

STANDARD CHANGE-MAKERS

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OEM Bill Acceptors and MDB Communication Protocol

Since 1999, Standard Change-Makers EC Series and MC/BX/BCX Series products have used various OEM (Original Equipment Manufacturer) or third-party bill acceptors.

Standard Change-Makers currently uses the **Coinco Vantage**, manufactured by Suzo-Happ/PayComplete, and the **CPI Talos**, manufactured by Crane Payment Innovations (CPI). Technicians may also be familiar with CPI bill acceptors under the former **Mars** or **MEI** brand names.

These bill acceptors were originally designed primarily for the vending and amusement industries. Because they are commonly used in applications such as snack and beverage vending machines, the bill acceptors supplied for use in Standard Change-Makers equipment utilize the **MDB (Multi-Drop Bus)** communication protocol.

MDB provides two-way communication between the bill acceptor and the Standard Change-Makers machine controller.

IMPORTANT — MDB BILL ACCEPTORS REQUIRED

Bill acceptors used in current Standard Change-Makers products must be equipped with the MDB communication protocol.

Pulse-type bill acceptors will NOT operate in Standard Change-Makers equipment.

When ordering a replacement bill acceptor from Standard Change-Makers or another supplier, verify that the acceptor is configured for MDB communication.

How MDB Communication Works

The machine controller, located on the Dispenser Control Board, continuously communicates with the bill acceptor(s), and the bill acceptor communicates its status back to the controller.

When a bill is inserted, validated, accepted, and successfully stacked, the bill acceptor reports the transaction to the machine controller. The controller then determines the appropriate dispense amount and activates the machine's coin, token, or bill dispensing system.

During the dispense cycle, communication between the controller and bill acceptor prevents another transaction from interfering with the dispense already in progress. Once the required dispense is complete, the controller returns the bill acceptor to its normal operating state so it can accept the next bill.

In simple terms, the MDB protocol lets the bill acceptor and machine controller communicate throughout the transaction, rather than relying on a simple one-way pulse signal.

Bill Acceptors Currently Used

Coinco Vantage

- Accepts \$1 through \$20 bills
- Upstack configuration
- Supplied with a 600-bill stacker

CPI Talos T7

- Accepts \$1 through \$20 bills
- Upstack configuration
- Supplied with a 500-bill stacker

CPI Talos T8

- Accepts \$1 through \$100 bills
- Upstack configuration
- Supplied with a 500-bill stacker

CPI Talos T6

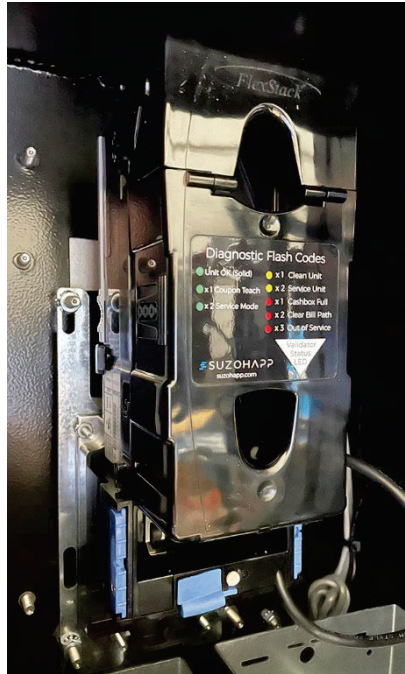
- Accepts \$1 through \$20 bills
 - Downstack configuration
 - Supplied with a 500-bill stacker
 - Primarily used in conversion kits
-

Bill Acceptor Manuals

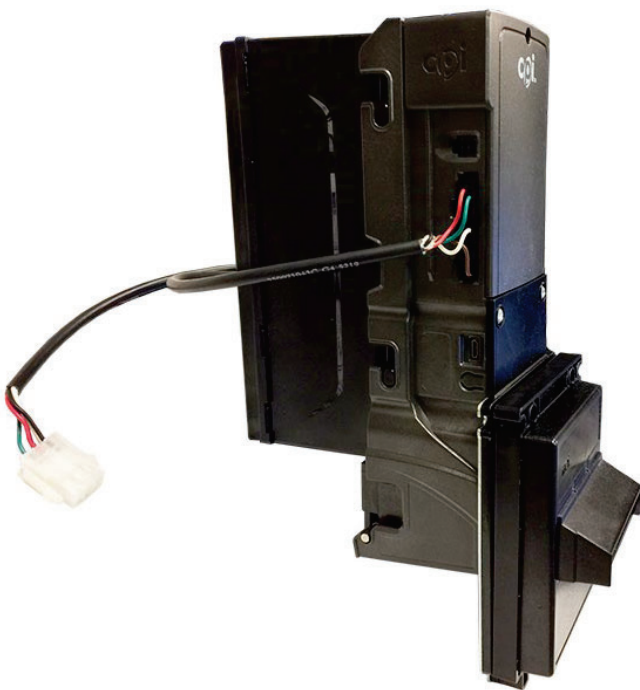
The following sections contain manufacturer documentation for the OEM bill acceptors used in Standard Change-Makers equipment. Refer to the appropriate manufacturer and model for information concerning operation, configuration, programming, cleaning, maintenance, diagnostics, error codes, and troubleshooting.

When replacing a bill acceptor, always verify that the replacement unit is properly configured for MDB communication and is compatible with the Standard Change-Makers machine in which it will be installed.

BILL ACCEPTORS: Coinco Vantage



Bill Acceptor: CPI Talos T7 (formerly Mars)



Vantage



OPERATION & SERVICE MANUAL

coinco[®]

SECTION 1: GENERAL INFORMATION

Introduction

This manual contains information on installing, operating and maintaining Coinco Vantage™ Series bill acceptors. This manual is intended for owners, route operators and shop-level technicians as a primary source of information. Taking time to read this manual and become familiar with the information will help you obtain the best performance from your Vantage bill acceptor.

Product Overview and Features

The Vantage bill acceptor incorporates a wide range of benefits, including:

- Quick-Release bezel speeds installation and removal.
- Optional FlexStack™ bill box expands from 200 bills to hold up to 500 bills. Fixed note bill boxes are available with between 300 and 1100 note capacities.
- Illuminated bezel and status indicators simplify setup and troubleshooting.
- Patented note path lockout provides high security Level Three stringing and fishing protection.
- Smart Bezel™ (optional) actively communicates ability to accept \$5 bills.

Basic operational features include:

- **Bill widths accepted:** 66mm (for Vantage Vx6 models) or 72mm (for Vx7 models).
- **Operating voltages:** 110VAC, 24VAC, 34VDC.
- **Communication Interface:** MDB, Pulse, Parallel, Vend Serial
- **Mounting:** Upstack or Downstack.
- **Bezels:** Basic, Slimline, or Downstack. All versions feature standard Impulse lighting. Smart Bezel™ option is available for Basic and Slimline versions.
- **Acceptance orientation:** four ways.
- **Coupons:** Teach-n-Go field teach capability.

For Your Records

A label indicating the bill acceptors model number and serial number can be found on the left side of the Vantage bill acceptor. Refer to the model

number and serial number whenever you call your Coinco Service Center for information or service.

The first four digits of the bill acceptor serial number indicate when the unit was built, which is also the beginning of the warranty period:

- First two digits indicate week of manufacture.
- Third and fourth digits indicate the year.

For example, Serial number 1508000123 indicates the unit was manufactured in the 15th week of 2008.

Icons

The following icons will guide you throughout the manual. Each icon highlights an area you may want to pay closer attention to.



Indicates a checklist type of process that you can readily “check” as you proceed to the next step.



Indicates a warning that you should adhere to. It is often accompanied by the words “DO NOT...”

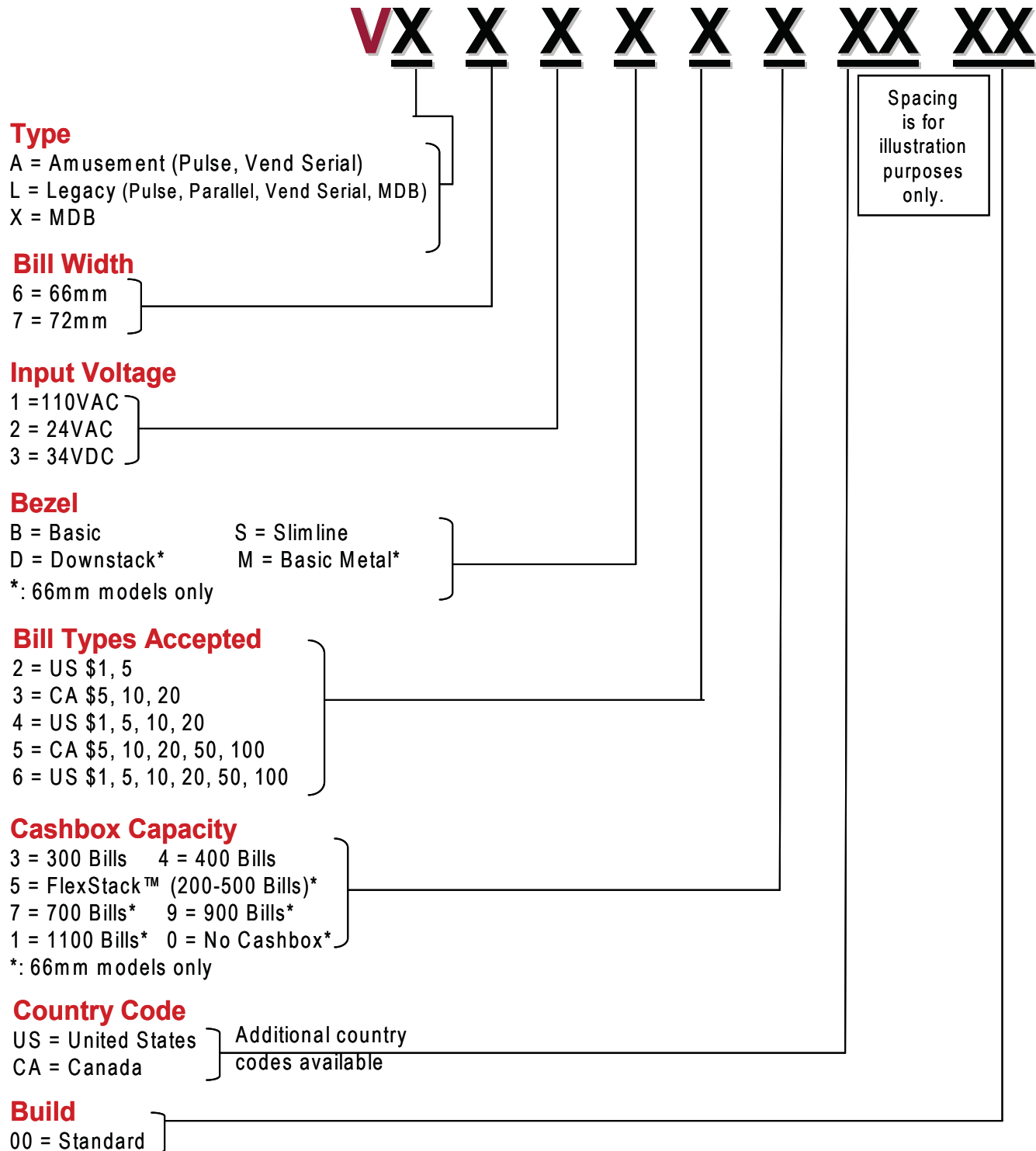


Indicates a helpful hint or shortcut to simplify the task.

