

# American Changer



## Pre-Valued Card Dispenser 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  | 100W Max  |
| Operating Temperature                                    | 41°F to 104°F / 5°C to 40°C   |
| Interface to Card Dispenser                              | 24VDC, 2.5 amps max   |
| Cabinet Dimensions                                       | 24" W x 23" H x 10" D<br>61cm W x 58.4cm H x 25.4cm D               |
| Machine Dry Weight                                       | 95 lbs / 43 kg  |

**\*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 27 AND 28 FOR AMERICAN CHANGER’S DETAILED LIMITED WARRANTY AND EXCLUSIVE REMEDIES. SOME HIGHLIGHTS FROM SAID SECTION ARE:**

### Card Dispenser(s), Displays, and Logic Board(s)

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

### Banknote Validator

This item is 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

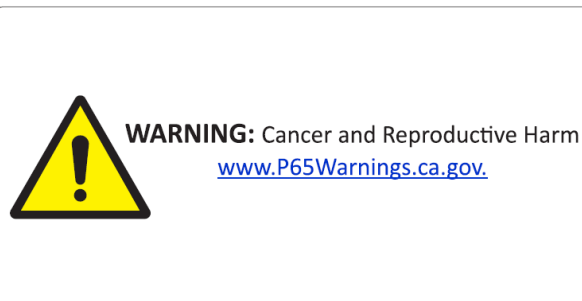


You can be injured if you don't follow instructions

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)



## 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.**



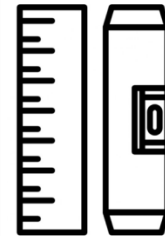
**NOTICE:** Ensure this machine is level when installed



**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.

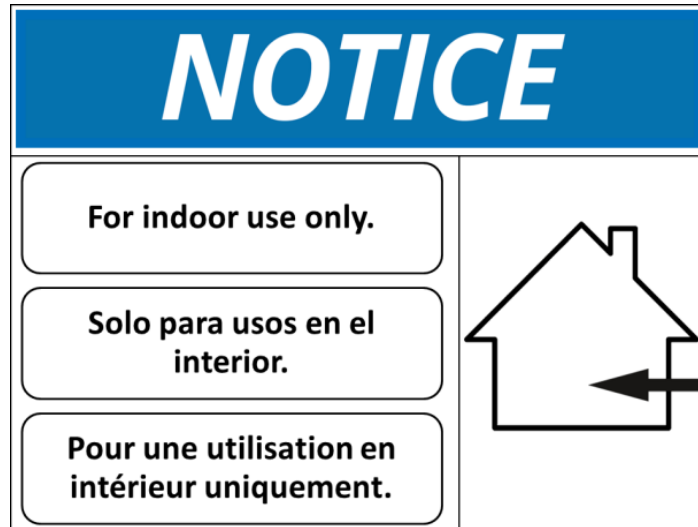
Inspect your machine (product), at a minimum annually, by a qualified service technician.

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 banknotes and dispense pre-valued cards (unless otherwise specified at the time of purchase).

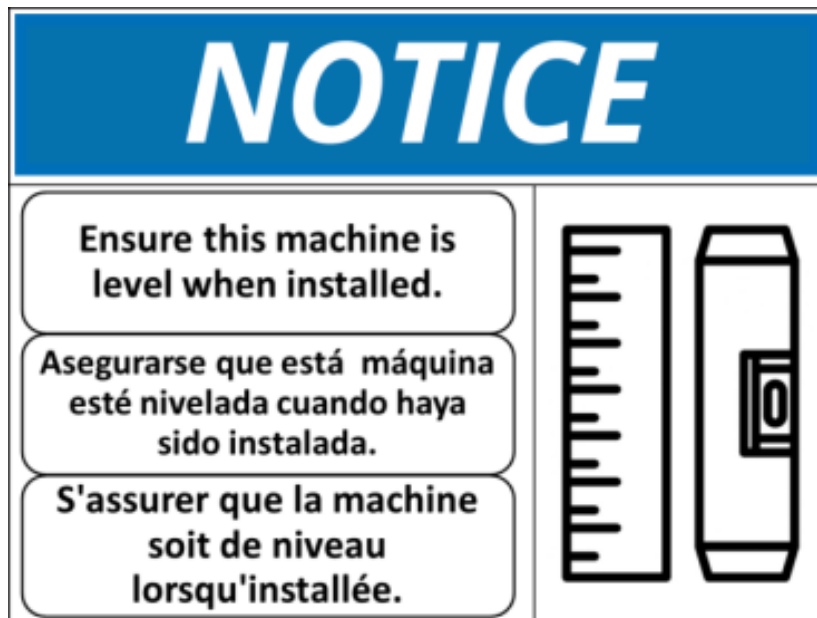
Fill each of the card dispensers with a minimum of 1 card. On the Main Logic Board, turn the switch on the bottom right corner “ON.” The rocker switch has an “I” and “O” printed on it. When the “I” is pressed down, the changer is “ON.”

