

# American Changer



## AC2006, AC2007, AC2207 & AC6007 Installation, Operation, and Service Manual



*Changing the Industry<sup>SM</sup>*

### **! WARNING**

**Improper installation, adjustment, alteration, service, maintenance, or use of this machine can result in death, injury or property damage.**

#### **Installers & Service Technicians**

Read and understand the instructions detailed in this manual.

#### **Owners & Operators**

Keep this manual in a safe place to provide to any service technicians working on this machine.

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# Section 1 – Product Overview

## 1.1 – Machine Specifications

|  |   |
|--|---|
| Operating Voltage (selectable by switch on power supply) | Set at 115VAC: 90 ~ 132VAC 4.0A<br>Set at 230VAC: 180 ~ 264VAC 6.0A |
| Power Consumption  | 10 Watts  |
| Operating Temperature                                    | 41°F to 104°F / 5°C to 40°C   |
| Interface to Coin Hopper                                 | 24VDC, 2.5 amps max   |

**\*Note:** Specifications stated herein may vary without notice. Capacities are approximations and may vary.

## 1.2 – Warranty Information

PLEASE REFERENCE SECTION 4.4 ON PAGES 47 AND 48 FOR AMERICAN CHANGER’S DETAILED LIMITED WARRANTY AND EXCLUSIVE REMEDIES. SOME HIGHLIGHTS FROM SAID SECTION ARE:

### Coin Hopper(s), Coin Acceptors and Logic Board

These items are warranted for one year from date of purchase.

### Bill Validators

These are warranted for two years from the date of purchase.

### **COVERED**

- Manufacturers’ defects in workmanship or materials

### **NOT COVERED**

- Damage caused by shipping or physical abuse
- Misapplication
- Vandalism
- End users’ attempt, on their own, to repair components
- Cleaning and maintenance
- Power surges and lightning strikes

**A Return Material Authorization number (RMA #) must be obtained from American Changer Corporation before returning a unit for repair; warranty or otherwise. A copy of invoices must accompany any and all warranty work.**

## Section 1.3 – Machine Safety

### Your safety and the safety of others are very important to American Changer.

We have provided important safety messages in this manual and on your machine. Always read and obey all safety messages.



This is a safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others. All safety messages will follow the safety alert symbol and either “DANGER”, “WARNING”, or “CAUTION”.

These words mean:



You can be killed or seriously injured if you don't immediately follow instructions



You can be killed or seriously injured if you don't follow instructions



You can be injured if you don't follow instructions

All safety messages will tell you what the potential hazard is, tell you how reduce the risk of injury, and tell you what can happen if the instructions are not followed.

Distributors, retailers, operators, and/or service people are to insure the following warning label is properly affixed on the ACC products to which you/they are using and/or servicing in order to help meet the applicable Proposition 65 requirements. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



**WARNING:** Cancer and Reproductive Harm

[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## Important Safety Instructions

**DANGER:** To reduce the risks of severe injury secure the machine to a stable structure.



**Severe Injury Hazard**

This machine is to be secured to a stable structure.

Equipment will fall if not properly secured to a stable structure.

Failure to follow these instructions may result in death, injury, product damage, or property damage.

**WARNING:** To reduce the risk of electrical shock, disconnect all electrical power to the machine before servicing.



**Electric Shock Hazard**

Disconnect all electrical power to the machine before servicing.

Electric shock will occur while servicing the machine with electrical power applied to it.

Failure to follow these instructions may result in death, injury, product damage, or property damage.

**NOTICE:** For indoor use only.



**For indoor use only.**

**Solo para usos en el interior.**

**Pour une utilisation en intérieur uniquement.**



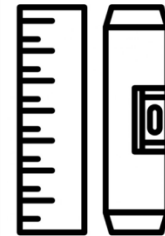
**NOTICE:** Ensure this machine is level when installed



**Ensure this machine is level when installed.**

**Asegurarse que esta máquina esté nivelada cuando haya sido instalada.**

**S'assurer que la machine soit de niveau lorsqu'installée.**



**SAVE THESE INSTRUCTIONS**

American Changer does not guarantee machines (products) or services to be 100% secure against criminal attempts. All machines (products) and services are to be used in accordance with business best practices and the owner's or operator's best judgement.

Installation, use, service and maintenance must be performed in accordance with applicable machine (product) manuals provided by American Changer and comply with any and all pertinent laws or regulations.

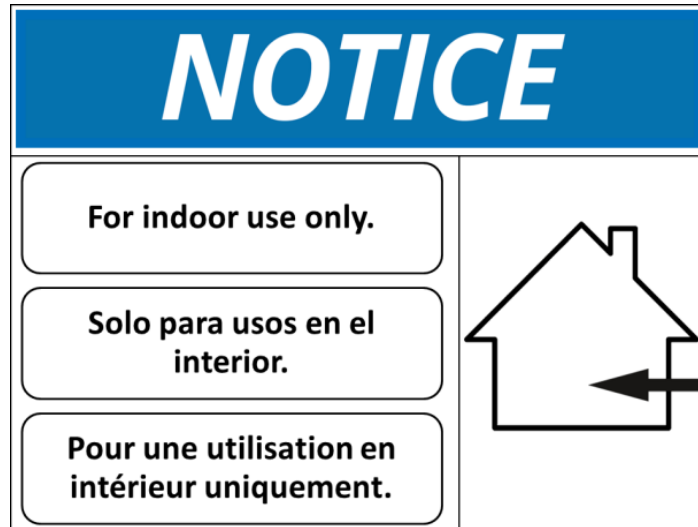
Inspect your machine (product), at a minimum annually, by a qualified service technician.

Dimensions and weights are reasonably close estimates. Specifications in this manual can vary without notice.

## Section 2 – Setup & Installation

### 2.1 – Setup

**NOTICE: THIS MODEL MACHINE IS FOR INDOOR USE ONLY.**



Inspect for any connectors or components that may have been dislodged during shipping. The lock and keys for your changer will be inside the manila envelope along with this manual and other pertinent information. To install the lock, insert the cylinder into the hole in the middle of the T-handle and push until it stops. Turn the key until you hear it “snap.” Turn the key counterclockwise ¼ turn and remove the keys.

**NOTE:** The only way to get a duplicate set of keys made is to save the tag that comes with the keys. The ID # begins with “AC” or “ACC” followed by digits.” If you purchased Medeco locks with your machine the ID will begin with “7RA” followed by digits.”

**CHECKING SHIPMENT:** Be sure to check the shipment against the Bill of Lading for shortages. Also, check for external damage to the packaging. Note any shortages and/or damage to the packaging on the Bill of Lading in the presence of the carrier and ask the carrier to initial on the Bill of Lading accordingly. Immediately report any shortages or damage to the packaging to the carrier and American Changer.

**TEST:** Before permanently installing the changer, do a functional test to verify that there is no shipping damage to your new changer.

Plug the power cord into a ***dedicated, grounded 120VAC outlet***. The machine is preset to accept \$1, \$5, \$10, and \$20 and dispense 25¢ coins (unless otherwise specified at the time of purchase).

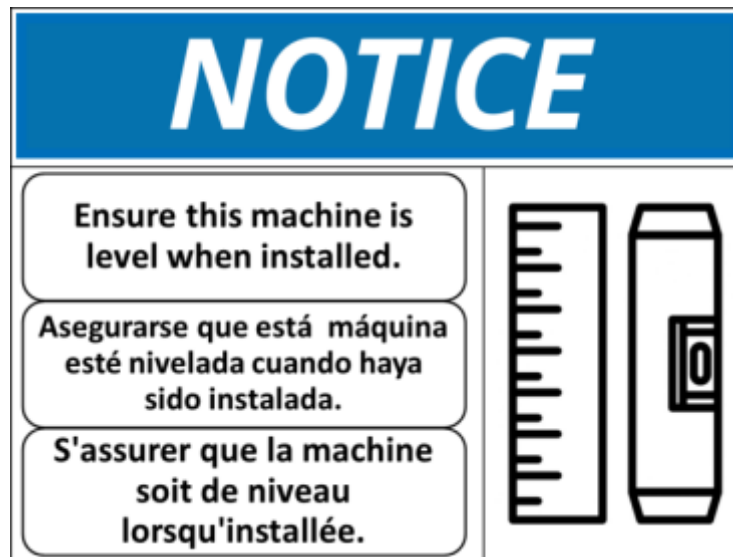
Fill each of the coin hoppers with a minimum of 100 coins. On the Main Logic Board, turn the switch on the bottom right corner “ON.” The rocker switch has an “I” and “O” printed on it. When the “I” is pressed down, the changer is “ON.”