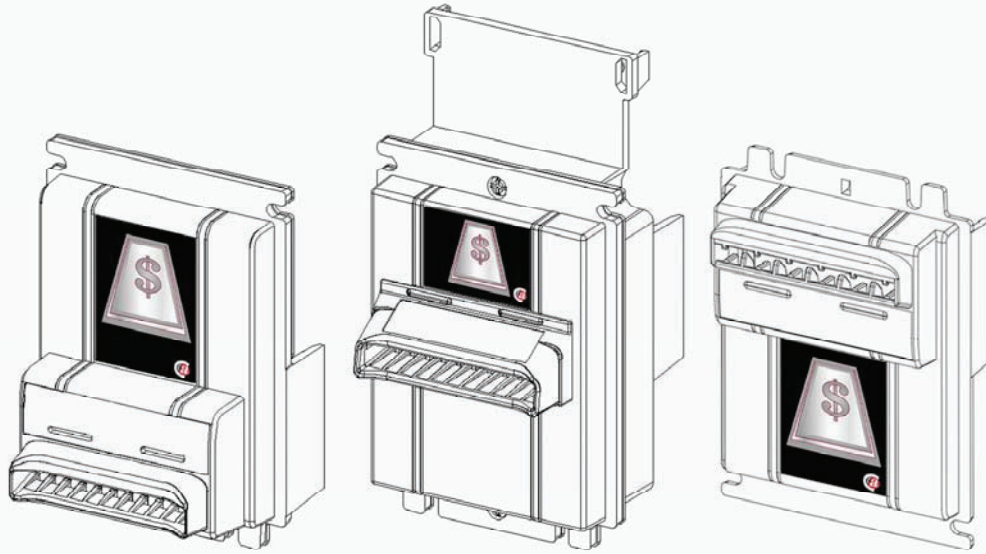


Indicates where you can find additional information regarding this specific topic.

Vantage Naming Convention



Vantage Bezel Types



Basic
(Standard or Metal)

Slimline

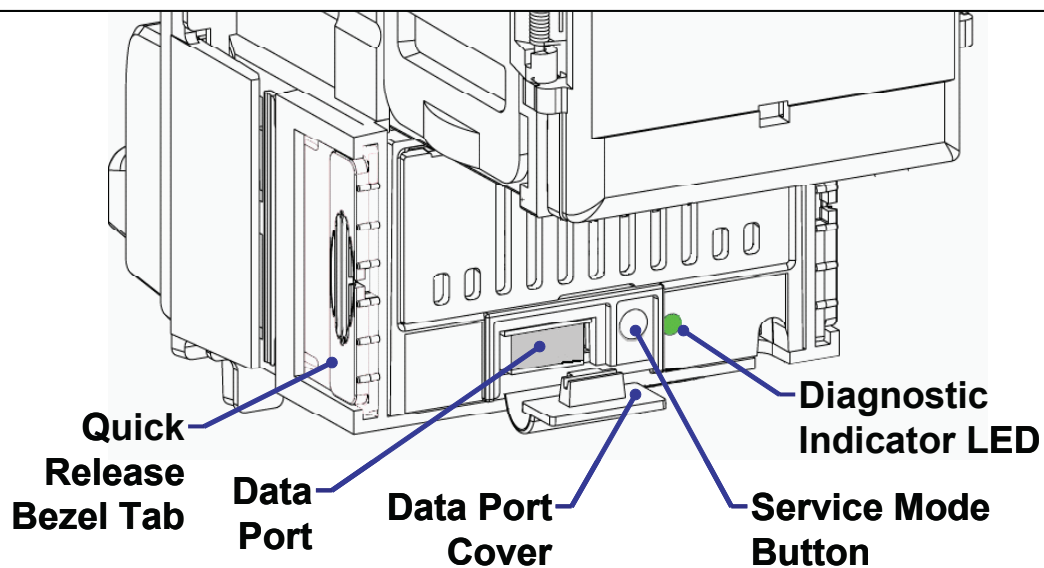
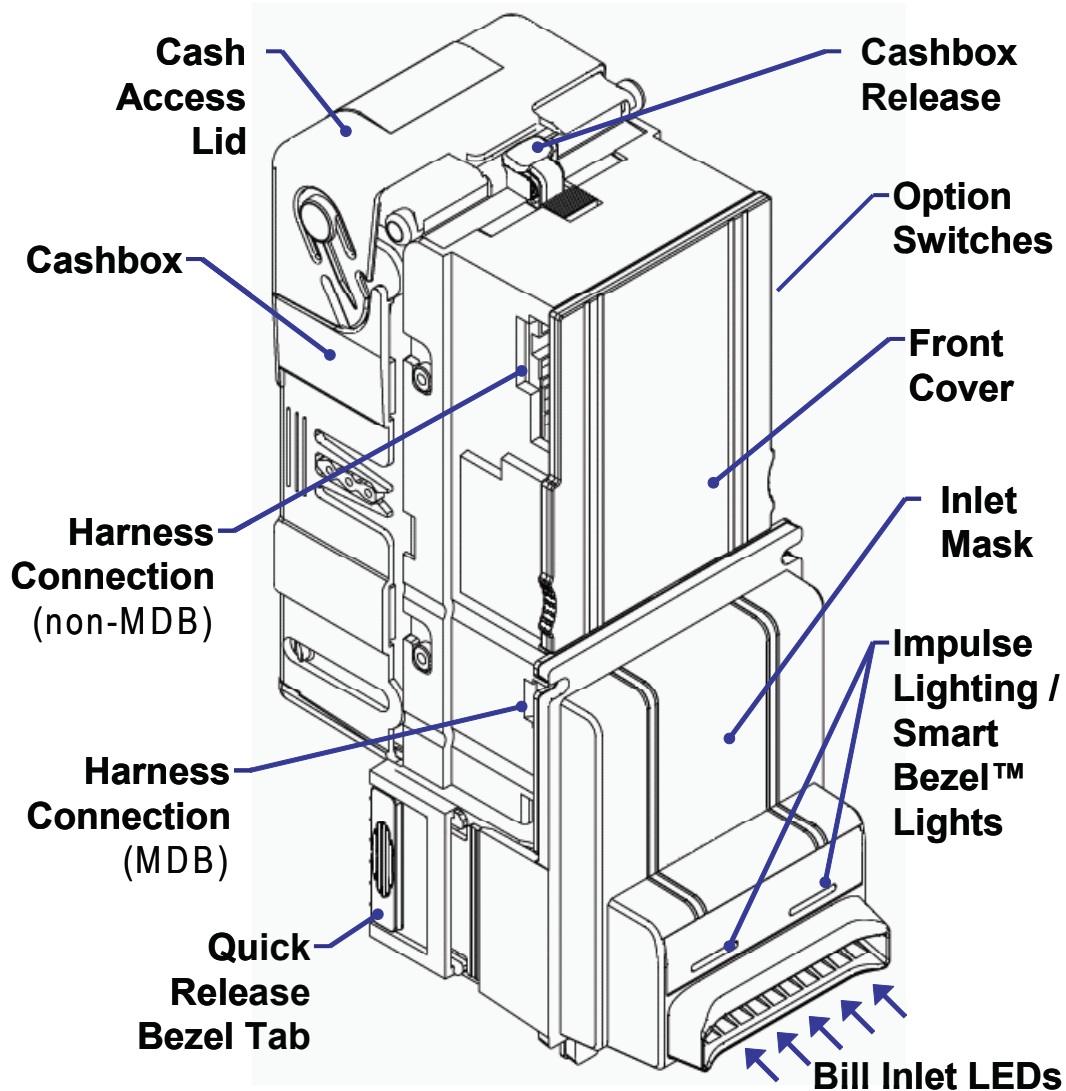
Downstack

Bill Acceptance

Model	Bill Width	\$1	\$5	\$10	\$20	\$50	\$100
Vx6xx2xUS	66mm	X	X				
Vx6xx4xUS		X	X	X	X		
Vx6xx6xUS		X	X	X	X	X	X
Vx7xx3xCA	72mm		X	X	X		
Vx7xx5xCA			X	X	X	X	X

Note: US \$2 bill acceptance is available. Please contact your Coinco Sales Representative for additional information.

Vantage™ Components



SECTION 2: INSTALLATION & SETUP

Unpacking the Validator

After removing the bill acceptor from the shipping carton, inspect it for possible damage. If the unit is damaged, notify the shipping company immediately. The consignee (person or company receiving the unit) can file a claim against the carrier for shipping damage. We recommend you keep the original carton and packaging materials to reuse if you need to transport or ship the bill acceptor in the future.

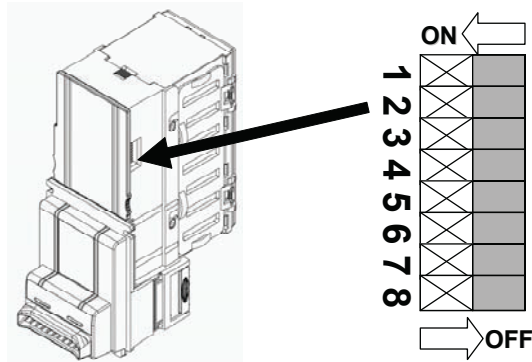
If the bill acceptor is being stored or used as a spare, always keep it in its shipping carton when not in use. This will keep it clean and offer the best protection for the unit.

