication cable to the Logic Box cable.



- 3 Locate the 9-pin to 25-pin power and communication cable.
- 4 Inside the Customer Station, the Logic Box is attached to the inner wall, behind the USB Hub.



Orientation: Logic Box seen from back of Station.

- 5 Connect the 9-pin connector to the communication port on the Logic Box.
- 6 Connect the 25-pin connector to Port 3 (COM 19) on the computer.
- 7 Route the lane light's AC power cable down to the cable outlet on the floor of the Station.
- 8 Affix all of the cables to the wall mounts, using tie-wraps as required to secure the cables. Be sure to secure any slack in the cables.
- 9 Connect the lane light power cable to an external electrical source. *Do not plug the lane light into the power strip or UPS of the Customer Station.*

Removal

If the lane light pole needs to be replaced, follow these removal instructions before installing a replacement unit.

- 1 To remove the light tower, disconnect the cables as illustrated in the cable connection diagram on [page 296](#).

- 2 Unscrew the cover from the bottom bracket and slide the plastic cover up and off the pole.



remove this screw



- 3 Cut the tie wraps and carefully pull the disconnected cables through the knockout hole in the casing. Unscrew the bottom and top nuts from the pole, then remove the pole from the bracket.



Cut the tie wraps and disengage the cables from the Station



Chapter 20: Check Reader

This chapter contains servicing information for the MagTek check reader found in U-Scan Genesis Attendant Stations.



Features

- Small footprint
- Reads MICR characters on checks, deposit and withdrawal slips
- Field-upgradeable without chip replacement
- Reads ISO-standard 1, 2, and 3-track magnetic stripe cards

Environment

- Temperature: 32°F to 131°F (0° to 55°C)
- Relative humidity: 10% to 90% non-condensing

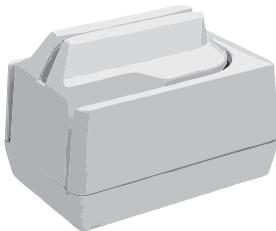
Communication

- USB (USB port on Attendant Station computer)

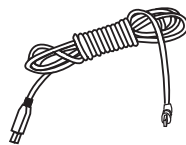
Components of the MagTek Check Reader

The MagTek Check Reader consists of the following components:

- MagTek Check Reader
- USB cable



MagTek Check Reader



USB Cable

Testing

Stop the Attendant Station Software

- 1 At the Attendant Station, close the Customer Station to the public.
- 2 Access the **Manager** menu.
 - a Turn the manager key to the **ON** (1) position.
 - b Touch **Manager**. The **Manager** menu appears.

*Note: If the key was already turned to the **ON** (1) position, the **Manager** menu may not display. In this case, turn the key to the **OFF** (0) position, then **ON**.*

OR

- c Touch **Manager**. The **Password** screen appears.
 - d Enter the manager password, then touch **Done**. The **Manager** menu appears.
- 3 Click **Exit**. The message **Are you sure?** appears in the **Exit Cashier** window.
 - 4 Click **Yes**. The **Launchpad** appears.

Check the Settings

- 1 In the **Unit Tests** window, click the tab for the device you wish to test.
- 2 Check that the Device Model is set to the correct device.
- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Test the Device

- 1 Click **Start**.
- 2 Click **Enable**.
- 3 Insert a check into the MagTek Check Reader.
- 4 Ensure that the Check Reader reads the check properly.
- 5 Verify any messages in the **Messages** box.

*Note: Error messages are also entered in the **Event Log Viewer**. You can view the **Event Log Viewer** when you exit the **Device Tester**.*

- 6 Click **Disable**.
- 7 Click **Stop**.

Troubleshooting the MagTek Check Reader

Follow the Testing Procedure

See “Testing” on page 303.

Inspect the Power

- 1 Locate the MagTek Check Reader at the Attendant Station.



Note: Verify that the power cable is connected and secured to the Check Reader and to the power bar.

- 2 Verify that the green LED on the Check Reader is lit.

Inspect the Cabling

- 1 Locate the data cable on the side of the Check Reader.
- 2 Verify that the data cable is connected and secured.
- 3 Verify that the data cable is plugged into the Attendant Station computer.

Inspect the Check Reader LED Status

- 1 Locate the LED on the Check Reader.
- 2 Verify the LED status. Refer to “LED Status” for more information about the LED status.

LED Status

LED Status	Possible Causes	Solutions
Off	<ul style="list-style-type: none"> • Power problem • No power 	Verify power adapter and power connections.
Green	No problems. Pass a check through the Check Reader to verify proper operation.	
Blinking green	The MagTek read Insta-Change Check with the appropriate settings.	If the condition persists, replace the Check Reader.

Chapter 21: MSR Reader

This chapter contains servicing information for the MagTek MSR (MICR) reader found in U-Scan Genesis Stations.



Features

- USB
- Extended card path to ensure reliable card reading
- Reads a maximum of three tracks of card data read
- Bi-directional read capability
- LED to provide status of the card reader's operation

Environment

- Temperature: 32°F to 131°F (0° to 55°C)
- Relative humidity: 10% to 90% non-condensing

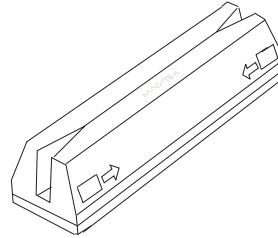
Communication

- USB (USB Hub Port 1)

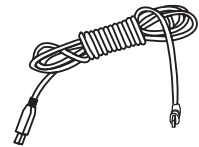
Components of the MagTek Check Reader

The MagTek Check Reader consists of the following components:

- MagTek MSR (11002221)
- USB cable (11001088)



MagTek MSR



USB Cable

Testing

Access the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

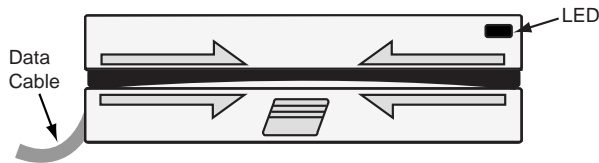
Note: If 1379 does not work, try 8906.

Test the Device

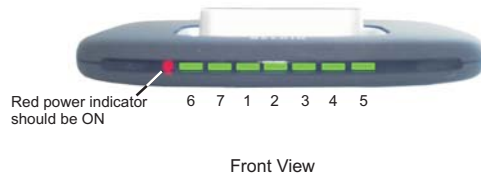
- 1 On the **Launchpad**, touch **Device Tester**.
- 2 Enter the password **1379**.
- 3 In the **Unit Tests** window, select the **MSR** tab.
- 4 Click **Start**.
- 5 Click **Enable**.
The message **DEVICE::ONLINE{MTEK211}** appears in the **Messages** box, and the LED on the MSR Reader turns green.
- 6 Swipe a credit card through the MSR Reader.
The credit card information appears in the **Messages** box.
- 7 View the **Messages** box to ensure that the MSR Reader can read the credit card.
- 8 Click **Disable**.
- 9 Click **Stop**.
- 10 Click **OK**.

Inspect the Cabling

- 1 Locate the data cable on the back of the MSR.



- 2 Verify that the data cable is plugged into Port 1 of the USB Hub.
- 3 Ensure that the LED for Port 1 of the USB Hub is lit green.



Troubleshooting the MagTek MSR Reader

Follow the Testing Procedure

See [“Testing” on page 305](#).

Inspect the Cabling

- 1 Locate the data cable on the side of the MSR Reader.
- 2 Verify that the data cable is connected and secured.
- 3 Verify that the data cable is plugged into the computer.

LED Status

LED Status	Possible Causes	Solutions
Blinking red	The motor sensor is blocked by dust or debris.	Use compressed air to clean the inside of the MICR Reader.
Blinking red/green	The data sensor may be blocked.	Use compressed air to clean the inside of the reader. Manually pass the cleaning card through the MICR Reader to dislodge any debris.
Red or orange	The Check Reader has a problem that requires further analysis, testing, or repair.	Replace the MICR Reader.

Chapter 22: Modem

This chapter contains servicing information for the modem found in U-Scan Genesis Attendant Stations.

Troubleshooting the Modem

Inspect the Power

- 1 Locate the Modem at the Attendant Station or at one of the Customer Stations.

Note: The Modem is located at the Attendant Station.

- 2 Make sure that the LEDs on the Modem are on.
- 3 Make sure that the power cable is connected and secured to the Modem.
- 4 Make sure that the power cable is connected and secured to the power bar.
- 5 Turn the power switch on the front of the Modem Off then On, to cycle the power.

Inspect the Cabling

- 1 Make sure that the DB-25 end of the data cable is properly secured to the back of the Modem.
- 2 Make sure that the DE-9 end of the data cable is connected and secured to COM2 of the Attendant Station Computer.

Inspect the Phone Cable

- 1 Make sure that the RJ-11 cable for the phone line is connected to the phone jack.
- 2 Make sure that the RJ-11 cable for the phone line is connected to the **LINE** jack of the Modem.

Inspect the Modem DIP Switches

- 1 Locate the DIP switches on the back of the Modem.
- 2 Make sure that switches **3**, **5**, and **8** are pushed up.

Test the Modem

- 1 Ensure that the CS and TR lights on the Modem are on.
- 2 If both lights are on, contact the U-Scan Support Center.
- 3 Ensure that the Modem works when the Support Center dials in to the store.

Chapter 23: Fujitsu D25 Monitor

This chapter contains servicing information for the Fujitsu D25 Touchscreen Monitor, found in U-Scan Genesis Customer, Payment, and Attendant Stations.



Features

- 15" (31 cm) TFT panel backlight
- VGA or DVI video interface (*Currently VGA for U-Scan)
- 24 V powered USB communication cable
- Audio and brightness adjustment dials on bottom of Monitor
- Auto-adjust display button
- Integrated speakers with 1.5 Watt maximum per channel audio output
- Infrared touch technology
- SVGA resolution, maximum 1024 x 768
- Tilt and swivel stand for Attendant Station Monitor (shown above)
- External mounting for Customer Station (future)
- RoHS-compliant

Technical Specifications

Environment

- Operating temperature: 32°F to 104°F (0° to 40°C)
- Relative humidity: 10 to 90% (non-condensing)

Power Supply Requirements

- Supplied through computer
- Maximum dissipation power: 12 W

Communication

- TP3K computer: USB-I
- TP3600 Series computers: USB-H
- VGA Video cable (DB-15) connects to video port on the computer

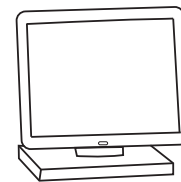
U-Scan-Specific Information

- **Elotouch for USB** touch screen driver
- Attendant Station (dispersed stand installed) **or** Customer Station installed monitor

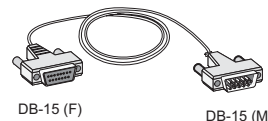
Components of the F53 Touchscreen Monitor

The D-25 Monitor consists of the following components:

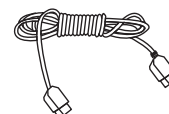
- D-25 Monitor (KD03207-B472) with IR Touch
- Dispersed stand (11000074) for Attendant Station (shown below)
- Powered USB communication cable (11002807)
- Audio cable for Attendant Station (not shown) (11000128)
- VGA video cable (11001758)



D-25 Touch Screen Monitor



DB-15 (F) DB-15 (M)
Video Cable



Powered USB Cable

Troubleshooting

Inspect the Power

Note: The power is provided from the Computer through the USB cable (24 V).

- 1 Ensure that the Computer is on.
- 2 If applicable, ensure that the UPS is on and connected to a working AC power socket.

Inspect the Cables

Note: The USB and audio cables are securely attached to the Monitor by a cable clamp and will most likely not become disconnected from the back of the Monitor.

If a stand is installed (Attendant Station Monitor), it must be removed to access these connections.

- 1 Make sure that the green LED on the front of the Monitor is on. This indicates that the Monitor is receiving power and / or data.
- 2 Ensure that the USB cable is securely connected to powered USB Port I on the back of the Computer.
- 3 Ensure that the VGA cable is securely connected to the VGA port on the Computer.
- 4 If you are inspecting an Attendant Station Monitor, ensure that the speaker cable is connected to the Audio port on the Computer.
- 5 If you are inspecting a Customer Station Monitor, open the top door and ensure that the USB and audio cables are securely connected to the back of the monitor.

Adjust the Volume (Attendant Station Monitor Only)

Turn the **VOLUME** dial on the underside of the front of the Monitor to increase or decrease the volume.

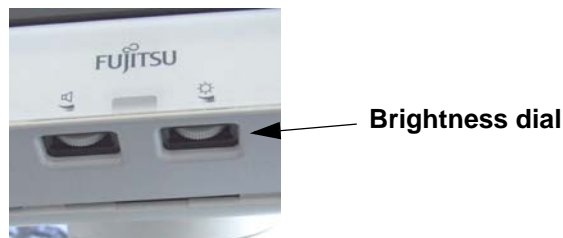


Note: the Customer Station volume is controlled by the U-Scan software.

Adjust the Brightness

Turn the **Brightness** dial on the underside of the front of the Monitor to increase or decrease the brightness.

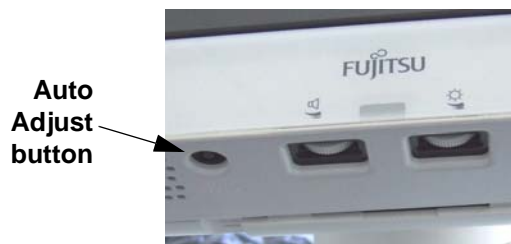
Note: For Customer Station Monitors, remove the single screw securing the control cover to access the controls.



Adjust the General Settings

Press the **AUTO ADJUST** button on the underside of the front of the Monitor to automatically adjust the settings.

Note: For Customer Station Monitors, remove the single screw securing the control cover to access the controls.



Check the Display Configuration

- 1 Go to **Start > Settings > Control Panel**.
- 2 Double-click **Display**.
- 3 Click the **Settings** tab.
- 4 Ensure that the settings are:
Screen Area = 1024×768 pixels
Colors= True Color (32 bit)
- 5 If you made changes, click **Apply**.
- 6 Click **OK** to exit.

Inspect the Display Acceleration Settings (Customer Station)

The display acceleration settings need to be adjusted if you notice a black banner behind the icons on the **Produce** or **Non Bar-Coded Item** purchase buttons at the Customer Station.

- 1 Go to **Start > Settings > Control Panel**.
- 2 Double-click **Display**.
- 3 Click the **Settings** tab.
- 4 Click **Advanced**.
- 5 Click the **Troubleshoot** tab.

- 6 Under **Hardware acceleration**, ensure that the slide bar is set to the second-to-last (and not the last) notch.
- 7 If you adjusted the slide bar, click **Apply**.

Inspect the Calibration

Note: Calibrate the Touch Screen after you install a Touch Screen Monitor or image the Customer Station Computer. Check the calibration if the Touch Screen is not responding to touch properly.

- 8 In the **Control Panel**, double-click **Elo Touchscreen**.
- 9 Click **Calibrate**.
- 10 Follow the instructions on the screen to calibrate the Touch Screen.
- 11 If the calibration is successful, select the check mark icon to finalize calibration.

OR

- 12 If the calibration is not successful, select the arrow icon to repeat the process.
- 13 Click **OK** to exit.

Cleaning Guidelines

- Do not use alcohol (methyl, ethyl, or isopropyl) or any strong solvent. Do not use thinner or benzene, abrasive cleaners or compressed air.
- To clean the Monitor housing, use a cloth lightly dampened with a mild detergent.
- Avoid getting liquids inside the Touch Screen Monitor. If liquid does get inside, have a qualified service technician check it before you power it on again.
- Do not wipe the screen with a cloth or sponge that could scratch the surface.
- To clean the touch screen, use window or glass cleaner. Spray the cleaner on a lint-free cloth and wipe the touch screen. Never apply the cleaner directly on the Touch Screen.

Usage Warning

Note: Only fingers should be used to operate the touch screen monitor controls. Use of credit card corners, pens, keys, etc., can result in the development of non-responsive areas on the screen or skewed touch alignment issues.

Installing the Attendant Station Monitor Stand

If a replacement Monitor is shipped un-assembled, follow the steps below to install the Monitor on the stand. These instructions are for the **dispersed stand**.

Note: Leave the protective sheet attached to the screen until installation is complete.

- 1 If a replacement stand was not shipped with the replacement Monitor, remove the current Monitor from the stand:
 - a On the underside of the Monitor stand, use a Phillips screwdriver to remove the four screws securing the metal cover to the stand.
 - b On the back of the Monitor, push up on the bottom of the back panel, then swivel it up and off the Monitor.
 - c Remove the four screws and flat washers securing the stand to the Monitor.
 - d Remove the cables from the stand.
 - e Undo the cable clamp on the Monitor and remove the cables.
 - f Disconnect the cables from the rear of the Monitor.
- 2 Place the new Monitor screen side facing down on a clean surface. Make sure the surface is free of anything that might damage the screen. Do not remove the protective film that covers the screen.

Note: If the Monitor is shipped with two metal brackets installed on the back, remove them.
- 3 Push in the two tabs and lift up to remove the back cover. Locate the plastic bag containing screws and set it aside.

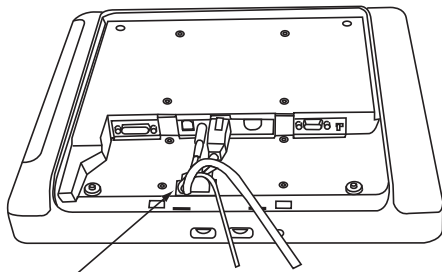


- 4 Connect the powered USB and audio cables to the connectors on the back of the new Monitor.



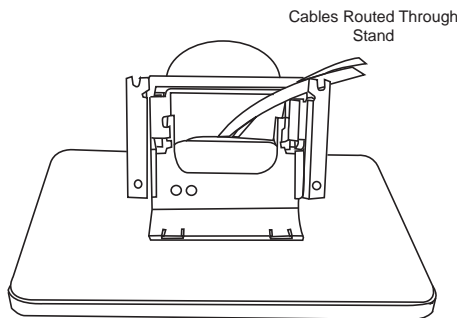
Note: We recommend connecting the VGA cable later in the procedure and not routing it through the stand.

Back of D25 Monitor



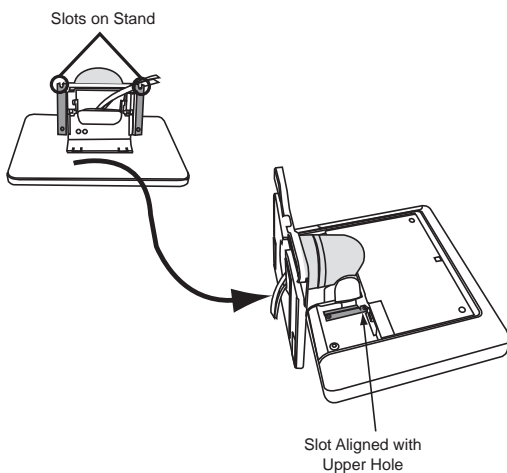
Cable Clamp

- 5 Secure the cables in the cable clamp.
6 Route the cables through the stand from the top through to the bottom.



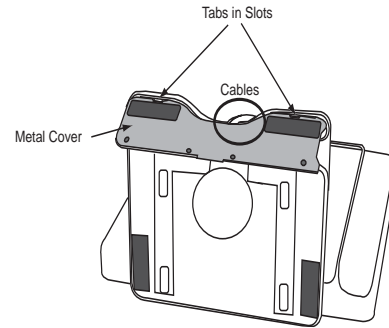
Monitor Stand

- 7 Align the two slots on the stand with the upper holes on the back of the Monitor (cable connection area).



- 8 Fasten a screw and washer in each of the four holes to secure the stand to the Monitor.

- 9 Move the cables out of the way towards the rear (top) of the Monitor stand.
10 Slide the two tabs on the metal cover into the slots on the bottom of the stand.



- 11 Fasten four screws to secure the metal cover to the stand.
12 Slide the tab on the top of the back cover into the slot on the Monitor.
13 Swivel the cover down and into place. Ensure that the cover snaps into place.
14 Connect the cables:

- a Connect the VGA cable to the VGA port on the rear of the monitor.
- b Connect the VGA cable to the VGA port on the computer.
- c Connect the powered USB port to USB port "D" on the Attendant Station computer.
- d Connect the speaker cable to the Audio port on the computer.
- e Remove the protective film that covers the screen.

- 15 Adjust the Monitor if necessary. Perform the following tasks in "Troubleshooting" on page 310:

- a "Adjust the Volume (Attendant Station Monitor Only)"
- b "Adjust the Brightness"
- c "Adjust the General Settings"
- d "Inspect the Calibration"

Replacing the D25 Customer Station Monitor

Parts and Tools

Part	Qty	Part Number
D25 Monitor	1	KD03207-B472
Phillips screwdriver	1	N/A
Key to upper door		
VGA cable (4 m) (If required)	1	11001758
+12 V powered USB cable (3.8 m) (If required)	1	11002807

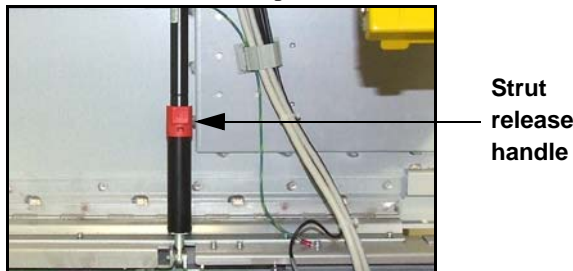
- 1 Unlock and open the upper door.

*Note: Be sure to push in the release handle when you open and close the upper door of the Genesis Station. The release handle is located beside the Scanner Scale, just above the **Change Out** compartment. Failure to push in this handle can break the locking mechanism.*



Push up on the door release handle, then lift the door up until the gas strut mechanism locks into place.

To close the upper door, press the red release button labeled "PRESS" to release the gas strut that holds the door open. (If there is red no button, press on the strut to release it.)



- 2 Disconnect the USB and VGA cables from the rear of the monitor, and from any clamps that may be attached to the back of the monitor.
- 3 Remove the single screw that secures the control cover on the bottom of the monitor. Remove the control cover.

- 4 Remove the four screws that secure the monitor to the door. A ground strap is attached to one of the monitor screws.
- 5 Lift and remove the monitor from the door.
- 6 Pull off the grey frame from the front of the display.
- 7 Align the holes on the back of the monitor with the holes on the upper door.
- 8 Fasten one of the bottom two screws. Attach the ground strap and fasten the other bottom screw.
- 9 Fasten the top two screws on the back of the monitor.
- 10 Replace the control cover.



- 11 Remove the protective film from the front of the new monitor (KD03207-B472).
- 12 Replace the grey frame on the front of the display.
- 13 Connect the VGA and powered USB cables to the back of the monitor.
- 14 Adjust the brightness dial on the bottom of the monitor as required.
- 15 Press the **Auto Adjust** button to adjust the settings.
- 16 Position the control cover over the monitor controls. Fasten a screw to secure the cover to the monitor.
- 17 Calibrate the Touch Screen:
 - a Start Maintenance Mode. Touch **Stop Robot**, then **Exit Launchpad**. Touch to **Start > Settings > Control Panel**.
 - b Double-click **Elo Touchscreen**.
 - c Click **Calibrate**.
 - d Follow the instructions on the screen to calibrate the Touch Screen.
 - e If the calibration is successful, select the check mark icon to finalize calibration.

OR

If the calibration is not successful, select the arrow icon to repeat the process.
- 18 Click **OK** to exit.

Chapter 24: 3COM Network Hub

This chapter contains servicing information for the Network Hub found in U-Scan Genesis Attendant Stations.



Features

- Eight RJ-45 ports
- Diagnostic and alert LEDs
- MDI-MDIX port to connect to a server, end station, switch, or hub
- Front-panel display
- Dual-speed support 10 Mbps and 100 Mbps

Technical Specifications

Environment

- Temperature: 32°F - 105°F (0°C to 40°C)
- Relative humidity: 0 to 90% non-condensing

Power Supply Requirements

- 11 VA
- 11 W power adapter

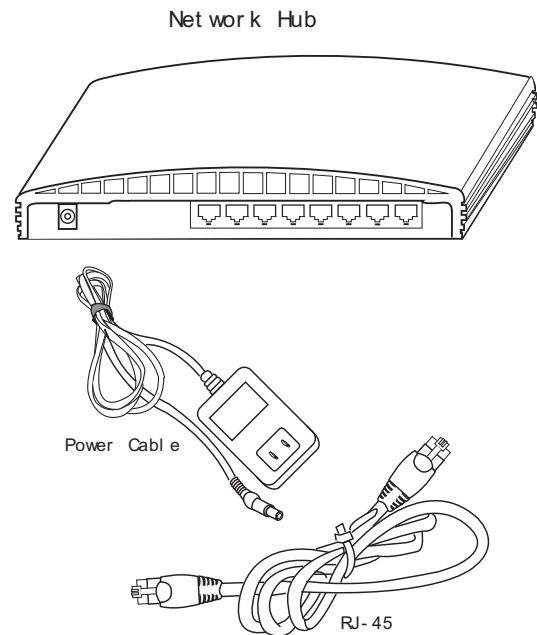
Communication

- 10Base-T (CAT 5) cable with RJ-45 connectors

Components of the 3COM Network Hub

The 3COM Network Hub includes the following components:

- 3COM Ethernet Hub 8
- International power supply
- RJ-45 cables
- Power cable



Testing the Network Hub

- 1 Make sure that all network devices are turned on.
- 2 Disconnect all network devices from the Network Hub.
- 3 Disconnect the Network Hub power cable.
- 4 Reconnect the Network Hub power cable.
- 5 Make sure that the power LED is on.
- 6 Reconnect the network devices one at a time, making sure that a link light comes on for each device.

Network Hub Common Problems and Solutions

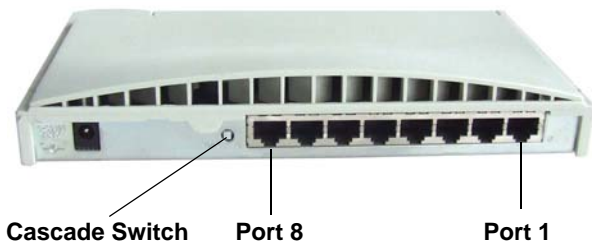
This section provides basic steps for resolving common problems. Refer to [“Troubleshooting the Network Hub” on page 316](#) for the full troubleshooting procedures.

Issue	Possible Cause(s)	Solution
Power LED is not on.	<ul style="list-style-type: none"> Power adapter is faulty or disconnected. 	<ul style="list-style-type: none"> Verify the power connections. Replace the power adapter with an identical power adapter.
10 Mbps port status LED is on for a port to which a 100 Mbps device is connected.	<ul style="list-style-type: none"> Poor quality network cable. Problem with network card. 	<ul style="list-style-type: none"> Replace the patch cable. Verify the network cable crimping. Remove and then reinstall the network card drivers. Replace the network card.
Link between the Network Hub and another Hub is not working.	<ul style="list-style-type: none"> The Hub is not connected to the uplink port. The uplink switch is not in the right position. 	<ul style="list-style-type: none"> Connect the network cable from the other Hub to Port 8 of the Network Hub. Make sure that the uplink switch is in the right position.
Port status LED is not on for a port that has a connection	<ul style="list-style-type: none"> The cable is defective or damaged. The equipment connected to the port is not turned on. The network card drivers are not loaded properly. The network card is defective or disconnected. 	<ul style="list-style-type: none"> Verify the cable condition. Replace or retrim the cable. Make sure that the equipment that is connected is turned on. Remove and then reinstall the network card drivers. Replace the network card.

Troubleshooting the Network Hub

Inspect the Power Connections

- 1 Locate the 3Com Network Hub inside the casing of the Attendant Station.



- 2 Make sure that the power LED on the Network Hub is on.

- 3 Make sure that the power cable is connected and secured to the Network Hub.
- 4 Make sure that the power cable is connected and secured to the power strip.