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 bottom 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 rear of the changer. Then plug it into the outlet.
- 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.**

## Section 3 – Operational Overview

### 3.1 – Component Description

#### Card Dispenser

The card dispenser is a pulse device that interfaces through the use of a proprietary adaptor board. Standard card dispenser used is the CD200. The CD1000 with lockable card cassette is available as an option.



| <b>CD-200</b>         |                                     |
|-----------------------|-------------------------------------|
| Applicable Cards      | Paper or Polyester Credit Card Size |
| Card Width (mm)       | 53 - 58                             |
| Card Length (mm)      | 76 - 86                             |
| Card Thickness (mm)   | 0.2 - 1.0                           |
| Card Capacity *       | 90 - 450                            |
| Overall Height (mm)   | 180                                 |
| Effective Height (mm) | 90                                  |
| Overall Width (mm)    | 93.2                                |
| Overall Length (mm)   | 155                                 |
| Weight Empty (Kg)     | 1.8                                 |

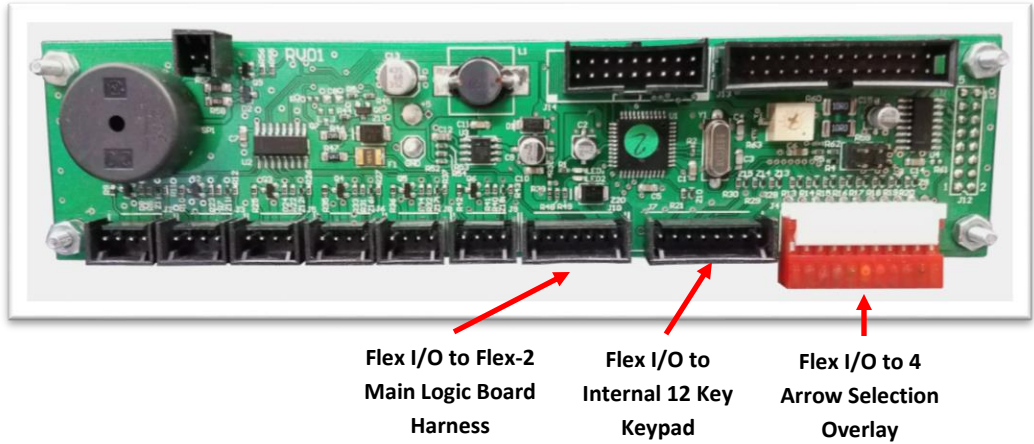
| <b>CD-1000</b>        |                                     |          |          |
|-----------------------|-------------------------------------|----------|----------|
| Applicable Cards      | Paper or Polyester credit card size |          |          |
| Cassette options      | 1000-230                            | 1000-300 | 1000-445 |
| Card Width (mm)       | 52 - 56                             | 52 - 56  | 52 - 56  |
| Card Length (mm)      | 79 - 89                             | 79 - 89  | 79 - 89  |
| Card Thickness (mm)   | 0.2-1.0                             | 0.2-1.0  | 0.35-1.0 |
| Card Capacity *       | 140-700                             | 200-1000 | 350-1000 |
| Overall Height (mm)   | 230                                 | 300      | 445      |
| Effective Height (mm) | 140                                 | 210      | 355      |
| Overall Width (mm)    | 93.2                                | 93.2     | 93.2     |
| Overall Length (mm)   | 155                                 | 155      | 155      |
| Weight Empty (Kg)     | 2.1                                 | 2.2      | 2.4      |

\* An approximate card capacity can be obtained by dividing the effective height by the card thickness.