Option Switch Configuration

See Figure 1. Note this step is not necessary for MDB only models.

Option / Dip Switch Settings

Note: There are no switches on MDB only models.



Pulse Timing	Switch 1	Switch 2
50 / 50mS	ON	ON
150 / 150mS	ON	OFF
Custom	OFF	ON
Parallel (Credit Line)	OFF	OFF

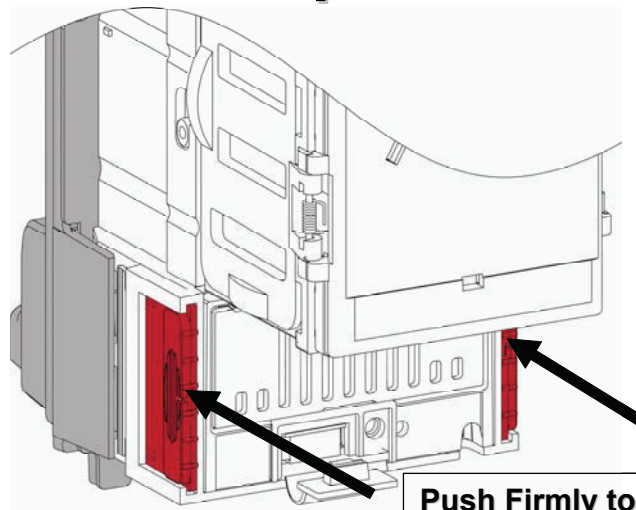
	ON	OFF
Switch 3	4 Pulse / \$	1 Pulse / \$
Switch 4	Always Enabled	Host Enabled
Switch 5	Serial	Pulse
Switches 6 - 8	Reserved	

Notes:

1. Recycle power for switch settings to take effect.
2. "Custom" has a default setting of 200 / 200mS but can be reconfigured for different timing. Please contact your Coinco Sales Rep for more information.

Figure 1

Quick Release Bezel Operation



1. Push firmly on Quick Release Tabs using a screwdriver tip. Tabs will move towards bezel and latch.
2. Once both tabs are latched, the bill acceptor will separate from the bezel.
3. To reattach, push bill acceptor body firmly onto bezel until it locks.

Figure 2

Installing the Bill Acceptor

1. Remove power from the host machine.
 DO NOT connect the bill validator harness to the machine with power connected.
2. Install the bill validator into the host machine using the mounting studs and hardware in the machine. To simplify installation, see Figure 2.
3. Install / connect the proper interface harness to the host machine.
4. Restore power to the machine.
5. The illuminated bill inlet will begin to flash and the stacker motor will cycle upon power-up. If this does not occur, check the wiring harness connections and make sure power is applied.
6. Check the Vantage diagnostic LED to verify it is green and ON continuously. If it is not, you can troubleshoot based on the status shown on the cashbox decal or see Figure 3.

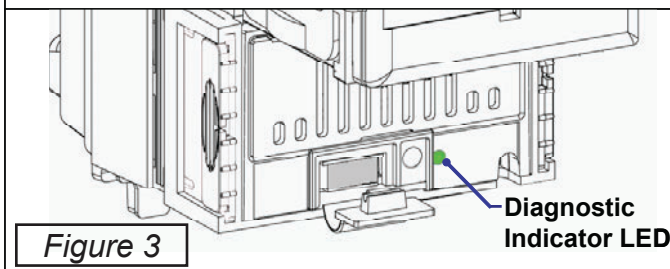
7. With the vend price set below one dollar, insert a one dollar bill.
8. Verify credit has been established.
9. Check the bill box to see that the one dollar bill was properly stacked.

Several of the configuration setting options bear further definition:

- **Coupon Acceptance:** Enables or disables acceptance of all user-loaded coupons. If this is set to "OFF", no coupons will be accepted.
- **Smart Bezel™ (default setting for VLxxx2 and VXxxx2 models):** enables the ability to communicate in real time which bills are being accepted by the bill acceptor. If the user wants to use Impulse lighting instead, they will need to order the decal set as shown in the Parts List. If a user of the VA, VLxxx4, or VXxxx4 should wish to use this feature, they will also need the same decal.
- **Impulse Lighting (default setting for all VA, VLxxx4 and VXxxx4 models):** illuminates the upper blinking lights on the bezel. Turning off this option leaves only the lower inlet lights illuminated.
- **High Security vs. Standard Security Bill Acceptance:** the default Standard Security setting (OFF) accepts 95+% of genuine street-grade bills. High Security mode is recommended for locations with a higher risk of frauds. In High Security mode, the bill acceptor will still accept the same percentage of normal genuine street-grade bills, but it will become more restrictive in accepting "borderline" notes – those seen as having defects or at the broader fringes of being acceptable.
- **1-Way / 2-Way / 4-Way:** Defines the number of bill orientation directions that the bill acceptor will accept. The first two are face-up only, the last is all 4 possible orientations (default).
- **Level 3 Security:** Recommended for higher risk environments. Provides additional level of security against stringing and fishing attempts. With Level 3 Security, the rest position of the bill stack pushplate blocks access to the bill path.

Diagnostic Flash Codes

	Flash Code	Validator Status
Operational	GRN (solid)	Sales Mode / OK
	GRN x 1	Coupon Teach
	GRN x 2	Service Mode
Warning	YEL x 1	Clean Unit
	YEL x 2	Service Unit
Out of Service	RED x 1	Cashbox Full
	RED x 2	Clear Bill Path
	RED x 3	Out of Service



✓ Configuring Bill Acceptance and Other Acceptor Options

See Figure 4 for how to enter, navigate, and set bill acceptance and other options in Configuration mode. Figure 6 shows the four "pages" of bill acceptance options and Figure 7 shows two examples.

? Why doesn't the \$50 and \$100 bill acceptance option show up in options Mode 3 for my validator?

Not all options are available on all bill acceptors. If a model does not offer a certain option, it won't appear as an enabled option while scrolling through the option settings.

To Configure Options

#	Action	Mode	Diagnostic Light
1.	SERV Hold button until Diagnostic LED flashes.	Service	GRN x 2
2.	Remove Lower Housing	Config	OFF
3.	Set Options As Desired (see Options Navigation and Configuration Settings figures)	Config	OFF
4.	Re-install Lower Housing. Inlet LEDs flash 5 times confirming options are saved.	Sales or Ready	GRN
5.	Test unit to ensure proper setup.		

Options Navigation

SERV Press once	Scrolls to next set of options within current Page. Each option should be configured properly before moving to the next Page.
SERV Hold for next Page	Scrolls to next Page of options.

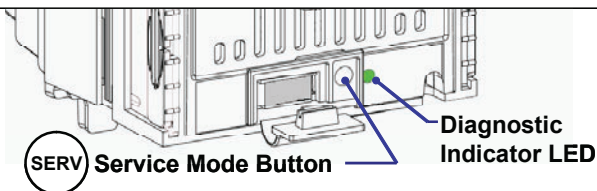
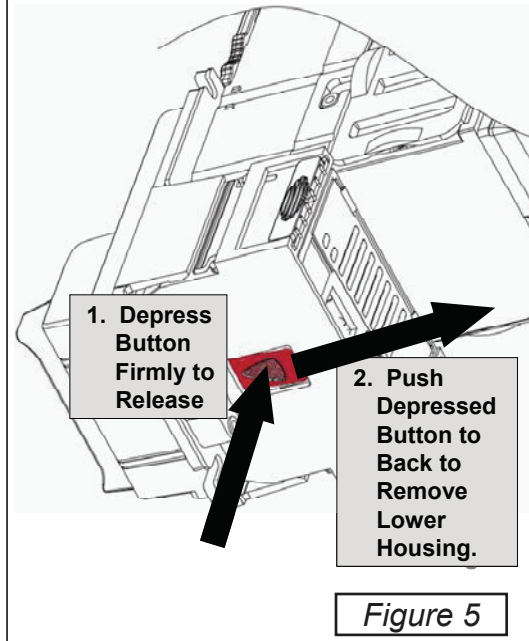


Figure 4

Lower Housing Removal



Configuration Settings

ON Inlet LED On: Option Enabled **OFF** Inlet LED Off: Option Disabled

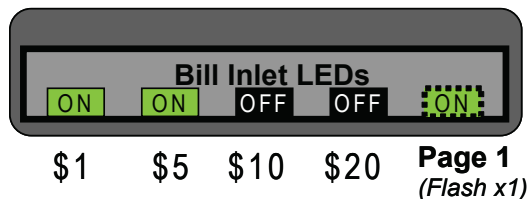
Page 1	Bill Acceptance \$1 \$5 \$10 \$20 Page 1 (Flash x1)
Page 2	Coupons / Security / Bezel Lights Coupons High Security Impulse Smart Bezel™ Page 2 (Flash x2)
Page 3	Bill Acceptance / Orientation 1-Way 2-Way 4-Way (both on) \$50 \$100 Page 3 (Flash x3)
Page 4	Level 3 Security Level 3 Security Reserved Page 4 (Flash x4)

Figure 6

Configuration Examples

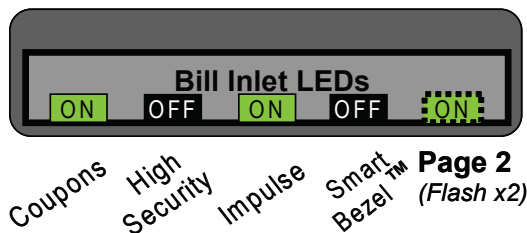
Example 1

Page 1: \$1s and \$5s Enabled



Example 2

Page 2: Coupons & Impulse Lighting Enabled



ON : Option Enabled **OFF** : Disabled

Figure 7

Add / Remove Coupons

#	Action	Mode	Diagnostic LED	Bill Inlet LEDs
1.	 Hold until Diagnostic LED flashes.	Service	 x 2	
2.	 Hold button until Inlet LEDs flash.	Coupon Teach	 (flash)	 (flash)
3.	Insert Coupon to be Added or Removed .			
ADD Coupon				
4a.	Coupon accepted and returned.	Coupon Teach	 (fast rate)	 (fast rate)
5a.	Automatically returns to Sales Mode. Coupon <u>addition</u> complete.	Sales	 (solid)	 (cycle)
REMOVE Coupon				
4b.	Coupon disabled and returned.	Coupon Teach	 (fast rate)	 (fast rate)
5b.	Automatically returns to Sales Mode. Coupon <u>removal</u> complete.	Sales	 (cycle)	 (cycle)
Coupon NOT Recognized				
4c.	Coupon returned. Inlet LEDs flash at original rate.	Coupon Teach	 (flash)	 (flash)
5c.	Insert another coupon (see Step 2 above) - OR -  Hold button to return to Sales Mode (note unit returns automatically after 40 secs of inactivity).			