Inspect the Network Cables

- 1 Make sure that the RJ-45 cables are properly connected to the Network Hub.
- 2 On the Network Hub, make sure that one link light is on for each network cable that is connected to the Network Hub.
- 3 On the Computer network cards, make sure that a link light is on for each network card that is connected to the Network Hub.
- 4 Make sure that nothing is plugged into Port 8 of the Network Hub (unless otherwise specified).

Chapter 25: Preh POS Keyboard

This chapter contains servicing information for the Preh POS keyboard found in U-Scan Attendant Stations.



Features

- Compact modular design
- 80 programmable keys
- Dust and water resistant keypad
- PS/2 interface
- Daisy-chain socket
- Menu-driven programmer software
- Ergonomic design
- Integrated MSR
- Status LEDs

Technical Specifications

Environment

- Temperature:
 - Operation: 32°F to 122°F (0° to 50°C)
 - Storage/Transport: -40°F to 140°F (-40° to 60° C)
- Relative humidity: 5% to 93% non-condensing
- Air pressure: 700 hPa to 1060 hPa

Interface

- PS/2 and compatible systems

Communication

- PS/2 communication cable (2m) with 6-pin mini-DIN connector

Keys

- Actuation force: 0.6 N ± 0.2 N
- Service life: >10 * 10⁶ operating cycles per contact element

Components of the Preh POS Keyboard

The Preh POS keyboard consists of the following components:

- Keyboard
- PS/2 to 6-pin DIN cable

Testing

Test the Keys

- 1 Select **Start > Programs > Accessories > Notepad**.
- 2 Press a few keys on the Keyboard.
- 3 Ensure that the ASCII codes are being generated (i.e. that they appear in the Notepad document).
- 4 Exit Notepad.
- 5 Start the Attendant Station software.
- 6 Once the Attendant Station software is running, access **Direct Mode**.
- 7 Press a few keys.
- 8 Ensure that the keys perform the appropriate function.

Test the Keyboard MSR (If Applicable)

- 1 Select to **Start > Programs > Accessories > Notepad**.
- 2 Slide a card through the MSR slot.
- 3 Ensure that the data is read (i.e. the data should appear in the Notepad document).

Common Problems and Solutions

This section provides basic steps for resolving common problems. Refer to [“Troubleshooting the Preh POS Keyboard”](#) on page 318 for the full troubleshooting procedures.

Error	Possible Causes	Solutions
Computer indicates keyboard error on startup.	<ul style="list-style-type: none"> • Cable plugged in incorrectly. • Keyboard initialized incorrectly. • Preh Keyboard does not synchronize with the Computer 	<ul style="list-style-type: none"> • Check cable connections. • Re-initialize POS Keyboard interface. • Switch off all modules that are not used (via the Preh programmer).
Preh Keyboard does not work even though daisy-chained keyboard works.	<ul style="list-style-type: none"> • No Keyboard assignment stored in the internal Keyboard EEPROM. 	<ul style="list-style-type: none"> • Flash the POS Keyboard
Preh Keyboard beeps at every key position without displaying any characters.	<ul style="list-style-type: none"> • An error has occurred in the transmission of the POS Keyboard assignments table. • The contents of the EEPROM have been modified. 	<ul style="list-style-type: none"> • Re-initialize the POS Keyboard interface and reload Keyboard assignment table to the Keyboard.
In Direct Mode , the Preh Keyboard keys do not perform the appropriate function.	<ul style="list-style-type: none"> • Keyboard needs to be flashed. • Incorrect file was used to flash the Keyboard. • The Keyboard.ini mapping is incorrect. • The Colors.ini file is incorrect. • Physical keyboard mapping is incorrect. 	<ul style="list-style-type: none"> • Re-initialize the POS Keyboard interface. • Flash the POS Keyboard. • Verify the version of the Keyboard.ini and Colors.ini files. • Configure the buttons to match the Direct Mode keyboard layout.
Preh Keyboard is mapped and flashed properly, but the buttons do not perform the appropriate function when pressed. EXAMPLE: The GROCERY key behaves like the PHARMACY key.	<ul style="list-style-type: none"> • The Keyboard.ini and/or the Colors.ini files are incorrect. • The appropriate options are not set up on the Store Controller. • The Keyboard was not flashed properly. 	<ul style="list-style-type: none"> • Re-initialize the POS Keyboard interface. • Flash the POS Keyboard. • Verify the version of the Keyboard.ini and Colors.ini files. • Reload the options on all lanes.

Troubleshooting the Preh POS Keyboard

Inspect the Data Cable

- 1 Ensure that the PS2 extension cable from the Computer keyboard is connected to the POS keyboard.
- 2 Ensure that the PS2 extension cable from the POS keyboard is connected to the PS2 port on the computer.

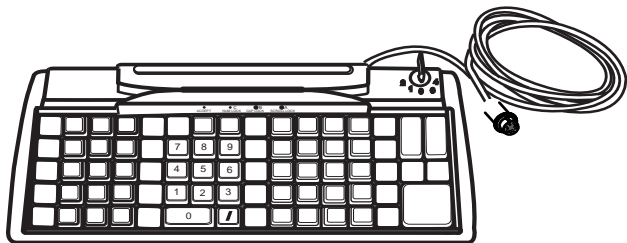
Re-initialize the POS Keyboard Interface

Note: If the POS keyboard is locked up and beeps when any key is pressed, the POS keyboard was not properly set up and must be re-initialized.

- 1 Carefully pry up to remove the blanking plates from the two key spaces labeled **A01** and **B01** in the drawing below. If there are keys instead of plates, then go to step 3.

Note: The keys are not labeled in a store environment.

- 2 Gently pry up and remove two regular active keys from the POS keyboard. Place them in the **A01** and **B01** positions.



- 3 Perform an orderly shutdown of the Attendant Station computer.
- 4 Press and hold down keys **A01** and **B01** at the same time.
- 5 Without releasing the keys, press the power button on the Attendant Station computer.
- 6 When you hear a beep from the keyboard, release the two keys.
- 7 Return the active keys to their original positions if you removed them in step 2.
- 8 Replace the **A01** and **B01** key covers.
- 9 Start the Attendant Station software and test the keys.
- 10 If the mapping is lost, see [“Troubleshooting the Preh POS Keyboard.”](#)

Program (Flash) the POS Keyboard in DOS

Follow this procedure to program the POS keyboard in DOS.

- 1 Insert a bootable DOS diskette and restart the Computer.
OR
Reboot and select **MS DOS** on the Windows NT **Boot-up** menu.
- 2 Enter **C:**, then press **ENTER**.
- 3 Follow the instructions below for the image version on the Computer:
 - a For **Multi Pack** images, enter **cd\storage\drivers\miscdevs\preh** at the DOS prompt.
 - b For **1.07** images, enter **cd\miscdevs\preh** at the DOS prompt.
 - c For **Windows 2000** images, enter **C:\storage\drivers\keyboard\preh2k**.

- 4 Press **ENTER**.
- 5 Enter **preh-mwx**.
- 6 Press **ENTER** to open the executable file.
- 7 Press **F3**, then press **TAB** to select the appropriate .mwx file:
 - **optimal.mwx** for a Preh without an MSR
 - **PREH_MSR.mwx** for a Preh with an MSR
- 8 Press **ENTER** to load the .mwx file containing the key definition.
- 9 Press **ALT+F** to open the **File** menu.
- 10 Press the **W** key to select **Write keytable**.
- 11 When the download is complete, press **ENTER**.
- 12 Press **ALT+X** to exit the **Main** menu.
- 13 Press **ENTER** to exit the **preh-mwx** program.
- 14 Press **CTRL+ALT+DEL** to restart the computer.

Maintenance

Clean the Keyboard

- 1 Turn off the computer.
- 2 Use a soft cloth to clean the keyboard.

OR

Use a slightly cloth slightly moistened with mild detergent.

Note: Do not let any liquid get into the keyboard.

Chapter 26: Citizen CT-10 Printer

This chapter contains servicing information for the Citizen CT-10 receipt printer, found in U-Scan Genesis Stations.



Features

- Direct line thermal print method
- Monochrome or dual color printing
- 220 mm/sec print speed (monochrome)
- Front paper ejection
- Small footprint: W = 128mm (5") D = 207mm (8.2") H = 132mm (5.25")

Technical Specifications

Environment

- Temperature: 32°F to 104°F (0°C to 40°C)
- Relative humidity: 10% to 90%

Power

- Powered USB interface, supports 1.1 (12 Mbps) and 2.0 (480 Mbps)
- 24 V DC \pm 10% (provided from computer)
- Power consumption: maximum 50 Watts

Communication

- TP3K computer: USB-C
- TP3600 Series computer: USB-L
- Cash drawer kick-out connection for Attendant Station printers.

Note: The solenoid used for the cash drawer should be 24 Ω or more. The output current should be 1A or less. Failure or damage can occur if these conditions are not met.

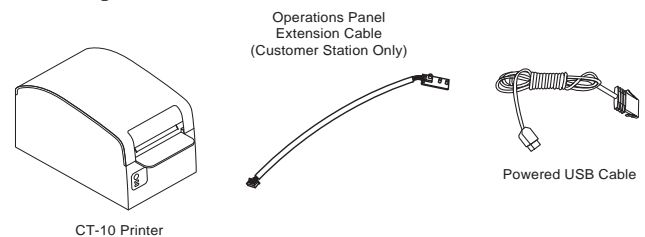
Paper Dimensions

- Width: 80 mm (3.15")
- Diameter: Maximum 102.5 mm (4.04")
- Thickness: 0.075 mm

Components of the CT-10 Printer

The CT-10 includes the following components:

- Citizen CT-10 Printer. Attendant Station: 11000133. Customer Station: 11001404 (includes operations panel extension cable)
- 24 V powered USB Cable (Customer Station: 11000072)



Common Problems and Solutions

This section provides basic steps for resolving common problems. Refer to [“Testing” on page 323](#) for the full troubleshooting procedures.

Issue	Possible Cause(s)	Solution
Printer is feeding paper but not printing.	<ul style="list-style-type: none"> Paper improperly loaded. Print head is dirty. 	<ul style="list-style-type: none"> Ensure that the paper is loaded correctly. Refer to “Inspect the Paper” on page 324. If the issue is not resolved, clean the print head.
POWER LED is not on.	<ul style="list-style-type: none"> No power to the printer. 	<ul style="list-style-type: none"> Ensure that the powered USB cable is connected to the back of the printer and to USB Port “C” on the computer. Ensure that the computer is on.
Error LED is lit.	<ul style="list-style-type: none"> Paper needs to be changed. Printer cover is open. 	<ul style="list-style-type: none"> Make sure that the printer cover is closed. Make sure that there is enough paper in the printer. If necessary, load a new roll of paper.
Error LED flashes.	<ul style="list-style-type: none"> Printer cover was opened during printing. 	<ul style="list-style-type: none"> Pull the paper several cm out of the printer, and then close the cover. Printing resumes automatically. Touch the Printer OK button on the Attendant Station Main Screen.
Printer stopped printing in the middle of a print job. AND The Error LED is flashing.	<ul style="list-style-type: none"> Thermal head overheat can occur when you print dense characters or dark image. 	<ul style="list-style-type: none"> Wait several minutes. Printing resumes automatically when the head temperature is lowered.
Paper cutter blade stops functioning. AND The Error LED is flashing.	<ul style="list-style-type: none"> Paper jam caused the cutter blade to stop functioning. 	<ul style="list-style-type: none"> Open the printer cover and remove the jammed paper. <i>Note: If you cannot open the printer cover without forcing it, contact your support center. The printer needs to be replaced.</i> Press the FEED button. If the blade still does not move, contact your support center.

Testing

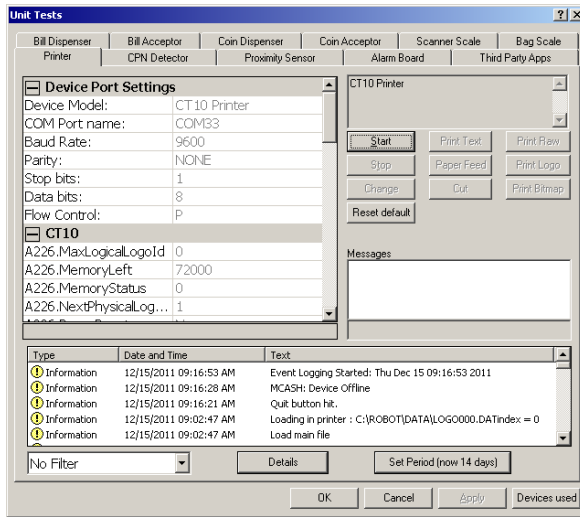
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Printer** tab.



- 2 Ensure that the settings are:
(TP3K computer):

Setting	Value
Device Model	CT10
COM	COM33 (USB Port C)

(TP3600 Series computer):

Setting	Value
Device Model	CT10
COM	COM33 (USB Port L)

- 3 If you need to change a setting,
 - a Press ALT+*. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Inspect the LEDs

- 1 Locate the POWER (green) and ERROR (red) LEDs on the operation panel.

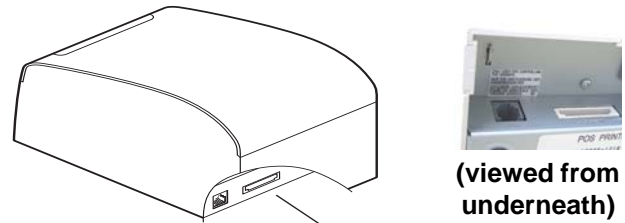
Note: The operation panel is installed on a side bracket on the Customer Station printer.

- 2 If the **POWER** LED is off, refer to [“Inspect the Power and Data Cable”](#) on page 323.
- 3 If the **ERROR** LED is on, refer to [“LED Indications”](#) on page 326.

Inspect the Power and Data Cable

Note: The printer receives power from the computer. Always shut down the computer before disconnecting or connecting cables.

- 1 Ensure that the USB cable is connected to the bottom of the device.



Powered USB Connector

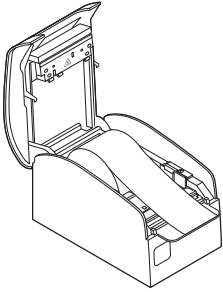
- 2 Ensure that the USB cable is connected to USB Port “C” of the computer (see the “Device Servicing” section for the TeamPOS 3000 computer).



The printer requires +24 V DC power and cannot be connected to any other port on the computer.

- 3 If you are inspecting a printer installed at the Attendant Station, ensure that the Cash Drawer cable is connected to the printer.

- 4 Ensure that the paper is loaded with the end of the paper on the top of the roll as shown below.



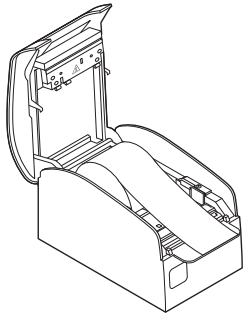
- 5 Ensure that the end of the paper protrudes from the printer in a straight path and is not twisted or folded.

Inspect the Paper

- 1 Ensure that the paper is thermal. One surface is smooth.

Note: Thermal paper produces printouts because it is sensitive to heat.

- 2 Ensure that when the paper is placed into the printer, the smooth surface is face down.
- 3 Ensure that the paper is loaded with the end of the paper on the top of the roll as shown below.



- 4 Ensure that the end of the paper protrudes from the printer in a straight path and is not twisted or folded.

Clear Any Paper Jams (If Required)

- 1 Shut down the computer to turn off the power to the printer.

Note: Do NOT disconnect the cable from the back of the printer to turn off the power.

- 2 Open the printer cover.
Do not use force to open the cover.
- 3 Remove the jammed paper, including any paper chips remaining.
- 4 Turn on the computer. The auto cutter mechanism is initialized and the alarm is cleared.

Perform the Self Print

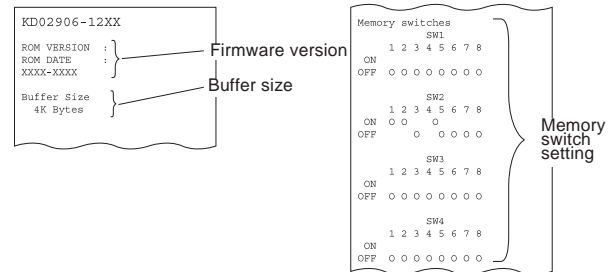
The self print allows you to print the model name, version, built-in fonts, and memory switch settings.

- 1 Restart the computer. While the computer is restarting, press and hold the **FEED** button.

Note: Do NOT disconnect the cable from the back of the printer to turn off the power.

- 2 Continue to hold down the **FEED** button until approximately one second after power is applied to the printer, then release the button.

The printer prints the model name, version, built-in fonts, and memory switch settings.



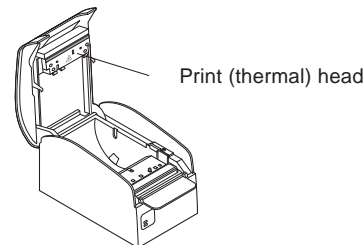
Note: The memory switch settings are set by the software driver and should always be correctly set for optimum performance for U-Scan. The settings are provided in "Memory Switch Settings" on page 326 for reference only.

Clean the Print Head



The print head is hot immediately after printing. DO NOT touch it with your hand. DO NOT touch the heating element of the head with your bare hand or a metal object.

- 1 Shut down the computer to turn off the power to the printer.
Note: Do NOT disconnect the cable from the back of the printer to turn off the power.
- 2 Open the printer cover.
- 3 Wait several minutes until the print head cools down.
- 4 Use a cotton swab soaked in ethyl alcohol to wipe off any debris on the heating element of the head.



- 5 Close the printer cover.
- 6 Restart the computer to restore power to the printer.

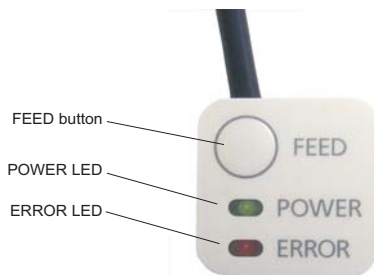
Cleaning and Maintenance

Note: Always disconnect the powered USB cable before you perform cleaning or maintenance procedures.

Task	Freq.	Description
Clean the printer casing.	Every service call.	<ul style="list-style-type: none"> Use a dry soft cloth to wipe off stains and dust from the surface of the printer cover. Use a cloth moistened with water (and wrung out well) when cleaning heavily stained areas. <p>Note: Never use organic solvents such as alcohol, thinner, benzene, ketone, or chemical dusters.</p>
Clean the paper well.	Every service call.	Vacuum the paper well to remove paper particles and dust.
Clean the print head	Every service call	<ul style="list-style-type: none"> Refer to “Clean the Print Head” on page 324.

Operating Panel

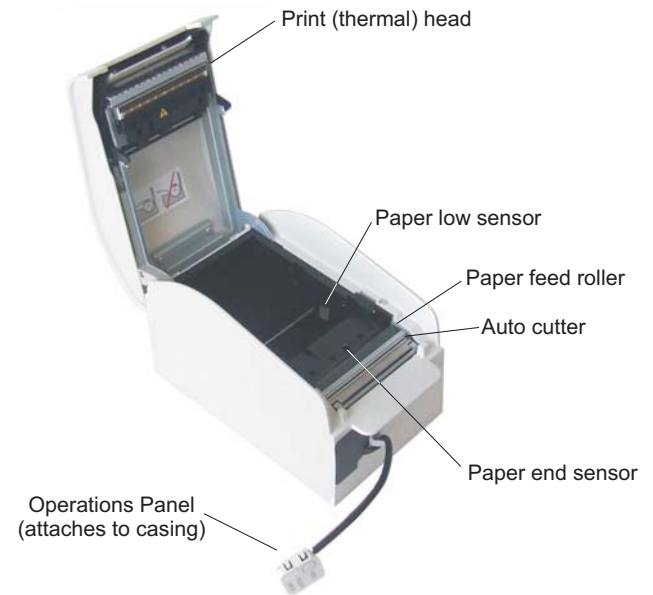
This panel contains the **FEED** button and **POWER** and **ERROR** LEDs. It is installed on the front of the Attendant Station unit and on a side mounting bracket on the Customer Station (future).



- **POWER LED:** On solid when the printer power is on and off when the printer power is off. May blink or light in a special mode or in case of failure.








- **ERROR LED:** On solid or flashing when paper is empty or in case of failure. The interval length of blinking represents the type of error.
- **FEED button:** Press this button once to feed one line of paper. The longer the button is pressed, the more paper is fed. In case of an auto-cutter error, press the FEED button after removing the cause of the error.

Internal Printer Parts



*The **Paper-low sensor** functionality is currently **disabled** for U-Scan

LED Indications

Condition	POWER (Green) LED Status	ERROR (Red) LED Status
Paper end	On solid	On solid
Paper low	On solid	*Currently disabled for U-Scan. The ERROR LED does not come on to indicated that the paper is low.
Cover open	On solid	On solid
Cover open error (cover opened while printer is printing) OR Head overheat error	On solid	Flash pattern: 
Cutter lock error *Accompanied by buzzer	On solid	Flash pattern: 
Motor overheat error	On solid	Flash pattern: 
Memory check error	Flash pattern: 	On solid
Low voltage error	On solid	Flash pattern: 
High voltage error	On solid	Flash pattern: 
Macro execution wait *The ERROR LED may blink during the execution of a macro function.	On solid	Flash pattern: 

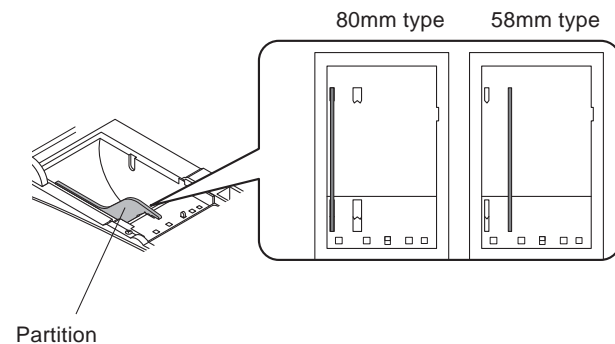
Memory Switch Settings

The memory switch settings are controlled through the software driver and do not need to be adjusted. The memory switch settings for U-Scan that differ from the printer's factory default settings are shown below:

Switch	Setting	Default Value
SW1-5	CR mode	1 (On) = LF
SW2-8	Paper Near End Sensor	1 (On) = Invalid
Memory SW8-1	Print Width	576 dots

Paper Well Partition

The CT-10 printer can use either 80mm or 55mm paper. The U-Scan Attendant and Customer Station printers use **80mm paper**, but replacement printers may be shipped with the paper well partition installed in the 55mm paper position. If so, lift the paper well partition to remove it, and install it in the 80mm position. **Do not remove the partition.**



Replacing the CT-10 Printer

Parts and Tools

Part	Quantity	Part Number
Citizen CT-10 printer	1	11001404
Philips screwdriver	1	

Removing the Printer from the Drawer

- 1 Unscrew the Operations Panel from the drawer.

Remove the Operations Panel from the drawer casing



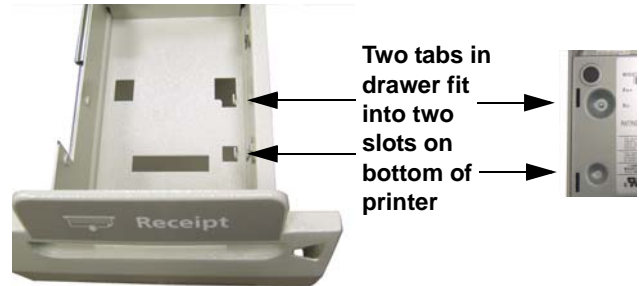
- 2 Unscrew the metal bracket that holds the printer in place and pull it back, away from the printer, as far back as possible.



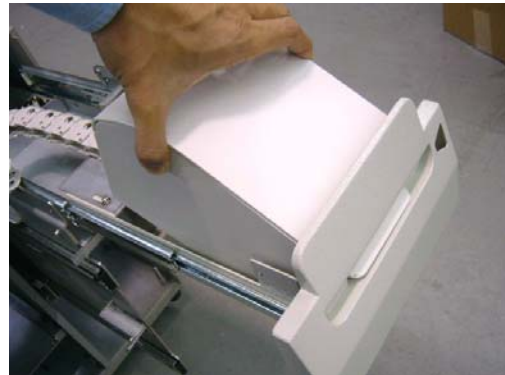
- 3 Slide the printer back then up to remove. Be careful not to pinch the Operations Panel cable.

Installing the Printer Cover

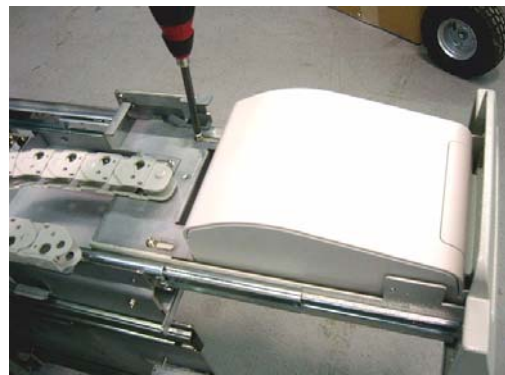
- 1 Note the two slots that protrude from the bottom of the receipt printer drawer. They will slide into two slots on the bottom of the printer to stabilize the unit.



- 2 Set the printer in the drawer so that the front lip protrudes from the slot on the drawer. When seated correctly, the printer should slide easily back and forth. If it does not, lift the printer up and re-seat it so that the drawer tabs enter the slots on the bottom of the printer. Ensure that the operations panel cable does not become pinched.



- 3 Push the back metal bracket forward so that it is flush against the back of the printer. Secure the bracket in place with two screws.



- 4 Position the metal operations panel bracket over the operations panel.



- 5 Use one pan-head SEMS screw to secure the operation panel bracket to the side of the drawer



Chapter 27: IBM 4610-1N Printer

This chapter contains servicing information for the IBM 4610-1N receipt printer, found in U-Scan Stations.



Features

- Fast thermal printing (80 LPS)
- Eco-friendly packaging and receipt media
- Audible alarm
- Spill-resistant, easy to service design
- Light weight and small size
- Optional wall mount

Technical Specifications

Environment

- Temperature: 49°F to 104°F (5°C to 40°C)
- Relative humidity: 5% to 100% (incl. condensation, not rain)

Power Supply Requirements

- Powered USB interface, supports USB 2.0 (12 Mbps)
- 24 V DC \pm 10% (provided from computer)

Communication

- TP3K computer: USB-C
- TP3600 Series computer: USB-L
- Cash drawer kick-out connection for Attendant Station printers.

Components of the IBM 4610-1N Printer

The IBM 4610-1N (-1NA: USA; -1NR: Canada/Europe) consists of the following components:

- IBM 4610-1N Printer
- 24V Powered USB cable (11000072)



4610-1N Printer



USB cable

Testing

Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Printer** tab.
- 2 Ensure that the settings are:

(TP3K computer):

Setting	Value
Device Model	IBM 4610
COM	COM33 (USB Port C)

(TP3600 Series computer):

Setting	Value
Device Model	IBM 4610
COM	COM33 (USB Port L)

- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Inspect the Power and Data Cable

- 1 Ensure that the USB cable is connected to the USB port underneath the device.



- 2 Ensure that the powered USB cable is connected to 24V USB Port C on the Attendant Station TP3K computer (see the TeamPOS 3000 Series chapter).

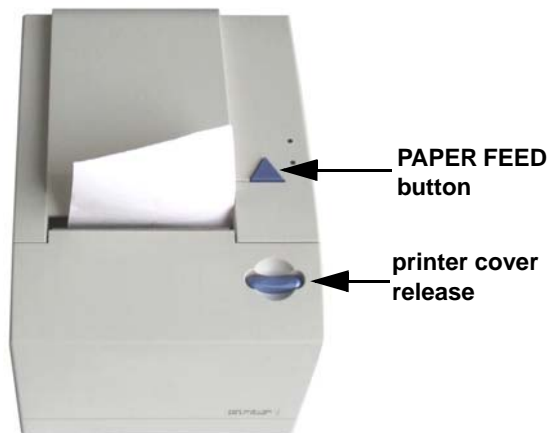


The printer requires +24 V DC power and cannot be connected to any other port on the computer.