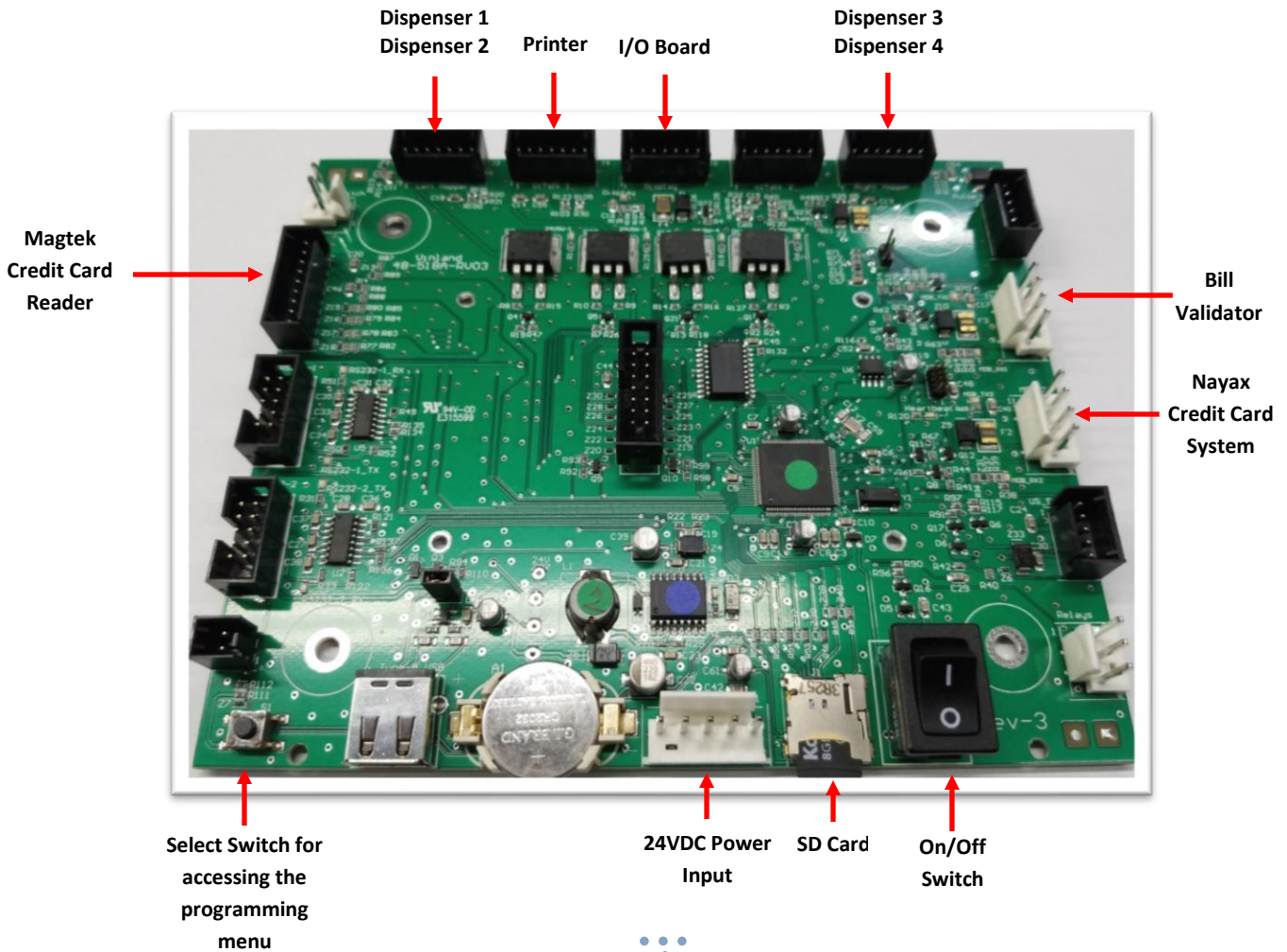
**Please note that difficulties have been experienced with card separation when using the taller cartridges to dispense thin cards. Full evaluation of each customer card must be carried out to allow us to guarantee suitability for any application.**

**I/O Board and External LCD Display** – Used in the AC603, AC604 and AC605

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.