If the machine does not function properly please contact American Changer’s Technical Support Department at [service@americanchanger.com](mailto:service@americanchanger.com) or 1-888-741-9840.

## 2.2 – Mounting Instructions

*This machine must be installed in accordance with local codes. If you are unsure in any way what your local codes are or unsure of anything in the following steps, please hire a licensed professional to mount your machine.*

1. Disconnect any and all AC power going to the machine. (Unplug AC line cord from the rear of the machine.)
2. Note: You will need to verify with the building code enforcement to see if it is allowable to plug the changer into a grounded outlet. If it is not, there must be 120VAC run through conduit or other means to meet local codes to the changer. If it is not required, proceed to step #6.
3. Have a licensed electrician run the conduit, install the new breaker, wire and help decide how the wiring will enter the changer (from the back or the bottom).
4. After the conduit has been installed, proceed with securing the machine to a stable structure.
5. Find an appropriate stable structure which to secure the machine to.
6. **NOTICE: BEFORE SECURING ENSURE THE MACHINE IS LEVEL.**





7. **⚠ DANGER**: PROPERLY SECURE MACHINE (PRODUCT) TO THE FLOOR SO THE MACHINE (PRODUCT) CANNOT BE MOVED OR TIPPED. USE STRUCTURAL SOUND FASTENERS THAT CAN BE PROPERLY TIGHTENED AND SECURE THE MACHINE (PRODUCT) THROUGH EACH OF THE HOLES IN THE BASE OF THE MACHINE (PRODUCT) TO THE APPLICABLE SURFACE TO WHICH IT IS BEING SECURED.



8. Use the four holes located in the back, bottom, or sides of the cabinet to secure the machine to a stable structure.
9. Verify that the machine is properly secured to the stable structure.
10. Connect your AC line to the outlet. If conduit was run wire it to the power supply located in the machine.
- Do not use an extension cord unless allowed by the building electrical code.**
  - Installation is completed. Proceed to the “Programming the Changer” section.

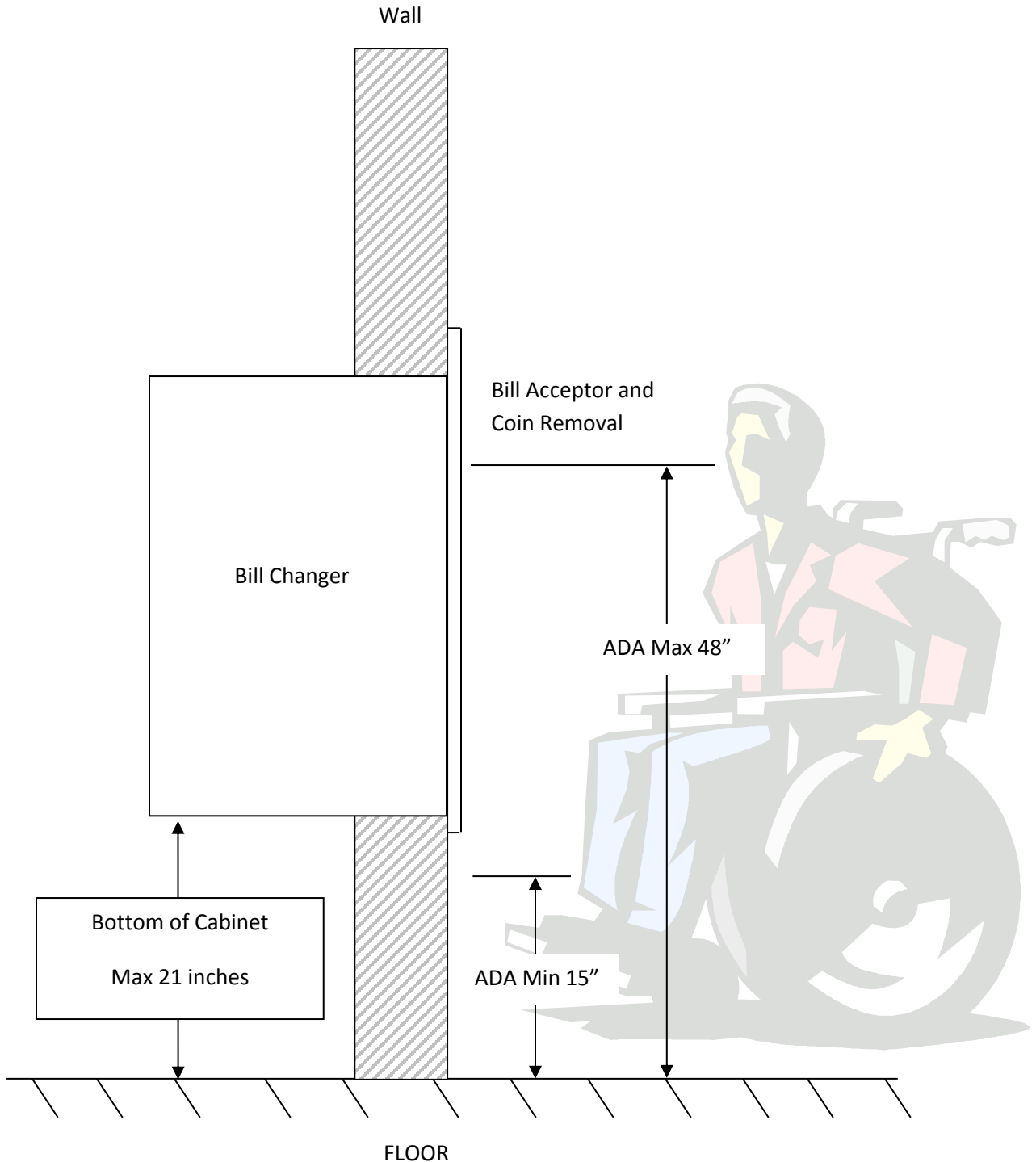
The proper performance of your American Changer machine is directly related to the quality of the power it is supplied. AC power fluctuations, including blackouts, brownouts, over voltages, sags, surges, and spikes may cause the machine to miss pay. To ensure the most trouble-free operation, we strongly recommend plugging all of our machines into a DEDICATED AC outlet (this means there are no other machines on location plugged into the same AC line). A simple way to check if this is true is to turn off the breaker associated with our machine at the breaker box. No other equipment on location should lose power.

Additionally, if your unit is located in an area prone to lightning storms or other sources of frequent power disturbances, we also strongly recommend using an Uninterruptible Power Supply (UPS). If power is lost during a payout to a customer, a UPS will allow your machines to complete the transaction that would otherwise not be completed. In some cases, a UPS may also correct long-term under and/or over voltages on the AC line by converting to the proper line voltage before the power reaches the machine.

Every American Changer machine has a surge suppressor built into the main logic board. This helps eliminate power related noise problems, but it will not protect from substantial voltage spikes or nearby lightning strikes. If this is a concern for your area, we recommend purchasing a commercial grade UPS with integrated surge protection. **NOTE: A POWER STRIP IS NOT A SURGE PROTECTOR.**

## 2.3 – ADA Regulations

The American Disabilities Act requires unobstructed access to equipment. Bill insertion and coin removal are to be no lower than 15 inches and no higher than 48 inches from the floor. This requirement must be met whether a changer is installed on a base, on a table, or in the wall. NOTE: This drawing is not to scale.



## Section 3 – Operational Overview

### 3.1 – Component Description

#### Coin Hopper

The hopper uses the ccTalk communication protocol. It can dispense coins or tokens ranging in size from 21mm to 30mm in diameter and 1.25mm to 3.30mm in thickness. An option is available to dispense smaller coins.