- 3 If you are inspecting a printer installed at the Attendant Station, ensure that the Cash Drawer cable is connected to the printer.

Inspect the Paper

- 1 Ensure that the paper is thermal. One surface is smooth.



Note: Thermal paper produces printouts because it is sensitive to heat.

- 2 Ensure that when the paper is placed into the printer, the smooth surface is face down.

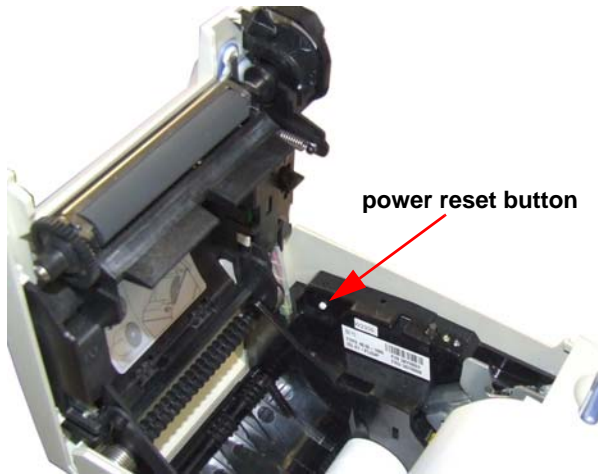


Power-On-Self-Test

- 1 When the printer receives power, it runs a power-on self-test (POST). If no errors are found, the green LED lights solidly and the printer is ready for operation.
- 2 If the LED is blinking to indicate an error, unplug then re-plug the powered USB cable. If the error persists, refer to "[Troubleshooting Table](#)" on [page 331](#).

Perform the Firmware Offline Test

- 1 Press the blue bar to release the printer cover latch. Open the printer cover.
- 2 Press the white power reset button to turn the printer off then on again.



- 3 Close the printer cover.
- 4 Press and hold the **PAPER FEED** button until the printer clicks and the LED flashes.
- 5 A selection menu is printed. Follow the instructions for each one of the offline tests that you wish to execute.

Off-line Selection started
 To select a sub-menu or test:
 FIRST, press the paper feed button the indicated number of times.
 THEN, press again and hold button down at least 1 second to confirm selection.

Sub-menus and tests	Codes
Thermal Receipt test	1
Choose Emulation Mode	2
Select receipt width	3
EIA-232/RS-232 Flow Control	4
More Selections	5

To exit Off-line setup, open printer cover.

Clean the Print Head

- 1 Turn off the printer.
- 2 Disconnect the printer power cable.
- 3 Open the paper cover.
- 4 Moisten a cotton swab with isopropyl alcohol.

- 5 Gently clean the printer head along the print line and surrounding area.



- 6 Dry the area with a dry cotton swab.
- 7 Close the printer cover.
- 8 Connect the printer power cable.
- 9 Turn on the printer.

Troubleshooting Table

Problem	Solution
Printer LED is off.	<ul style="list-style-type: none"> • Check the power to the printer. • Check that the system is turned on.
Printer LED is flashing.	<ul style="list-style-type: none"> • Ensure that the paper is loaded correctly. • Press the PAPER FEED button until approximately one inch of paper is fed. • Ensure that the cover is closed.
Printer is feeding paper but not printing.	<ul style="list-style-type: none"> • Ensure that the paper is not upside-down. • Clean the printer head. Refer to "Clean the Print Head".

Chapter 28: Proximity Sensor

This chapter contains servicing information for the Proximity Sensor found in U-Scan Genesis Stations.



Features

- Detects an object approaching the sensor.
- Recognizes the customer and sends a message to the U-Scan to start the greeting.
- Delay before customer greeting is configurable through **Device Tester**.
- Detection distance is configurable through **Device Tester**.

Technical Specifications

Environment

- Operating temperature: 32°F to 104°F (0° to 40°C); Storage temperature: 23°F to 122°F (-5° to 50° C)
- Operating relative humidity: 10% to 95% non-condensing; Storage relative humidity: 8% to 95% non-condensing FAIT

Power

- 5 V maximum power supply, 3.00 A

Communication

- Powered USB, TP3K computer: USB-D
- Powered USB, TP3600 Series computers: USB-F

Components

- Proximity Sensor Board (11000185)
- Power and Communication Cable (11000267)



Power and Communication Cable



Proximity Sensor

Testing

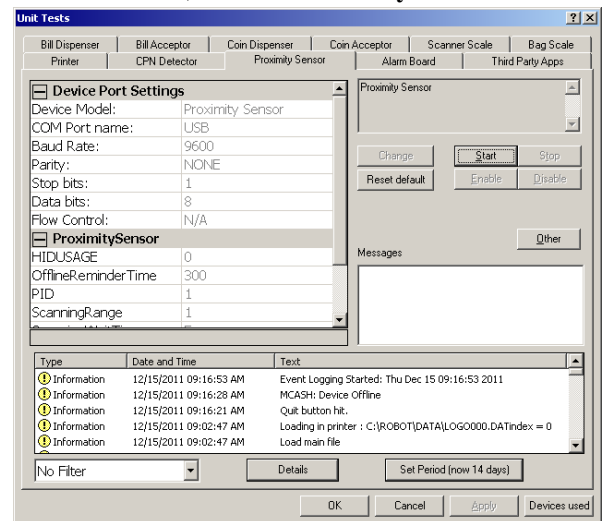
Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Proximity Sensor** tab.



- 2 Ensure that the settings are:

(TP3K computer):

Setting	Value
Device Model	Proximity Sensor
COM	USB Port D

(TP3600 Series computer):

Setting	Value
Device Model	Proximity Sensor
COM	USB Port F

- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Test the Device

Note: For an explanation of error messages see the beginning of this section. Error messages are also stored in the Eventlog Viewer and can be viewed upon exiting the Device Tester.

- 1 Stand to the side of the Proximity sensor.
- 2 Click **START**.
- 3 Click **ENABLE**.
- 4 Make sure that the message **PROXIMITY_OBJECT_NOT_DETECTED** appears.
- 5 Wave your hand in front of the device. Make sure that you see the message **OBJECT_DETECTED** appear.
- 6 If the appropriate message did not appear, refer to the Troubleshooting section.
- 7 Click **Stop**.
- 8 Click **OK** to exit the **Device Tester**.

Proximity Sensor Common Problems and Solutions

Issue	Possible Cause(s)	Solution
Order starts too quickly after an object is detected.	<ul style="list-style-type: none"> Detection wait may be too short. 	<ul style="list-style-type: none"> Check the detection wait, it might need to be increased. Refer to “Verify the Scanning Distance and Detection Wait Time” on page 335
Order takes too long to start after an object is detected.	<ul style="list-style-type: none"> Scanning time may be too long. 	<ul style="list-style-type: none"> Check the detection wait, it might need to be decreased. Refer to “Verify the Scanning Distance and Detection Wait Time” Check the cable connections.
Order starts when it should not (i.e. no object is present).	<ul style="list-style-type: none"> The scanning distance is too short. 	<ul style="list-style-type: none"> Check scanning distance. It may need to be decreased. Refer to “Verify the Scanning Distance and Detection Wait Time”
Order does not start when it should.	<ul style="list-style-type: none"> The scanning distance is too high. 	<ul style="list-style-type: none"> Check the cable connection. Check scanning distance. It might need to be increased. Refer to “Verify the Scanning Distance and Detection Wait Time”.

Troubleshooting the Proximity Sensor

Follow the Testing Procedure

See “[Accessing the Device Tester](#)” on page 333.

Inspect the Cabling

- 1 Unlock and open the bottom door.
- 2 Ensure that the cable is securely connected to the proximity sensor.
- 3 Ensure that the proximity sensor cable is connected to the computer.

Verify the Scanning Distance and Detection Wait Time

- 1 Access **Device Tester**.
- 2 Click the **Proximity Sensor** tab.
- 3 Click **Other**.
The **Proximity Sensor Custom Unit Tester** screen appears.
- 4 Check the scanning distance. This is the distance at which the Proximity Sensor detects an item and starts an order:
 - a If the scanning distance is too short, increase the scanning distance as required.
 - b If the scanning distance is too long, decrease the scanning distance as required.
 - c Click **OK**.

Note: Contact the store manager or front-end supervisor to determine the desired length. The numbers measuring the scanning distance do not correspond to a specific unit of measurement, such as feet or meters.

- 5 Check the detection wait time. This is the amount of time the software waits to start an order after the Proximity Sensor detects an object.
 - a If the detection time is too short, increase the detection time until the desired time is achieved.
 - b If the detection time is too long, decrease the detection time until the desired time is achieved.

Note: Contact the store manager or front-end supervisor to determine the desired time.

Replacing the Proximity Sensor

Parts and Tools

Part	Qty	Part Number
Proximity Sensor Circuit Board	1	11000185
Proximity Sensor Cable (If required)	1	11000267
Phillips screwdriver	1	N/A
Nut driver	1	N/A
Key to bottom door		

- 1 Remove the two nuts, flat washers, and split lock washers securing the Proximity Sensor cover to the lower door.



- 2 Disconnect the cable from the Proximity Sensor circuit board.
- 3 Remove the two screws securing the Proximity Sensor circuit board to the door.



- 4 Fasten the two screws to secure the new Proximity Sensor circuit board (11000185) to the door.
- 5 Fasten the two split lock washers, flat washers, and nuts to secure the Proximity Sensor cover to the door.
- 6 Reconnect the cable to the circuit board.

Chapter 29: Magellan 8500XT Scanner Scales

This chapter contains servicing information for the Magellan 8500XT Scanner Scales found in U-Scan Genesis Stations.



Features

- SurroundScan® 3D Scanning™ technology scans all six sides of an item at once
- Produce rail
- Optional EAS functionality
- 30 lb. (15 kg) weigh capacity
- 0.1 lb. (0.005 kg) minimum increment
- 64 optical scan lines
- 6,400 lines/sec. scan rate
- 360° x 2 scan zone

Technical Specifications

Environmental

- Operating temperature: 50°F to 104°F (10° to 50°C)
- Storage/transport temperature: -40°F to 158°F (-40° to 70°C)
- Relative Humidity: 5% to 95% non-condensing

Power Supply Requirements

- Power supply can operate within the following range of AC power levels:
100 to 250 VAC at 50 Hz.

Communication

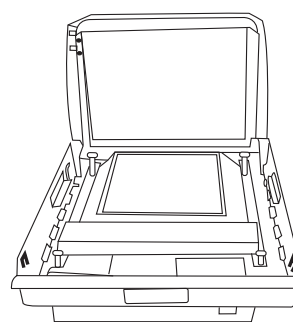
- Standard RS-232 connection to COM1 Port 1 on the computer.

Components of the Magellan 8500XT

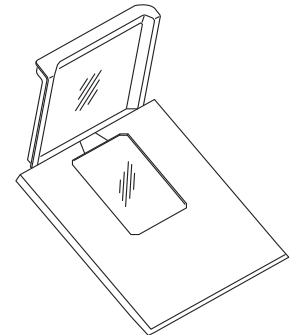
The Magellan 8500XT Scanner Scales consist of the following components:

- Magellan 8500XT Scanner Scale
(US: 11003556, Canada: 11003560, Europe: 11003561)
- Communication cable (RJ-45 to DB-25)
- DB25 to DB9 adapter (not shown) (11000403)
- AC/DC power supply
- Pole display (RJ-47 connector)

Note: The Magellan SL power cable and pole display are not compatible with the Magellan 8500XT.



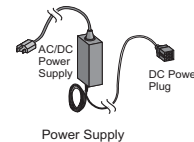
Magellan 8500XT Scanner Scale



Magellan 8500XT Platter



RJ-47
Pole Display



Power Supply



RJ-45
DB25
Magellan
Interface Cable

Common Problems and Solutions

This section provides basic steps for resolving common problems. Refer to [“Troubleshooting the Magellan 8500XT Scanner Scales” on page 340](#) for the full troubleshooting procedures.

Issue	Possible Cause(s)	Solution
The Scanner Scale is scanning items but the information is not sent to the POS application.	Scanner Scale is in diagnostic mode	<ul style="list-style-type: none"> Press and hold the Volume button to reset the Scanner Scale.
A newly installed Scanner Scale continues to cause an OFFLINE message in Device Tester even after it has been reprogrammed with the appropriate bar codes.	The interface type is not properly set	<ul style="list-style-type: none"> Scan the Interface Type - RS-232 Single bar code to set the Scanner Scale to the correct interface type.
An error code appears on the 7-segment LED inside the Scanner Scale.	Problem with Scanner Scale	<ul style="list-style-type: none"> Refer to “Seven-Segment LED Display Error Messages” on page 339 for an explanation of individual error codes and troubleshooting procedures.
An error code appears on the pole display.	Problem with Scanner Scale	<ul style="list-style-type: none"> Refer to “Pole Display Error Messages” on page 340 for an explanation of individual error codes and troubleshooting procedures.

Seven-Segment LED Display Error Messages

Error	Cause	Solutions
Scrolling Identification numbers for the interface type, firmware, and configuration (example: IF-05 r96-1234 r96-5593)	Scanner Scale is in diagnostic mode.	<ul style="list-style-type: none"> Press and hold the Volume button for <u>eight seconds</u> to reset the Scanner Scale.
0 (Flashing)	Configuration	<ul style="list-style-type: none"> Scan the bar codes to reprogram the Scanner Scale.
1	Configuration error	<ul style="list-style-type: none"> Scan the bar codes to reprogram the Scanner Scale.
2	Interface board	<ul style="list-style-type: none"> Reset the Scanner Scale. The Scanner Scale needs to be replaced.
3	Motor	<ul style="list-style-type: none"> Reset the Scanner Scale. The Scanner Scale needs to be replaced.
4	Horizontal laser	<ul style="list-style-type: none"> No action is required. The Scanner Scale will operate until both the horizontal and vertical lasers fail.
5	Vertical laser	<ul style="list-style-type: none"> No action is required. The Scanner Scale will operate until both the horizontal and vertical lasers fail.
6	Digital board	<ul style="list-style-type: none"> Reset the Scanner Scale. The Scanner Scale needs to be replaced.
7	Scale	<ul style="list-style-type: none"> Check the pole display for errors. Refer to “Pole Display Error Messages” on page 340 troubleshooting solutions.
8	Pole display	<ul style="list-style-type: none"> Connect the pole display. If necessary, replace the cable or the pole display.
9	EAS error	<ul style="list-style-type: none"> Check EAS cable
A	Button Module	
b	Hardware ID	
c	scale calibration	<ul style="list-style-type: none"> calibrate the scales
E	CPLD ID	
. (decimal point)	3.3 V present	<ul style="list-style-type: none"> Scanner Scale is functioning normally.

Pole Display Error Messages

Error	Scale Status Lamp	Cause	Solutions
-0-	Off	<ul style="list-style-type: none"> The Scanner Scale cannot zero when it is powered on. Weight remains on the Scanner Scale for more than 4 minutes. 	<ul style="list-style-type: none"> Check the debris chutes. Ensure that the platter moves freely. Remove any items from the Scanner Scale. Press the Scale Zero button. Re-calibrate the scale
E_1	Strobe, pause, 1 blink, long pause, repeat.	Too much motion when the Scanner Scale powers up.	<ul style="list-style-type: none"> Check for stable installation. Scan the bar codes in this section to re-program the Scanner Scale, then restart the Scanner Scale. If the problem continues, re-calibrate the scale.
E_2	Strobe, pause, 2 blinks, long pause, repeat.	Calibration lost.	<ul style="list-style-type: none"> Re-calibrate the scale.
E_3	Strobe, pause, 3 blinks, long pause, repeat.	<ul style="list-style-type: none"> Communication problem. Internal Scanner Scale problem. 	<ul style="list-style-type: none"> The Scanner Scale needs to be replaced.
E_4	Strobe, pause, 4 blinks, long pause, repeat.	Scale module failure.	<ul style="list-style-type: none"> The Scanner Scale needs to be replaced.
E_5	Strobe, pause, 5 blinks, long pause, repeat.	Internal software fault	<ul style="list-style-type: none"> The Scanner Scale needs to be replaced.

Troubleshooting the Magellan 8500XT Scanner Scales

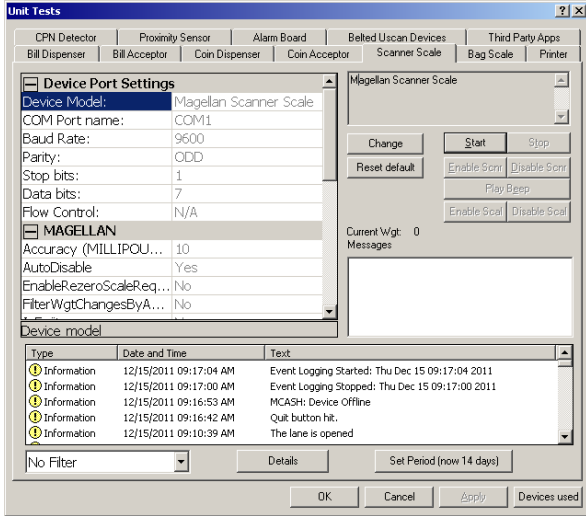
Access the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Scanner Scale** tab.



- 2 Ensure that the settings are:

Setting	Value
Device Model	Magellan
COM	COM1
Baud Rate	9600
Parity	ODD
Data Bits	7
Stop Bits	1

- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Check the Power

- 1 Remove the Scanner Scale from the Customer Station.
- 2 Ensure that the power cord is connected to the Scanner Scale.



POS Terminal Pole Display Power Connector

Rear of Magellan 8500XT

- 3 Ensure that the power cord is connected to the power bar.
- 4 Disconnect the power cable, and then reconnect it to cycle the power.

Inspect the Data Cable

- 1 Ensure that the data cable is connected to the underside of the Scanner Scale.
- 2 Ensure that the data cable is connected to COM1 Port 1 on the TeamPOS 3000 computer, or to COM19 Port 3 on the TP3600 Series computer.

Zero the Scanner Scale

- 1 Press the **Zero** button.
- 2 Ensure that the yellow LED is on and steady (i.e. that it is **not** flashing).



Reset the Magellan 8500XT

Press and hold the **Volume** button for 8-10 seconds until the motor slows down.



Program the Magellan 8500XT

Note: 1. Refer to “[Additional Information for the Magellan 8500XT](#)” for programming bar codes.
2. Scan tags in the order prescribed in these tasks.

- 1 Connect one end of the power cord to the Scanner Scale and the other end to an electrical outlet. The Scanner Scale completes a self-test and emits a tone. The green light blinks at a steady rate.
- 2 Scan the Switch label to put the Scanner Scale into programming mode. The green light flashes on and off in programming mode.
- 3 Scan the programming label for the feature being changed (e.g., Baud Rate). The Scanner Scale emits a ‘good read’ (high) tone to indicate that the label was read, and that the setting was stored in memory.
- 4 Scan the remaining programming labels as required. Ensure that all the desired programming labels have been scanned successfully.
- 5 Scan the Switch label again to save and exit programming mode.

Note: If you scan a label that is not a valid programming label, the Scanner Scale emits a rapid series of beeps.

Inspect the Seven-Segment LED Display

- 6 Locate the seven-segment LED display beneath the Magellan platter.



- 7 Check the seven-segment LED for any error messages. If the Scanner Scale is functioning normally, a decimal point (.) displays.
- 8 If necessary, refer to “[Seven-Segment LED Display Error Messages](#)” for troubleshooting solutions.

Inspect the Pole Display

- 1 Locate the pole display.
- 2 Check the pole display for any error messages.
- 3 If necessary, refer to “[Pole Display Error Messages](#)” for troubleshooting solutions.

Magellan 8500XT Maintenance

Cleaning the Scanner Scale

- 1 Remove all items from the Scanner Scale.
- 2 Prepare a solution of one part glass cleaner and one part water.
- 3 Spray the solution on a lint-free cleaning pad or cloth, then wipe the device. Take care to avoid scratching the device surface.

Note: Do **not** spray the cleaning solution directly on any surface.

Do **not** use alcohol, acetone, abrasive cleaning products or abrasive pads.

- 4 If necessary, remove the top platter of the Scanner Scale to clean the underside of the glass.
- 5 Replace the platter.

Additional Information for the Magellan 8500XT

Volume/Tone Button Functions

Duration	Function	Additional Information
Momentary (when Scanner Scale is in sleep mode)	Wakes Scanner Scale from sleep mode.	<p>The Scanner Scale can also be brought out of sleep mode by:</p> <ul style="list-style-type: none"> • Moving an object through the scan zone. • Changing the weight on the weighing platform.
Momentary (when the Scanner Scale is in scanning mode)	Increases volume	<ul style="list-style-type: none"> • When the loudest volume is reached, press the button again to bring the volume to the lowest setting. • Four volume levels are available.
Hold until a beep sounds (approximately 2 seconds)	Changes tone	<ul style="list-style-type: none"> • Three tones (high, medium, or low) are available.
4 seconds	Scanner Diagnostic Mode	<ul style="list-style-type: none"> • View the 7-segment display. • Press the volume button for eight seconds, or cycle the power, to exit Scanner Diagnostics Mode and reset the scanner.
8 seconds	Resets Scanner Scale	N/A

Zero Function Buttons

Duration	Function	Additional Information
Momentary (while in scanning mode)	Zeros the Scale.	N/A
4 seconds	Scale Diagnostic s Mode.	<ul style="list-style-type: none"> The Scanner Scale beeps six times when it enters diagnostic mode. A 1 displays on the pole display while the diagnostic routine runs. After the diagnostic routine runs, the pole display shows how many times the Scanner Scale has been zeroed and recalibrated. EXAMPLE: C XXX where XXX represents the number of times the Scanner Scale has been calibrated. ZERO XXX, where XXX represents the number of times the Scanner Scale has been zeroed. Momentarily press the Scale Zero button to exit Scale Diagnostics Mode.
8 seconds	Reset scanner	N/A
Momentary (while in diagnostic mode)	Exits diagnostic mode.	N/A

Yellow and Green LED Indications

LED Status	Explanation
Yellow LED on steady	The Scanner Scale is reset (zeroed) and reads zero weight.
Green LED on steady and dim	The Scanner Scale is ready to scan items.
Green LED flashes brightly	The Scanner Scale has read and decoded a bar code.
Green LED flashes continuously	The Scanner Scale is in programming mode. Cycle the power to exit programming mode.
Green LED blinks at 2-second rate	The Scanner Scale motor and/or laser have automatically shut off. The Scanner Scale is in sleep mode because it has been inactive for an extended period of time.
Green 1 second off, 1/10 second on	The host (U-Scan system) has disabled scanning.
Audible low tone for 1 second. Alternating green/yellow LED flashes continuously.	Fatal Field Replaceable Unit (FRU) failure has been detected. The Scanner Scale can still function in a reduced capacity if the LED does not flash continuously when the low tone sounds. Replace the Scanner Scale.
Green LED flashes and speaker beeps a coded sequence.	Occurs when you push the Volume/Tone button after an FRU failure has been detected. The code enables service technicians to identify FRU failures. Turn the Scanner Scale off, then on again to exit the diagnostic mode.

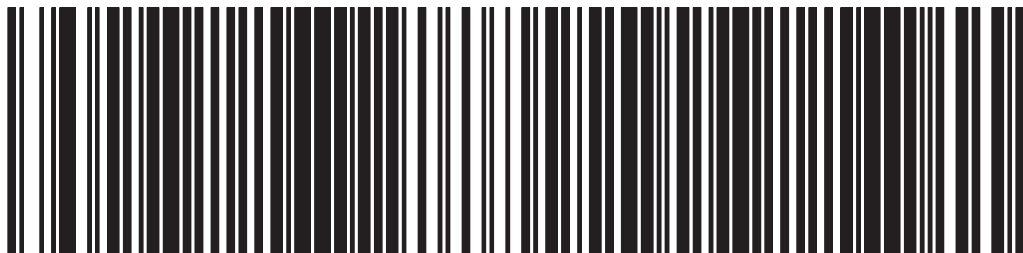
Restoring the Factory Default Settings

Scan the following bar code to restore the factory default settings. Scan this bar code in the following instance:

- The Scanner Scale is not working properly. Use with caution, since this will reset *all* features that have been programmed since the Scanner Scale was installed.

*Note: Disregard the message **MECHANICAL_ERROR**.*

*You do **not** need to scan the Switch Label before or after this bar code.*



RETURN TO FACTORY SETTINGS

Setting the Interface Type to RS-232

If an newly installed Scanner Scale continues to generate a **Scanner Scale:OFFLINE** message in **Device Tester** after it has been reprogrammed with the factory default settings, the interface type may not be set correctly.

Scan the following bar code to set the interface to RS-232 **and then re-scan the Factory Default Settings bar code.**



INTERFACE TYPE = RS-232 SINGLE CABLE

Enabling the Pole Display

The Scanner Scale can operate with or without a pole display. Scan the bar codes below to enable the pole display. You must perform this procedure in the following instance:

- If you wish to add a pole display to a Scanner Scale that is currently being used without a pole display.

*Note: If the pole display is enabled but not connected to the Scanner Scale, the Scanner Scale sounds a long, low tone on power-up, and the message **8** appears on the LED display under the Magellan platter. To clear this message:*

- 1 Connect the pole display.
- 2 Turn the Scanner Scale off, then on again.
The message is cleared.

OR

Refer to [“Disabling the Pole Display”](#) to disable the pole display.

Switch Label



SWITCH LABEL

Remote Display = Enable



REMOTE DISPLAY = ENABLE

Switch Label



SWITCH LABEL

Disabling the Pole Display

Scan the following bar codes to disable the pole display.

Disable the pole display in the following instances:

- If the Scanner Scale does not require a pole display.
- If error message **8** appears on the LED display under the Magellan platter and the Scanner Scale does not require a pole display.

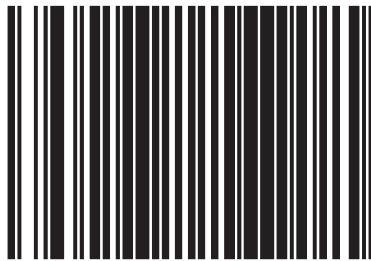
*Note: If the pole display is enabled but not connected to the Scanner Scale, the Scanner Scale sounds a long, low tone on power-up, and the message **8** appears on the LED display under the Magellan platter. To clear this message:*

- 1 Connect the pole display.
- 2 Turn the Scanner Scale off, then on again.
The message is cleared.

OR

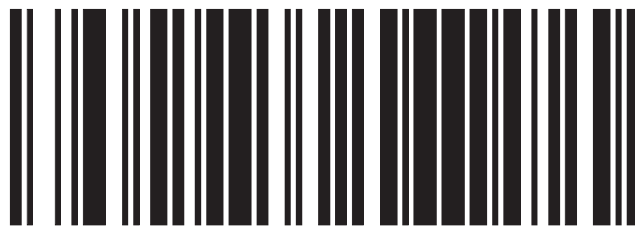
Scan the following bar codes to disable the pole display.

Switch Label



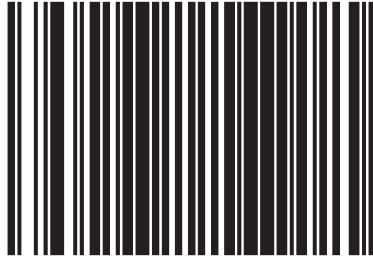
SWITCH LABEL

Remote Display = Disable



REMOTE DISPLAY = DISABLE

Switch Label



SWITCH LABEL

Calibrating the Magellan 8500XT

When to Calibrate the Magellan 8500XT

The Scanner Scale may need to be calibrated if:

- It cannot be reset to zero.
- The weight measure has been changed from pounds to kilograms or vice versa.
- The diagnostics indicate a calibration error.
- The weight module has been replaced.

Continue with the following steps to ensure that the Scanner Scale meets the Office of Weights and Measures' requirements.