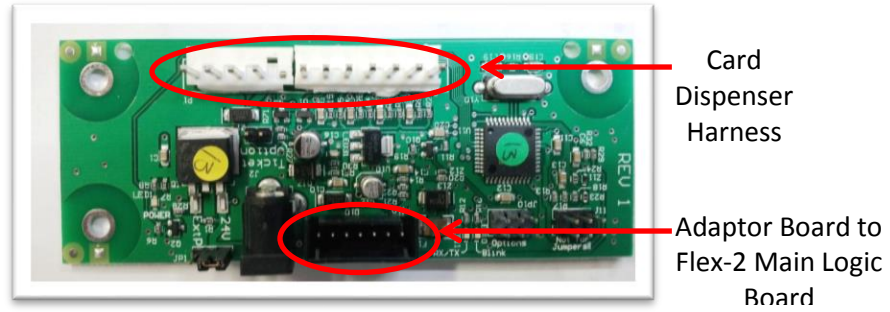


**Flex-2 Main Logic Board** – Used in the AC603, AC604 and AC605



**Hopper Adaptor Board** – Used in models

This machine uses a “Hopper Adaptor Board” to control the card dispenser. It uses ccTalk protocol.



**Bill Validator** – Used in models

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

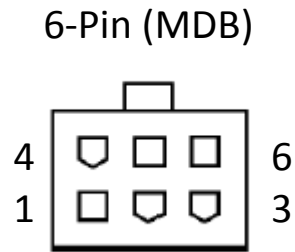


Figure 2

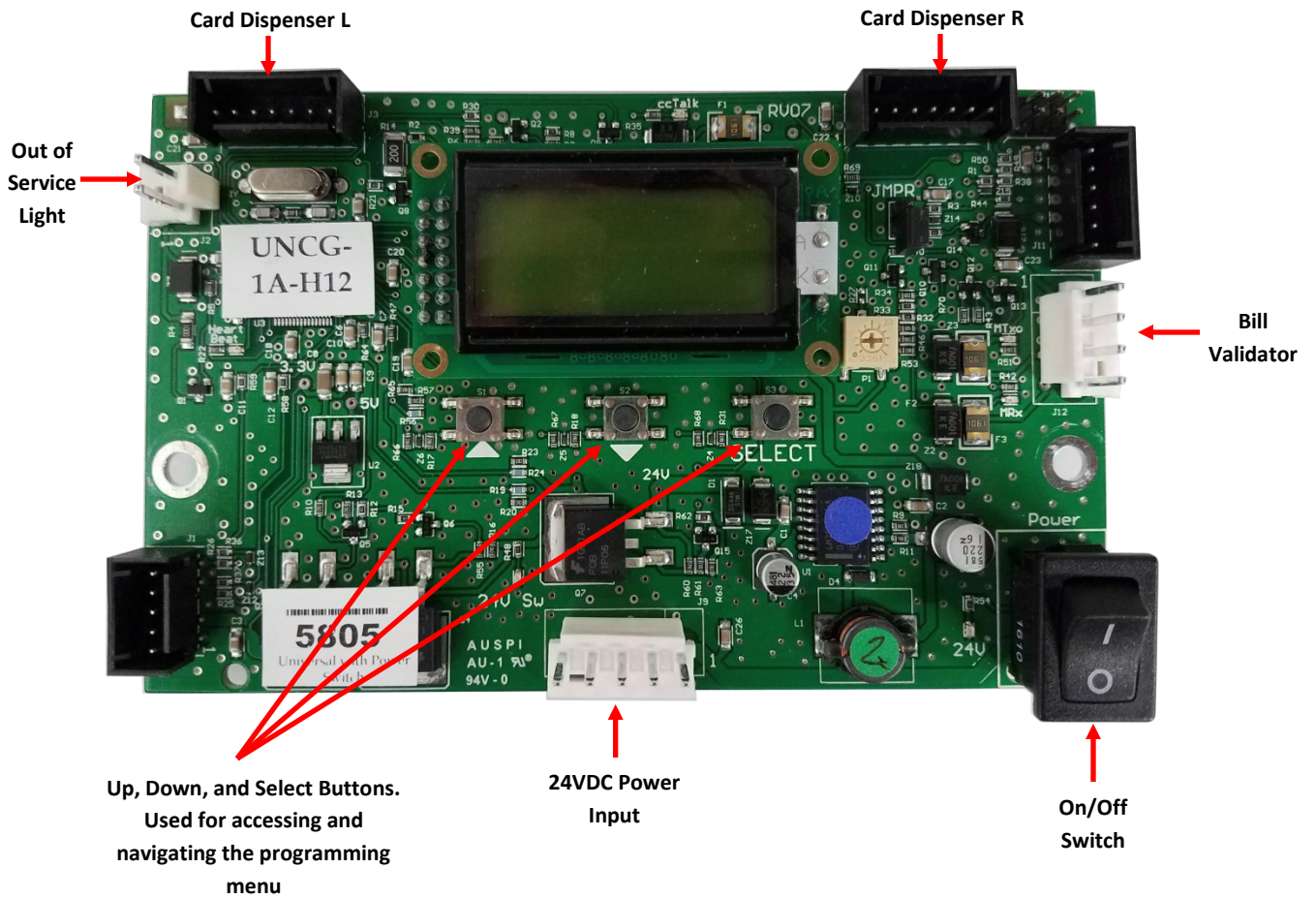
**12 Key Keypad** – Used in the AC603, AC604 and AC605