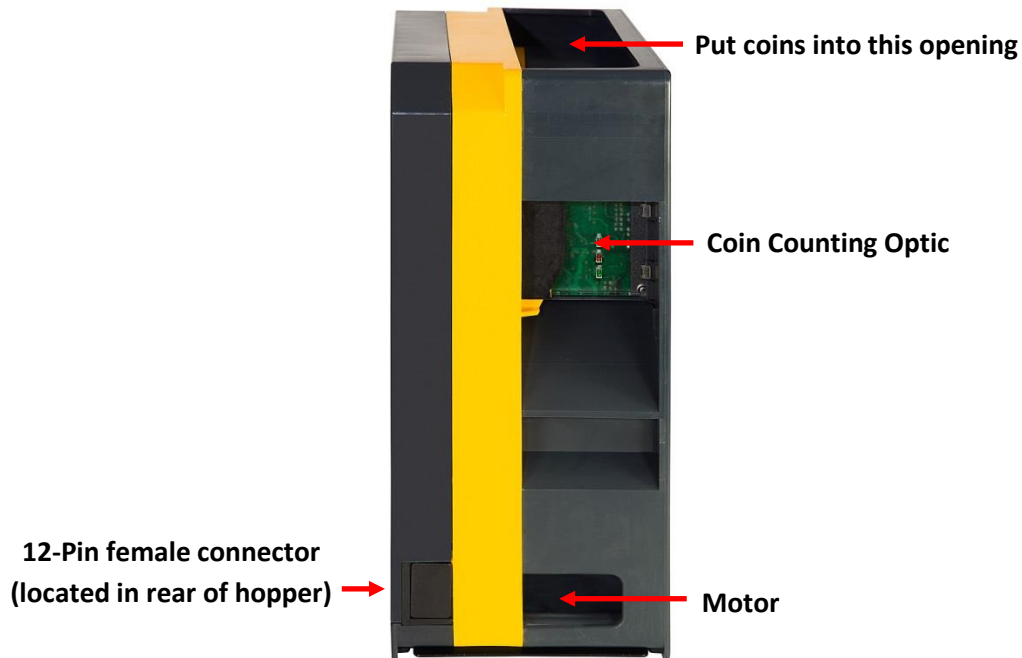


Figure 1

#### Bill Validator

This model machine may have been sold without a bill validator. It is intended to work with a 24VDC bill validator using the MDB protocol.

#### *6-Pin (MDB) Connector Pinout:*

- Pin #1 - +24VDC Power
- Pin #2 - DC Power return
- Pin #3 - Not Used
- Pin #4 - Master Receive
- Pin #5 - Master Transmit
- Pin #6 - Communications Common

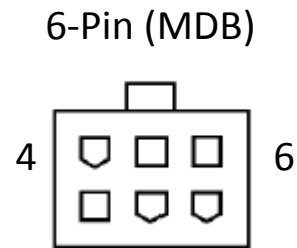
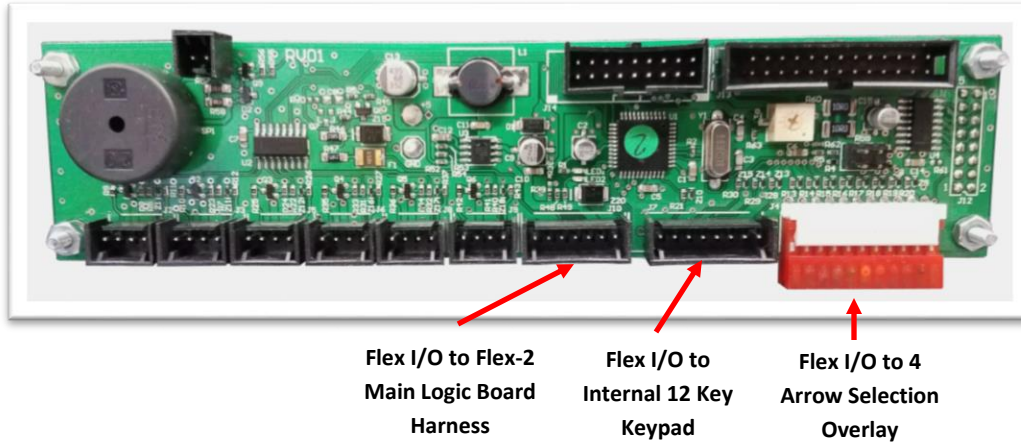


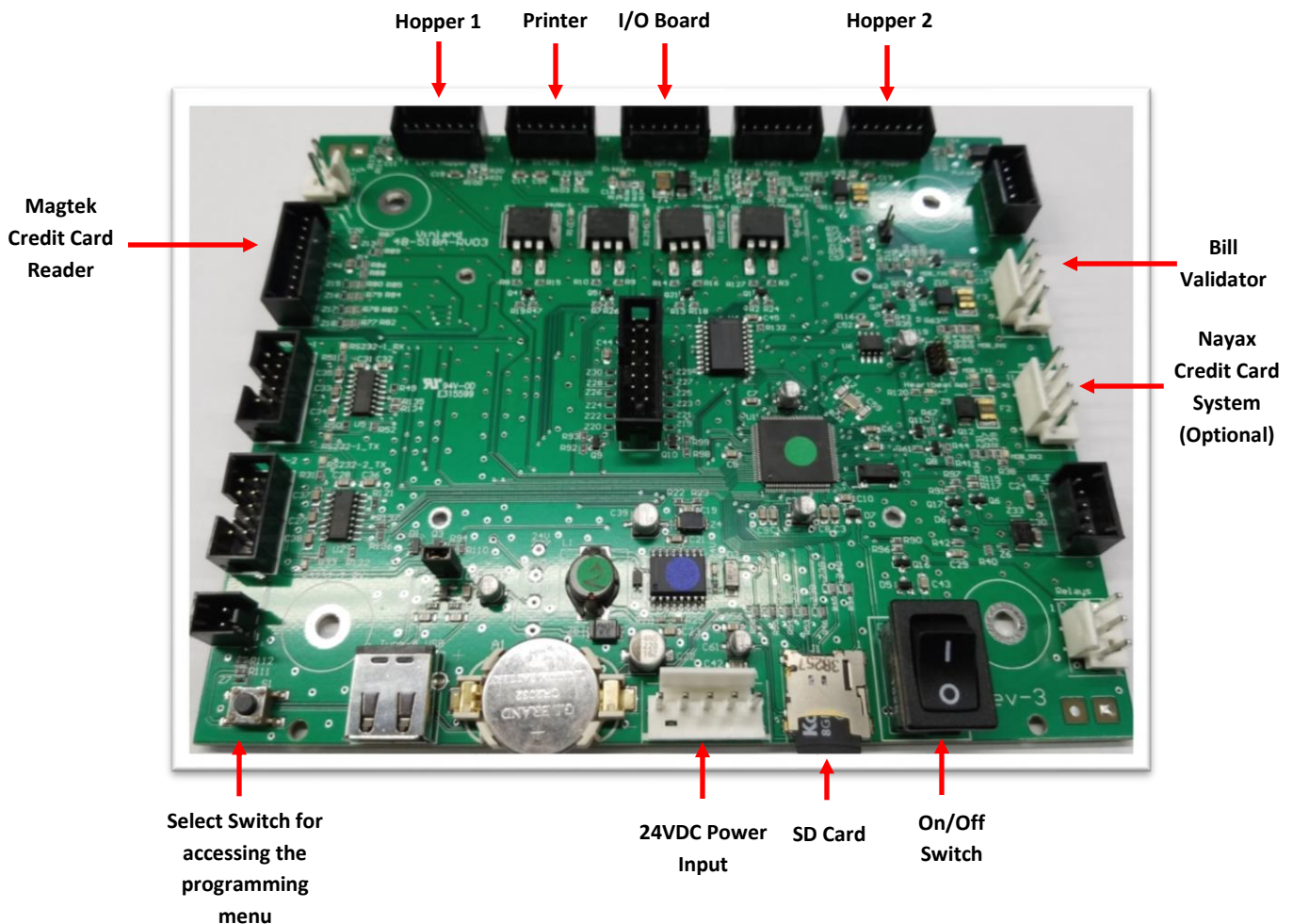
Figure 2

**I/O Board and External LCD Display –**

The I/O board allows the main board to interface with the LCD display and displays the packages to the customer. The LCD display is located behind the I/O board pictured below.



**Flex-2 Main Logic Board**



## **12 Key Keypad**

This model machines uses a 12-key keypad for entering information into the programming menu. It is mounted on the front of the machine.