LEGAL NOTE

Certification of the Scanner Scales weighing apparatus is subject to federal, state and local Weights and Measures statutes and is restricted to authorized government agencies and/or duly registered agents thereof. Anytime a scale is calibrated, it should be properly sealed with a lead, wire or paper seal before being placed into service. It is the user's responsibility to verify with the appropriate authorities in the area to ensure compliance with pertinent regulations before removing official seals or putting a newly calibrated Scanner Scale into service.

Description of Calibration Sequence

The Calibration Sequence sets the Scanner Scale to an accurate reference point for weighing. This process involves the use of a Field Standard Weight Set for calibration in pounds (31.5 pounds), 18.5 kilograms for Metric calibration. Once calibration is successfully completed, the Scanner Scale uses the certified weight as a reference for subsequent weighing.

These verification procedures follow the U.S. National Institute of Standards and Technology 44 Handbook guidelines for bench/counter scale installations.

If any of these tests fail to meet the required weight indications, the Magellan Scanner Scale must be calibrated. Refer to the calibration procedures in this section for the proper procedures.

You may be required by state and/or local regulations to have procedures other than those performed by a certified technician or verification official.

If required by the local regulatory agency, restrict access to the calibration switch with a paper or a wire and lead seal after the calibration is complete.

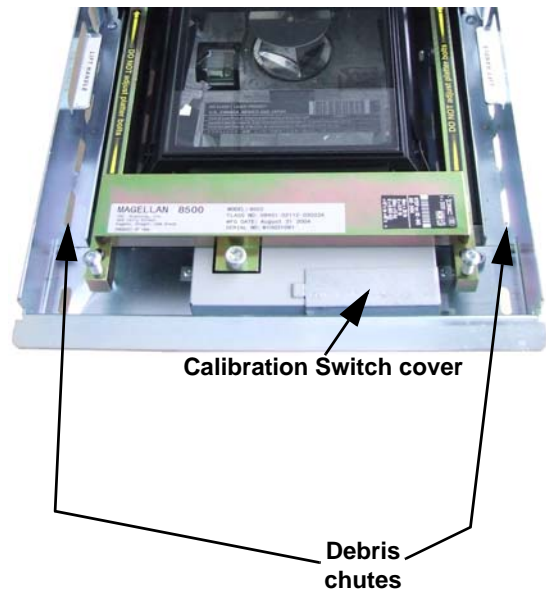
Note: Do not remove the Scanner Scale when you perform the calibration sequence.

The calibration requires the following tools and supplies:

- 31.5 pound Field Standard Weight Set (English calibration only)
- 18.5 kilogram Field Standard Weight Set (Metric calibration only)
- Lead/Wire or Paper Seal (as required by law).

Note: You can use a combination of weights for the specified weights in the calibration procedures. For example, 20 lbs. can consist of one 10 lb. and two 5 lb. weights; 10 kg can consist of two 5-kg weights.

- 1 Ensure that the Scanner Scale is stable, secure and properly installed.
- 2 Turn on the Scanner Scale.
- 3 Allow the device to reach temperature equilibrium. This takes approximately one hour. If the Scanner Scale is already at room temperature, allow at least 15 minutes for acclimatization.
- 4 Place the Field Standard Weight set and its case on the Scanner Scale to prestress the Scale before calibration. The message [_---] displays to indicate that there is too much weight on the Scanner Scale.
- 5 Remove the weight set from the Scanner Scale.
- 6 Remove the Magellan platter.
- 7 Check that the debris chutes are clear.
- 8 Locate the calibration switch cover.



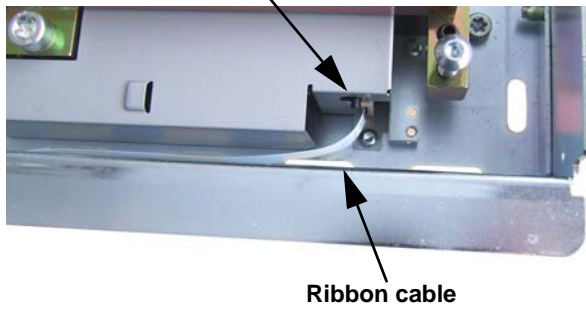
- 9 Cut and remove the seal that secures the calibration switch cover.

Note: This seal may not be present if this is the initial installation of the Scanner Scale.

- 10 Remove the screw that holds the cover in place.

- 11 Carefully remove the cover by pulling it up and to the right. Be sure that you do not damage the ribbon cable.

Calibration Switch (faces front)



- 12 Press and release the **Calibration** switch to place the Scanner Scale in **Calibration Mode**. The Scanner Scale beeps to indicate that it is in **Calibration Mode**. If the motor is spinning when **Calibration Mode** is initiated, the motor stops and the yellow LED begins to flash indicating that the device is in **Calibration Mode**. The display shows the **ESCL** message (empty Scale).
- 13 Replace the Magellan platter.
- 14 Press the **Zero** button. The yellow (zero) LED goes out for approximately 10 seconds, and the pole display alternately shows ["""] and [....] until the Scanner Scale is ready to proceed.
- 15 Wait until the yellow LED begins to flash again and the display shows the message **Ad20lb** or **Ad10kg**.
- Note: If there is no pole display, the Scanner Scale beeps once if it is weighing in kilograms and twice if it is weighing in pounds.*
- 16 Place the correct weight from the Field Standard Weights - 20 lbs. for Imperial or 10 kg for Metric - on the center of the weighing area.

- 17 Press the **Zero** button. The yellow LED goes out for approximately 10 seconds and the pole display alternately displays ["""] and [....] until the Scanner Scale is ready to proceed.

IF	THEN
Calibration is successful	the speaker sounds a single tone, the green LED begins to flash, and the message End- appears on the pole display. Go to step 18 .
Calibration fails	the speaker sounds five tones indicating a Scale failure and the green LED flashes twice, strobes (fast flashes) and continually repeats this sequence until it is reset. Remove all weight from the weigh platter and repeat step 9 to step 17 .

- 18 Press the **Zero** button. This permanently stores the calibration data and exits Calibration Mode. The calibration of the Scanner Scale is complete.
- 19 Replace the calibration switch cover.
- 20 Ask the store manager to contact the Office of Weights and Measures to verify the calibration.

Verify the Scale Calibration

Write the serial number and test measurements for each scale in the appropriate boxes in the tables at the end of this section.

Perform the following tests to verify the scale calibration:

- Increasing Load Test
- Over-weight Test
- Decreasing Load Test
- 15 lbs. Shift Test

All attempts should be made to get as close to zero variance for all tests. The predominance of scales reading above nominal weights shall cause a site to be in violation. (Just as many scales should read above nominal value as below.) Recalibrate those scales to achieve compliance.

These instructions are intended for Fujitsu Frontech North America Inc. (FFNA) use on 30 × 0.01 lb retail scales only. Weight values reflect the display's capability. Remember that the difference between the highest and lowest value of the shift test is = 0.01 lbs for acceptance.

Accepted tolerances are:

- 0 to 5.00 lbs: +/- 0.00 lbs
- 5.01 to 20 lbs: +/- 0.01 lbs
- 20.01 to 40 lbs: +/- 0.01 lbs
- 40.01+ lbs: +/- 0.02 lbs.

Increasing Load Test

*Note: If your system does not have a pole display, access the **Device Tester** and use the weight measure displayed in the bottom right corner of the screen.*

- 1 Write the serial number and test measurements for each scale in the appropriate boxes in the tables starting on [page 356](#).
- 2 Ensure there is no load on the scale platter and ensure that the display (if applicable) reads **0.000 kg**.
- 3 Place weights of increasing weight according to the table on the center of the scale platter and write down the display in the table.
- 4 Remove all the weight from the scale platter and verify the display reads **0.000 kg**.

Over-weight Test

- 1 Ensure there is no load on the scale platter and ensure that the display (if applicable) reads **0.000 kg**.
- 2 Place a 30.20 pound weight on the center of the scale platter and write down the display in the appropriate table.
- 3 Remove all the weight from the scale platter and verify the display reads **0.000 kg**.

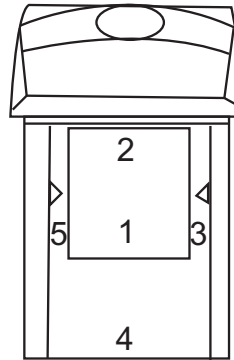
Decreasing Load Test

- 1 Ensure there is no load on the scale platter and verify the display reads **0.000 kg**.
- 2 Place weights of decreasing weight according to the table on the center of the scale platter and write down the display in the appropriate table.
- 3 Remove all the weight from the platter and verify the scale has returned to **0.000 kg**.

Shift Test

The shift test is conducted with a half-capacity test load centered successively at five points for the load receiving element.

- 1 Ensure that there is no load on the scale platter and verify that the display reads **0.000 kg**.
- 2 Place a 15 lb weight on the scale platter in zone 1 identified below and write down the display in the table.



- 3 Remove the 15 lb weight and verify the display reads **0.000 kg**.
- 4 Repeat the steps above for the other zones (2, 3, 4, 5).
- 5 Verify that the display reads **0.000 kg** when all weight has been removed.

Switch Label



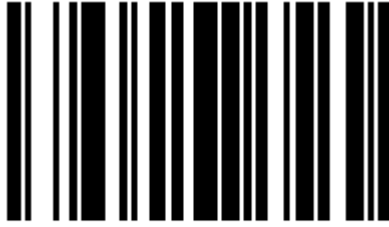
SWITCH LABEL

Set Double Read Timeout



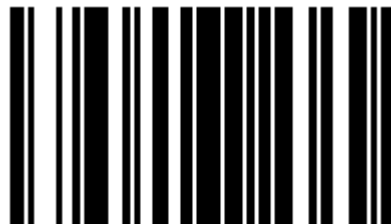
SET DOUBLE READ TIMEOUT

0 bar code



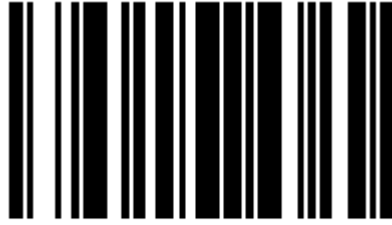
0

1 bar code



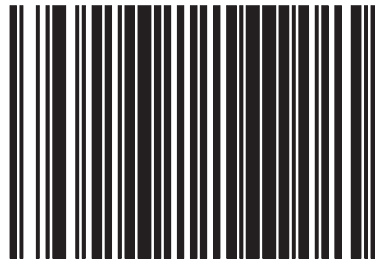
1

6 bar code



6

Switch Label



SWITCH LABEL

Setting the Double Read Timeout to 400ms

Scan the following bar codes if the Double Read Timeout setting is too short at 160ms.

Note: Only set the Double Read Timeout to 400ms if the delay is too long at 600ms.

Switch Label

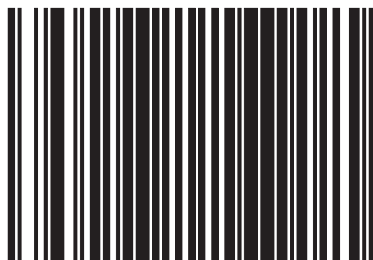


SWITCH LABEL

Double Read Timeout = 400ms



Switch Label

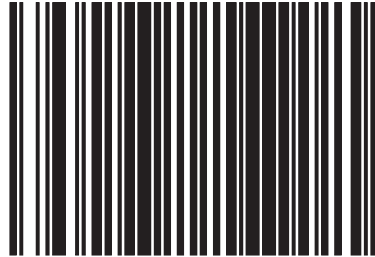


SWITCH LABEL

Setting the Double Read Timeout to 600ms (Default Setting)

Scan the following bar codes if you experience problems when the Double Read Timeout is set to 160ms AND when it is set to 400ms.

Switch Label

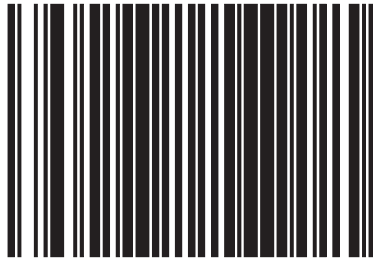


SWITCH LABEL

Double Read Timeout = 600ms



Switch Label



SWITCH LABEL

Extending the Minimum Digit Read for Code 39 Barcodes

Switch Label



SWITCH LABEL

Code 39 Min. Length = 6



Switch Label



SWITCH LABEL

Chapter 30: Metrologic Scanner Scales

This chapter contains servicing information for the Metrologic Scanner Scales found in U-Scan Genesis Stations.



Features

- StratosSCAN™ 360°, 6-sided scanning technology
- Field-replaceable optical scanning modules
- 15 kg (30 lb.) scale capacity
- Visible Laser Diode 650 nm ± 10 nm light source
- 5840 scan lines per second scan speed (66 scan lines)
- Six-sided bi-optic bar code scanner with 360° scan zone
- Built-in antenna for EAS connectivity
- Colored LED indicators and speaker beep tones for diagnostics

Technical Specifications

Environmental

- Operating temperature: 0°C to 40°C (32°F to 104°F),
Storage temperature: -40°C to 60°C
(-40°F to 140°F)
- Humidity: 5% to 95% relative humidity, non-condensing

Power Supply Requirements

- Input Voltage: 100 VAC to 240 VAC (Single Phase)
- Output Voltage (pin 1 Yellow): 5VDC @ 1.5 amps
- Output Voltage (pin 2 Red): 12VDC @ 1.5 amps
- Input Frequency Range: 50 Hz to 60 Hz
- Power: Operating - 14.25 W, Standby - 3.25 Watts
- Current: Operating - 1A @ 5VDC / 0.75A @ 12VDC,
Standby - 0.44A @ 5VDC / 0.08A @ 12VDC

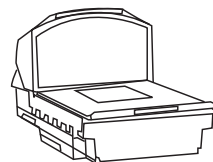
Communication

- RJ-45 to DE-9 female RS-232 communication cable connects to COM1 of the computer.

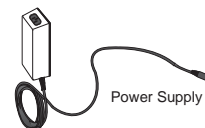
Components of the Magellan 8500XT

The Metrologic Scanner Scales consist of the following components:

- Metrologic Stratos 2320 Scanner with Mettler Toledo Diva Scale (11000896)
- Power supply (part of 11000896)
- Power cable (11000413)
- Pole displays (not shown): pounds: 11001038), kilograms (11001037)
- Checkpoint EAS cable (not shown) (11000960)
- RJ-45 to DE-9 female communication cable (11001389)



METROLOGIC Scanner Scale



Power Supply



Power Cable



RJ-45 DE-9 (F)

Communication Cable

Testing the Magellan 8500XT Scanner Scales

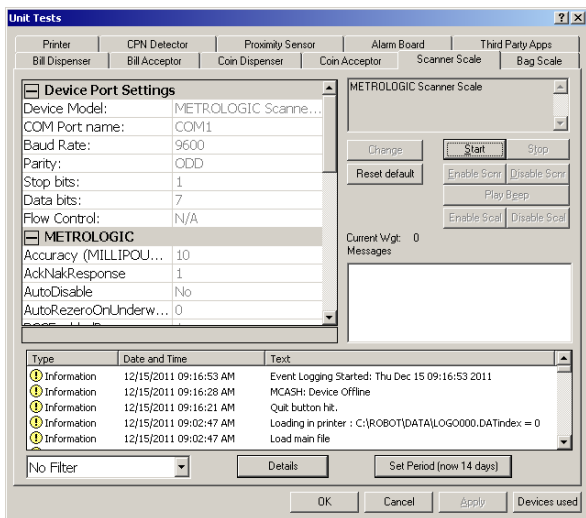
Access the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Scanner Scale** tab.



- 2 Ensure that the settings are:

Setting	Value
Device Model	Metrologic
COM	COM1
Baud Rate	9600
Parity	ODD
Data Bits	7
Stop Bits	1

- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Test the Device

*Note: Error messages are stored in the **Eventlog Viewer** and can be viewed when you exit the **Device Tester**.*

- 1 Click **Start**. The current weight displays in the **Messages** box.
- 2 Weigh an object on different areas of the Scanner Scale. Ensure that the weight is constant.
- 3 Ensure that the weight is displayed in kilograms on the middle right of the screen.
- 4 Click **ENABLE SCNR**.
- 5 Scan a bar code.
- 6 Ensure the bar code number in the **Messages** box is the same as the number of the bar code scanned in the previous step.
- 7 Click **Stop**.

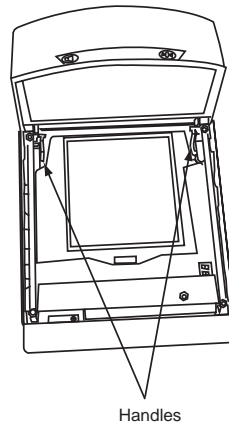
Troubleshooting the Magellan 8500XT Scanner Scales

Follow the Testing procedure

See "[Testing the Magellan 8500XT Scanner Scales](#)".

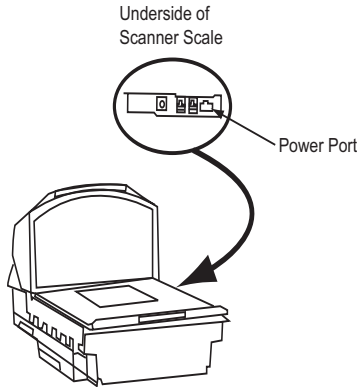
Check the Power

- 1 Remove the platter from the Scanner Scale.
- 2 Locate the handles in front of the top (vertical) scan window.



- 3 Lift the handles, then lift and remove the Scanner Scale from the bezel to access the cables.
- 4 Set the Scanner Scale on the bezel.

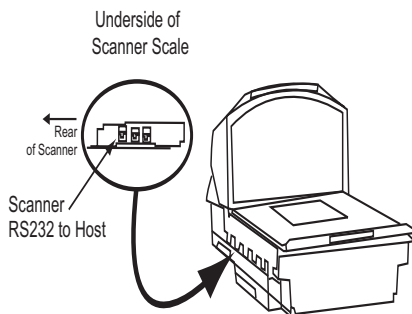
- 5 Ensure that the power adapter cable is connected to the power port on the underside of the Scanner Scale.



- 6 Unplug the power cable, and then plug it back in to cycle the power. The unit performs a self-test.
 - If the Scanner Scale beeps once and the white and blue LED come on, it is ready for normal operation.
 - If you hear a razz berry (low) tone or any other sequence of beeps, check the internal LEDs. Refer to [“Inspect the Internal \(Seven-Segment\) LEDs”](#) on page 375.

Inspect the Data Cable

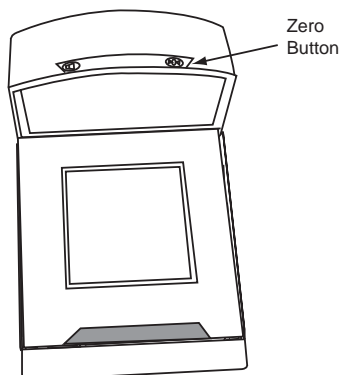
- 1 Ensure that the data cable is connected to the **Scanner RS232 to host** port on the underside of the Scanner Scale.



- 2 Ensure that the data cable is connected to COM1 on the computer.

Reset (Zero) the Scanner Scale

- 1 Press the **Zero** button.

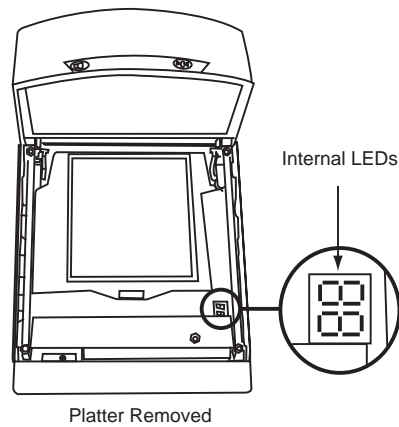


Inspect the Top (Blue and White) LED

- 1 Scan an item.
- 2 Ensure that the white LED flashes once when the item is scanned.
- 3 Ensure that the LED is not flashing if an item is not being scanned.
- 4 If the LED is flashing, note the color (blue or white) and number of times it flashes.
- 5 Refer to [“Beeper/External LED Indications”](#) on page 377 if the LED is flashing.

Inspect the Internal (Seven-Segment) LEDs

- 1 Remove the Scanner Scale platter.
- 2 Locate the internal LEDs.



- 3 If an error code is displayed, refer to [“Internal LED Indications”](#) on page 380.

Metrologic Maintenance

Cleaning the Scanner Scale (Glass Window)

- 1 Remove all items from the Scanner Scale.
- 2 Prepare a solution of one part glass cleaner and one part water.
- 3 Spray the solution on a lint-free cleaning pad or cloth, then wipe the device. Take care to avoid scratching the device surface.

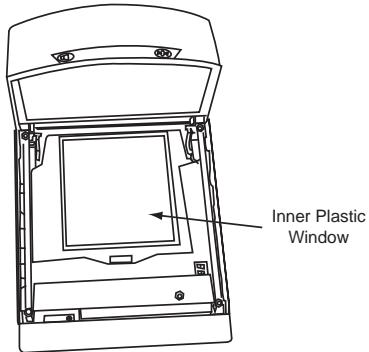
*Note: Do **not** spray the cleaning solution directly on any surface.*

*Do **not** use alcohol, acetone, abrasive cleaning products or abrasive pads.*

- 4 If necessary, remove the top platter of the Scanner Scale to clean the underside of the glass.
- 5 Replace the platter.

Cleaning the Scanner Scale (Inner Plastic Window)

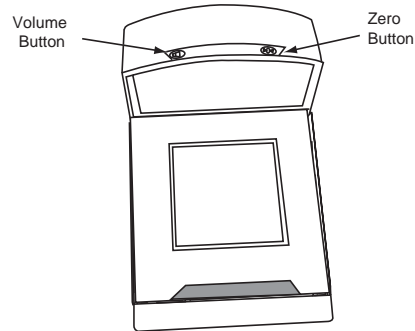
- 1 Remove all items from the Scanner Scale.
- 2 Prepare a solution of mild soap and water.
- 3 Remove the top platter of the Scanner Scale.
- 4 Moisten a lint-free pad cleaning pad or cloth moistened with the soap and water solution. **Wring the cloth out well.**
- 5 Clean the inner window. Ensure that you do not drip water from the cloth inside the Scanner Scale.



Additional Information for the Magellan 8500XT

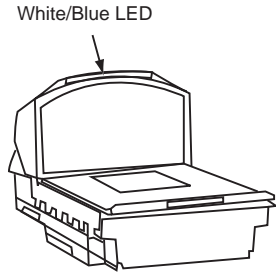
Button Functions

The Metrologic has a **Volume** and a **Zero** button.



Action	Result
Press Zero button once	• Scanner Scale is zeroed (if properly calibrated).
Press Volume button once (short press).	• Beeper volume is changed. The new beep sounds. The user can also select silent mode (no beep).

Beeper/External LED Indications



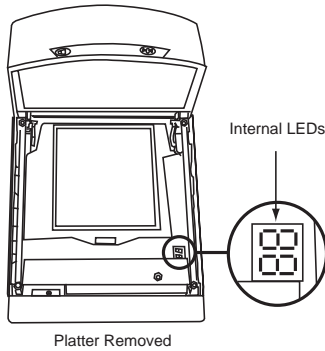
Refer to the following table for a description of beeper tones and external (white and blue) LED indications.

Beep/LED Status	Cause	Solution
No white or blue LED	<ul style="list-style-type: none"> Scanner Scale is not powered on. Lasers are turned off. Scanner Scale is in power save mode. (This mode is activated when the user presses and holds the Volume button for three seconds.) 	<ul style="list-style-type: none"> Press the Volume button or place an object on the Scanner Scale. If the Scanner Scale is in power save mode, it will return to normal operation when you press this button. If the issue is not resolved, check the power connections. Disconnect, then reconnect the power cable to cycle the power.
White LED flashes once + Blue LED on + One beep	<ul style="list-style-type: none"> Scanner was just powered on and is now ready to scan 	N/A
White LED flashes once + Blue LED on steady + One beep	<ul style="list-style-type: none"> Scanner successfully scans a bar code 	N/A
White LED flashes once + Blue LED on steady + No beep (after successful bar code scan)	<ul style="list-style-type: none"> Beep is disabled 	<ul style="list-style-type: none"> If this is the store's desired configuration, no action is required. If the store wishes to enable the beep, press the Volume button (short press) to select desired beeper volume.
Three beeps (during operation)	<ul style="list-style-type: none"> Communications time out 	<ul style="list-style-type: none"> Check the network connections. Check the communication cable connections.

Beep/LED Status	Cause	Solution
Three beeps (during configuration + White LED on	<ul style="list-style-type: none"> Scanner Scale is entering configuration mode. The white and blue LEDs will continue to flash until the unit exits configuration mode. Scanner Scale has exited configuration mode. The white LED stops flashing. 	N/A
Three beeps (when Scanner Scale is powered on)	<ul style="list-style-type: none"> Failure 	<ul style="list-style-type: none"> Disconnect and then reconnect the power cable. If the issue is not resolved, inspect the internal LED for an error code. If an error code is present, refer to “Internal LED Indications” on page 380. If the issue is not resolved, contact your support centre.
Blue LED on steady	<ul style="list-style-type: none"> All lasers are activated 	N/A
White LED on steady + Blue LED on steady	<ul style="list-style-type: none"> Bar code scanned successfully and the Scanner Scale is waiting to transmit data to the host 	N/A
Blue LED flashes then White LED flashes	<ul style="list-style-type: none"> Scanner Scale is in configuration mode. 	<ul style="list-style-type: none"> Exit the configuration utility when configuration is complete.
Every 15 seconds: Blue LED Flashes then White LED flashes	<ul style="list-style-type: none"> Scanner Scale is in sleep mode. 	<ul style="list-style-type: none"> Press the Volume button or place an object on the Scanner Scale.
White LED on steady	<ul style="list-style-type: none"> Waiting for communication from the host 	<ul style="list-style-type: none"> Wait several minutes. If the issue is not resolved, check the communication cable connections. If the issue is not resolved, check the network connections.
Blue LED flashes	<ul style="list-style-type: none"> An error condition is displayed on the internal LEDs 	<ul style="list-style-type: none"> Remove the platter. Refer to “Internal LED Indications” on page 380.

Beep/LED Status	Cause	Solution
Blue LED flashes + One Razzberry tone	<ul style="list-style-type: none"> • Laser failure (vertical or horizontal scan window). 	<ul style="list-style-type: none"> • The scanner will try up to 3 times to correct the failure condition. • If the laser continues to fail, the scan window (horizontal or vertical) will be shut down and an error code displays on the internal LEDs. This error stays on the display until corrected. • If the remaining scan window is still operational, scanning can continue using the operational components.
Blue LED flashes + White LED flashes + Two Razzberry tones	<ul style="list-style-type: none"> • Motor failure (vertical or horizontal scan window) 	<ul style="list-style-type: none"> • The scanner will try up to 3 times to correct the failure condition. • If the motor continues to fail, the scan window (horizontal or vertical) will be shut down and an error indication will be shown on the internal LEDs. This error stays on the display until corrected. • If the remaining scan window is still operational, scanning will continue using the still operational components.
Continuous Razz berry tone (on power up) + Both LEDs off	<ul style="list-style-type: none"> • Electronic failure 	<ul style="list-style-type: none"> • Contact your support centre. The Scanner Scale needs to be replaced.
Three beeps (on power up)	<ul style="list-style-type: none"> • Configuration memory failure 	<ul style="list-style-type: none"> • Contact your support centre. The Scanner Scale needs to be repaired at a service centre and replaced in the store.

Internal LED Indications



Refer to the following table if there is an error code on the internal seven-segment LEDs.