Figure 8

Returning to the Default Configuration Settings

The bill acceptor can be returned to the original factory default configuration by powering the unit on while the mode button is depressed. When this is done, all user-set configuration changes will be lost. Factory default settings can be found in Section 6 of this manual

Adding / Removing Coupons

Coupons can be added or removed on site without the use of a Field Programmer. See Figure 8.

? I've successfully added a coupon, but the bill acceptor still will not accept it. Why?

The Coupon acceptance option must be set to "ON" in Page 2 of the configuration settings. This "global" setting allows (ON) or disallows (OFF) acceptance of all user-loaded coupons.

SECTION 3: OPERATION

System Operation

Bill Recognition

Sensors detect when a bill is inserted into the acceptor. These signal the transport motor to activate to pull the bill into the bill acceptor.

Bill Validation

From the time the transport motor begins to run until the trailing edge of the bill passes over them, the bill validation sensors scan the bill. This information is forwarded to the microprocessor to determine the validity of the bill.

Bill Stacking and Credit

If the bill is determined to be authentic, it is transported to the stack position. Once the bill is in the stacking position, the stacker motor runs and credit is given.

Bill Rejection

If the bill is determined to be invalid, the wrong denomination, or if some cheating method is sensed, the bill transport motor will reverse to return the bill to the customer.

Smart Bezel™

The Smart Bezel option is used to communicate in real time, the bill acceptors real-time acceptance of US \$5 bills (\$10 bills for Canada) to the customer. Under the default condition, the \$1 & \$5 light (\$5 & \$10 for Canada) will show acceptance of \$5 bills as long as there is enough change in the changer to make change for the \$5. See Figure 9.

Anti-Stringing / Anti-Fishing

Sensors detect when objects are inserted into the bill validator. If something is inserted and it is not seen as a bill, it will be rejected. If something is still seen in the path after a valid bill is transported and stacked, the stacker plate will extend as a means of keeping the valid bill from being withdrawn. With Level 3 Security, the rest position of the bill stacker pushplate completely blocks access to the bill path. Once a valid bill is inserted, the pushplate withdraws and the bill is pulled in. Level 3 Security provides an additional

level of security against stringing and fishing attempts.

Water Removal Cycling Feature

Vantage employs a patented water removal cycling technique. When certain sensors are blocked prior to a valid bill being inserted, the bill will then be cycled back-and-forth to wick off the water in the bill path. After the bill is quickly cycled several times, the bill is pulled in for validation and the system returns to normal operation.

Smart Bezel™

Communicates to Customer Which Bills Are Accepted

Feature not available on all models.

Denotes acceptance of both \$1 and \$5 bills



- **\$1 & \$5 Is Lit When:** *Both bills accepted and change made for either.*
- **\$1s Only Is Lit When:** *Change can only be made for \$1 bills.*

Note: For correct operation, make sure \$1 and \$5 bills are enabled (see Configuration Settings).

Figure 9

SECTION 4: MAINTENANCE

Vantage™ Cleaning and Maintenance

Note: Electrical power must be disconnected from the bill acceptor before performing any cleaning operations.

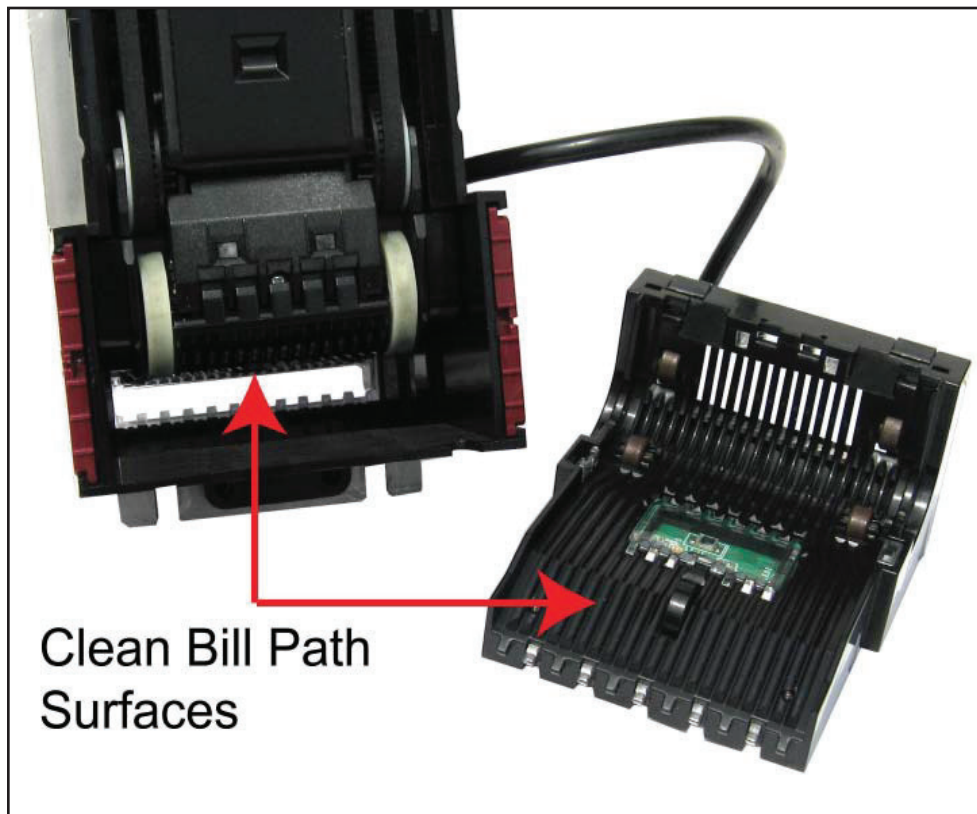
Recommended Cleaning Material

A mild solution of detergent can be used for cleaning the belts, bill path and sensor lenses, as well as for general cleaning of the bill acceptor. Beverages or other water-soluble liquids which have been spilled on or into the bill acceptor can usually be removed with warm soapy water. External surfaces can be cleaned with a damp cloth.

Note: *Petroleum-based cleaners and freon-based propellants can damage plastic and some electronic components. Scouring pads and stiff brushes may harm circuit boards and can mar the plastic. These items should never be used to clean the bill acceptor.*

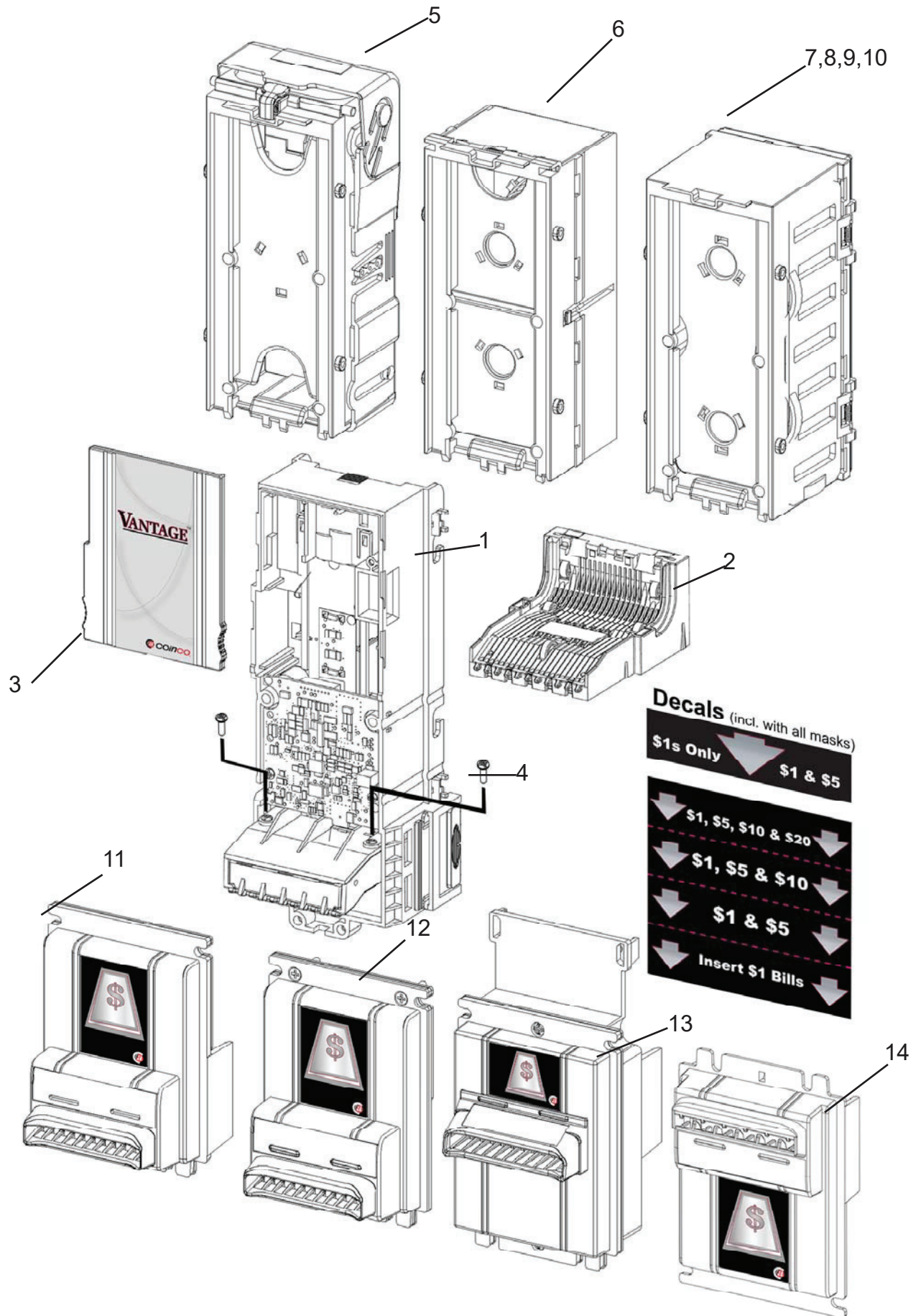
Cleaning the Vantage

The Vantage should be cleaned every 20,000 bills or every two years (or as needed, depending on the environmental conditions of the location). Dust can be removed with a soft brush or cloth or it can be blown out using compressed air.