## **Printer**

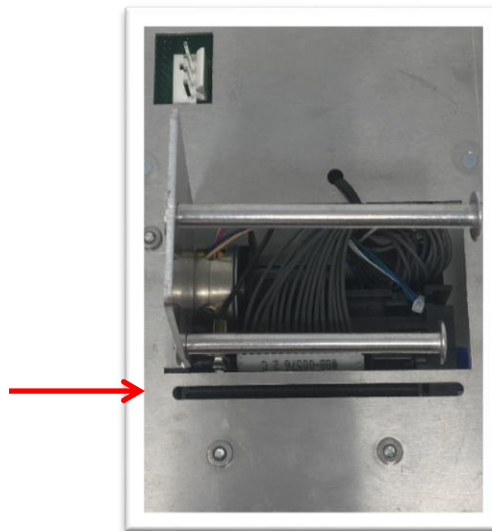
This machine comes standard with an audit/receipt printer.



## Replacing the Printer Paper

Before the printer paper runs out, you might wish to contact your distributor and order more printer thermal paper. The American Changer part number is **AC7071-01**, and it is a special brand which is hard to find. Many owners of this product make the mistake of purchasing the incorrect paper type or have a problem loading the paper. Please follow the steps of either Method #1 or Method #2 below to properly load your thermal printer with new paper.

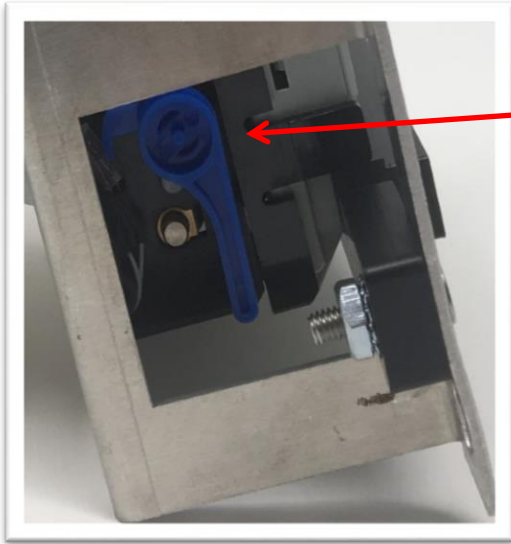
Opening in rear of  
printer. Paper is  
loaded through this  
opening



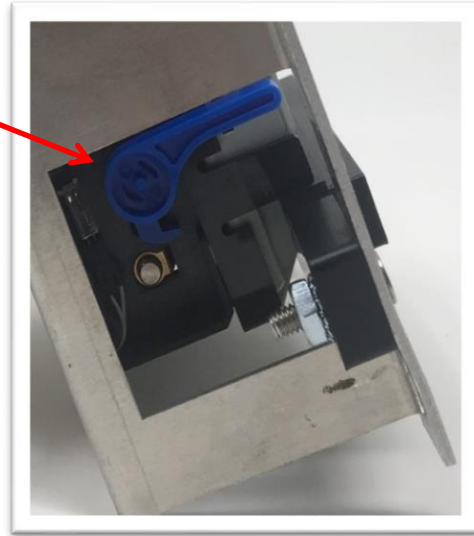
### **Method #1 – Automatic Feed:**

NOTE: This method must be performed with the board power ON.

1. If there is paper remaining on the previous roll, it must be removed before proceeding. Move the “Paper Feed Lever” from the DOWN to the UP position (refer to Figure P2), and then pull out the remaining paper from the rear of the printer and discard the roll.

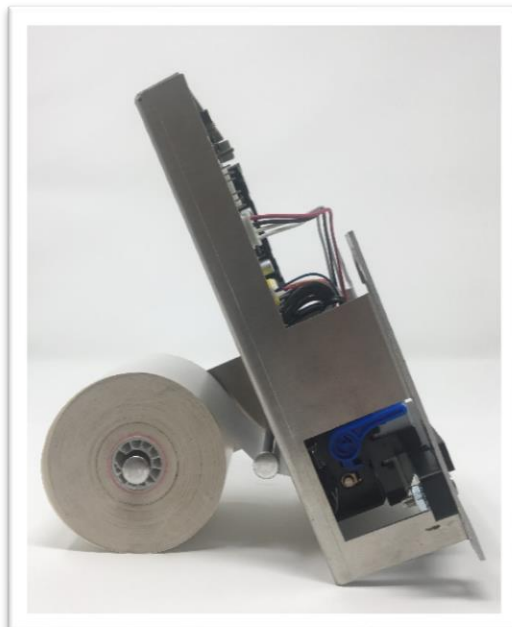


Paper Feed Lever in the down position



Paper Feed Lever in the up position

2. Move the "Paper Feed Lever" back to the DOWN position. Slide a new roll of paper onto the "Roll Holder," oriented so the paper comes off on the side toward the printer (refer to Figure P3 for the correct placement).



3. Wrap the paper under the "Paper Guide" and begin to feed it into the "Paper Slot." You do not need to fold or cut the paper in any way; it should be left square in the front. At a certain point as the paper is being fed in, the printer will detect it and automatically feed it to the printing position. When done, the setup should look like Figure P3.

1. **IMPORTANT!** Turn OFF the Main Board power, and turn it ON again after a few seconds. *Note: The printer will not work until the power has been cycled!*
2. Enter the Setup Mode and perform a Printer Test. Make sure the printer prints all of the lines of text and cuts off the paper.

**Method #2 – Manual Feed:**

NOTE: This method can be performed with the board powered ON or OFF.

1. If there is paper remaining on the previous roll, it must be removed before proceeding. Move the “Paper Feed Lever” from the DOWN to the UP position (refer to Figure P2), and then pull out the remaining paper from the rear of the printer and discard the roll.
2. With the “Paper Feed Lever” still in the UP position, slide a new roll of paper onto the “Roll Holder,” oriented so the paper comes off on the side toward the printer (refer to Figure P3 for the correct placement).
3. Wrap the paper under the “Paper Guide,” and begin to feed it into the “Paper Slot.” You do not need to fold or cut the paper in any way; it should be left square in the front. Continue to feed the paper into the slot, through the print head, until it passes out through the front of the machine (refer to Figure P4).
4. Move the “Paper Feed Lever” back to the DOWN position. The printer is now ready to print.
5. Enter the Setup Mode and perform a Printer Test. Make sure the printer prints all of the lines of text and cuts off the paper.



## 3.2 – Functional Description

1. **Dispense**                      The coin hopper content can be defined by entering its value in the programming menu, for example, \$00.25.
  
2. **Payment**                      The desired payout and cost must be selected by one of the four buttons. Once selected, the payment type needs to be selected. Value can be up to \$999.99. There are several ways to pay:
 

|             |   |                              |
|-------------|---|------------------------------|
| Cash        | Using either a bill validator and/or a coin acceptor. Deposits are accumulated until the selected cost is reached and then the item(s) are dispensed. If overpaid, change is given if applicable. A partial payment can be cancelled, and change is returned if applicable. | Bill<br>Validator<br>(Upper) |
| Tokens      | Insert a token as a form of payment to receive a preset quantity of tokens. This is commonly referred to as “Party Tokens”.   | Bill<br>Validator<br>(Lower) |
| Credit Card | A normal insert, swipe, or contactless transaction is performed. Accepts Visa, MasterCard, American Express and Discover cards based on merchants account configuration.  |                              |

## 3.3 – Out-of-Service Conditions & Error Codes

### **System Failures**

Below are conditions that will cause the machine to go into an “Out-of-Service” mode.

#### **Coin Hopper**

#### **Coin Hopper Error Conditions**

If the hopper fails and a second hopper is not present, the machine will go out of service. If both hoppers have the same valued coins, the payout will be completed from the still operational hopper. Status of the hoppers can be seen in the System Info menu.

- |              |   |
|--------------|---|
| Optos        | Indicates the coin counting optic is blocked. The exit path may be obstructed, or the Optic Board may be bad.   |
| No Comm.     | The Flex-2 Board is unable to communicate with the coin hopper. The hopper may be disconnected, have a damaged harness, or may need to be repaired or replaced.                           |
| High Current | The hopper motor exceeded its maximum threshold for current. Inspect for a jammed coin preventing the coin belt from moving, or a stalled or shorted motor. Repair or replace the hopper. |

- Low The amount of coins in the coin hopper is below its operational threshold. First ensure there are enough coins in the coin hopper to completely cover the metal plates located at the bottom of the hopper. Second use Scotch-Brite to scrub the metal plates. This is effective on dull plates. Repair or replace the hopper.
- Timed Out The coin hopper did not complete a payout in its allotted time frame. Check the hopper for any coin jams or mechanical obstructions preventing coins from exiting. Have the unit repaired or replaced.