Two-Digit Error Code on LED	Issue	Solution / Explanation
02	<ul style="list-style-type: none"> RAM ERROR 	<ul style="list-style-type: none"> Contact your support centre. The Scanner Scale needs to be repaired at a service centre and replaced in the store.
03	<ul style="list-style-type: none"> PROGRAM ERROR 	<ul style="list-style-type: none"> Contact your support centre. The Scanner Scale needs to be repaired at a service centre and replaced in the store.
04	<ul style="list-style-type: none"> INTERFACE ERROR 	<ul style="list-style-type: none"> Reprogram the Scanner Scale. If the issue is not resolved, replace the Scanner Scale.
05 (three beeps sound)	<ul style="list-style-type: none"> CONFIGURATION ERROR 	<ul style="list-style-type: none"> Reprogram the Scanner Scale. If the issue is not resolved, replace the Scanner Scale.
06	<ul style="list-style-type: none"> COMMUNICATION ERROR 	<ul style="list-style-type: none"> Check the communication cable. Check the network connections.
09	<ul style="list-style-type: none"> COPROCESSOR COMMUNICATION ERROR This error can occur during firmware upgrade. 	<ul style="list-style-type: none"> Contact your support centre. The Scanner Scale needs to be repaired at a service centre and replaced in the store.
11	<ul style="list-style-type: none"> SWITCH ERROR The switch used for volume selection or sleep mode is detected in error (always closed). 	<ul style="list-style-type: none"> The condition can be self-correcting. The scanning operation can continue with this error active. If the error persists, contact your support centre. The Scanner Scale needs to be repaired at a service centre and replaced in the store.

Two-Digit Error Code on LED	Issue	Solution / Explanation
13	<ul style="list-style-type: none"> • SCALE ERROR 	<ul style="list-style-type: none"> • Ensure that a cable is not connected to the second RS-232 to Host port on the Scanner Scale. • If the issue is not resolved, contact your support centre. The Scanner Scale needs to be repaired at a service centre and replaced in the store.
14	<ul style="list-style-type: none"> • SCALE RETURN TO ZERO ERROR 	<ul style="list-style-type: none"> • Press the 0 button to zero the Scanner Scale.
21	<ul style="list-style-type: none"> • LASER #1 (VERTICAL) ERROR 	<ul style="list-style-type: none"> • The Scanner Scale tries to correct the failure three times. • If the issue is not resolved, the upper (vertical) scan window is deactivated and the error code remains on the internal LEDs. • Scanning can continue using the bottom (horizontal) scan window, but the Scanner Scale will eventually need to be replaced.
22	<ul style="list-style-type: none"> • LASER #2 (RIGHT HORIZONTAL) ERROR 	<ul style="list-style-type: none"> • The Scanner Scale tries to correct the failure three times. • If the issue is not resolved, the error remains on the internal LEDs and scanning can continue using the remaining functional lasers, but the Scanner Scale will eventually need to be replaced.
23	<ul style="list-style-type: none"> • LASER #3 (LEFT HORIZONTAL) ERROR 	<ul style="list-style-type: none"> • The Scanner Scale tries to correct the failure three times. • If the issue is not resolved, the error remains on the internal LEDs and scanning can continue using the remaining functional lasers, but the Scanner Scale will eventually need to be replaced.
31	<ul style="list-style-type: none"> • MOTOR #1 (VERTICAL) ERROR 	<ul style="list-style-type: none"> • The Scanner Scale tries to correct the failure three times. • If the issue is not resolved, the upper (vertical) scan window is deactivated and the error code remains on the internal LEDs. • Scanning can continue using the bottom (horizontal) scan window, but the Scanner Scale will eventually need to be replaced.

Two-Digit Error Code on LED	Issue	Solution / Explanation
32	<ul style="list-style-type: none"> MOTOR #2 (HORIZONTAL) ERROR 	<ul style="list-style-type: none"> The Scanner Scale tries to correct the failure three times. If the issue is not resolved, the lower (horizontal) scan window is deactivated and the error code remains on the internal LEDs. Scanning can continue using the bottom (horizontal) scan window, but the Scanner Scale will eventually need to be replaced.

Installing the MetroSet2.exe Configuration Application

Install the **MetroSet2.exe** configuration application to perform any of the following functions:

- Download the Scanner Scale firmware
- Download the Metrologic configuration instead of using the programming bar codes

Requirements:

MetroSet2Install.exe application

- 1 Insert the CD-ROM containing the **MetroSet2Install.exe** application.
- 2 Go to **D:**.
- 3 Double-click **MetroSet2Install.exe**.
- 4 On the **Welcome** screen, click **Next**.
- 5 On the **Destination Folder** screen, leave the default folder (**C:\Program Files\Metrologic Instruments\MetroSet2**) unchanged and click **Next**.
- 6 On the **Ready to Install the Program** screen, click **Install**.
- 7 Click **Finish**.

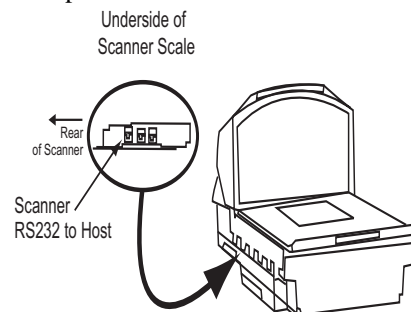
Upgrading the Metrologic Firmware

NOTE: *The minimum required firmware is P-15752.*

Requirements:

- Laptop or a computer in a staging area. Do NOT perform this procedure on the U-Scan computer.
- XXXXX.mot** flash file to upgrade firmware, where “XXXXX” represents the firmware version.
- MetroSet2Install.exe** utility or **MetroSet2.exe** utility present on computer.

- 1 If necessary, remove the Scanner Scale and cables from the U-Scan casing and move it to the staging area.
- 2 Connect the communication cable to **COM1** or **COM2** of the staging computer and to the **Scanner RS232 to host** port on the underside of the Scanner Scale.



- 3 If necessary, install the **MetroSet2.exe** application on the staging computer.
- 4 Copy the firmware flash file to the laptop or staging computer:
 - a On the laptop or staging computer, create a folder called **Metrologic** on drive C (**C:**).

- b Create a folder called **Firmware** in the **Metrologic** folder.
 - c Copy the **XXXXX.mot** file to **C:\Metrologic\Firmware**.
- 5 Double-click **MetroSet2.exe**.
 - 6 On the **Scanner Selection** screen, select **POS Scanners \ Stratos S/2200** or **Stratos 20XX/21XX/23XX**. (The option displayed depends on the MetroSet2 version.)



- 7 At the bottom of the screen, click either the **Configure Stratos S/2200** button or the **Configure Stratos 20XX/21XX/23XX** button (depending on which version of the program you are running). The **Metroset** screen displays.
- 8 In the **COM Ports** menu at the top of the screen, ensure that the correct COM port is selected.



- 9 From the bottom of the left frame under **Utilities**, click **Flash utility**.
- 10 On the **Flash Utility** window, click **Open File**.
- 11 Browse to **C:\Metrologic\Firmware**.
- 12 Click the firmware upgrade (**.mot**) once to highlight it, then click **Open**.
The **Confirm flash settings** screen displays.
- 13 Confirm the settings, then click **Flash Scanner**.
The firmware downloads. A trilling beep plays when the upgrade is complete.
- 14 Click **Close** on the **Flash was successful** screen.
- 15 Exit the utility.

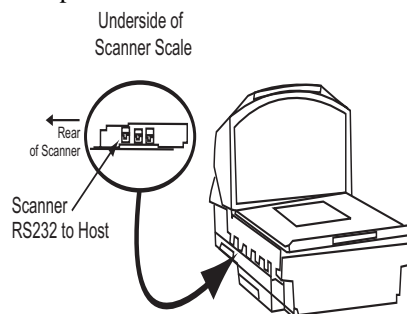
- 7 Double-click **Stratos S/2200** (or **Stratos 20XX/21XX/23XX**). (The option displayed depends on

Downloading the Metrologic Configuration

Perform this procedure when you are setting up a new Scanner Scale. If you do not have access to the **MetroSet2.exe** utility or the appropriate **.mst** file listed below, scan the programming bar codes in [“Configuring the Metrologic using Programming Barcodes”](#) on page 385 instead.

Requirements:

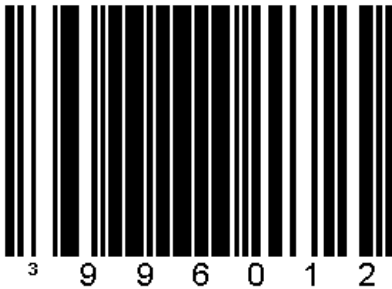
- Laptop or a computer in a staging area. Do NOT perform this procedure on the U-Scan computer.
 - Printed copy of the bar codes in this procedure.
 - **MetroSet2Install.exe** utility
 - **USCAN_NCR_9950 Emul lb.mst** file V 0.1 (US)
 - **USCAN_NCR_9950_Emul UK Metric.mst** file V 0.1 (UK)
 - **USCAN_NCR_9950_Emul Metric.mst** file V 0.1 (All other countries)
- 1 If necessary, remove the Scanner Scale and cables from the U-Scan casing and move it to the staging area.
 - 2 Connect the communication cable to **COM1** or **COM2** of the staging computer and to the **Scanner RS232 to host** port on the underside of the Scanner Scale.



- 3 If necessary, install the **MetroSet2.exe** application on the staging computer. Refer to [“Installing the MetroSet2.exe Configuration Application”](#) on page 382.
- 4 Copy the appropriate **.mst** file for your region to a folder you create on the staging computer (example: **C:\Metrologic**) OR to a storage device such as a floppy disk, CD, or USB memory key:
 - a US: **USCAN_NCR_9950 Emul lb.mst** V 0.1
 - b UK: **USCAN_NCR_9950 Emul UK Metric.mst** V 0.1
 - c All other countries: **USCAN_NCR_9950 Emul Metric.mst** V 0.1
- 5 Double-click **MetroSet2.exe**.
- 6 Click **POS Scanners**.
the MetroSet2 version.)

- 8 Click **Open File**.
- 9 Browse to the location of the **.mst** file (example: **C:\Metrologic** if saved on the staging computer, **D:** if saved on a CD).
- 10 Select the **.mst** file for your region and click **Open**.
- 11 From the menu bar at the top of the screen, click **Download**. A confirmation screen appears.
- 12 Click **OK**. The Metrologic resets and the configuration downloads. The Metrologic beeps three times and the **Download Successful** screen displays when the download is complete.
- 13 Click **OK**.
- 14 Close the **MetroSet** utility.
- 15 Scan the following bar codes:

Scale = Single Cable Interface



Scale Save Data

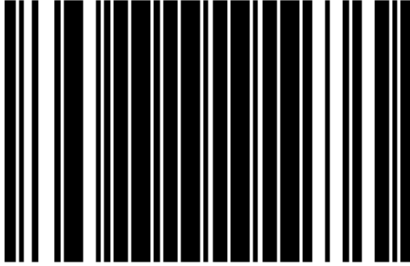


- 16 If you are setting up the Scanner Scale for the first time, check the bar codes in [“Metrologic - Additional Programming Barcodes”](#) on page 395 to determine if you need to scan any additional bar codes.

Configuring the Metrologic using Programming Barcodes

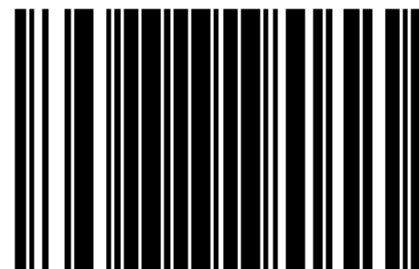
If you do not have access to the **MetroSet2.exe** utility or the appropriate **.mst** file described in [“Downloading the Metrologic Configuration” on page 383](#), you must scan the following programming bar codes in order to configure the scanner.

1. Enter Program Mode



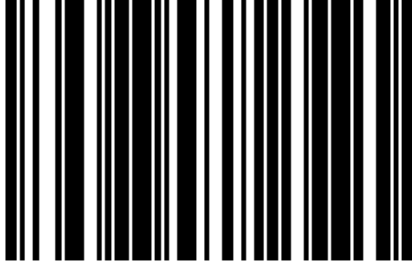
999999

2. Load RS232 Defaults



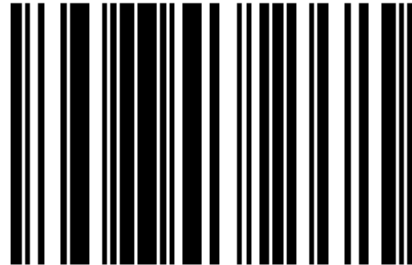
999980

3. Configuration Code 1



800830

4. Configuration Code 2



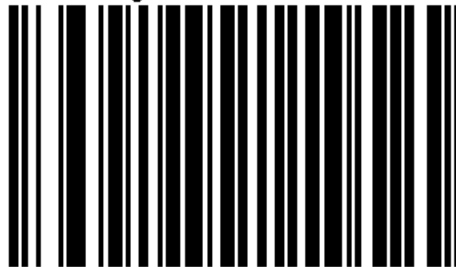
807820

5. Configuration Code 3



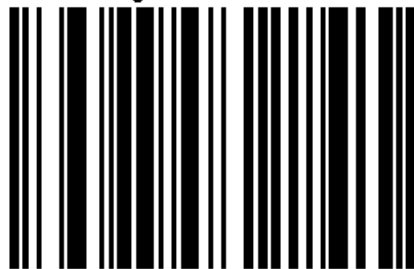
807970

6. Configuration Code 4



8160160

7. Configuration Code 5



816600

US Scanners

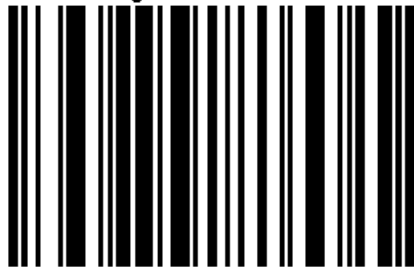
WAIT

Note: Only scan the following barcode for code 6 if you are in the USA. Then, continue scanning on [page 391](#).

For METRIC calibration for this step, scan the barcode on [page 389](#).

For UK METRIC calibration for this step, scan the barcode on [page 390](#).

8. Configuration Code 6



840940

Metric Scanners

Note: Only scan the following barcode for code 6 if you are using a metric configuration. Then, continue scanning on [page 391](#).

For UK METRIC calibration for this step, scan the barcode on [page 390](#).

For US calibration for this step, scan the barcode on [page 388](#).

8. Configuration Code 6



8409200

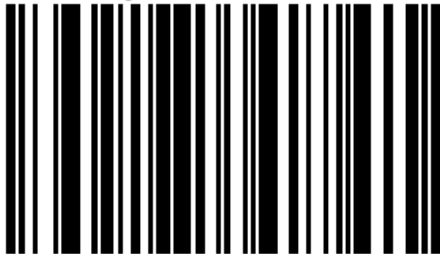
UK Metric Scanners

Note: Only scan the following barcode for code 6 if you are in the UK.

For METRIC calibration for this step, scan the barcode on [page 389](#).

For US calibration for this step, scan the barcode on [page 388](#).

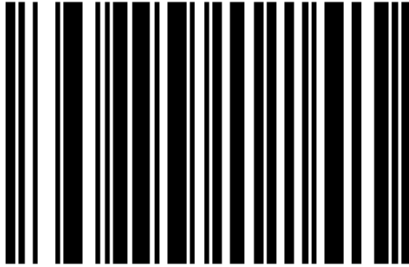
8. Configuration Code 6



8409210

Continue Scanning

9. Configuration Code 7



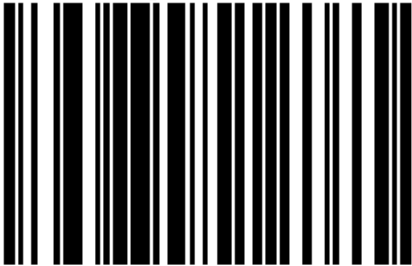
841200

10. Configuration Code 8



84141660

11. Configuration Code 9



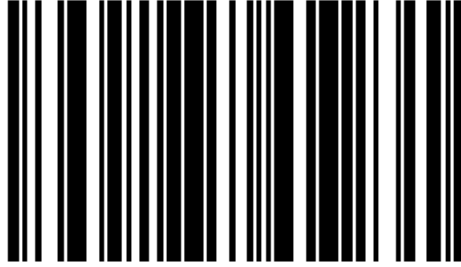
841630

12. Configuration Code 10



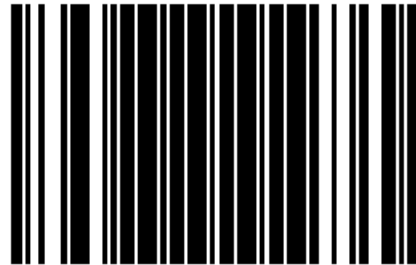
8417320

13. Configuration Code 11



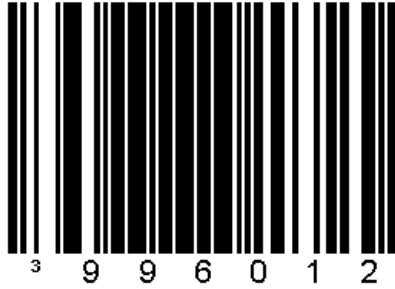
8419290

14. Exit Program Mode



999999

Scale = Single Cable Interface



Scale Save Data



Scan the bar codes as required in [“Metrologic - Additional Programming Barcodes”](#) on page 395.

Metrologic - Additional Programming Barcodes

Note: To set the Scanner Scale to Metric or Imperial, perform the procedure “Calibrating the Metrologic Scanner Scale” on page 397.

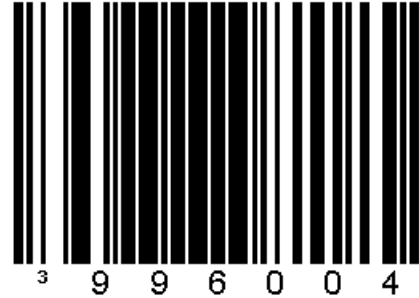
The following bar codes are included in this section:

Bar Code	Application
Scale = Single Cable Interface (page 395)	Required for programming all Metrologic Scanner Scales.
Scale Has No Display (page 395)	Required if the system does not use a pole display.
Type K Diva Scale (page 396)	The Metrologic is already programmed to recognize the Diva Scale. Scan this bar code only if the non-volatile memory is lost.
Scale Save Data (page 396)	Scan this bar code after scanning any other programming bar code so that the settings are saved in memory. <i>Note: You do not need to scan this bar code after scanning the Kilograms Calibration or Pounds Calibration bar codes.</i>

Scale Has No Display

Scan the **Scale Has No Display** bar code if the Scanner Scale does not use a pole display. Scan the **Scale Save Data** bar code (page 396) after you scan this bar code.

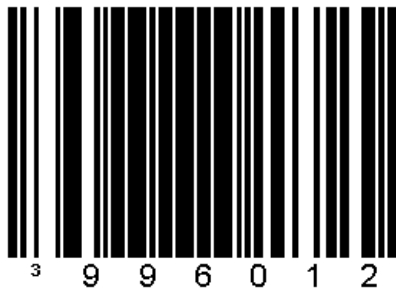
Scale Has No Display



Scale = Single Cable Interface

Scan the **Scale = Single Cable Interface** bar code on all Metrologic Scanner Scales.

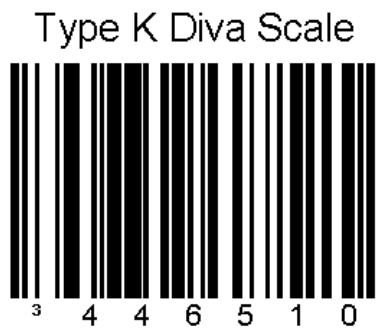
Scale = Single Cable Interface



*If you followed the procedures in “[Downloading the Metrologic Configuration](#)” on page 383 or “[Configuring the Metrologic using Programming Barcodes](#)” on page 385, you have already scanned this bar code.

Type K Diva Scale

Scan the **Type K Diva Scale** bar code if the scanner's non-volatile memory is lost.



Scale Save Data

Scan the **Scale Save Data** bar code to save the new settings.



Calibrating the Metrologic Scanner Scale

The Scanner Scale may need to be calibrated if:

- The Scanner Scale is being installed for the first time.
- It cannot be reset to zero.
- The weight measure has been changed from pounds to kilograms or vice versa.
- The calibration seal is missing or torn.
- The weight module has been replaced.

Requirements:

- Phillips #1 screwdriver
- Certified 15 kg (or 30 lb.) field weight set
- ESD strap

Continue with the following steps to ensure that the Scanner Scale meets the Office of Weights and Measures' requirements.

LEGAL NOTE

Certification of the Scanner Scales weighing apparatus is subject to federal, state and local Weights and Measures statutes and is restricted to authorized government agencies and/or duly registered agents thereof. Any time a scale is calibrated, it should be properly sealed with a lead, wire or paper seal before being placed into service.

It is the user's responsibility to verify with the appropriate authorities in the area to ensure compliance with pertinent regulations before removing official seals or putting a newly calibrated Scanner Scale into service.

- 1 Ensure that the Scanner Scale is receiving power.

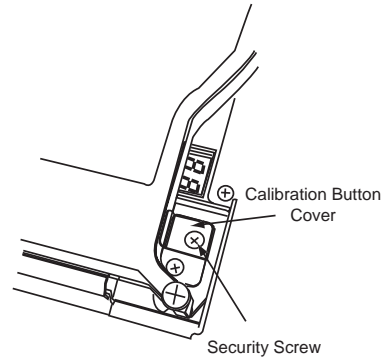
*Note: The Scanner Scale must be plugged in for a **minimum of 30 minutes** (warm-up period) before calibration.*

- 2 Remove the platter.

- 3 Access the calibration button:

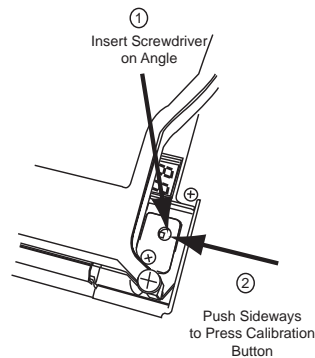
- a Remove the adhesive seal covering the calibration button cover.

- b Remove the security screw.



- c Remove the calibration button cover.

- 4 Insert a Phillips #1 screwdriver on an angle into the calibration button hole.



- 5 Push sideways on the screwdriver (towards the middle of the unit) to press the calibration button and enter Scale Programming mode. If applicable, the messages **cal** and **conf** display on the pole display.
- 6 Replace the platter.

- 7 Use the vertical scan window to scan the **Kilograms Calibration** programming bar code.

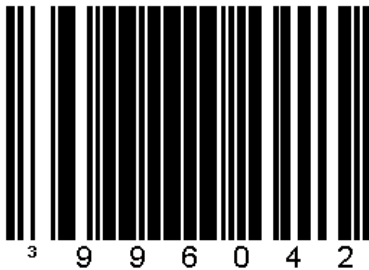
Kilograms Calibration



OR:

In the US, use the vertical scan windows to scan the **Pounds Calibration** programming bar code.

Pounds Calibration



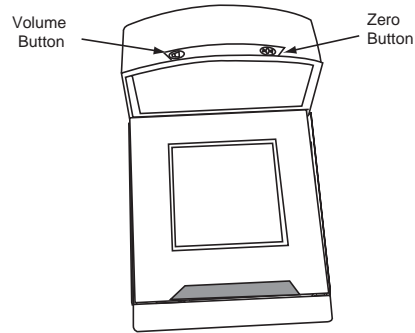
The scanner beeps once when the scale enters Calibration mode.

Note: If a razz berry tone sounds, an error has occurred. Refer to the "Internal LED Indications" on page 380.

If applicable, the message **CAL** then ----- displays on the pole display. The white LEDs flash.

Note: If a pole display is not available, use the beeps and LED indications to proceed through the calibration procedure

- 8 After dashes appear on the pole display, press the **Volume** button. The scanner beeps once.



- 9 After the **FULCAP** message displays on the pole display and the white LED flashes three times, place the maximum weight capacity (15 kg or 30 lb.) on the center of the platter.

- 10 Wait 3 seconds for the weight to settle, then press the **Volume** button. The Scanner beeps once.

- 11 Wait for the Scanner to beep three times, the message **UNLOAD** to display on the pole display, and the white LED to flash five times.

- 12 Remove the weight from the scale, then press the **Volume** button. The Scanner beeps once.

- 13 After a brief pause the scanner beeps five times and the remote display displays all eights. The scanner beeps once as it begins an initialization routine and beeps once again just before becoming operational. The blue LEDs remain lit.

- 14 Calibration must be verified by Weights & Measures. Follow the local requirements for Weights & Measures notification.**

Verify the Scale Calibration

Write the serial number and test measurements for each scale in the appropriate boxes in the tables at the end of this section.

Perform the following tests to verify the scale calibration:

- Increasing Load Test
- Over-weight Test
- Decreasing Load Test
- 15 lbs. Shift Test

All attempts should be made to get as close to zero variance for all tests. The predominance of scales reading above nominal weights shall cause a site to be in violation. (Just as many scales should read above nominal value as below.) Recalibrate those scales to achieve compliance.

These instructions are intended for Fujitsu Transaction Solutions (FTXS) use on 30 × 0.01 lb retail scales only. Weight values reflect the display's capability. Remember that the difference between the highest and lowest value of the shift test is = 0.01 lbs for acceptance.

Accepted tolerances are: 0 to 5.00 lbs: +/- 0.00 lbs, 5.01 to 20 lbs: +/- 0.01 lbs, 20.01 to 40 lbs: +/- 0.01 lbs, 40.01+ lbs: +/- 0.02 lbs.

Increasing Load Test

*Note: If your system does not have a pole display, access the **Device Tester** and use the weight measure displayed in the bottom right corner of the screen.*

- 1 Write the serial number and test measurements for each scale in the appropriate boxes in the tables starting on the next page.
- 2 Ensure there is no load on the scale platter and ensure that the display (if applicable) reads **0.000 kg**.
- 3 Place weights of increasing weight according to the table on the center of the scale platter and write down the display in the table.
- 4 Remove all the weight from the scale platter and verify the display reads **0.000 kg**.

Over-weight Test

- 1 Ensure there is no load on the scale platter and ensure that the display (if applicable) reads **0.000 kg**.
- 2 Place a 30.20 pound weight on the center of the scale platter and write down the display in the appropriate table.
- 3 Remove all the weight from the scale platter and verify the display reads **0.000 kg**.

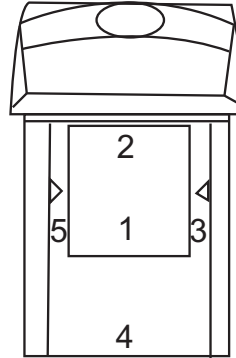
Decreasing Load Test

- 1 Ensure there is no load on the scale platter and verify the display reads **0.000 kg**.
- 2 Place weights of decreasing weight according to the table on the center of the scale platter and write down the display in the appropriate table.
- 3 Remove all the weight from the platter and verify the scale has returned to **0.000 kg**.

Shift Test

The shift test is conducted with a half-capacity test load centered successively at five points for the load receiving element.

- 1 Ensure there is no load on the scale platter and verify the display reads **0.000 kg**.
- 2 Place a 15 lb weight on the scale platter in zone 1 identified below and write down the display in the table.



- 3 Remove the 15 lb weight and verify the display reads **0.000 kg**.
- 4 Repeat the steps above for the other zones (2, 3, 4, 5).
- 5 Verify that the display reads **0.000 kg** when all weight has been removed.

Replacing the Scanner Scale

Parts and Tools

Part	Quantity	Part Number
Metrologic Scanner Scale	1	11000896

- 1 Unlock and open the bottom door.
- 2 Shut down the computer. Refer to “Shutting Down the Genesis Station” in the Genesis System Description Manual.
- 3 Unlock and open the top door.
- 4 Remove the screw that secures the side panel. Remove the side panel.



- 5 Remove the two screws that secure the stainless steel bezel and the bezel.



- 6 Lift the Scanner Scale and disconnect the cables.
- 7 Remove the Scanner Scale.
- 8 Connect the cables to the new Scanner Scale. Refer to the table above for the part number.
- 9 Set the Scanner Scale in the casing.

- 10 Replace the bezel. Fasten the two screws to secure the bezel.
- 11 Replace the side cover. Fasten the screw to secure the side cover.
- 12 Close and lock the top door.
- 13 Start the U-Scan Station.
- 14 Close and lock the bottom door.
- 15 Calibrate the Scanner Scale as explained on [page 397](#).