SECTION 5: PARTS LIST

MAINFRAME ASSEMBLY, CASHBOXES, & MASKS



SECTION 5: PARTS LIST

ITEM #	PART #		DESCRIPTION	QTY	NOTES
	US	CAN			
1	410182 410182-1	410483 410183-1	Mainframe Assembly - MDB Mainframe Assembly - Amusement	1 1	Includes 409400 Includes 409400-1 & 409406-1
2	410035	410083	Lower Housing Assembly	1	
3	410159		Front Cover - Mainframe	1	
4	345-4R6		Screw	2	
5	410160	NA	Cashbox Assembly	1	
6	410161	410816	FlexStack™ (200 - 500 Note)		
7	410162	410815	300 Note		
8	410163	NA	400 Note		
9	410164	NA	700 Note		
10	410165	NA	900 Note		
			1100 Note		
11	410166	410179	<u>Inlet Bezel Assembly</u>	1	
12	410167	NA	Basic		
13	410168	410181	Basic - Metal		
14	410169	NA	Slimline		
			Downstack		

ITEM #	PART #		DESCRIPTION	QTY	NOTES
	US	CAN			
1	410170		Chassis Gear Case Assembly	1	
2	410003		Chassis Board Assembly	1	
3	410026		Motor Assembly	2	
4	927205		Belt	2	
5	410031		Right Scissors Assembly	1	
6	410031-1		Left Scissors Assembly	1	
7	410055		Push Plate Assembly	1	
8	927043		Top Push Plate Shaft	1	
9	927044		Bottom Push Plate Shaft	1	
10	927023		Transport Drive Roller	2	
11	410029		Pulley, Gear Assembly	2	
12	410028		Drive Pulley Assembly	2	
13	171730		Pinch Roller	4	
14	927202		Belt Tensioner	2	
15	927038		Belt Tension Spring	2	
16	927245		Pulley Shaft	6	
17	927223		E-Ring	2	
18	927222		E-Ring	4	
19	345-2R6		Screw	6	
20	TBD		Chassis Gear Case Assembly	1	Entire Assembly as Shown

SECTION 6: TECHNICAL INFORMATION

Input Power and Interfaces

Model #	Nominal Voltage	Minimum Requirement	Amps	Interface
V _{Ax1}	110VAC	90-135VAC; 47-63Hz	12W / 0.1A rms (avg.) Idle; 25W / 0.4A rms (avg.) Operating; 40W / 0.7A rms (max) Stall / Full	Amusement Pulse, Vend Serial
V _{Lx1}				Pulse, Parallel, Vend Serial
V _{Lx2}	24VAC	18-30VAC; 47-63Hz	4W / 0.3A rms (avg.) Idle; 25W / 1.8A rms (avg.) Operating; 40W / 2.5A rms (max) Stall / Full	Pulse, Parallel, Vend Serial
V _{Xx3}	34VDC	20-45VDC	4W / 0.2A (avg.) Idle; 25W / 1.2A (avg.) Operating; 40W / 1.8A (max) Stall / Full	MDB

Specifications

Operating Temperature

0°F to 150°F
-18°C to 65°C

Storage Temperature

-22°F to 160°F
-30°C to 72°C

Relative Humidity

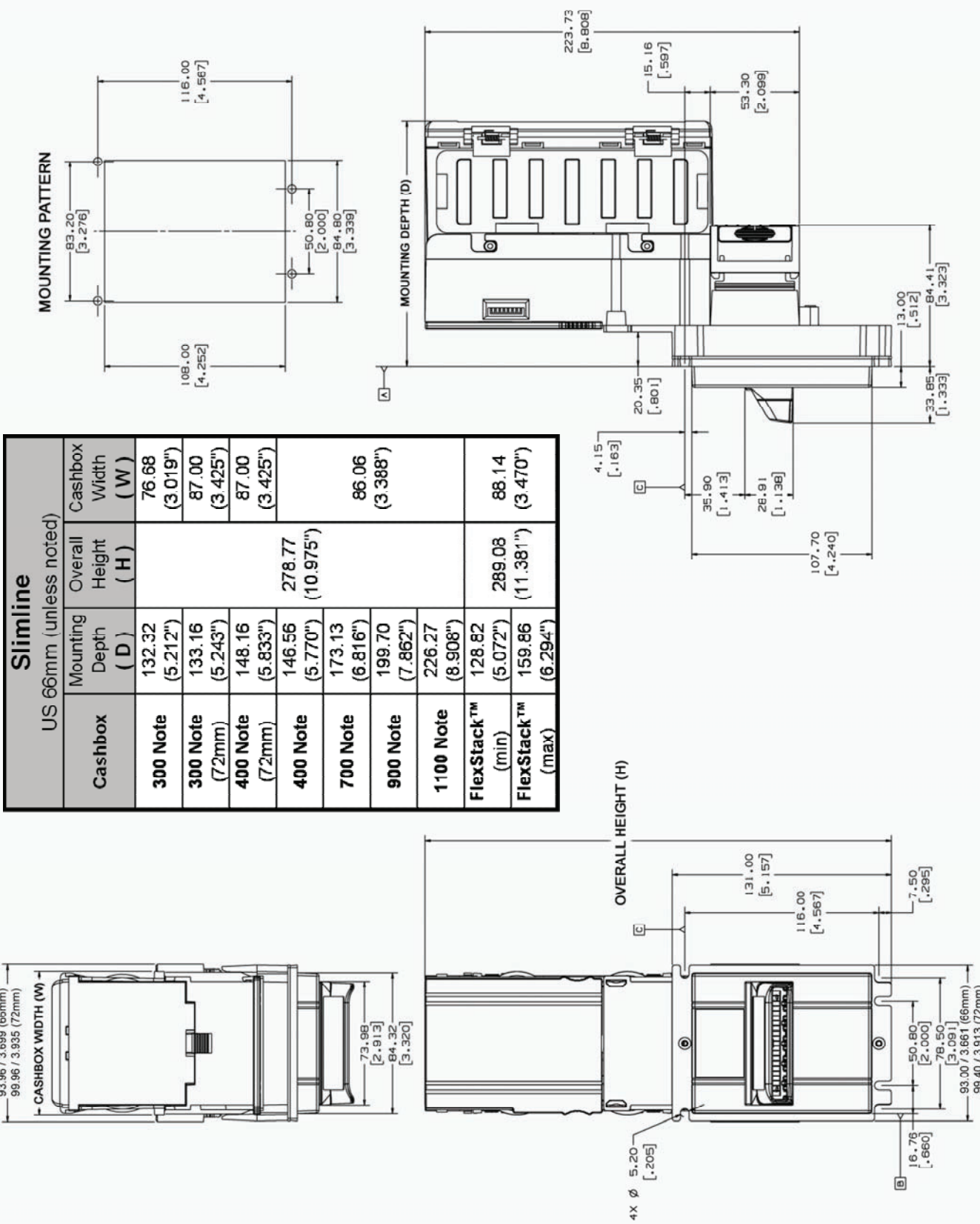
20% to 95% non-condensing

Shipping Weight in Carton

Approximately 4 lbs. or 1.81 kilograms

Slimline Bezel

mm (inches)



Factory Default Settings

MDB 34VDC

VX63x2xUS (\$1-\$5)

Configuration				
\$1	\$5	\$10	\$20	1
ON	OFF	NA	NA	
Coupons	High Security	Impulse Lighting	Smart Bezel™	2
ON	OFF	OFF	ON	
Acceptance:4 Way		\$50	\$100	3
1 Way	2 Way			
ON	ON	NA	NA	
Lvl 3 Security	Reserved			4
OFF	OFF	OFF	OFF	

VX63x4xUS (\$1-\$20)

Configuration				
\$1	\$5	\$10	\$20	1
ON	OFF	OFF	OFF	
Coupons	High Security	Impulse Lighting	Smart Bezel™	2
ON	OFF	ON	OFF	
Acceptance:4 Way		\$50	\$100	3
1 Way	2 Way			
ON	ON	NA	NA	
Lvl 3 Security	Reserved			4
OFF	OFF	OFF	OFF	

VX73x3xCA (\$5-\$20)

Configuration				
\$1	\$5	\$10	\$20	1
NA	ON	OFF	OFF	
Coupons	High Security	Impulse Lighting	Smart Bezel™	2
ON	OFF	OFF	ON	
Acceptance:4 Way		\$50	\$100	3
1 Way	2 Way			
ON	ON	NA	NA	
Lvl 3 Security	Reserved			4
OFF	OFF	OFF	OFF	

VX73x5xCA (\$5-\$100)

Configuration				
\$1	\$5	\$10	\$20	1
NA	ON	ON	ON	
Coupons	High Security	Impulse Lighting	Smart Bezel™	2
ON	OFF	ON	OFF	
Acceptance:4 Way		\$50	\$100	3
1 Way	2 Way			
ON	ON	ON	ON	
Lvl 3 Security	Reserved			4
OFF	OFF	OFF	OFF	

Note: MDB versions do not have dip switches.

email: techsupport@coinco.com
www.coinco.com



**INCLUDED
IN MACHINE**

Vantage™ Series Bill Acceptor

Installation & Operation Guide

Introduction

The Vantage™ Series bill acceptors represent another milestone in Coin Acceptors, Inc. history of innovation. These advancements continue to provide Coinco customers with improved reliability, simplified route operations, and increased profitability.

Product Overview and Features

The Vantage acceptor incorporates a wide range of benefits, including:

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- Optional FlexStack™ bill box expands from 200 bills to hold up to 500 bills. Fixed note bill boxes are available with between 300 and 1100 note capacities.
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- First two digits: indicate week of manufacture.
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For example, Serial number **1508000123** indicates the unit was manufactured in the 15th week of 2008.