### Bill Validator

#### Bill Validator Error Conditions

If the validator fails, the display will show a **Credit Card Only** message. The status of the validator can be seen in the System Info menu.

- Motor Validator stacker/transport motor has failed. Repair or replace the bill validator.
- Sensor Sensor failure. Check for dirty sensors. Repair or replace the validator.
- Checksum Indicates error with the firmware file stored on validator main board. Repair or replace the bill validator.
- Jammed A bill or debris is jammed in the validator bill path. Check bill path for a jammed bill or debris. Repair or replace the bill validator.
- Cashbox The cashbox is not installed on the bill validator. Ensure the bill box is properly installed on the bill validator. Repair or replace the bill validator.
- No Comm. The Flex-2 Board is unable to communicate with the bill validator. Ensure the validator harness is connected securely. Repair or replace the bill validator.
- Out of Service The Flex-2 Board has tried to enable the validator several times without success.

### Credit Card

#### Credit Card Processing Device Error Conditions

If the credit card processing device fails, the display will show a **Cash Only** message. The status of the credit card processing device can be seen in the System Info menu.

**Printer  
In/Out**

|              |   |
|--------------|---|
| No Comm      | The Flex-2 Board is unable to communicate with the credit card processing device.   |
| No Reader    | A credit card reader is not detected. The credit card reader may be disconnected or defective. This error only occurs when using a DataCap Systems Tran device. |
|              | Printer Error Conditions  |
| Error        | An error occurred while printing  |
| Head Up      | Printer head is not in its locked position  |
| RAM Fail     | A RAM failure occurred  |
| Out of Paper | Paper is not present in the printer   |
| CRC Failure  | A CRC failure occurred  |
| Cutter Fail  | Cutting blade is unable to reset to home position.  |
| No Comm.     | This means the Flex-2 main logic board is unable to communicate with the printer  |
| High Temp    | The thermal head temperature is above its operational range.  |

## 3.4 – Programming Menu

To enter the programming menu, begin by pressing the “Select Switch” on the Flex-2 main logic board.

Pressing the select switch will bring the display to show “Enter Access Code.”

Use the Flex Programmer Board to enter the access code. The default code from the factory is “1234”

To exit the programming menu or the “Enter Access Code” screens press the “Select Switch”

Use the Flex Programmer Board to navigate the menus. Press the “Cancel” button and enter a menu number to be brought immediately to that menu or press the **Back/Next** button to step through the menus.

All the menus work the same:

**No/Yes:** Selects status

**Back/Next:** Selects the item

**Exit:** Exits the setup menu

**NOTE: ALL MENUS MAY NOT APPLY TO YOUR SPECIFIC MODEL MACHINE. UNUSED MENUS WILL BE IDENTIFIED BY AN ASTERISK \*.**

### **Menu 01 – Print Help Menu**

A list of the menus and their corresponding numbers is printed by the external printer.

### **Menu 02 – System Info**

The payout information and configuration settings are printed by the external printer. Aside from those, the following information is also included in the System Info printout:

Software Revision  
Valid1 Status  
Valid2 Status  
Hopper #1 Status  
Hopper #2 Status  
Hopper #3 Status  
Hopper #4 Status  
Credit Status  
Printer Status  
Coin Acceptor  
Bill Dispenser  
Temperature Info  
WebServer Info

### **Menu 03 – Button Price**

Define the amount charged for each selection (1-4).

### **Menu 04 – Button Payout**

Sets up payout count for the 4 selection buttons.

### **Menu 05 – Enable Bill**

This system only uses MDB validators. Depending on what type of MDB validator is used, the display will only toggle between the denominations accepted by the bill validator.

### **Menu 06 – Payout Table**

Only bills enabled in **Menu 05** will be available in this menu. Enter the # of items dispensed for each bill denomination.

### **Menu 07 – Enable Hoppers**

Enable or disable hoppers 1, 2, 3 and/or 4.

### **Menu 08 – Hopper Coin Value**

Set the value of the coin being dispensed. Used only when providing tokens with change or when selections are not in use.

### **Menu 09 – Enable Coin Acceptor**

Select between a Pulse or ccTalk coin acceptor. Enable or disable the coin acceptor.

Pulse – Enable → High or Low

ccTalk – Enable → Coin Values

### **Menu 10 – System Disable**

Disables the machine if any of the selected devices goes offline.

Hopper 1

Hopper 2

CassetteU

CassetteL

ccTalk coin acceptor

### **Menu 11 – Promo-Token Payout**

Enter the # of items paid for each promotional token.

### **Menu 12 – Dump Hoppers**

Dumps the coins from all hoppers. A receipt is printed by the external printer.

### **Menu 13 – Audit Information**

Prints a summary of all the sales. There are separate counters for tokens dispensed from each hopper.

Reset – Prints 2 copies of all the audit values and resets all the “**Resettable Counters**” to 0.

Every time **Reset** button is pushed the audit sequence number increases by one.

The “**Non-resettable Counters**” can be set to 0 by a hidden “Memory Dump”.

Print – Pushing the **Print** button prints all the audit values without resetting.

All the values are max 99,999 except for the **Total Cash** value which is \$100,000.00.

### **Menu 14 – Vend Item Name\***

Choose from Items, Tickets or Tokens.

**Menu 15 – Date Setup**

Enter the date in this format: 20YY-MM-DD.

**Menu 16 – Time Setup**

Enter the time in this format: HH:MM. 24 hour format.

**Menu 17 – Machine Number**

Assign a machine number that will appear in audit report print out.

**Menu 18 – Marquee Timer**

Setup a time to turn On/OFF the marquee.

**Menu 19 – Zip Code Enable**

Enable or disable zip code verification for credit card transactions. Only works with a DataCap IPTran LT

**Menu 20 – Access Code**

Change the access code.

**Menu 21 – Key Beep Enable**

Enable or disable beep when a button is pressed.

**Menu 22 – Location Name**

Enter location name to print on credit card receipts.

**Menu 23 – Bills Loaded Cassette Upper\***

Enter number of bills loaded in the upper cassette. If this number is zero the machine will use the Bill Dispenser's low bill sensor instead.

**Menu 24 – Bills Loaded Cassette Lower\***

Enter number of bills loaded in the lower cassette. If this number is zero the machine will use the Bill Dispenser's low bill sensor instead.

**Menu 25 – Bill Value Cassette Upper\***

Enter the value of the bill being dispensed from the upper cassette.

**Menu 26 – Bill Value Cassette Lower\***

Enter the value of the bill being dispensed from the lower cassette.

**Menu 27 – Printer Options****Menu 28 – Validator Enable**

Enable or disable the bank note validator.

**Menu 29 – Nayax Test Mode****Menu 30 – Country\***

Select between U.S and U.K. Selecting U.S. displays “\$”. Selecting U.K. displays “£” and “p”.

**Menu 31 – Webserver**

The Webserver IP configuration is displayed.

**Menu 32 – Minimum Credit**

Enter a minimum value for credit card transactions.

**Menu 33 – Anti Stringing**

Setup a maximum cash amount, maximum time and shut-off time for anti- stringing purposes.

**Menu 34 – Programmer**

Enable or disable dual display mode. In dual display mode the Flex Programmer Board is able to be used as a secondary display to access the programming menu.

## 3.5 – Remote Loading Software to the Flex-2 Board

### 1. What you need

- 1.1 Windows XP, or later pc with MicroSD port or USB to MicroSD card reader
- 1.2 MicroSD card (comes installed in the Flex-2 main logic board)

### 2. Transferring the file into the MicroSD card

- 2.1 Turn power off to the controller board.
- 2.2 Remove SD card.
- 2.3 The software is in a zip format and will be sent as an attachment to an email.
- 2.4 Save the zipped file and then unzip it.
- 2.5 **Do not change the name or the file extension!!!**
- 2.6 Copy the program file to the SD card.