*Note: The Office of Weights and Measurements or the local authority **MUST** certify the Scanner Scale before it is put into use in the store.*

- 16 Test the Scanner Scale in the **Device Tester** as explained on [page 374](#).

Chapter 31: Topaz Signature Capture

This chapter contains servicing information for the Topaz Signature Capture device, found in U-Scan Genesis Customer and Payment Stations.



Features

- LCD screen
- Touchpad sensor
- Passive stylus pen
- 377 points per second data conversion rate
- 410 true points per inch resolution
- Dimensions: 152 x 97 x 18mm (6" x 3.8" x 0.70")
- Signature pad area: 112 x 33mm (4.4" x 1.3")

Technical Specifications

Power

- USB powered (through USB Hub)

Communication

- USB (USB Hub Port 2)

Components of the Topaz T-L460 Signature Capture Device

The Signature Capture Device consists of the following components:

- Topaz T-L460 Signature Capture Device with USB connection, and stylus (11000882)
- USB extension cable (not shown) (11001399)



Testing

Accessing the Device Tester

- 1 Locate the computer keyboard.
- 2 Press alt+tab and select the **Robot Control** window.
- 3 Touch **Stop Robot**. The Launchpad appears.
- 4 Touch **Device Tester**.
- 5 Enter the password (1379), then touch **Done**. The Device Tester appears.

Note: If 1379 does not work, try 8906.

Check the Settings

- 1 In Device Tester, click the **Printer** tab.
- 2 Ensure that the settings are:

Setting	Value
Device Model	TOPAZ
COM	USB (USB Hub 2)

Note: All the remaining setting fields are set to N/A.

- 3 If you need to change a setting,
 - a Press **ALT+***. (The * key is on the number pad).
 - b Click **Change**.
 - c Change the settings as required.
 - d Click **Apply**.

Test the Device

- 1 Click **Start**. The message **DEVICE::ONLINE{Signature Capture}**, appears in the **Messages** box.
- 2 Click **Enable**.
- 3 Write on the Signature Capture.
- 4 Ensure that the characters display properly on the Signature Capture pad and in the **Device Tester**.
- 5 Verify any messages in the **Messages** box.

*Note: Error messages are also entered in the **Event Log Viewer**. You can view messages in the **Event Log Viewer** when you exit the **Device Tester**.*
- 6 Touch **Stop**.
- 7 Click **OK**.

Topaz Common Problems and Solutions

This section provides basic steps for resolving common problems. Refer to [“Troubleshooting” on page 405](#) for the full troubleshooting procedures.

Issue(s)	Possible Cause(s)	Possible Solution
Signature capture data is not being received	<ul style="list-style-type: none"> • Disconnected cable 	<ul style="list-style-type: none"> • Ensure that the USB cable is connected to the USB Hub. A green LED should be on for the Signature Capture cable connection. • Ensure that the USB Hub is connected to the Computer. • Ensure that the USB Hub power cable is connected. • If the issue is not resolved, access the Device Tester and verify the Device Model and COM settings. Refer to “Testing” on page 403.
Signature pad screen is too dark or too light.	<ul style="list-style-type: none"> • Contrast needs to be adjusted. 	<ul style="list-style-type: none"> • Refer to “Adjusting the Contrast” on page 405.
Characters do not “follow” the pen when the signature pad is signed.	<ul style="list-style-type: none"> • Signature pad screen needs to be cleaned. • Signature pad screen needs to be calibrated. 	<ul style="list-style-type: none"> • Spray a lint-free cloth with a solution of one-part glass cleaner to one-part water, then wipe the signature pad. • Refer to “Calibrating the Signature Pad” on page 405.

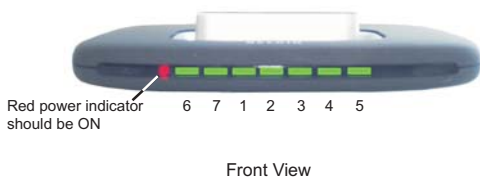
Troubleshooting

Follow the Testing Procedure

See “Testing” on page 403.

Inspect the Cable Connections

- 1 Ensure that the Signature Capture is plugged into Port 2 of the USB Hub.
- 2 Ensure that the LED for Port 2 of the USB Hub is lit green.



Inspect the Screen

- 1 Inspect the screen for any signs of damage.
- 2 Ensure that the contrast is adequate. If it needs to be adjusted, refer to “Adjusting the Contrast” on page 405.
- 3 Write on the screen and ensure that it is properly calibrated. If necessary, recalibrate the screen. refer to “Calibrating the Signature Pad” on page 405.

Clean the Signature Pad

Spray the suggested cleaning solution (one part glass cleaner to one part water) on a lint-free cloth or pad, then wipe the device.

Additional Information

Adjusting the Contrast

- 1 Disconnect the Signature Capture cable from the USB Hub.
- 2 Touch the upper right corner of the signature pad with the pen tip.
- 3 With the pen in this position, re-connect the Signature Capture cable. The contrast adjustment screen displays. The options **LIGHTER**, **DARKER**, **OK** and the model number display.

Note: If these options do not display, disconnect and reconnect the cable again, making sure that the pen tip is firmly pressed against the signature pad.

- 4 To make the screen darker (increase contrast), tap **DARKER** several times with the pen until the screen is at the desired contrast.

OR

To make the screen lighter (decrease contrast), tap **LIGHTER** several times with the pen until the screen is at the desired contrast.

- 5 Tap **OK** to set the contrast. The Signature Capture device is now ready to be used.

Calibrating the Signature Pad

- 1 Disconnect the Signature Capture cable.
- 2 Touch the upper left corner of the signature pad with the pen tip.
- 3 With the pen in this position, re-connect the Signature Capture cable. A small line of dots appears in the upper left corner of the screen.
- 4 Hold the pen at a natural writing angle, then lift pen tip from display, press pen tip back down on the upper left dot and hold.
The mark will disappear from the upper left corner, and reappear in the lower right corner.
- 5 Press pen tip on lower right dot and hold.
A wave will cross the screen from top to bottom. The signature pad is now calibrated and will show any markings made with the pen.
- 6 Test the Signature Capture device in the **Device Tester**. Refer to “Testing” on page 403.
- 7 If performance is not acceptable, follow the instructions carefully to re-calibrate.

Replacing the Signature Capture Device

Parts and Tools

Part	Quantity	Part Number
Signature Capture device	1	11000882
Signature Capture bracket	1	
Screwdriver	1	n/a
4-40x3/4 screws	4	11002203
4-40 nut	1	
M4 screws	4	
Plastic retaining washers	4	11002204
M3 washers	4	11001294
USB extension cable	1	11001399

Removal

- 1 Unlock and open the upper door of the Customer Station.
- 2 Unplug the USB extension cable from the USB Hub. Remove the USB cable from the casing clamps.
- 3 Locate the four M4 screws that hold the Signature Capture device bracket on the casing.

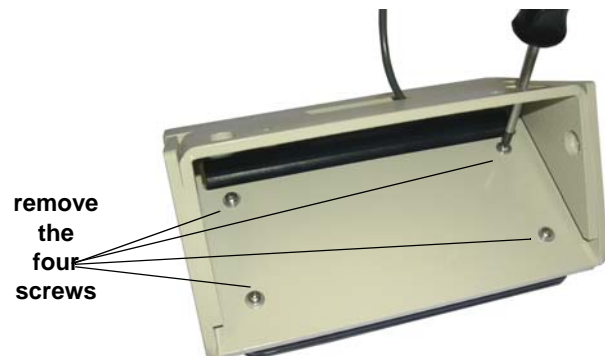


Signature capture device attached to upper door, seen from behind

door strut

- 4 Hold the unit in place while you un-attach the four screws from behind and remove the bracket.
- 5 Pull the USB cabling back through the opening in the door. Leave the M4 screws connected to the plastic retaining washers that are installed on the door.

- 6 If necessary, remove the stylus lanyard from the side of the bracket.
- 7 Remove the four 40x3/4 screws and M3 washers (11001294) that attach the Signature Capture device to the bracket.



remove the four screws

- 8 Remove the Topaz unit from the bracket, pulling the USB cable out through the notch.

Replacement

- 1 Remove the stylus lanyard from the replacement unit. Set aside the screw, washer, and spacer.
- 2 Remove the two rubber feet. Remove the three screws that are now visible.



Remove stylus lanyard

Remove screw

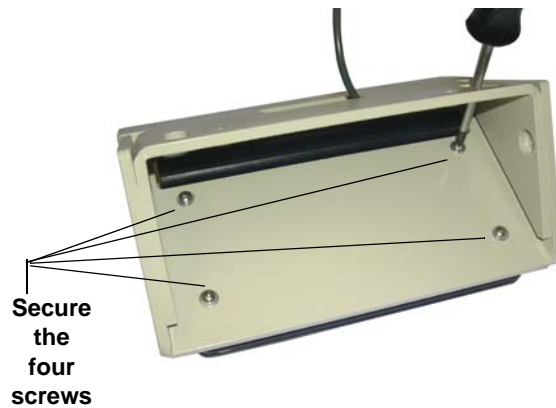
Remove screws

- 3 Insert the new Topaz unit into the bracket, passing the USB cable through the notch and out through the rear opening of the bracket.



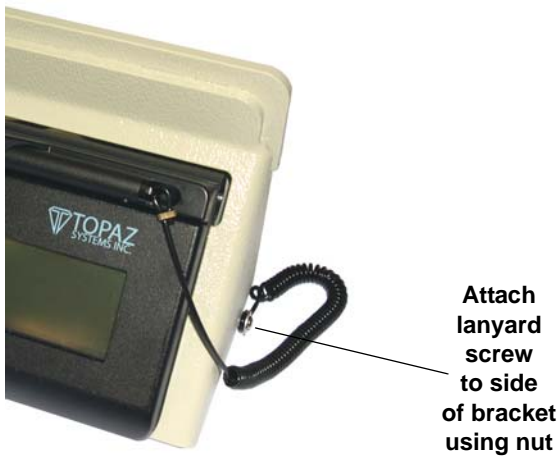
Pass cable out through the back

- 4 Use the four supplied 40x3/4 screws and M3 washers (11001294) to re-attach the Signature Capture device to the bracket as shown below:

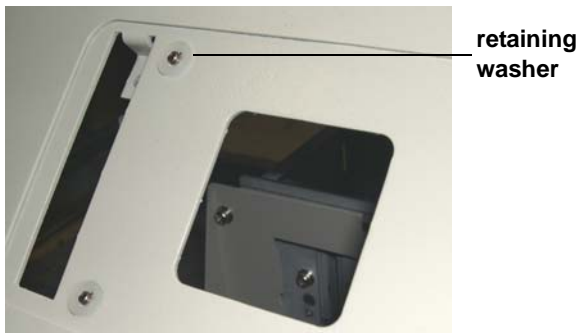


- 7 Run the USB cable through the opening in the Customer Station upper door.
- 8 Align the bracket to the four screws you attached to the door, then tighten the screws.
- 9 Continue running the USB cable through the cable clamps to the area behind the Bill Acceptor.
- 10 Connect the USB cable to the USB extension cable (11001399), which will extend to connect to the USB Hub.

- 5 If you remove the original stylus lanyard, use the 4-40 nut to attach the stylus lanyard screw to the side of the bracket that's furthest away from the Touch Screen monitor on the Customer Station.



- 6 Open the upper door of the Customer Station. If the four M4 screws are not already in place on the door, reach around from the inside and insert four M4 screws through the four holes, holding them in place with plastic retaining washers. The retaining washers (only one is shown below) compensate for the recess in the door.



Chapter 32: Powervar UPS

This chapter contains servicing information for the Powervar UPS (Uninterruptible Power Supply) device, found in U-Scan Genesis Customer and Payment Stations.



Features

- 93% online efficiency
- 125 BTU/HR output
- Powervar 600 UPS/Conditioner: <3% T.H.D. max (while on battery)
Powervar 500 Conditioner: 3% T.H.D. max (while on battery)
- Isolation transformer to eliminate common mode (neutral to ground) voltages
- Maintenance-free internal battery
- Powervar 600 UPS/Conditioner: One IEC 320 inlet, six NEMA receptacles
(Powervar 500 Conditioner: four NEMA 5-15R receptacles)
- RoHS-compliant

Technical Specifications

Power

Powervar 600 UPS/Conditioner (North America)	Powervar 500 Conditioner (North America)
<ul style="list-style-type: none"> • Input: 100-120 VAC • Output: 100-120 VAC • Input range without going to battery: 96 to 151 VAC • Output regulation: input voltage $\pm 10\%$ • Backup time full load: 6 minutes • Backup time half load: 20 minutes 	<ul style="list-style-type: none"> • Input: 120-120 VAC • Output: 120-120 VAC • Input range without going to battery: 92 to 140 VAC • Output regulation: input voltage $\pm 10\%$
Powervar 600 UPS/Conditioner (Europe)	Powervar 500 Conditioner (Europe)
<ul style="list-style-type: none"> • Input: 220-240 VAC • Output: 220-240 VAC • Input range without going to battery: 181 to 290 VAC • Output regulation: input voltage $\pm 10\%$ • Backup time full load: 6 minutes • Backup time half load: 20 minutes 	<ul style="list-style-type: none"> • Input: 220-240 VAC • Output: 220-240 VAC • Input range without going to battery: 181 to 290 VAC • Output regulation: input voltage $\pm 10\%$

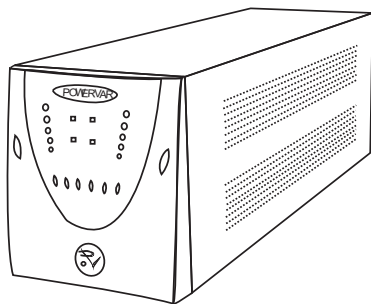
Components of the Powervar UPS

North America:

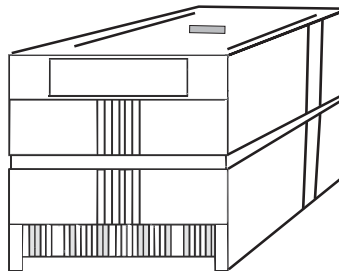
- Powervar 600 UPS/Conditioner (11002358)
OR Powervar 500 Conditioner (11001395)
- Battery (not shown - UPS only) (11002360)
- USB cable (not shown) (11001398) connects to USB-B
- Power cable (11000049)

Europe:

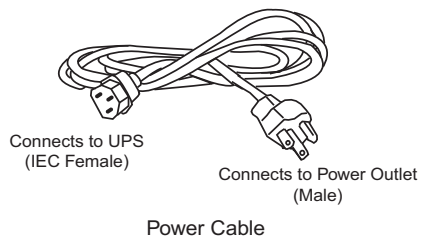
- Powervar 600 UPS/Conditioner (11002359)
OR Powervar 500 Conditioner (11001396)
- Battery (Powervar 600 - 11002360; Powervar 500 - 54835-01)
- USB cable (not shown) (11001398) connects to USB-B
- Power cable (11000961)



Powervar 600 UPS/Conditioner



Powervar 500 Conditioner



Troubleshooting the Powervar UPS



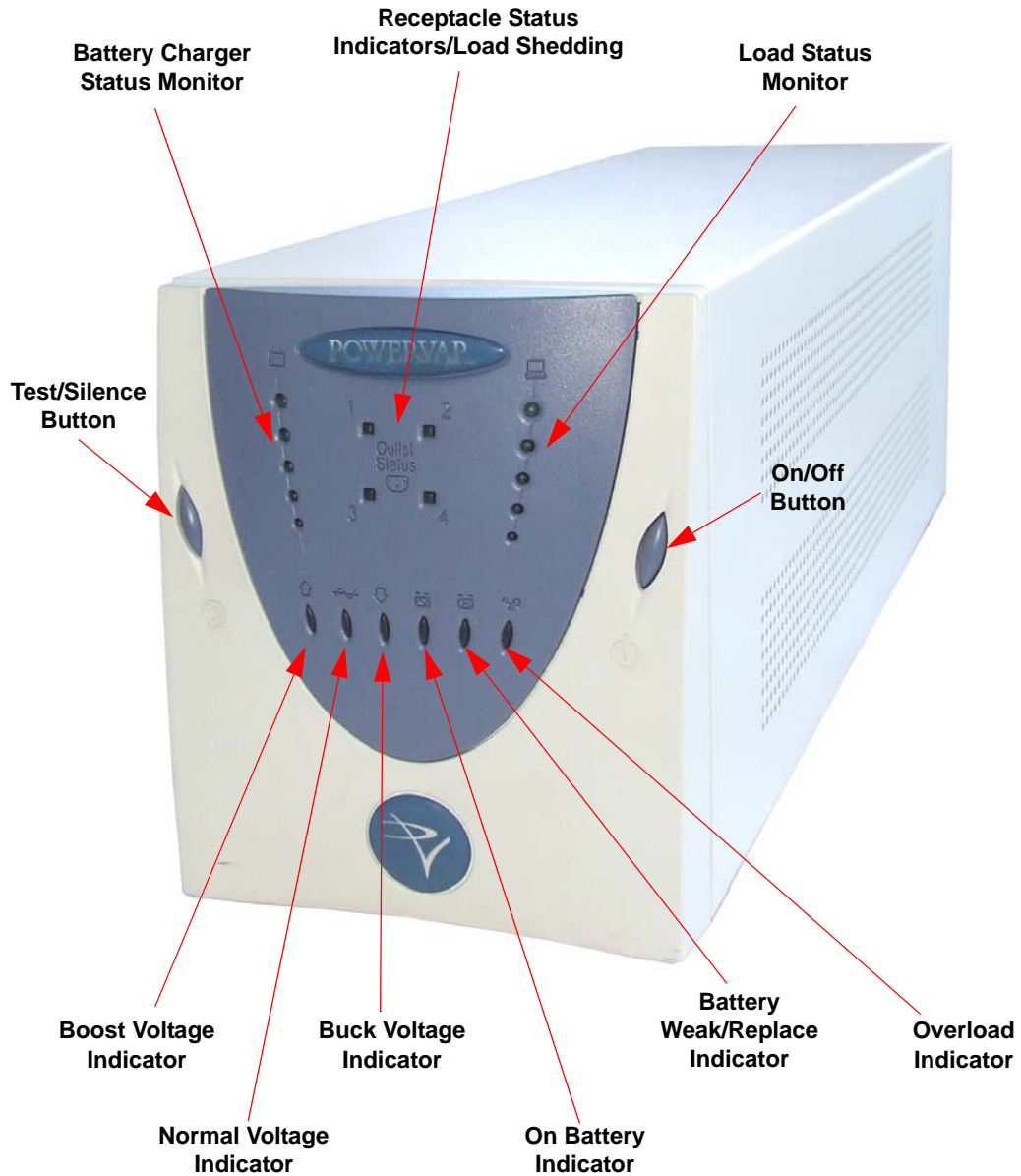
Ensure that only U-Scan components are connected to the U-Scan power bars. Connecting other components to the U-Scan power bars can overload the UPS.

Powervar Front Panel Indicators

Caution: The UPS has its own internal power source (battery) and the outlets on the back panel can be live even when the UPS is not connected to an AC power source.

Front Panel

The following photograph identifies the indicators on the front panel of the unit.



Rear Panel

The following photograph identifies the LED, switches, and jumper on the rear panel of the unit.



DIP Switch Settings for 120V/220V

1	OFF
2	OFF
3	ON
4	OFF

Inspect the Power Connections

Note: One common fault is caused by the installer plugging the UPS into AC power without the DC battery jumper connected. The DC battery jumper must be installed prior to plugging the UPS into AC power.

THIS DOES NOT APPLY to units with serial numbers higher than [North America: 5406093R-0930001 (firmware version PV58V11FB)]

[Europe: 5506060R-0930001 (firmware version PV58V11FB)] – see “Firmware Update” on page 419.

- 1 Locate the UPS inside the casing of the Attendant or the Customer Station.
- 2 Locate the UPS power cable.

- 3 Ensure that the UPS is connected to the isolated ground socket.

Note: This socket is labeled with a black triangle.

- 4 Locate the power bar power cable.
- 5 Ensure that the power bar power cable is plugged into one of the UPS battery backup sockets.

Check the Status of the Power Strip

- 1 Locate the power strip inside the casing of the Attendant or Customer Station.
- 2 Ensure that the power strip is on.
- 3 Locate the circuit breakers on the side of the power strip.
- 4 Ensure that the circuit breakers are in the appropriate positions.
- 5 Reset the circuit breakers if they have been tripped.
- 6 Shut down the computer.
- 7 Turn the power strip on and then off again to cycle the power.

Check the Power Socket and Input AC Circuit Breakers

Caution: Only use a multimeter if you know how to use it. Set the multimeter to AC voltage.

- 1 Locate the socket (labeled with a black triangle) on the inside of the Customer or Attendant Station casing.
- 2 Shut down the computer.
- 3 Power off the UPS.
- 4 Unplug the UPS from the socket.
- 5 Verify the status of the socket with a multimeter. The multimeter should measure 105-130 VAC.

OR

Plug the lane light into the socket and verify that the light turns on.

- 6 Locate the two circuit breakers on the back of the UPS.
- 7 Press the circuit breakers to reset the UPS.
- 8 Locate the **Site Wiring Fault** LED on the back of the UPS.
- 9 If the **Site Wiring Fault** LED is on, an electrician must check the socket.

Check the UPS Switch Settings

- 1 Locate the DIP switches on the back of the UPS.
- 2 Ensure that the DIP switches are set as shown on [page 412](#).
- 3 Connect the DC battery jumper on the rear of the unit.

*Note: It is very important to connect the DC battery jumper **before** applying AC power to the unit. If this is not done in the correct order, the battery will not charge. If the power is applied but the jumper is not connected, you must remove AC power for 10 minutes, then connect the battery jumper and then connect the AC power to reset the charging circuit.*

THIS DOES NOT APPLY to units with serial numbers higher than [North America: 5406093R-0930001 (firmware version PV58V11FB)] [Europe: 5506060R-0930001 (firmware version PV58V11FB)] – see “[Firmware Update](#)” on [page 419](#).

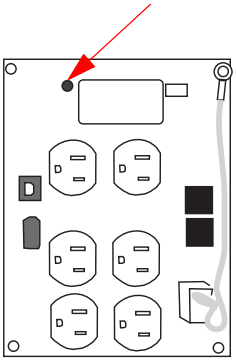
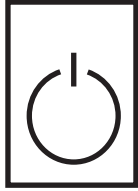

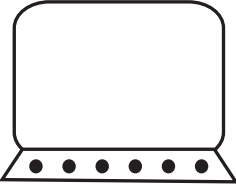
Check the UPS Alarm Status




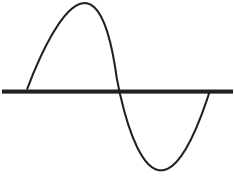

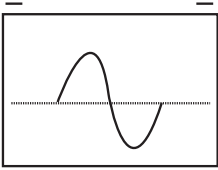
- 1 Ensure that the UPS is on.
- 2 Verify the UPS LED status. (Refer to “[Powervar Indicators and Controls](#)” in “[Additional Information for the Powervar UPS](#).”)
- 3 If the UPS is emitting a tone, refer to “[Troubleshooting Chart](#)” in “[Additional Information for the Powervar UPS](#).”

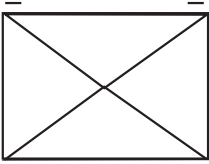
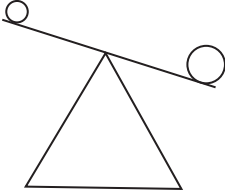
Perform the UPS Self Test

- 1 Locate the UPS inside the Customer or Attendant Station casing.
- 2 Ensure that the UPS is on.
- 3 Shut down the computer.
- 4 Power off the power bar.
- 5 Press the **Test/Silence** button on the front of the UPS.
- 6 Ensure that the **Battery Mode** LED turns on briefly.

Powervar Indicators and Controls

Label or Position	Name	Status on start-up	Function
	Site Wiring Fault LED	N/A	<p>Illuminates when the Powervar is connected to an AC socket that is improperly wired. The Site Wiring Fault LED illuminates to indicate that a safety ground wire is missing or that the phase and neutral wiring is reversed.</p> <p>Check this LED during installation. If it illuminates, call an electrician.</p>
	On/Off button	N/A	<p>Turns the Powervar on or off if pressed for more than 3 seconds. If the Start Manager's back panel switch is enabled when you press the On/Off button, the Powervar "cold-starts" on its internal battery.</p>
	Test/Silence button	N/A	<p>Activates the self-test mode when the Powervar is operating on AC power. During the self-test mode, the Powervar tests the battery and inverter before it returns to AC supply. Close all open files before you initiate a self test.</p> <p>The Powervar sounds an alarm when the AC power fails. The Test/Silence button silences this alarm. The alarm sounds again when the battery power begins to run low.</p>
	Load Monitor LEDs	OFF	<p>Show the current load percentage. The first four LEDs each indicate approximately 20% of the load. When the last LED is on, it indicates that the equipment connected to the Powervar is consuming 110% of the rated capacity.</p>

Label or Position	Name	Status on start-up	Function
	<p>Battery Monitor LEDs</p>	<p>ON <i>Note: Some of the Battery Monitor LEDs may be off if the battery charge state is low.</i></p>	<p>Show the charge capacity of the internal battery (0 - 100%). Each LED indicates approximately 20% of the full charge.</p>
	<p>Outlet Monitor LEDs</p>	<p>All ON</p>	<p>These LEDs indicate the output outlet status as controlled by the Configuration Manager. The Configuration Manager treats the outlets 1 and 2 (Bank 1) as a group. Outlets 3 and 4 (Bank 2) are also a group. You cannot control outlets 1 and 2 or outlets 3 and 4 separately. You can only control Bank 1 and Bank 2 separately.</p>
	<p>Voltage Manager Boost</p>	<p>OFF</p>	<p>Illuminates when the Voltage Manager detects a low voltage condition and compensates by increasing the voltage to the Powervar input.</p>
	<p>Voltage Manager Normal</p>	<p>ON</p>	<p>Illuminates when the Voltage Manager determines that the input line voltage is normal and within parameters.</p>
	<p>Voltage Manager Buck</p>	<p>OFF</p>	<p>Illuminates when the Voltage Manager detects an overvoltage condition and compensates by reducing the voltage to the Powervar input.</p>
	<p>Battery Mode LED</p>	<p>OFF</p>	<p>Illuminates when the AC power is lost or the Test/Silence button is pressed to start a self test. In Battery Mode, the Powervar operates on its internal batteries. This LED stays on until the AC power returns or until the self test is complete.</p>

Label or Position	Name	Status on start-up	Function
	Battery Weak/Replace LED	OFF	<p>Ensure that the DC jumper is connected. If it is not connected then connect it and then press the self-test button.</p> <p>Illuminates when the battery needs to be charged or replaced. If the UPS battery has been installed for two or three years, if the LED is still on after the batteries have been charged for 12 hours, or if there is no battery backup during a power outage, replace the internal batteries.</p> <p>When you replace the battery, you should place a label on the front of the UPS indicating the date the new battery was installed. See “Replacing the Battery” on page 420.</p>
	Overload LED	OFF	<p>Illuminates when the Powervar is overloaded. Reduce the load by disconnecting any (except the PC) from the Powervar. If the LED goes out, contact the U-Scan Support Center.</p> <p><i>Note: The Powervar may shut down if it operates in an overloaded condition.</i></p>

Replacing the Battery

If the UPS battery has been installed for 2 to 3 years, or if the **Battery Weak/Replace** indicator is on, the battery should be replaced. Note: before battery replacement see the [“Troubleshooting Chart”](#) section on page 418 to rule out other possible causes for the **Battery Weak/Low Indicator** being set.

An old or worn out battery will result in one or more of the following:

- The battery back up time is less than normal during a power outage.
- There is no battery backup during a power outage.