Bill Acceptance

Model	Bill Width	\$1	\$5	\$10	\$20	\$50	\$100
Vx6xx2xUS	66mm	X	X				
Vx6xx4xUS		X	X	X	X		
Vx6xx6xUS		X	X	X	X	X	X
Vx7xx3xCA	72mm		X	X	X		
Vx7xx5xCA			X	X	X	X	X

Vantage™ Components

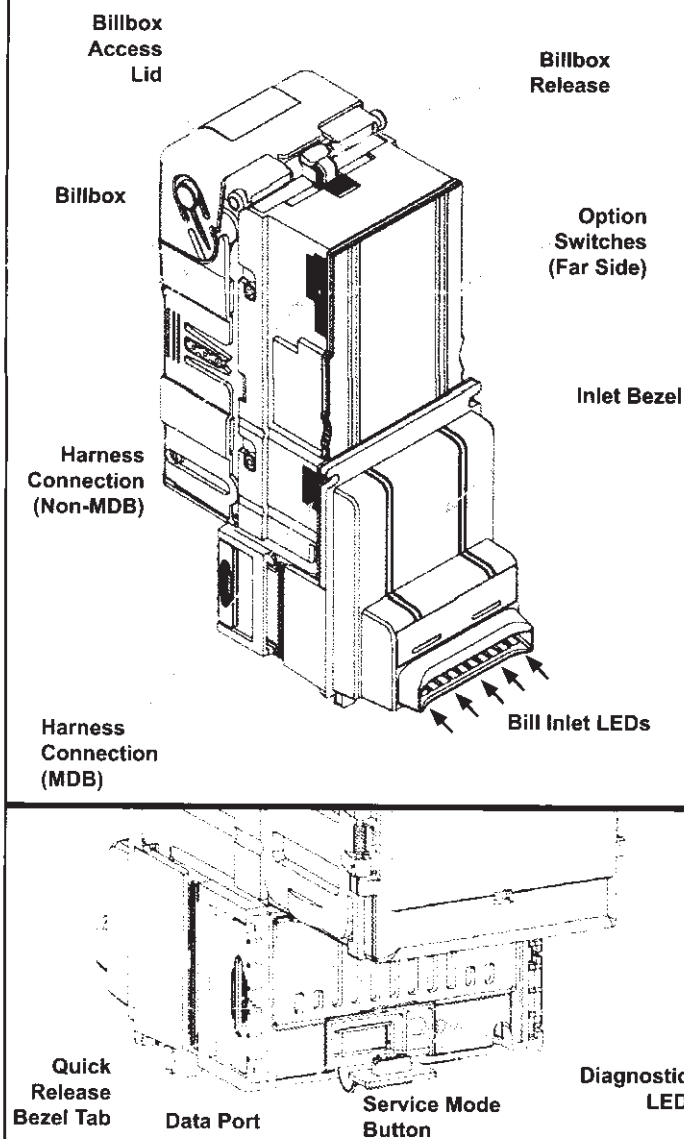


Figure 1

Input Power and Interfaces

Model #	Voltage	Hertz	Amps	Interface
VAx1	110VAC	60Hz	0.7A rms (max)	Amusement Pulse, Vend Serial
VLx1				Pulse, Parallel, Vend Serial, MDB
VLx2			2.5A rms (max)	Pulse, Parallel, Vend Serial, MDB
VXx3	34VDC	NA	1.8A (max)	MDB

Unpacking the Bill Acceptor

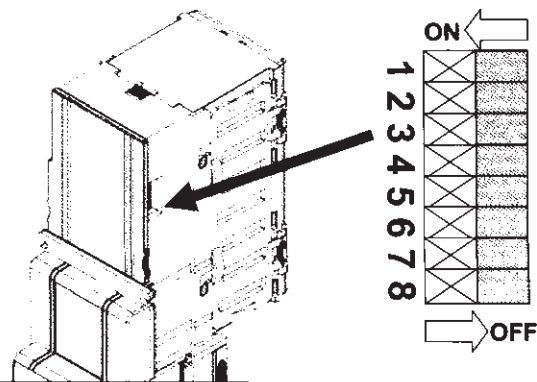
After removing the bill acceptor from the shipping carton, inspect it for possible damage. If the unit is damaged, notify the shipping company immediately. The consignee (person or company receiving the unit) can file a claim against the carrier for shipping damage. We recommend you keep the original carton and packaging materials to reuse if you need to transport or ship the bill acceptor in the future. If the bill acceptor is being stored or used as a spare, always keep it in its shipping carton when not in use. This will keep it clean and offer the best protection for the unit.

Option Switch Settings

See Figure 2. This step is not necessary for MDB applications.

Option / Dip Switch Settings

Note: There are no switches on MDB only models.



Pulse Timing	Switch 1	Switch 2
50 / 50mS	ON	ON
150 / 150mS	ON	OFF
Custom (default is 200/200mS)	OFF	ON
Parallel (Credit Line) VL Models Only	OFF	OFF

	ON	OFF
Switch 3	4 Pulse/\$	1 Pulse/\$
Switch 4	Always Enabled	Host Enabled
Switch 5	Serial	Pulse
Switches 6 - 8	Reserved	

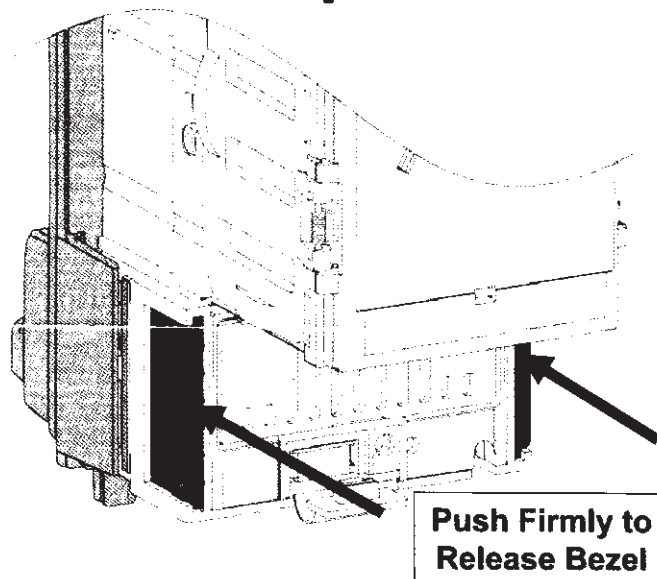
NOTE: Power MUST be reset for revised switch settings to take effect.

Figure 2

Installing the Bill Acceptor

1. Remove power from the host machine. DO NOT connect the bill acceptor harness to the machine with power connected.
2. Install the bill acceptor into the host machine using the mounting studs and hardware in the machine. To simplify installation, see Figure 3.
3. Install / connect the proper interface harness to the host machine.
4. Restore power to the machine.
5. The illuminated bill inlet will begin to flash and the stacker motor will cycle upon power-up. If this does not occur, check the wiring harness connections and make sure power is applied.
6. Check the Vantage diagnostic LED on the back of the unit Figure 1 to verify it is green and ON continuously. If it is not, you can troubleshoot based on the status shown on the billbox decal or Figure 8.
7. With the vend price set below one dollar, insert a one dollar bill.
8. Verify credit has been established.
9. Check the bill box to see that the one dollar bill was properly stacked.

Quick Release Bezel Operation



1. Push firmly on Quick Release Tabs using a screwdriver tip. Tabs will move towards bezel and latch.
2. Once both tabs are latched, the bill acceptor will separate from the bezel.
3. To reattach, push bill acceptor body firmly onto bezel until it locks.

Figure 3

Configuring Bill Acceptance & Options

To change the configuration settings:

1. Remove the bill box.
2. Press and release the Service Mode Button. Wait for the green diagnostic LED to begin flashing two times.
3. Remove the lower housing – press the release button on the bottom side of the Vantage and slide the lower housing out of the bill acceptor *Figure 6*.
4. The 5 LED's on lower housing will tell you which setting is either on or off. Use *Figure 5* as a guide to enable or disable bill acceptance and options. If the LED light is "on", the option is turned on. If the LED is off, the option is turned off.
5. To advance from one page to another, with the lower housing removed, look at the flashing LED #5. Press and hold the Service Mode Button on the lower housing for 7 seconds. 1 blink means you are on page 1. 2 blinks means you are on page 2 and so on. Release the Service Mode Button when blinking LED #5 indicates the page you wish to configure.
6. To save the settings, re-install the lower housing in the Vantage. Be careful not to press the Service Mode Button when installing the lower housing as this will change your settings.

• **Coupon Acceptance:** Enables or disables acceptance of all user-loaded coupons. If this is set to "OFF", no coupons will be accepted.

• **High Security vs. Standard Security Bill Acceptance:** The Standard Security setting accepts 95+% of genuine street-grade legal bills. High security mode is recommended for locations with a higher risk of frauds

• **Bezel Lighting Mode:** Use the bill inlet LEDs #3 and #4 on page 2 to select Smart Bezel, Impulse, or Steady bezel lighting. See *fig. 5* and chart below.

LED #3	LED #4	Mode	LED Operation
Off	Off	Smart-4	Upper 4 individual LEDs communicate \$1, \$5, \$10, \$20 acceptance when enabled by host machine.
On	Off	Impulse	Upper 4 individual LEDs blink in a runway pattern.
Off	On	Smart-2	Upper two LED sets (left and right) communicate \$1 or \$1&\$5 acceptance when enabled by host machine.
On	On	Steady	Upper 2 LED sets (left and right) communicate \$1 or \$1&\$5 acceptance. Lower outside LEDs remain steady on.

• **1-Way/2-Way/4-Way:** Defines the number of bill orientation directions that the bill acceptor will accept. 1-Way and 2-Way are face up.

• **Level 3 Security:** Recommended for higher risk environments. Provides additional level of security against stringing and fishing attempts by blocking access to the bill path.

To Configure Options

#	Action	Mode	Page
1.	(SERV) Press and release button, diagnostic LED flashes.	Service	GRN x 2
2.	Remove Lower Housing	Config	OFF
3.	Set Options As Desired (see Options Navigation and Configuration Settings figures)	Config	OFF
4.	Re-install Lower Housing. Inlet LEDs flash 5 times confirming options are saved.	Sales or Ready	GRN
5.	Test unit to ensure proper setup.		