### 3. Loading the file from the MicroSD card to the controller board

**Note: All system settings will be erased once software is updated!!! We recommend making a print out of the settings before doing anything.**

- 3.1 Turn power off to the controller board.
- 3.2 Gently push the MicroSD card into the MicroSD connector on the board.
- 3.3 Turn power on while holding the Button on the board for 2 seconds then release.

**Update Software?** Press **Yes** to continue loading the software. Press **Exit** to cancel.

- 3.4 Once the **Yes** key has been pressed a brief reminder will be displayed followed by a confirmation.

**System Settings will be erased if Updated** – This reminder will stay on for a few seconds before transitioning to the final confirmation message.

**Update: XXXX-XX-XXX Start Next Exit** – Press **Start** to load the software. Press **Next** view the next file loaded on the MicroSD card or Press **Exit** to cancel.

- 3.5 Software updating and completion.

**Update: XXXX-XX-XXX Addr : 0x00012000** – Software name and flash memory address being programmed. Address should be cycling every ½ second.

**Software Updated! Please Cycle Power** – Cycle power to complete update.

### 4 Error messages:

One of the following messages may occur if there is **a problem loading the software**. In that case, remove the MicroSD card and check that the correct file is loaded on the MicroSD card.

- 4.1 **EEPROM Error Please Try Again** – EEPROM error.
- 4.2 **Main CRC Error V:XXX Update Required!** – The computed main program CRC is incorrect.
- 4.3 **Frame Error V:XXX While Reading File** – There was a checksum error while reading one of the files entries.

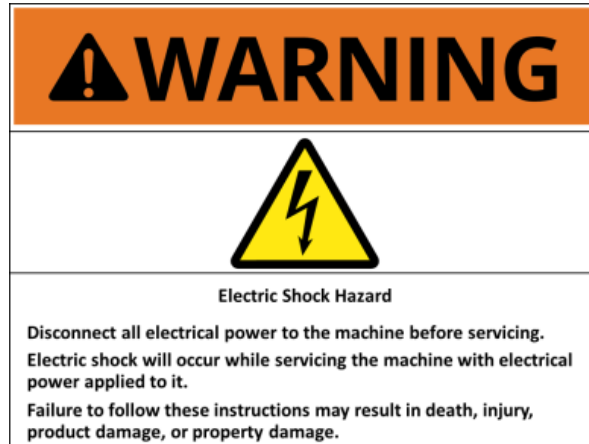
**THE FOLLOWING IS A FATAL ERROR AND THE BOARD CAN NOT BE USED!!**

- 2.4 **Fatal Error V:XXX Invalid Boot CRC!** – Do not load any software if this message occurs.



## Section 4 – Maintenance

**⚠️ WARNING** : DISCONNECT ALL ELECTRICAL POWER TO THE MACHINE BEFORE SERVICING.



### 4.1 – Coin Hopper Maintenance

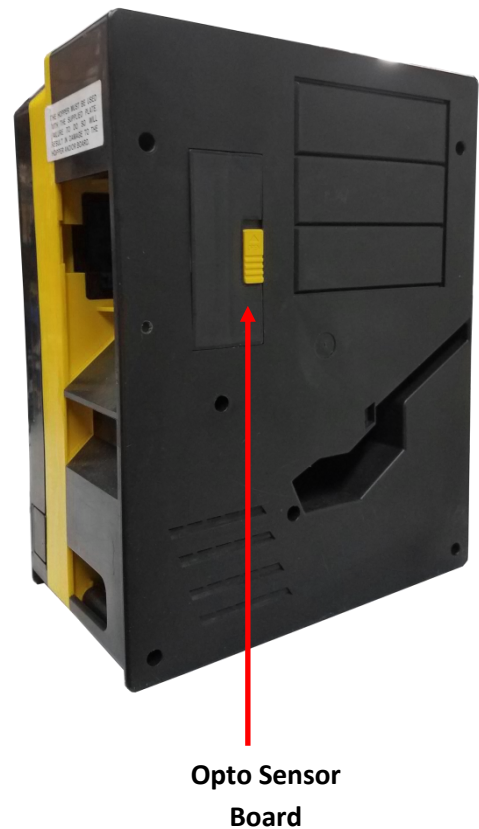
#### Removal of the Electronics and Opto Sensor Board

All the electronics and sensors are placed on one board located behind the exit door at the side of the hopper. Slide the yellow button to the opposite position and remove the exit door where the electronics are mounted. All dirt must be cleaned with a soft moistened cloth. Isopropyl Alcohol is recommended for cleaning excessively dirty exit windows. The red LED on the exit window board will begin flashing indicating a dirty opto-sensor.

**Warning:** Be careful when re-inserting the board back in the hopper not to damage the cable located at the back of the board!

#### Low Coin Contact Plates

Looking inside the hopper through the top opening locate the two brass plates at the bottom of the hopper. If they appear to be dull and/or dirty remove the right section of the hopper by removing the 6 screws on that side. Use a Scotch-Brite pad, or another item made with abrasive material, to scrub the oxidation and dirt off of the brass plates.



## 4.2 – Bill Validator Maintenance

### Pyramid Acceptors Apex Model

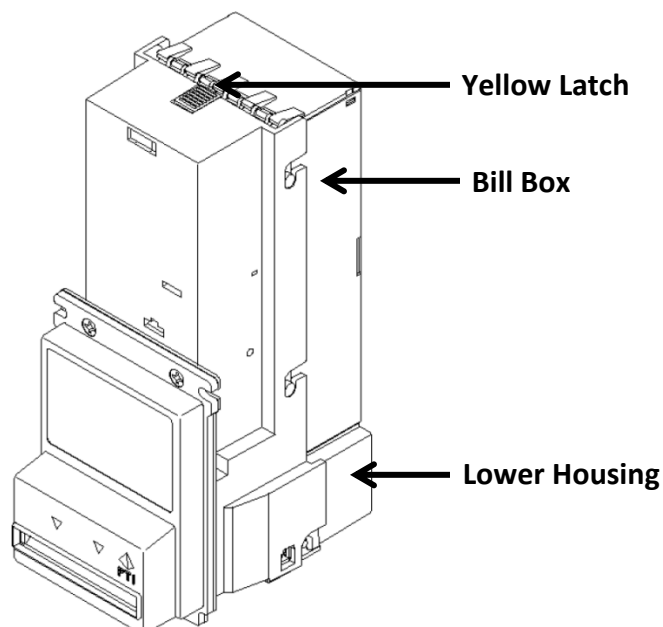
The Apex Series bill acceptor is relatively maintenance free. An occasional cleaning is all that is needed to keep the acceptor in top operation. **Please Visit the “service” section of the [pyramidacceptos.com](http://pyramidacceptos.com) website to view videos explaining how install, clean, program, and troubleshoot the Apex bill acceptor.**

To clean the acceptor:

- Remove power from the machine.
- If equipped with a stacker, unlatch the cassette by pushing in the top latch and lifting the cassette up and out.
- Unplug the I/O connector and/or power connector from the right side of the acceptor.
- Remove the Lower Transport by pushing in the latch located on the bottom of the acceptor at the rear. Gently pull the Lower Transport out of the assembly.
- Clean the bill path using a soft cloth or towel. Do not use any cleaners other than a 50/50 mixture of water and isopropyl alcohol.