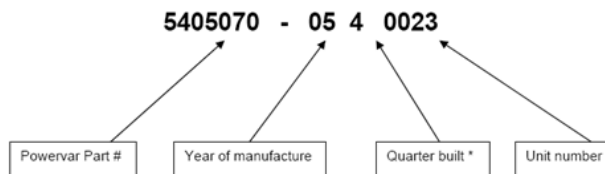
When the battery is replaced, place a label on the front of the UPS indicating the date the new battery was installed. For UPS units that still have the original battery installed, the serial number will show the approximate build date according to the description below.

Serial Number

On the rear panel (also on the front panel of some newer units), you will find a white ID label that indicates the Powervar part number and unit serial number.

A typical serial number looks like this:
5405070-0540023

The serial number is broken down as follows:



* The build quarter is based on Powervar’s fiscal year, which starts on January 1.

Configuration Manager

The Configuration Manager controls the operation parameters of the Powervar through the DIP switches on the back panel.

DIP Switch Settings for 120V/220V

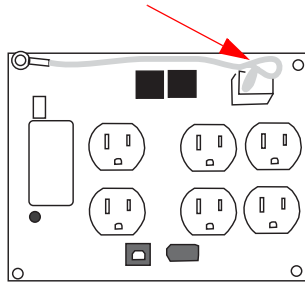
1	OFF
2	OFF
3	ON
4	OFF

Auto Detect Input Power Frequency

The UPS maintains information regarding the AC Voltage and Frequency that it is connected to. There are cases where this memory can become lost or the UPS may be moved from one power requirement to another. If the UPS will not start up, perform the following steps prior to UPS replacement (after verifying that proper AC power is available):

- 1 Unplug the load on the UPS.
- 2 Disconnect the UPS from the 120V/220V power source.
- 3 Disconnect the DC battery jumper on the rear of the unit.

DC battery jumper strap connected



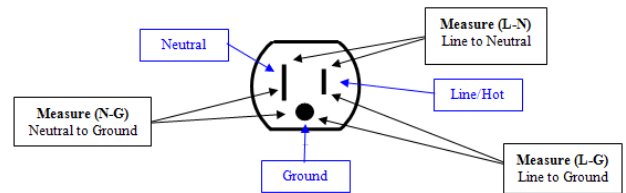
- 4 Try to turn on the UPS or wait 5-10 minutes (this drains all energy from the circuits). The UPS is now in AutoDetect Mode and will detect the AC Voltage and Frequency of the incoming power.
- 5 Reconnect the DC battery jumper, then plug in the 120V/220V power.
- 6 The unit enters auto-detect mode and will detect the power and frequency of the incoming electricity.
- 7 Reconnect the load on the UPS.
- 8 Turn on the UPS by holding down the power button for 3-5 seconds until the LED display illuminates.

Incoming AC Power

Many UPS units have been replaced in the field when the fault was poor or even mis-wired incoming AC power. While the diagnosis of many of these issues requires special skills and test equipment that is not available to the average Field Engineer, the following table presents a few simple guidelines that will detect some of the basic faults. If it is suspected that the incoming AC power is at fault, you should contact Fujitsu National Technical Support for assistance.

While a True RMS Meter is required for detailed/accurate measurements, the guidelines below can be conducted using a high quality analog or digital AC Volt meter.

When viewed from the front, the typical AC outlet is configured as below. NOTE: This is typical for North America — other geographies should consult their local electrical code for details.



L-N	L-G	N-G	Condition
120	120	<3	Correct
208	120	120	Two Lines (Hots)
120+	120	<3	Neutral-Ground wires reversed
120	30-70	30-70	Open Ground
120	<3	120	Totally mis-wired
120	<3	120	Neutral-Neutral wires reversed
30-90	120	20-50	Open Neutral wire
<3	120	120	Line-Ground wire reversed
<3	120	120	Totally mis-wired
<1	<1	0	Open Line

Additional Information for the Powervar UPS

Testing the UPS

To be sure that the UPS is working properly, follow the steps outlined below to simulate a power outage.

Note: This test should be performed with the battery fully charged. The Input AC Line/Charging LED should be illuminated steadily, not flashing.

- 1 Plug in and turn on all U-Scan devices.
- 2 Push and hold the **Test/Alarm Silence** button.
- 3 The amber **On Battery Indicator** LED will illuminate and remain on for approximately three seconds.
- 4 All U-Scan devices should continue to operate normally without interruption.

- 5 When the test is finished, the **On Battery Indicator** LED will extinguish. One or more of the **Battery Charger Status Monitor** LEDs will also extinguish but will illuminate again as the batteries recharge after the test.
- 6 If the **Battery Weak/Replace** LED comes on during this test, the batteries are defective and should be replaced.

Troubleshooting Chart

Use the table below to troubleshoot problems with the Powervar UPS. Before you begin to troubleshoot, ensure that you have checked the following conditions:

- The Powervar is plugged into a functioning socket.
- The DC jumper is connected (see the Note on [page 413](#))
- The line voltage to the Powervar is within the specified range.
- The circuit breakers on the back of the Powervar have been reset.

Problem	Possible Causes	Solutions
The UPS cannot be turned on and there is no audible alarm.	The On/Off button was not pressed long enough.	<ul style="list-style-type: none"> • Press and hold the On/Off button for at least 3 seconds. • Verify that the Powervar is plugged in and that the outlet has appropriate power. • Plug in the input power cable. • Reduce the load on the UPS and reset the circuit breakers. • Follow the “Auto Detect Input Power Frequency” procedure on page 417.
The Overload LED is on and a continuous audible alarm sounds.	The Powervar is overloaded.	<ul style="list-style-type: none"> • Remove any device (except the PC) from the Powervar output to reduce the load on the Powervar. If the Overload LED does not extinguish, contact the U-Scan Support Center or National Technical Support.
The Battery Weak/Replace LED is on.	The battery voltage is too low or the battery is dead.	<ul style="list-style-type: none"> • Ensure that the battery jumper on the back of the unit is installed and the correct start up sequence is followed. Re-perform the start up sequence if necessary. If the LED remains on even after following these procedures, replace the battery. • Check for excess heat around the UPS. Clean any dust or obstruction from the vent holes (UPS and cabinet) and verify that any cabinet fans are functional. If the LED remains on even after following these procedures, replace the battery. • If the LED still comes on after you charge the battery, replace the battery.

Problem	Possible Causes	Solutions
The Site Wiring Fault LED is on.	There is a problem with the site wiring.	<ul style="list-style-type: none"> Have an electrician check the site wiring.
Upon startup, the Battery Weak/Replace LED stays on and will not clear.	The AC power has been applied before the DC battery jumper was installed.	<ol style="list-style-type: none"> Press the Silence/Test button to silence the alarm. Press the Silence/Test button to perform the battery test. If this does not clear the condition, follow the <i>“Auto Detect Input Power Frequency”</i> procedure on page 417.
The UPS does not provide the expected backup time.	The battery is not fully charged or the battery is dead.	<ul style="list-style-type: none"> Charge the battery for 24 hours and then test it again. If the backup time is still too short, replace the battery. If the battery is over two years old, replace it.
The Powervar functions normally, but the computer will not turn on.	The computer input power cable is loose or is not connected.	<ul style="list-style-type: none"> Verify that the computer input power cable is properly connected and that the computer is turned on. Test the computer with the input power cable plugged into a normal (non UPS backed up) outlet with verified power.
The UPS beeps occasionally.	The UPS is operating normally.	<ul style="list-style-type: none"> No action is required.

Note: One common fault is caused by the installer plugging the UPS into AC power without the DC battery jumper connected. The DC battery jumper must be installed prior to plugging the UPS into AC power. THIS DOES NOT APPLY to units with serial numbers higher than [North America: 5406093R-0930001 (firmware version PV58V11FB)] [Europe: 5506060R-0930001 (firmware version PV58V11FB)] – see “Firmware Update” on [page 419](#).

- If AC current is applied before the jumper is installed, then all Battery Charge LEDs will flash until the jumper is installed. Once installed, the unit is in normal operation.
- If the jumper is installed before AC current is applied, the unit is in normal operation.

Temperature Shutdown Threshold

With previous firmware revisions, if the battery temperature of the UPS is greater than 45° C, the UPS will power down to protect the internal batteries from damage.

With this firmware upgrade:

- The battery safety temperature has been raised to 50° C.
- If the 50° C temperature is reached, the battery charger is turned off. The UPS will continue to provide AC power to its load devices, but the batteries are not being charged. When the temperature drops below 47° C, the battery charger will automatically be re-enabled.
- When in this Battery Charger Off condition, the Battery Charge Level LEDs on the front of the UPS will flash to indicate that the charger is turned off.

Firmware Update

A feature and performance enhancing firmware update (revision PV58V11FB) has been applied to PowerVar 600 UPS units with serial numbers greater than 5406093R-0930001, manufactured on or after July 7, 2009.

Jumper Connection

The warnings given throughout this manual with respect to the sequence of connecting the jumper before connecting the AC power do not apply to units with this firmware upgrade.

With this new firmware, the sequence of applying AC power and installing the Battery Jumper does not matter:

- If this temperature has been exceeded and the charge is turned off, battery backup ability is still available, however the batteries will not recharge until AC power is applied AND the temperature falls below 47° C.

Note: For reference, there is an approximately 5° C difference between the temperature measured at the battery and the ambient temperature outside the UPS.

Self-Diagnostics

If any of the following conditions occur, the Battery Charge LEDs will flash:

- battery jumper is not installed when AC power applied
- battery charger is turned OFF due to battery temperature exceeding 50° C
- battery charger failure

Replacing the Battery

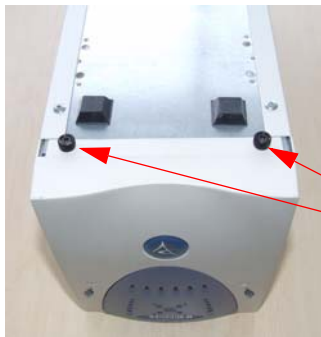
Note: Battery replacement should only be performed by qualified Field Engineers.

- 1 Unlock and open the lower door.
- 2 Locate the UPS, which is installed on its side near the front of the casing.
- 3 To turn off the UPS, press and hold the **Power** button.



Do **NOT** turn off the UPS until the computer is properly shut down through Windows.

- 4 Remove the UPS from the Genesis Customer Station as described in 'Powervar UPS Replacement' starting on page 422.
- 5 Set the UPS upside down on a table.
- 6 Remove the two thumb screws on the bottom of the front panel. Use pliers to loosen them, if necessary.



thumb screws

- 7 Slide off the front panel, taking care not to damage or tear the ribbon cable that connects the dashboard display to the UPS. Push down on the panel to help slide it off.

- 8 Turn the UPS over so that it is right side up on the table. Let the front panel sit on top of the unit.



- 9 Unplug the Molex connector by squeezing the sides of the connector while pulling it off. Remove the thumb screws that secure the lower retaining bracket and remove the bracket.



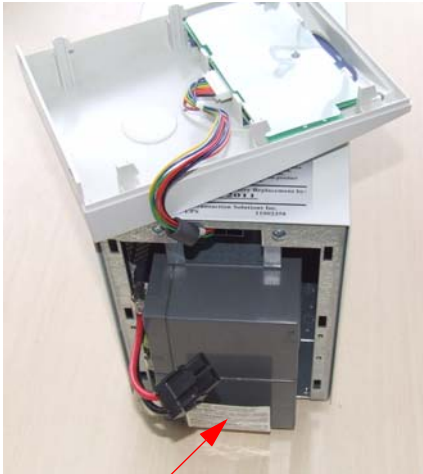
thumb screws

Molex connector disconnected



bracket removed

- 10 Pull on the white plastic tab at the bottom of the battery pack to slide it out. If you are having difficulty sliding out the battery pack, place the unit at the edge of the table and use two hands to pull it out. Be careful not to damage the cables on the left side of the battery pack as you slide it out.



plastic tab



- 11 Slide the new battery pack into the UPS, being careful to guide the cable with the Molex connector as you push the new battery pack into the unit.

- 12 Replace the retaining bracket that you removed earlier (make sure that the cable with the Molex connector is *above* the horizontal arms of the bracket).



- 13 Secure the retaining bracket with the two thumbscrews.
14 Connect the loose male Molex connector to the female connector in the unit, as shown above.
15 Replace the front panel. Attach the thin top edge first, then push up from the bottom of the panel to engage the tabs that hold it in place.



- 16 Secure the front panel to the unit with the two thumbscrews underneath the panel you removed at the beginning of this procedure.



thumb screws

- 17 Replace the UPS in the Customer Station as explained in ['Powervar UPS Replacement'](#) starting on page 422.

Powervar UPS Replacement

- 1 Unlock and open the lower door.
- 2 Locate the UPS, which is installed on its side near the front of the casing.
- 3 To turn off the UPS, press and hold the **Power** button.



Do **NOT** turn off the UPS until the computer is properly shut down through Windows.

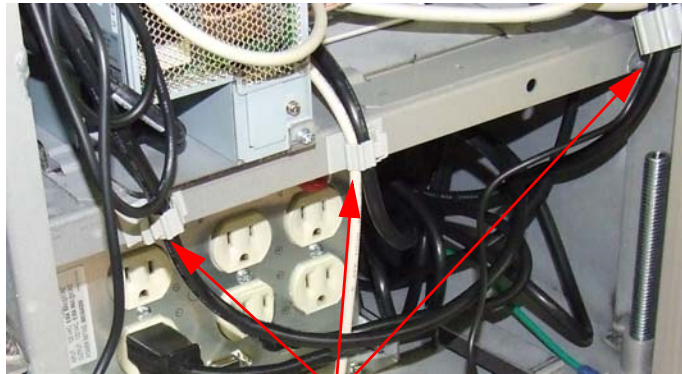
Removing UPS and Accessing Cable Connections

Note: U-Scan attendants should never remove the UPS from the casing.

For reference: the device power cables that connect to the UPS may be secured via brackets in the back of the casing, as shown below:



UPS power cable secured by bracket



the device cables are secured by clamps on the back of the lowest shelf

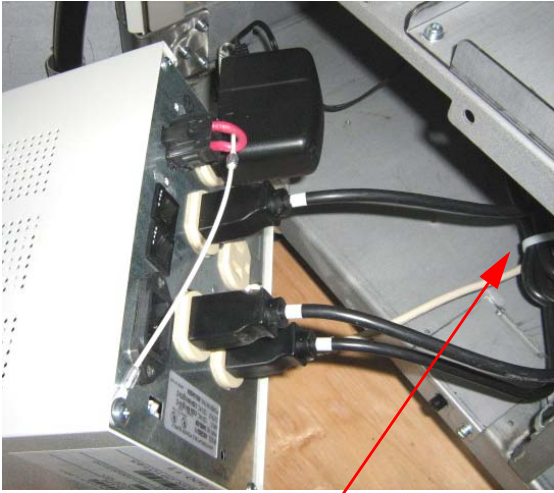
For reference: When the UPS was installed in the casing, the power cables were pulled out from the Station, from the rear, to ensure sufficient play for removal and replacement. The slack was then taken up in a bundle, secured with a tie wrap to form a service loop, and inserted into the empty area behind the UPS.



service loop, secured with tie wrap (rear view)

- 1 Carefully slide the UPS forward to access the cable connections on the rear of the UPS.

Note: Fully extended, with the cables still plugged in to the UPS, you will only be able to slide the UPS out the front of the Customer Station a few inches.



**service loop, secured with tie wrap
(front view)**

- 2 If you must undo the service loop during this replacement, be sure to take note of how the loop was secured. You will want to re-do the service loop similarly.
- 3 Disconnect all cables (noting the connection layout).
- 4 Place the UPS upside down on a work surface and remove the three screws that attach the bracket to it.
three screws attach the bracket to the UPS



- 5 Remove the bracket.
- 6 Attach the bracket to the new UPS unit by removing the three corresponding screws from the unit, placing the bracket over the screw holes, and then re-attaching the screws to affix the bracket.

- 7 Remove the yellow **Warning** label that covers the receptacle and connect the DC jumper strap as shown below.



*Note: It is very important to connect the DC battery jumper **before** applying AC power to the unit. If this is not done in the correct order, the battery will not charge. If the power is applied but the jumper is not connected, you must remove AC power for 10 minutes, then connect the battery jumper and then connect the AC power to reset the charging circuit. THIS DOES NOT APPLY to units with serial numbers higher than:*

[North America: [5406093R-0930001](#) (firmware version PV58V11FB)]

[Europe: [5506060R-0930001](#) (firmware version PV58V11FB)] – see [“Firmware Update”](#) on [page 419](#).

- 8 Re-connect all cables (following the original connection layout).
- 9 Carefully slide the UPS with bracket back into the casing.
- 10 Re-attach the bracket to the casing floor using the original screw and washer.
- 11 Re-connect all cables.

Customer Station Electrical Connections

This section provides a reference for the U-Scan Genesis electrical connections. This information is based upon revision controlled document D900000258, *Genesis System Wiring Diagram - 115VAC Power Distribution*. Note that some field-installed units may use a different electrical connection layout.

The default Genesis electrical connection setup utilizes two power strips to provide electrical power to the system devices. We recommend using a UPS or UPS/Conditioner.

UPS and Power Strip Connection, Table

Plug #	Location	Device	Cable	Adapter
1	UPS	TP3K Computer	11000049	—
2	UPS	Secondary Power Supply (supplies 24V to Bill Dispenser)	11000049*	—
4	UPS	Power strip	11000049	—
7	Power strip	Scanner Scale PSU	11002435	—
8	Power strip	Coin Dispenser PSU	11002435	—
9	Power strip	USB Hub PSU	11002435	—
11	Power strip	EFT PSU	—	11002433

* When two power strips are used, PSU cable 11002435 is used instead of 11000049.

Upon request by a customer, the UPS option can be removed if a sufficiently-protected in-store power source is available. In that case, two power strips are used instead of a UPS and a single power strip.

NOTE: A number of devices are authorized by Fujitsu to be **powered directly** by U-Scan. Depending on their power connection (NEMA or IEC) and on their physical size, electrical connections could be made to available IEC outlets on the power strip, or directly to available NEMA power outlets on the UPS. Use AC power adapter (11002433) to convert IEC to NEMA, as required.

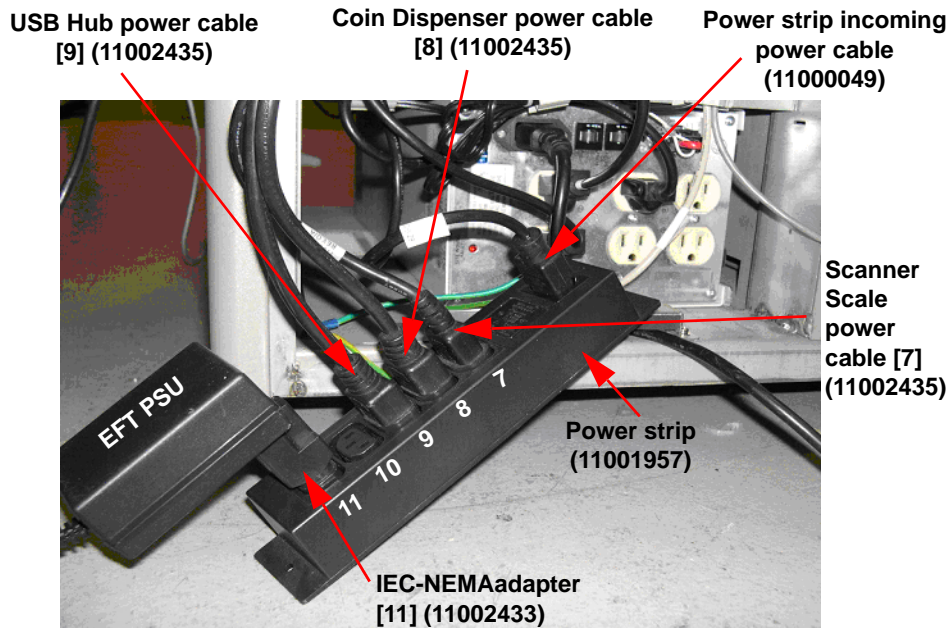
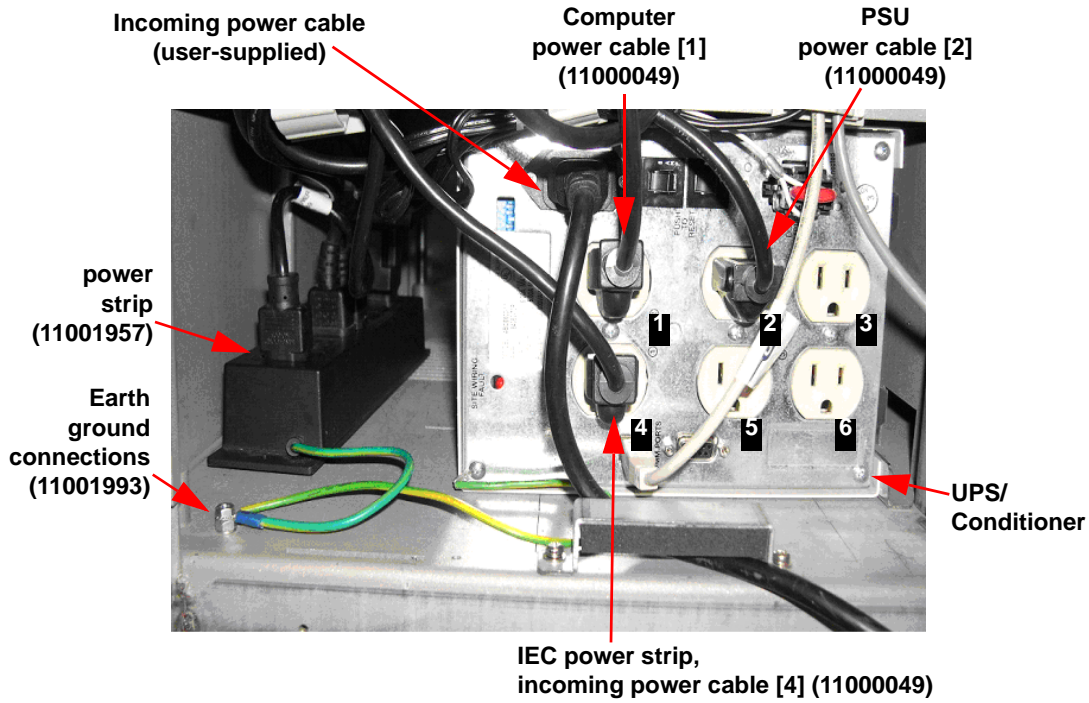
WARNING: **DO NOT CONNECT** devices that are not authorized to be powered directly by U-Scan to the U-Scan power strips or UPS. These include devices such as PATLITE lane light, EAS controller, Catalina printer, etc. When such devices are installed by a customer or at the request of a customer, it is the customer's responsibility to provide an adequate power source, external to U-Scan, which respects all applicable safety regulations.

NOTE: It is very important to connect the DC battery jumper **before** applying AC power to the unit. If this is not done in the correct order, the battery will not charge. If the power is applied but the jumper is not connected, you must remove AC power for 10 minutes, then connect the battery jumper and then connect the AC power to reset the charging circuit.

THIS DOES NOT APPLY to units with serial numbers higher than [North America: 5406093R-0930001 (firmware version PV58V11FB)]

[Europe: 5506060R-0930001 (firmware version PV58V11FB)].

UPS and Power Strip Connection, Photographs



NOTES: - The power strip removed from the Genesis enclosure, the earth ground connection, and the specific EFT PSU shown are for illustration purposes only.
 - Available NEMA spare outlets (UPS #3,5,6; Power Strip #10) could be used to plug in other Fujitsu-authorized devices. IEC-NEMA adapter 11002433 could be used as needed. See the first Warning on the previous page.

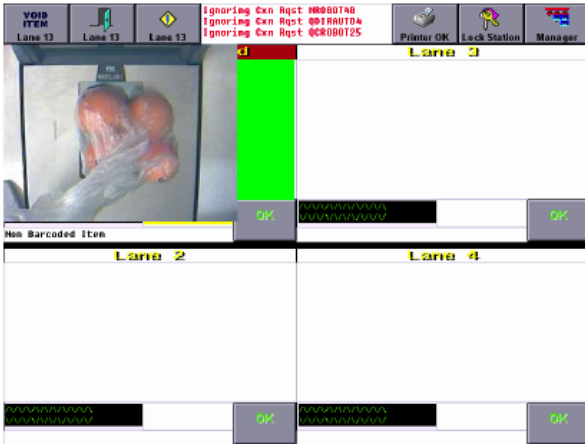
Chapter 33: USB Cameras

This chapter contains servicing information for the Proximity Sensor found in U-Scan Genesis Stations.

This chapter presents information on the following USB cameras:

- [Produce Camera - UTS \(page 427\)](#)
[Installing the USB Produce Camera \(page 428\)](#)

The Produce camera allows the attendant to view the Customer Station Scanner Scale directly on the main screen of the U-Scan Attendant Station. The lane window at the Attendant Station displays the picture of the items on the Scanner Scale as shown below.



- [Security \(Payment\) Camera - Watchport \(page 431\)](#)
[Installing the USB Security Camera \(page 432\)](#)

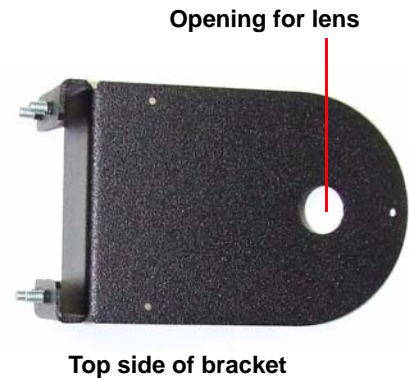
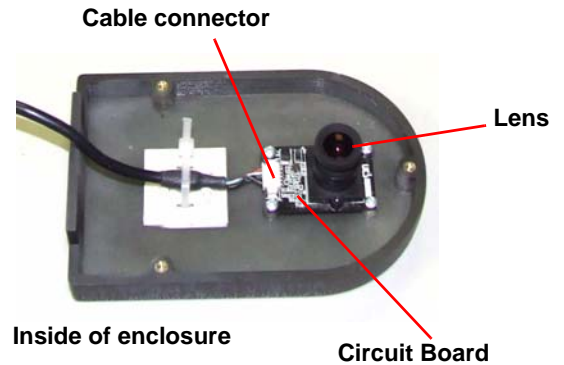
The Security camera takes a photo of the user during the payment phase of a U-Scan transaction.