Options Navigation

(SERV) Press Once & Release	Scrolls to next set of options within current Page. Each option should be configured properly before moving to the next Page.
(SERV) Press & Hold for next Page	Scrolls to next Page of options.

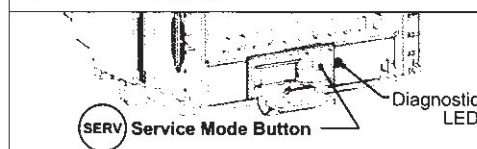


Figure 4

Configuration Settings

Inlet LED On:
Option On (Enabled)

Inlet LED Off:
Option Off (Disabled)

Page 1

Bill Acceptance

\$1
\$5
\$10
\$20

Page 1
(Flash x1)

Page 2

Coupons / Security / Bezel Lights

Coupons
High Security
#3
#4

Page 2
(Flash x2)

Page 3

Bill Acceptance / Orientation

1-Way
2-Way
4-Way (both on)
\$50
\$100

Page 3
(Flash x3)

Page 4

Level 3 Security

Level 3 Security
Reserved

Page 4
(Flash x4)

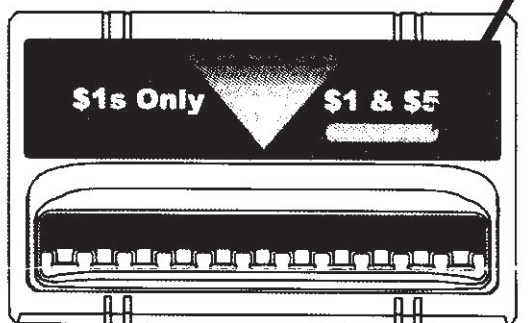
Figure 5

Smart Bezel™ Options
See Figure 7. Feature not available on all models.

Smart Bezel™

Communicates to Customer in Real Time Which Bills Are Being Accepted

Denotes acceptance of both \$1 and \$5 bills



- **\$1 & \$5 Is Lit When:** Both bills accepted; change can be made for either.
- **\$1s Only Is Lit When:** Change can only be made for \$1 bills.

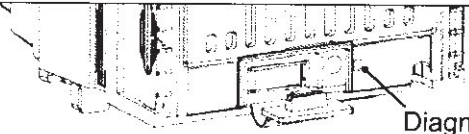
Note: For correct operation, make sure \$1 and \$5 bills are enabled (see Configuration Settings).

Figure 7

Diagnostic Flash Codes

	Flash Code	Validator Status
Operational	 (solid)	Sales Mode / OK
	 x 1	Coupon Teach *
	 x 2	Service Mode
Warning	 x 1	Clean Unit
	 x 2	Service Unit
Out of Service	 x 1	Cashbox Full
	 x 2	Clear Bill Path
	 x 3	Out of Service

*: See Service Manual for more info on Coupon Teach.



Diagnostic LED

Figure 8

Lower Housing Removal

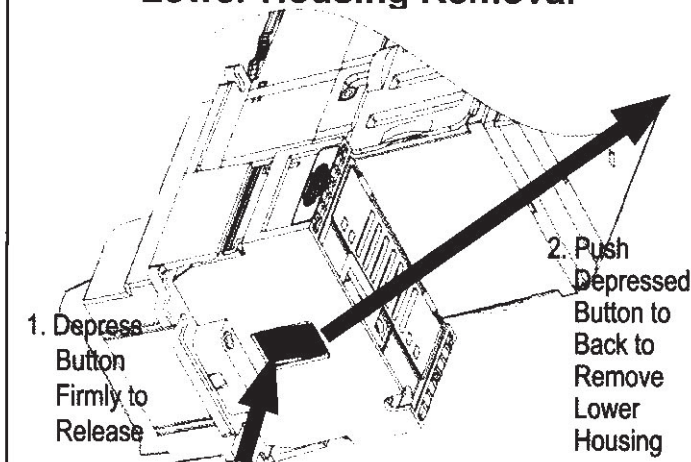


Figure 6

Vantage™ Cleaning and Maintenance

Note: Electrical power must be disconnected from the bill acceptor before performing any cleaning operations.

Recommended Cleaning Material

A mild solution of detergent can be used for cleaning the belts, bill path and sensor lenses, as well as for general cleaning of the bill acceptor. Beverages or other water-soluble liquids which have been spilled on or into the bill acceptor can usually be removed with warm soapy water. External surfaces can be cleaned with a damp cloth.

Note: Petroleum-based cleaners and freon-based propellants can damage plastic and some electronic components. Scouring pads and stiff brushes may harm circuit boards and can mar the plastic. These items should never be used to clean the bill acceptor.

Cleaning the Vantage

The Vantage should be cleaned every 20,000 bills or every two years (or as needed, depending on the environmental conditions of the location). Dust can be removed with a soft brush or cloth or it can be blown out using compressed air.



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St. Louis, MO 63124-2013
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COUPON SECTIONS CONTINUED

SECTION 6 - ACCEPTANCE MODE Non-Recycler Mode Only

Mode 0: Factory default. No acceptance modes active.

Mode 1*: If fraud is detected the validator enters an out-of-service time-out, the stacker plate extends into the bill magazine and the bezel LEDs flash. If any sensors are blocked, the time-out persists until the jam is cleared.

Mode 2*: All the features of Mode 1, plus the stacker plate extends into the bill magazine when idle.

Mode 3*: All the features of Mode 2, but more aggressive. It may increase jams and service calls. Mode 3 is recommended for temporary use only.

*Requires power

This space is left intentionally blank.



Talos™ Coupon Guide

Carefully cut coupon from this page or make one copy of this coupon.

Copies are usable if made on a standard, carbon-based copier. Make one copy of the original at a time, as copiers tend to reduce the size of the coupon when multiple copies are made.

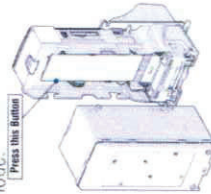
Fill out the coupon using a #2 (HB) pencil. Fill in one block for each line. Do not mark the back of the coupon.

Note that Talos units are preconfigured with the following options enabled:

- Accept \$1 bills
- Four way accept

Initiating Coupon Mode on a Talos without a Recycler

1. Remove the bill magazine
2. Use a pencil or a screwdriver to press this button to enter configuration mode, then reattach the bill magazine to initiate Coupon mode.



Initiating Coupon Mode on a Talos with a Recycler

1. Hold the Mode button on the recycler to enter the menu
2. Press Mode to cycle through the options, and stop when CP is displayed
3. Press Select to initiate Coupon mode

When coupon mode is activated, the bezel lights will rapidly flash

1. Insert a completed configuration coupon
2. Watch the bezel LEDs and count the flashes when the configuration coupon is returned
3. Use this chart to confirm successful programming.

Flashes	Meaning
10	Configuration coupon accepted and unit successfully programmed.
1 - 5	Coupon rejected. Number of flashes corresponds to the coupon section that was improperly filled out. Try again.
7	Coupon not read. Confirm the coupon correct and try again.

FREE VEND COUPONS AND BILL PROGRAMMING

Follow the same process to program the Talos with bills or free vend coupons, but note that the LED codes are slightly different:

Flashes	Meaning
10	The bill or vend coupon has been enabled successfully
7	The bill validator was unable to read the bill or vend coupon. Try again.
3	The bill or vend coupon has been disabled

PROGRAMMING WITH CPI SYNQ

1. Open the Simplifi app on your mobile device and tap the Synq your Talos is connected to



3. Make your selections and tap Update



OTHER DOCUMENTATION

All support documentation, including a downloadable copy of this coupon, can be found at Craneapi.com/support.

Scan



Log in

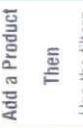


Tap Support



And select My Library

Tap



Use the filters or scroll to find Talos

Tap



Choose your Document

COUPON SECTIONS

SECTION 1 - BILL WAYS

1 - Face up in one direction (green seal first)

2 - Face up in either direction

4 - Face up or down in either direction

SECTION 2 - BILL ENABLES

Fill in on or off to enable or disable a bill.

SECTION 3 - MDB INTERFACE

Recycler Only

L2 - MDB Level 2. Use when accepting \$20

L3 - MDB Level 3. Use when recycling \$1, unless accepting \$20

rE - Stand alone Recycler Mode

AU - Auto-Interface. Recycler determines setting.

SECTION 4 - RECYCLED BILL

Recycler Only - Determines which bill is sent to the recycler.

SECTION 5 - RECYCLED BILL

Recycler Only

Yes - Limits high value notes as inventory depletes

No - Accepts all enabled notes

SECTION 6 - ACCEPTANCE MODE

Details on next page

Print actual size

66mm

T2700(R) Coupon

Sections 1 & 2 must be filled in

Bill ways accepted

1

Bill enables

2

\$1

\$2

\$5

\$10

\$20

Sections 3-5 for Recycler Models

MDB Interface

3

L2

L3

rE

AU

Recycled Bill

4

\$1

\$5

\$10

Accept inhibit

5

ON

OFF

Section 6 for Non-Recycler Models

Acceptance mode (section is optional)

6

Mode 0

Mode 1

Mode 2

Mode 3

cpi

Cut carefully on the dotted line. The coupon should be the same size as an American bill when complete.

T6 - DOWNSTACKERS
USED IN CONVERSION KITS

T8 - UPSTACKERS
USED IN BCX & BX SERIES FOR
\$100 BILL ACCEPTANCE



Talos T6/T8™ Coupon Guide

Carefully cut coupon from this page or make one copy of this coupon.

Copies are usable if made on a standard, carbon-based copier. Make one copy of the original at a time, as copiers tend to reduce the size of the coupon when multiple copies are made.

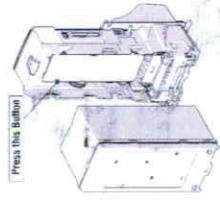
Fill out the coupon using a #2 (HB) pencil. Fill in one block for each line. Do not mark the back of the coupon.