**NOTE: Pay particular attention to the gray oval pieces of plastic in the lower and upper transport area. They must be cleaned well for proper operation.**

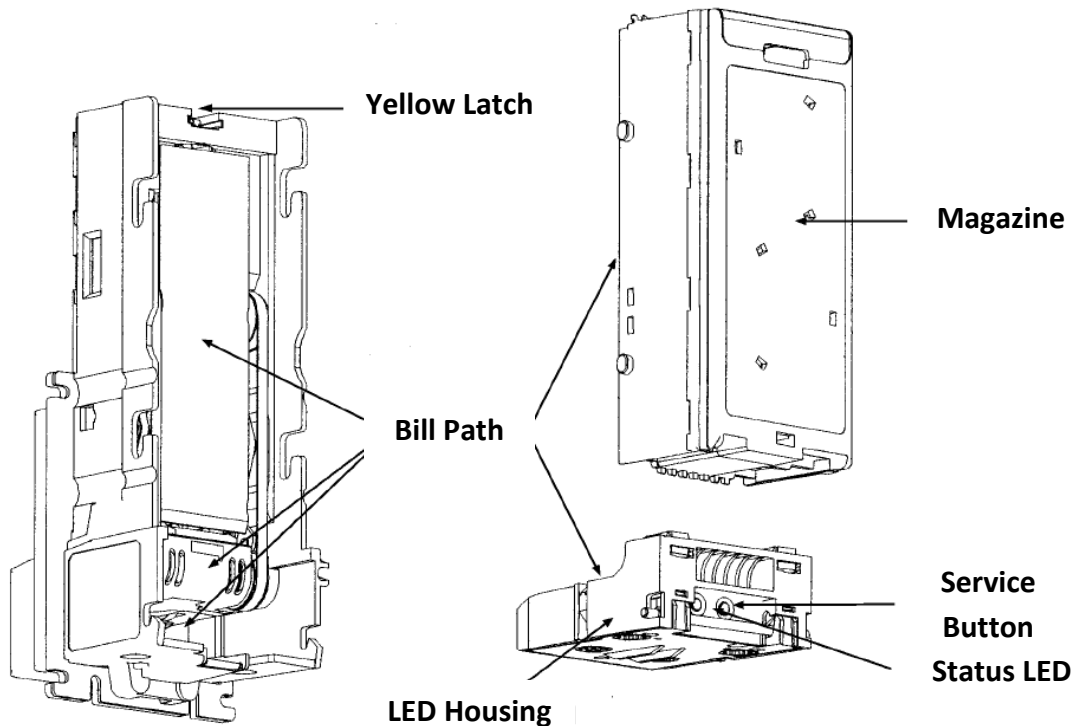
**Do not use any oils or silicon spray on the acceptor!**



## Crane Payment Innovations (CPI) AE 2600 Series

You can clean the bill acceptor while it is still mounted in the machine

1. Remove power from the machine.
2. Unlatch the magazine by pushing the yellow latch (located on the top of the unit) toward the front of the unit.
3. Unhook and remove the magazine by holding the latch and lifting up and then back on the magazine.
4. Unlatch the LED Housing by lifting up on the metal bar (located below the Status LED).
5. Remove the LED Housing by holding the metal bar and pulling back on the LED Housing.
6. Clean the bill path with a soft cloth. You may use mild, non-abrasive, non-petroleum based cleaners if sprayed on the cloth.



## Astro Systems GBA ST1-C

### Cleaning the Validator Note Path

#### Equipment Required

- Cotton swab or lint-free cloth.
- Cleaning solution - a mix of water and up to 50% Iso-Propyl Alcohol (IPA) is recommended.
- **DO NOT** use more than 50% IPA. **NEVER** use solvent-based cleaning agents, such as Amberclens, pure alcohol, petrol, methylated spirit or white spirit on this product as the unit will be severely damaged.

#### **Anti-Static precautions should always be observed when cleaning the GBA ST1C unit.**

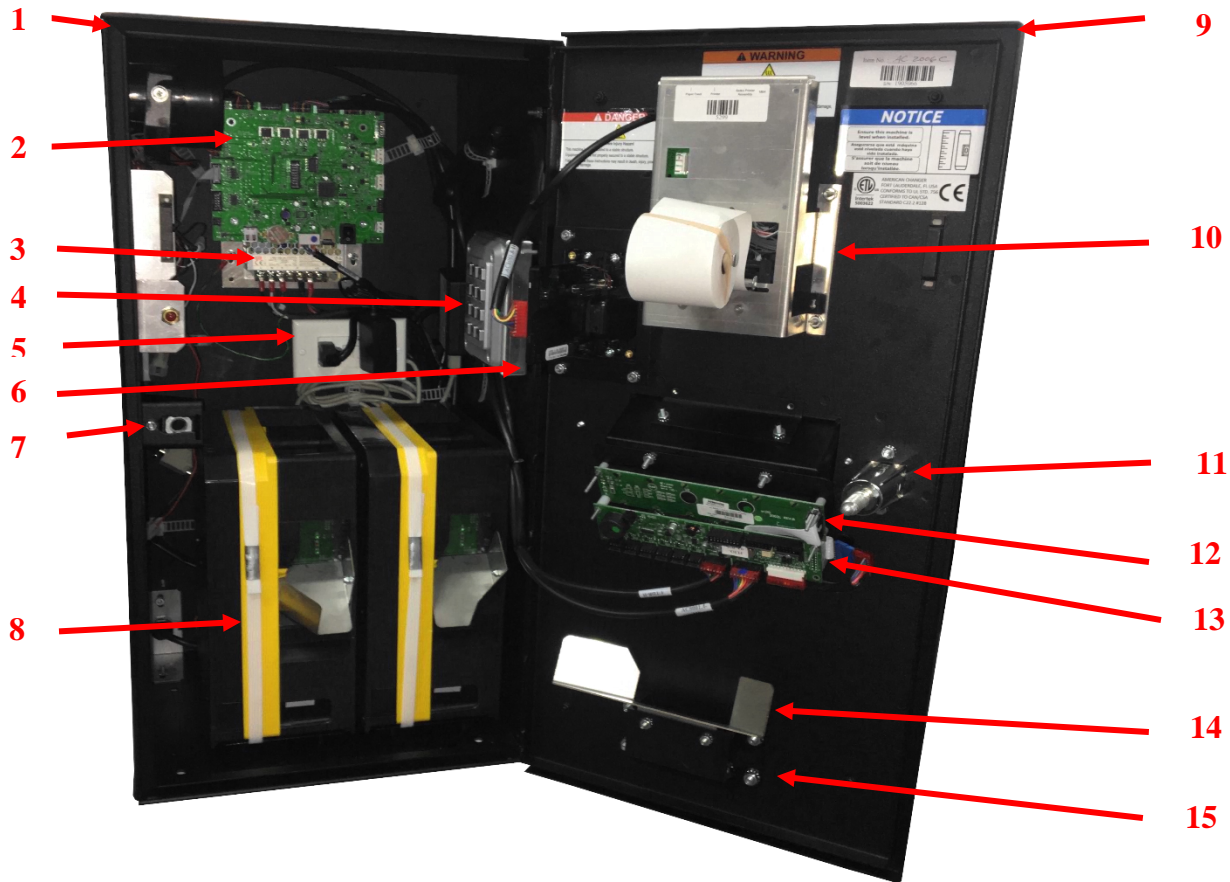
1. Ensure the power supply to the GBA ST1C unit is switched OFF.
2. Remove the Cassette.
3. Lift up the purple Access Latch on the back of the Bottom Sensor Assembly, and gently slide the module out of the Channel Assembly.
4. Pick off and discard any large items of debris from the note path of the Bottom Sensor Assembly. Repeat for the other side of the note path (on the drive belt assembly).
5. Using the cotton swab, or lint-free cloth, wetted with cleaning solution and applying light force only, carefully clean all sensor windows in both halves (upper and lower) of the note path. If a sensor window has become badly scratched do not attempt to polish it, contact your local regional office for further advice.
6. Continue with the swab, or lint-free cloth, to clean the rest of the note path, including sprung rollers.
7. Visible parts of belts can be cleaned by wiping with a cleaning solution-soaked cotton swab or wipe. It is not possible to clean the whole belt surface without removing the belts from the unit.
8. Use an additional swab or cloth to dry the cleaned area, if required.
9. Slide the clean Bottom Sensor Assembly back into the Channel, ensuring that the Access Latch clips securely into the Channel.
10. Re-fit the Cassette.
11. The supply to the unit can now be switched ON.

### Clearing a Note Jam

1. Ensure the power supply to the GBA ST1C unit is switched OFF.
2. Remove the Cassette.
3. Lift up the purple Access Latch on the back of the Bottom Sensor Assembly, and gently slide the module out of the Channel Assembly.
4. Clear the jammed note(s) from the note path.
5. Re-assemble unit and switch the power supply back ON.