Produce Camera location (points down at Scanner Scale platform)

Security Camera location (faces shopper)



Produce Camera - UTS



The UTS Produce camera has the following features:

- Resolution: 640x480
- Horizontal view angle: 53.7° ±2°
- Vertical view angle: 41.1° ±2°
- IR filter: 648 ±10nm

Produce Camera Technical Specifications

Power Supply Requirements

None (USB-powered)

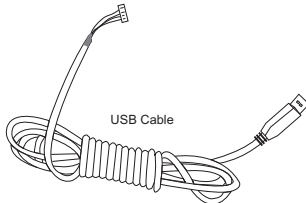
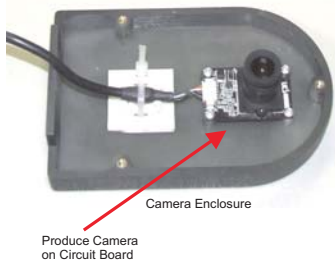
Communication

- TP3K computer: USB cable to USB-H
- TP3600 Series computer: USB cable to USB-K

Components of the USB Produce Camera

The USB Camera manufactured assembly (11001214Z7-XXX) and field kit (11001214F7) include the following components:

- USB camera 1/5" CMOS, VGA: 11002532 with supplied USB cable (11002837)
- Camera enclosure: 11002522
- Camera bracket: 11002523

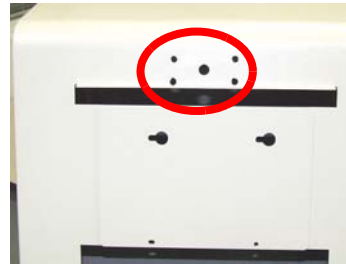


Installing the USB Produce Camera

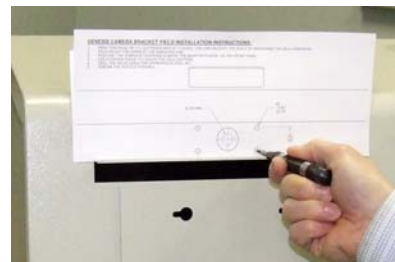
Parts and Tools

Part/Tool	Qty	Part Number
Scanner (produce) camera kit, Field Kit — includes: scanner (produce) camera (UTS) camera USB cable	1	11001214F7
camera enclosure	1	11002522
camera bracket	1	11002523
4" tie wrap	1	11001791
cable mount	1	11003258

- 1 Unlock and open the upper door of the Customer Station.
- 2 Disconnect the USB and VGA cables from the rear of the monitor. The monitor must be removed to provide access to the Produce camera knockout area:
 - a Remove the screws that secure the control cover on the bottom of the monitor. Remove the control cover.
 - b Remove the four screws that secure the monitor to the door. A ground strap is attached to one of the monitor screws. Set the screws aside.
 - c Lift and remove the monitor from the door. Set it aside, being careful to protect the screen surface.
- 3 Verify if the five laser knockouts for the produce camera shown below are present on the upper door.
 - a If the knockouts are present, knock them out using a punch.
 - b If the knockouts do not exist, tape the available paper template in place, centered over the monitor flange and use a center punch and drill to create the mounting and cable holes, following the instructions printed on the template.



use punch to remove knockouts if present

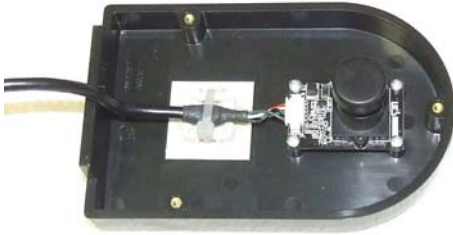


use template to drill holes if no knockouts are present

*Note: If the knockouts do not exist and you must drill the holes manually, you may not have a drill bit that is large enough to accommodate the USB "A" connector. In that case, you will have to first pass the small end of the cable through the hole in the upper door, from the inside of the station, **BEFORE** you assemble the camera. Then follow the instructions below (skipping step 5).*

4 Pre-assemble the camera components:

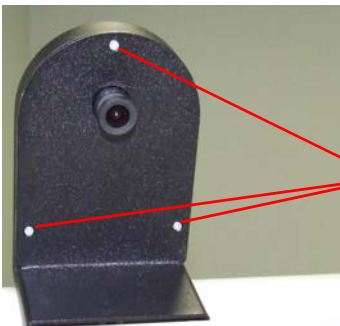
- a** Attach the camera circuit board to the enclosure and secure it with four M2 pan head machine screws as shown below. Affix a cable mount to the inside of the camera enclosure, in the space indented for that purpose.
- b** Attach the small connector on the camera cable to the connector on the camera circuit board (the connector can only be inserted one way). Secure the cable in the cable tie mount and cut off the excess length of tie wrap.



- c** Remove the camera lens cap and set it aside. It can be given to the store personnel for safekeeping.
- d** Align the camera enclosure with the camera bracket and carefully sandwich them together. The two pieces should snap into place, with the cable protruding from the rear of the assembly.
- e** Be careful not to damage the camera lens when you pass it through the hole in the bracket.



- f** Attach the three small M2 flat head machine screws to secure the camera enclosure to the camera bracket.



**three
screws
secure the
enclosure
to the
bracket**

- 5** Feed the large USB "A" connector end of the USB camera cable into the hole in the upper door, from the front. (Skip this step if you have already attached the small connector to the camera's circuit board.)
- 6** Attach the camera bracket to the front of the upper door by inserting the four studs on the bracket into the four knockouts on the station. Lightly pull on the cable to remove any excess slack. Secure the bracket with four nuts.



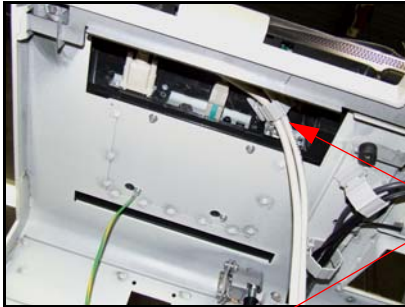
7 Replace the monitor:

- a** Align the holes on the back of the monitor with the holes on the Upper door.
- b** Fasten one of the bottom two screws. Attach the ground strap and fasten the other bottom screw.
- c** Fasten the top two screws on the back of the monitor.
- d** Replace the control cover.

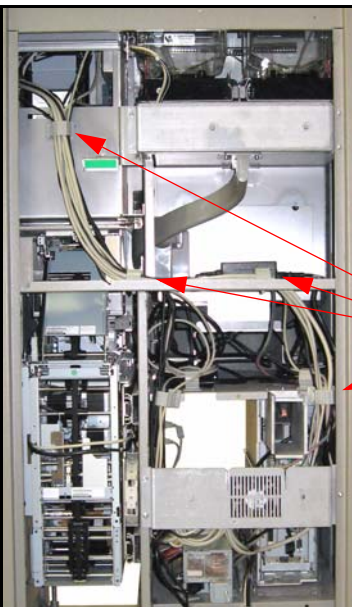
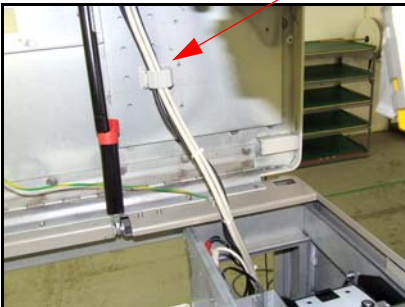


- e** Connect the VGA and powered USB cable to the back of the monitor.

- 8 Route the USB camera cable through the wall mounts that secure the monitor cables, tie wrapping it to the cable bundle as required. Connect the Produce camera cable to USB Port H on the TP3K computer; USB Port K on the TP3600 Series computer.



secure cable in upper door wall clamps



secure cable in rear wall clamps

- 9 Connect the camera cable and close the upper door of the station.



- 10 Verify the focus, and inspect the picture quality:
- At the Attendant Station, touch the lane window for the Customer Station that you are working on. The image from the Produce camera will appear in the lane window.
 - Adjust the focus if necessary by rotating the lens.

Installing the Produce Camera Drivers

Requirement

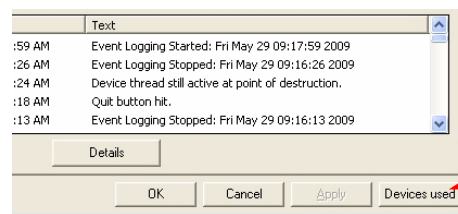
- setup.exe** from Sustaining Engineering

Disconnect the Produce Camera

Disconnect the produce camera from the computer's USB port (TP3K: USB Port H; TP3600 Series: USB Port K).

Install the USB Camera Driver

- If the produce camera driver is not part of the installed U-Scan software disc image, locate the file **setup.exe** and on your laptop, thumb drive, or disc, and copy it to the desktop of the U-Scan computer.
- Double-click **setup.exe** on the U-Scan desktop.
- Click **Next**.
- Keep the default destination folder **C:\Mvision\OV7660Cap** and click **Next**.
- Click **Next** in the **Select Program Manager Group** dialog box.
- Click **Next**. The installation begins.
- When the installation is finished, click **Finish**.
- Enable the USB camera for U-Scan.
 - For U-Scan 4.2 or later software, click the **Devices Used** button in **Device Tester**. Check the **Camera** checkbox.



- For earlier software versions, run **Robot_USBCamera_ON.reg** in the **C:\Robot\Data** folder.

Test the USB Camera

- Connect the Produce camera cable to the computer's USB port H.
- Go to **Start>Programs>ViCAM Utilities>ViCAM VidCAP**.
- Ensure that an image from the Produce camera displays on the screen.

- 4 Close the **AMCAP** utility.
- 5 Ideally, camera operation should be verified in the U-Scan software at the Attendant Station.

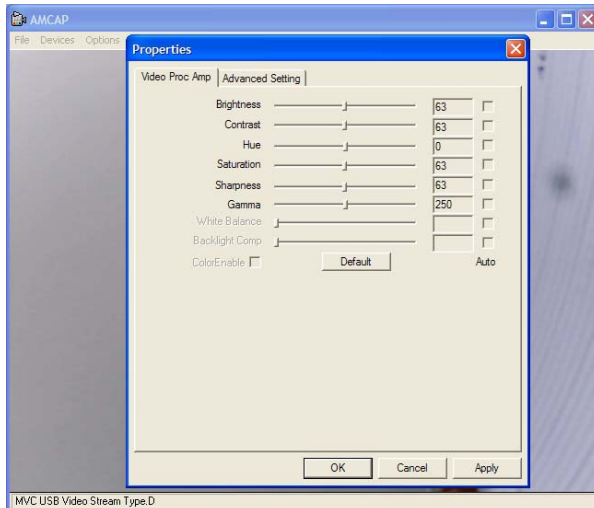
Troubleshooting the Produce Camera

Inspect the Cable Connections

- 1 Locate the camera cable.
- 2 Ensure that the camera cable is properly connected to the USB Port on the computer (TP3K: USB Port H; TP3600 Series: USB Port K).

Verify the Software Settings

- 1 Navigate to **Start>Programs>M25U870 Driver for OV7660...** and start the camera utility.
- 2 Ensure that you are getting an image from the camera.
- 3 In the **AMCAP** utility, select **Options>Video Capture Filter**.
- 4 Refer to the screen image below for the correct settings.



- 5 Correct the settings if necessary.
- 6 Click **OK** to exit the **AMCAP** utility.

Note: This camera will not work on Windows 2000 systems.

Security (Payment) Camera - Watchport



The Security camera has the following features:

- Low light sensitivity (<1 lux)
- Resolutions: 1280x960, 640x480, 352x288, 320x240, 176x144, 160x120, and 128x96
- Frame rates by resolution: 15 fps at 640 x 480; 30 fps at 320 x 249; 60 fps at 160 x 120.
- Exposure control: manual and automatic gain and shutter control, automatic white balance, manual color balance, color saturation controls
- Color formats: 16,8 million TrueColor (24-bit RGB), RGB555
- Grayscale formats: YUV16, YUV12, YUV9 and 256 (8-bit B&W)
- Compression: VLCE lossless compression technology
- Lens: removable 6.5mm F:2.0 adjustable focus
- Sensor: color CCD
- Scan frequencies: 60, 50, 30, 25, 15, 12,5, 7,5, 6,25, and 4 Hz
- Shutter rate controls: 1/4 second to over 1/30 000 second

Security Camera Technical Specifications

Power Supply Requirements

None (USB-powered)

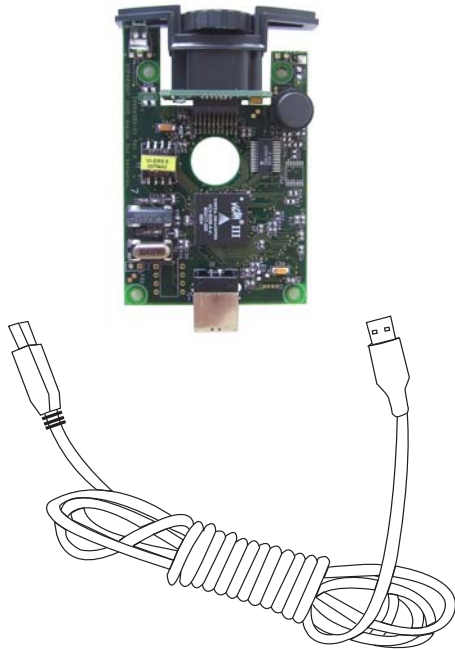
Communication

- TP3K computer: USB cable to USB Hub-7
- TP3600 Series computer: USB cable to USB Hub-4

Components of the Security Camera

The Security camera includes the following components:

- USB camera
- USB camera cable



USB Camera Cable

Installing the USB Security Camera

Parts and tools

Part/Tool	Qty	Part Number
scanner (payment) camera kit, includes:	1	11001214M6
scanner (payment) camera (Watchport V3)	1	11001480
camera USB cable	1	11000145
inner window	1	KD30335-Y294
outer window	1	KD30335-Y290
camera brackets (3)	1 of each	KD30335-Y352, Y353, Y354
blanking plate (if no camera is installed)	1	11001214S3-2
pan-head M4 x 0.7 x 8 SEMS screws	8	11001025
screwdriver		

The optional Payment camera photographs the shopper as a security measure when they make their payment.

- 1 Locate the opening for the Payment camera above the Bill Acceptor slot.



Install a Blanking Plate (if no camera is installed)

- 1 If no Payment camera is installed in the Station, locate a Payment camera blanking plate.



- 2 Affix the blanking plate to the Station as shown below. Secure it with RTV adhesive.



Install the Payment Camera

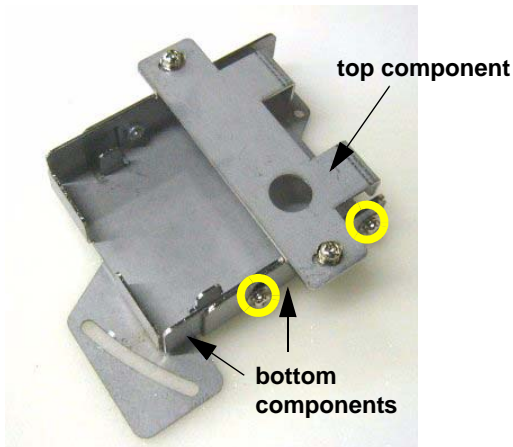
- 1 If a Payment camera is to be installed in the Station, then affix the inner window to the inside of the top door as shown below.



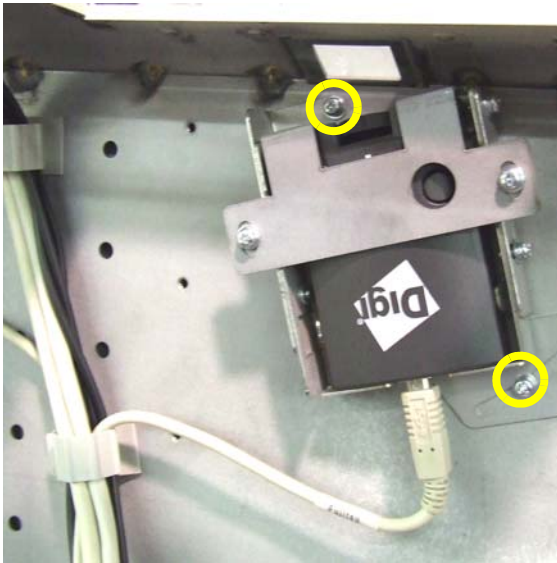
- 2 Affix the outer window to the front of the upper door as shown below.



- Use four pan-head M4 screws (two on each side) to assemble the bottom two components of the camera bracket. (The photo shows the top component already installed.)



- Place the camera inside the bracket.
- Install the top component with two M4 screws as shown both above and below, to secure the Payment camera in the bracket.
- Position the camera assembly on the inside of the upper door as shown below, and secure it with two M4 screws.



- Plug the camera USB cable into the Payment camera and route it through the large clamp just beside and below the assembly, then down through the other clamps that lead to the USB Hub (see the photographs on [page 430](#)).
- Plug the cable into TP3K: Port 7 of the USB Hub; TP3600 Series: Port 4 of the USB Hub. (If a Produce camera was also installed, route that camera's cable down to the computer and plug it into TP3K: USB Port H; TP3600 Series: USB Port K.)

Installing the Security Camera Drivers

Requirement

- ViCAM6858.exe** from Sustaining Engineering

Disconnect the Security Camera

Disconnect the Security camera cable from TP3K: USB Hub Port 7; TP3600 Series: USB Hub Port 4.

Install the USB Camera Driver

- Locate the file **ViCAM6858.exe** on your laptop.
OR
Insert the diskette on which **ViCAM6858.exe** is copied.
- Double-click **ViCAM6858.exe**.
The **ViCAM Utilities** dialog box appears.
- Click **Finish**. The **ViCAM Color Digital Video Camera Utilities Setup Welcome** dialog box appears.
- Click **Next**.
The **Software License Agreement** dialog box appears.
- Click **Yes** to accept the terms of the Software License Agreement.
The **Choose Destination Location** dialog box appears.
- Click **Next** to accept the default location (**C:\Program Files\ViCAM**).
The **Select Program Folder** dialog box appears.
- Click **Next** to accept the default program folders (**ViCAM Utilities**).
The **Start Copying Files** dialog box appears.
- Confirm that your selections are correct.
- Click **Next**. The Security camera drivers install.
- The **Setup Complete** dialog box appears.
- Click **Finish** to restart the Computer.

Test the USB Security Camera

- Connect the Security camera cable to USB Hub Port 7.
- Go to **Start>Programs>ViCAM Utilities>ViCAM VidCAP**.
- Ensure that an image from the Security camera displays on the screen.

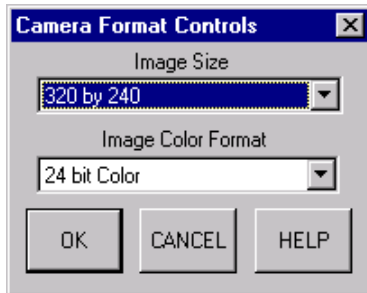
Troubleshooting the Security Camera

Inspect the Cable Connections

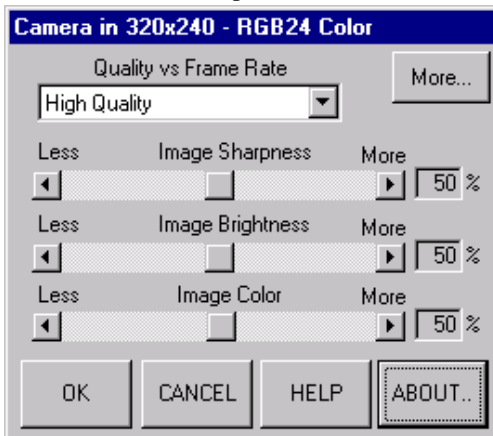
- Locate the camera cable.
- Ensure that the camera cable is properly connected to USB Hub Port 7.
- Ensure that the camera cable is properly connected to the circuit board connector.

Verify the Software Settings

- 1 Go to **Start>Programs>ViCam Utilities>VidCAP** and start the camera utility.
- 2 Ensure that you are getting an image from the camera.
- 3 In the **ViCam VidCAP** utility, go to **Options>Video Format**.
The **Camera Format Controls** dialog box appears.
- 4 Refer to the diagram below for the correct settings.

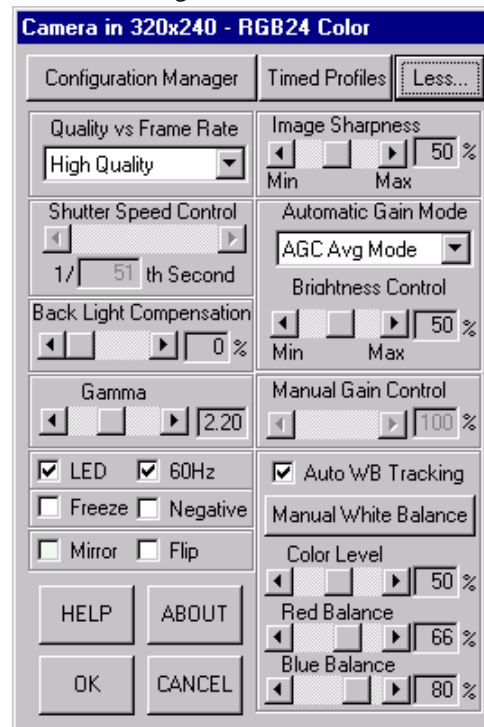


- 5 Correct the settings if necessary.
- 6 Click **OK**.
- 7 In the **VidCAP** utility, go to **Options>Video source**.
The **Camera in 320x240 - RGB24 Color** dialog box appears.
- 8 Refer to the screen capture for the correct settings.



- 9 Correct the settings if necessary.
- 10 Click **OK**, but do not close the **Camera in 320x240 - RGB24 Color** dialog box.
- 11 Click **More...**
A more detailed settings dialog box appears.

- 12 Refer to the diagram below for the correct settings.



*Note: The **Manual Gain Control**, **Red Balance**, and **Blue Balance** settings fluctuate.*

- 13 Correct the settings if necessary.
- 14 Click **OK**.
- 15 Exit the **ViCam VidCAP** utility.

Removing the Cameras

Removing the UTS Camera

To remove the UTS Produce camera, follow the steps in the [“Installing the USB Produce Camera”](#) section on page [428](#) in reverse.

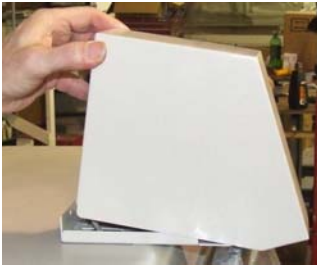
Removing the Watchport Camera

If this camera is a replacement for the previous Watchport model of Produce camera, remove that camera, cover, and bracket as explained below, then follow the steps in [“Installing the USB Security Camera”](#) on page [432](#) to install the replacement camera.

- 1 Remove the screw on the back of the camera cover that secures it to the camera bracket.



- 2 Slide the camera cover forward to remove it



- 3 Remove the four screws that secure the camera bracket to the Customer Station.



- 4 Unplug the USB cable and remove the bracket. Remove the original USB cable from the casing clamps as you route the new UTS USB camera cable.

Chapter 34: Belkin USB Hub

This chapter contains servicing information for the Belkin 7-Port USB Hub found in U-Scan Genesis Customer Stations.



Features

- Seven downstream USB ports, one upstream port
- Compliant with USB specification 2.0 (data rate 1.5/12/480 Mbps)
- Backward-compatible with USB specification 1.1 (data rate 1.5/12 Mbps)
- Plug-and-play compliant
- Supports “hot swapping” of USB devices
- Over-current detection and protection
- Individual port status LEDs

Technical Specifications

Environment

- Operating temperature: 5°C to 40°C (41°F to 104°F)
- Storage temperature: -20°C to 60°C (-4°F to 140°F)

Power

- Output: DC 6V, 4A
- Plug polarity: center positive

Electrical

- Per-port voltage: DC +5V
- Per-port current: maximum 500 mA

Communication

- USB mini B to USB A cable connects to TP3K computer: USB-F
- Split cable 11003443 connects to TP3600 Series computer: USB-E

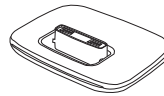
U-Scan Information

- No driver or configuration is required for the Belkin Hub

Components

The USB Hub includes the following components:

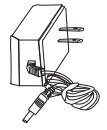
- Belkin USB Hub (11001403)
- USB mini B to USB A cable (provided by manufacturer - used with TP3K only)
- Power supply (11002102)



BELKIN USB Hub



USB Cable



Power Supply Adapter

Standard Belkin USB Hub Connections

The assignments listed below represent a generic configuration. Many of the devices connected to the USB Hub are optional devices. **Your store's configuration may not be exactly as shown below.** Contact the client delivery manager for specific system configurations.

Connection assignments (rear view)



Troubleshooting the USB Hub

Inspect the Power

- 1 Locate the USB Hub in the Customer Station.



- 2 Ensure that the red **Power** LED is on.
- 3 If the LED is off, ensure that the power cable is connected to the USB Hub and to the power bar or UPS.

Inspect the Communication Cables (TP3K Computer)

- 1 Ensure that the USB mini B cable is connected to the Belkin Hub and to USB port F on the computer.
- 2 Ensure that the USB device cables are connected to the USB Hub.

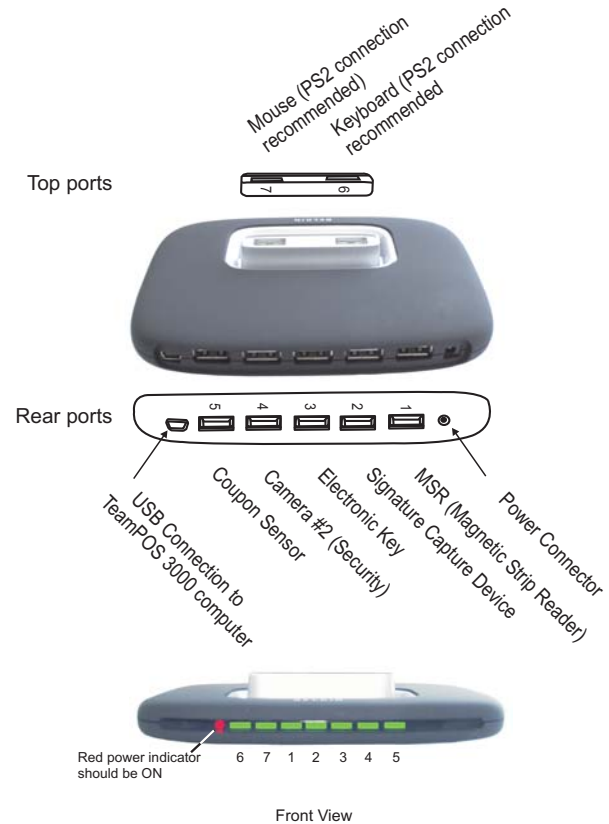


Note: Your store may not have all of the devices labelled above.

- 3 Ensure that a green LED is on for each USB cable connected to the Hub.
- 4 Ensure that the USB cables are securely connected to the devices.

Inspect the Communication Cables (TP3600 Series Computer)

- 1 Ensure that the split cable 11003443 is connected to the Belkin Hub and to USB port E on the computer.
- 2 Ensure that the USB device cables are connected to the USB Hub.



Note: Your store may not have all of the devices labelled above.

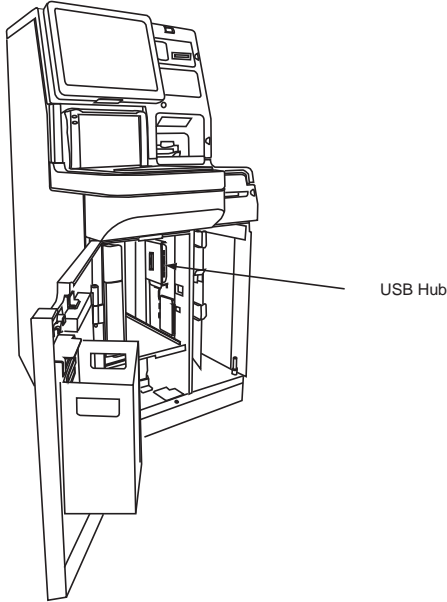
- 3 Ensure that a green LED is on for each USB cable connected to the Hub.
- 4 Ensure that the USB cables are securely connected to the devices.

Replacing the Belkin USB Hub

Parts and Tools

Part	Qty	Part Number
Belkin 7-port USB Hub	1	11001403
Phillips screwdriver		
Key to bottom door		

1 Locate the Belkin USB Hub.



- 2 Disconnect the cables from the USB Hub.
- 3 Remove the two screws securing the Hub cover to the side of the casing.
- 4 Connect the all cables to the USB Hub except the Coupon Detector cable (if applicable).

Note: The device cables are labeled.

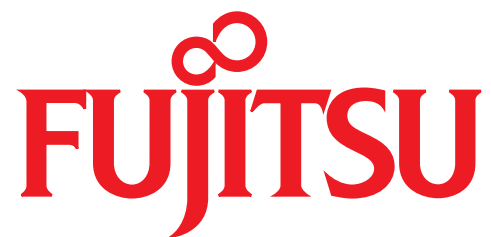
TP3K computer: ensure that you follow the assignments below.



TP3600 Series computer: ensure that you follow the assignments below:



- 5 Align the Belkin Hub on the inner wall of casing so that the **ports are facing the back of the Station** and the **LEDs are facing the front**.
- 6 Install the Hub cover to secure the Hub to the casing.
- 7 If necessary, connect the Coupon Detector cable.
- 8 Ensure that the red POWER LED is on.
- 9 Ensure that a green LED is on for each port that has a device connected to it.
- 10 Ensure that all devices connected to the Hub are online in **Device Tester**.



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