Note that Talos units are preconfigured with the following options enabled:

- Bill Ways Accepted: Four Way
- T6 Bills Enabled: \$1 - \$20
- T8 Bills Enabled: \$1 - \$100
- Pulse Width: Gaming Short
- Pulses Per Dollar: One
- Interface Mode: Harness Enable
- Acceptance Mode: Mode Zero

Initiating Coupon Mode

1. Remove the bill magazine
2. Use a pencil or a screwdriver to press this button to enter configuration mode, then reattach the bill magazine to initiate Coupon mode:



When coupon mode is activated, the bezel lights will rapidly flash

1. Insert a completed configuration coupon
2. Watch the bezel LEDs and count the flashes when the configuration coupon is returned
3. Use this chart to confirm successful programming

Flashes	Meaning
10	Configuration coupon accepted and unit successfully programmed.
1 - 5	Coupon rejected. Number of flashes corresponds to the coupon section that was improperly filled out. Try again.
7	Coupon not read. Confirm the coupon correct and try again.

FREE VEND COUPONS AND BILL PROGRAMMING

Follow the same process to program the Talos with bills or free vend coupons, but note that the LED codes are slightly different:

Flashes	Meaning
10	The bill or vend coupon has been enabled successfully
7	The bill validator was unable to read the bill or vend coupon. Try again.
3	The bill or vend coupon has been disabled

PROGRAMMING WITH CPI SYNO

1. Open the Simplifi app on your mobile device and tap the Synq your Talos is connected to



2. Tap Configuration



3. Make your selections and tap Update



4. Tap OK on the prompt, then tap Restart to save changes



OTHER DOCUMENTATION

All support documentation, including a downloadable copy of this coupon, can be found at Cranepi.com/support.



COUPON SECTIONS

SECTION 1 - BILL WAYS

- 1 - Face up in one direction (green seal first)
- 2 - Face up in either direction
- 4 - Face up or down in either direction

SECTION 2 - BILL ENABLES

Fill in on or off to enable or disable a bill.

SECTION 3 - MDB INTERFACE

Recycler Only

- L2 - MDB Level 2. Use when accepting \$20
- L3 - MDB Level 3. Use when recycling \$1, unless accepting \$20
- rE - Stand alone Recycler Mode
- AU - Auto-Interface. Recycler determines setting.

SECTION 4 - RECYCLED BILL

Recycler Only - Determines which bill is sent to the recycler.

SECTION 5 - RECYCLED BILL

Recycler Only

Yes - Limits high value notes as inventory depletes

No - Accepts all enabled notes

SECTION 6 - ACCEPTANCE MODE

Details on next page

Print actual size
66mm

12700(R) Coupon

Sections 1 & 2 must be filled in

Bill ways accepted

1 2 3 4

Bill enables on off

2

S1 S2 S5 S10 S20

Sections 3-5 for Recycler Models

MDB Interface

3

L2 L3 rE Au

Recycled Bill

4

\$1 \$5 \$10

Accept inhibit

5

ON OFF

Section 6 for Non-Recycler Models

Acceptance mode (section is optional)

6

Mode 0 Mode 1 Mode 2 Mode 3

CPI

Cut carefully on the dotted line. The coupon should be the same size as an American bill when complete.

T7 TALOS (MARE)

COUPON SECTIONS

SECTION 1 - BILL WAYS

1 - Face up in one direction (green seal first)

2 - Face up in either direction

4 - Face up or down in either direction

SECTION 2 - BILL ENABLES

Fill in on or off to enable or disable a bill.

SECTION 3 - MDB INTERFACE

Recycler Only

L2 - MDB Level 2. Use when accepting \$20

L3 - MDB Level 3. Use when recycling \$1, unless accepting \$20

rE - Stand alone Recycler Mode

AU - Auto-Interface. Recycler determines setting.

SECTION 4 - RECYCLED BILL

Recycler Only - Determines which bill is sent to the recycler.

SECTION 5 - RECYCLED BILL

Recycler Only

Yes - Limits high value notes as inventory depletes

No - Accepts all enabled notes

SECTION 6 - ACCEPTANCE MODE

Details on next page

Print actual size

66mm

T2700(R) Coupon

		☒	☒
Sections 1 & 2 must be filled in			
Bill ways accepted			
1		☐	☐
		1	2
Bill enables			
		on	off
2	S1	☒	☐
	S2	☐	☒
	S5	☒	☐
	S10	☒	☐
	S20	☒	☐
Sections 3-5 for Recycler Models			
MDB Interface			
3	☐	☐	☐
	L2	L3	rE
Recycled Bill			
4	☐	☐	☐
	\$1	\$5	\$10
Accept inhibit			
5	☐	☐	
	ON	OFF	
Section 6 for Non-Recycler Models			
Acceptance mode (section is optional)			
6	☒	☐	☐
	Mode 0	Mode 1	Mode 2
	☒	☒	
cpi			



Cut carefully on the dotted line. The coupon should be the same size as an American bill when complete.

PROGRAMMING FOR STANDARD CHANGE-MAKERS



Talos™ T700 Install Guide

The Talos bill validator is designed to fit into the standard bill acceptor opening in most vending machines and can be mounted on existing studs or a mounting bracket.

Features

- Four way bill acceptance
- Coupon and bill configuration
- Supports High Visibility and Credit Card Reader Bezels

Interface

The Talos bill validator operates via MDB interface. The 24VDC MDB harness is included.

Operating Voltage

See the label on the side of the device.



INSTALLATION

Before installation, remove the Talos bill validator from the packaging and inspect for any physical damage. If damaged, contact customer service at 1-800-345-8215.

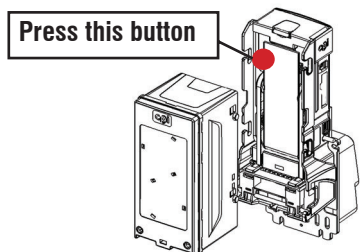
1. Turn off power to the vending machine.
2. Mount the Talos bill validator on the mounting studs, through the opening in the front of the vendor and secure using the included hardware.
3. Connect the Talos bill validator to the MDB harness. Apply gentle pressure to connect; the pins will bend if forced.
4. Turn on power to the vending machine.
5. Check the LEDs on the front of Talos. The LEDs should be flashing. In some cases, the machine door must be closed first.
6. Once the LEDs are flashing, test the validator with a \$1 bill.
 - a. Insert \$1 and confirm that it stacks and credit is given.
 - b. Repeat this process for any other enabled bills.
7. When your test is complete, remove the test bills from the bill magazine.

The installation is now complete. Refer to the other sections of this guide to configure the device, if necessary.

ENABLING BILLS AND VEND COUPONS

Follow this process to enable or disable bills or vend coupons:

1. Remove the bill magazine, then use a pencil or a screwdriver to press the button to enter configuration mode:
2. Reattach the bill magazine.
3. Insert the bill or vend coupon.
4. The bezel LEDs flash when the bill or vend coupon is returned.
5. Count the flashes to determine the outcome using the chart on the next section.



ENABLING BILLS AND VEND COUPONS - CONTINUED

Number of Flashes	Meaning
10	The bill or vend coupon has been enabled successfully
7	The bill validator was unable to read the bill or vend coupon. Try again.
3	The bill or vend coupon has been disabled

CONFIGURATION COUPONS

The unit is pre-configured with the following options enabled:

- Accept \$1 bills
- Four way accept

Use the included coupon to change the settings:

1. Carefully cut out the coupon
2. Fill out each line using an HB or #2 pencil

Section	Changes	Options
1	Bill Way Accepted	1 - Face up in one direction (green seal first) 2 - Face up in either direction 4 - Face up or down in either direction
2	Bills Enabled	On or off to enable or disable a bill
3	Recycled Bill	Can be left blank, but is required for the recycler
4	Accept Inhibit	Requires a Recycler
5	Acceptance Mode	Mode 0: Factory default. No acceptance modes active. Mode 1*: If fraud is detected the validator enters an out-of-service time-out, the stacker plate extends into the bill magazine and the bezel LEDs flash. If any sensors are blocked, the time-out persists until the blockage is cleared. Mode 2*: All the features of Mode 1, plus the stacker plate extends into the bill magazine when idle. Mode 3*: All the features of Mode 2, but more aggressive. It may increase jams and service calls. Mode 3 is recommended for temporary use only. *Requires power

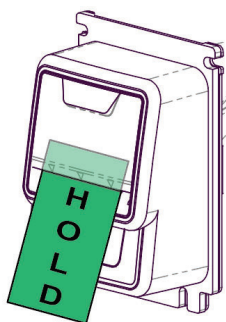
CONFIGURATION COUPONS - CONTINUED

Insert the configuration coupon and verify the settings were accepted by counting the bezel flashes

Flashes	Meaning
10	Configuration coupon accepted and unit successfully programmed.
1 - 5	Coupon rejected. Number of flashes corresponds to the coupon section that was improperly filled out. Try again.
7	Coupon not read. Confirm the coupon is correct and try again.

BEZEL LED ERROR FLASH CODES

When the unit is ready and enabled, the bezel LEDs will flash continuously. If the bezel LEDs are off, the unit has an error. To determine the error, partially insert and hold a bill in the bill path until the bezel lights flash. Count the flashes and refer to the chart below.



Flashes	Problem	Solution
None	No power	Restore power to validator or machine
1 or 4	Bill path blocked	Check for jams. Remove bill magazine and lower housing assembly and inspect
2	Another vending component	Ensure the unit has been enabled, then check: • Vending Machine Controller • Coin manager and coin levels • Inventory levels • The door is locked properly
3	Lower housing assembly	Check that the lower housing assembly is seated. Ensure bill path is clean; see Cleaning section
5	Bill magazine removed	Reattach bill magazine
Continuous fast	Stacker full	Empty the bill magazine
Continuous slow	Unit is defective	Replace the unit

TROUBLESHOOTING

These are some common, easy-to-solve issues that may pop up during installation:

If this happens	Try
The unit will not power up	Check Harnesses: Cables may be loose, not properly connected or pins may be bent Check Source Voltage: Ensure that power is being supplied to the bill validator.
The unit has power, but will not accept a bill	Ensure the unit has been enabled, then check: • Vending Machine Controller • Coin manager and coin levels • Inventory levels • The door is locked properly

CLEANING

The Talos bill validator will not need to be cleaned as often as magnetic sensing bill acceptors. If cleaning is required, use a soft cloth moistened with a mild, non-abrasive detergent.

Compliance

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (a) This device may not cause harmful interference, and (b) this device must accept any interference received, including interference that may cause undesired operation.

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