### 4.3 – Parts List Cabinet AC2006



| Number | American Changer Part # | Description                                   |
|--------|-------------------------|---|
| 1      | AC2006                  | AC2006 Cabinet                                |
| 2      | AC8001-FLEX2BD          | Flex-2 Main Logic Board                       |
| 3      |                         |   |
| 4      |                         |   |
| 5      | AC9000-GFCI             | 15A 125VAC GFCI                               |
| 6      | AC9090                  | Magtek Credit Card Reader                     |
| 7      |                         |   |
| 8      | AC1047-SUZO             | Evolution Hopper with 12 Pin Female Connector |
| 9      |                         |   |
| 10     | AC790                   | Receipt Printer                               |
| 11     | AC5080-QS               | Screw in T-Handle                             |
| 12     | AC8065.1                | Display                                       |
| 13     | AC8001.1-FLXIOB         | Flex I/O Board                                |
| 14     | AC5400-UCC              | Coin chute                                    |
| 15     | AC1013-P                | Coin Cup                                      |

## 4.4 – Warranty Terms and Conditions

**LIMITED WARRANTY AND EXCLUSIVE REMEDIES** – The goods delivered hereunder are subject to the terms of American Changer Corporation’s (Seller or Seller’s) Limited Warranty provided with the deliverable, or if there is no such warranty, the terms set forth herein. In the event of any inconsistency between the written warranty provided with deliverable, and the description of the warranty set forth herein, the written warranty shall govern.

Seller warrants that its new products and parts are free from defects in material or workmanship in normal use for one year from the date of shipment by Seller. In addition, this warranty will be extended for a second year for Bill Validators. Refurbished parts carry a six-month warranty from date of shipment by Seller.

Seller will furnish without charge, F.O.B. Fort Lauderdale, repair or replacement of any defective part qualifying for repair and/or replacement under the terms of its warranty, within one year of the date of delivery. Any transportation, diagnosis calls, or similar expenses are not included. The warranty for any replacement part will only apply to the remainder of the warranty period.

This warranty may not be changed or modified without the consent of an Executive Officer of Seller.

To make a claim under this warranty, Buyer must call Seller’s Service Department and provide the model number and serial number of the goods. If the goods were purchased from a reseller, Buyer must provide the name, address and telephone number of the reseller. Seller reserves the right to request proof that the reseller purchased the goods from the Seller.

Seller’s Limited Warranty does not cover damage caused by: (I) shipping or physical abuse; (II), misapplication or misuse including improper installation, startup, storage, or failure to comply with any instructions for use set forth in the owner’s manual supplied with the goods, or use, storage or operation of the goods in a manner that fails to comply with all applicable laws, rules and regulations, including, without limitation, any local labeling requirements or labeling required under California’s Safe Drinking Water and Toxic Enforcement Act of 1986 (also known as “Proposition 65”) and its implementing regulations; (III) failure to perform necessary maintenance and cleaning in accordance with the owner’s manual provided with the goods or comply with all applicable law or regulation, all applicable labeling requirements (IV) power surges, improper electrical supply and/or lightning strike; (V) operation, use or storage of goods in weather or outdoor conditions which do not comply with the guidelines set forth in the owner’s manual supplied with the goods; and (VI) fires, floods, or other casualty or Acts of God outside of Seller’s control.

This warranty is void if: (I) repairs and/or replacement are performed by anyone other than Seller or a qualified repair technician; (II) the goods were purchased in a used condition or not in the original packaging; (III) the goods have any defects or damage due to any alterations, or damage caused by improper electrical supply, shipping and handling, fire, flood, misuse, vandalism, or any other condition or event outside of Seller’s control, or the goods are used, stored or operated in a manner that fails to comply with any applicable law, rule, or regulation,

including, without limitation any local labeling requirements or labeling required under California’s Safe Drinking Water and Toxic Enforcement Act of 1986 (also known as “Proposition 65”) and its implementing regulations; (IV) the failure to clean and maintain the product in accordance with the owner’s manual supplied with the goods or comply with all applicable law and regulations and any applicable labeling requirements; (V) the goods are operated, used, or stored in weather or outdoor conditions which do not comply with the guidelines set forth in the owner’s manual.

The owner is responsible for: (I) using the goods supplied by the Seller in accordance with the installation, start-up, use, storage, inspection, and service requirements, and all other instructions set forth in the owner's manual supplied with the goods; (II) providing normal cleaning and maintenance in accordance with the owner's manual supplied with the goods; (III) operating, using, and storing the goods in accordance with the owner's manual supplied with the goods and in compliance with all applicable laws, rules, or regulations, including any local labeling requirements or labeling required under California's Safe Drinking Water and Toxic Enforcement Act of 1986 (also known as "Proposition 65") and its implementing regulations; (IV) contacting American Changer during the warranty period to obtain a Return Material Authorization to make a claim under this warranty; (V) providing proof of purchase if requested, and if the goods were purchased from a reseller, the name, address, and telephone number of the reseller; (VI) providing any other information American Changer may reasonably request to confirm that the goods are eligible for repair/replacement under this warranty; (VII) paying for any repairs or replacement of parts outside the scope of this warranty; (VIII) paying any shipping costs.

#### **ENTIRE WARRANTY**

**THIS WARRANTY CONSTITUTES THE EXCLUSIVE REMEDY OF THE PURCHASER AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE TO THE EXTENT PERMITTED BY LAW.**

**SELLER EXPRESSLY DISCLAIMS ALL LIABILITY ARISING OUT OF THE THEFT, MISAPPROPRIATION, OR MISUSE OF ANY PERSONAL FINANCIAL INFORMATION OF AN END USER OF THE GOODS, INCLUDING, BUT NOT LIMITED TO, CREDIT CARD AND/OR DEBIT CARD NUMBERS, PERSONAL IDENTIFICATION NUMBERS, PERSONAL PASSWORDS OR PASSCODES, OR OTHER SIMILAR PERSONAL INFORMATION OF THE USER OF THE GOODS.**

**IN NO EVENT SHALL AMERICAN CHANGER BE LIABLE TO BUYER UNDER THIS WARRANTY FOR AN AMOUNT WHICH EXCEEDS THE PURCHASE PRICE OF THE GOODS.**

**IN NO EVENT SHALL AMERICAN CHANGER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOST PROFITS, OR FOR DAMAGES ARISING OUT OF BUYER'S INSTALLATION, OPERATION OR STORAGE OF THE GOODS IN A MANNER THAT FAILS TO COMPLY WITH ANY APPLICABLE LAW, RULE, OR REGULATION, INCLUDING ANY LABELING LAW, RULE OR REGULATION INCLUDING, WITHOUT LIMITATION, CALIFORNIA'S SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (ALSO KNOWN AS "PROPOSITION 65") AND ITS IMPLEMENTING REGULATIONS.**

**SELLER EXPRESSLY DISCLAIMS ALL GUARANTEES AND/OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, OR USEFUL LIFE.**

**LIMITATIONS OF DAMAGES** – Seller's liability for any loss or damage arising out of, or resulting from, any breach or default by Seller in connection with the sale of goods hereunder, shall not exceed the purchase price thereof, regardless of whether such liability arises in contract, tort (including, without limitation, negligence or strict liability) or otherwise, and in no event shall Seller be liable for incidental or consequential damages of any kind or for lost profits.

Buyer is solely responsible for installing, storing, operating and maintaining the goods delivered hereunder in compliance with all applicable laws, rules and regulations, and any local labeling requirements or labeling required under California's Safe Drinking Water and Toxic Enforcement Act of 1986 (also known as "Proposition 65") and its implementing regulations. In no event shall Seller be liable for Buyer's failure to install, store, operate or maintain the goods in compliance with any applicable law, rule or regulation.



**WARRANTY FORM**

The Warranty Form must be filled out completely and mailed to:

American Changer Corp.

1400 NW 65<sup>th</sup> Place

Ft. Lauderdale, FL 33309

Attention: Extended Warranty Department

**Machine Information**

Machine Model & Serial Number: \_\_\_\_\_

Validator Serial Number: \_\_\_\_\_

Validator Serial Number: \_\_\_\_\_

Hopper Serial Number: \_\_\_\_\_

Hopper Serial Number: \_\_\_\_\_

Logic Board Serial Number: \_\_\_\_\_

Coin Mechanism Serial Number: \_\_\_\_\_

Your Name: \_\_\_\_\_

Company Name: \_\_\_\_\_

Billing Address: \_\_\_\_\_

Billing Address: \_\_\_\_\_

City: \_\_\_\_\_

State and Zip Code: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Note: The purpose of this form is to enter your information in our customer database. This information will not be shared with anyone outside of American Changer Corp. It will be used to inform you of equipment upgrades.