This model machines uses a 12 key keypad for entering information into the programming menu. It is located inside of the machine.





**Universal Main Logic Board – Used in the AC501 and AC502**





|                      |  |
|----------------------|--|
| Validat.<br>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.   |
| Validat. No<br>Comm  | The Universal main logic board is unable to communicate with the bill validator. Check validator harness connection. Repair or replace the bill validator.   |
| Validat.<br>Disabled | System has tried to enable the validator several times without success. This may be a communication issue, and may be temporary. Check validator harness connection. Repair or replace the bill validator.                                   |
| Validat.<br>String   | The changer's Anti-Stringing protection has shut down the machine's operation. This means more money has been inserted in less time than allowed by the system's settings. Wait the allotted time, or reset the machine to resume operation. |

### 3.4 – Programming Menu for the AC501 and AC502

**Note: The software settings on the Main Logic Board are programmed at the factory, and do not need to be altered under normal circumstances. Only if you wish to change the operation of your card dispenser should you enter the Program Mode to make changes.**

The following is a description of the various menu options that are available in the Card Dispenser software. **Note: Not all of the menus are used in the AC501/502 series Card Dispensers.** Read the following for a detailed explanation of the menus that are used, as well as instructions on how to access the Programming Menu and to make and save your desired changes.

#### **Accessing the Programming Menu**

To enter the programming menu, begin by pressing the “Select” button on the Universal main logic board. Refer to page 11.

Use the “Up ▲” and “Down ▼” buttons to navigate through the menus. Scroll down to “Exit” and press the “Select” button to exit the programming menu.

#### **Bills**

Accept – This menu controls which bills are accepted and rejected by the bill validator. To accept a bill set the denomination option to “Y”. To reject a bill set the denomination option to “N”.

Security – This menu controls how strict the bill validator is at reading the bills.

**Note: AC501 and AC502 series Card Dispensers do not have the ability to make change, so keep this in mind when selecting which bill denominations will be accepted. For example, using a \$5 bill to pay for a 3-dollar card will cause the machine to dispense 1 card and hold two dollars in escrow. These two**

dollars can only go towards the purchase of another card, i.e. by inserting another dollar. If the machine does not accept \$5 or higher bills, the customer can only pay with ones, and will receive a card for every three dollars inserted.

|                |       |          |      |      |      |      |      |       |  |
|----------------|-------|----------|------|------|------|------|------|-------|--|
| Total<br>00000 | Bills | Accept   | \$1  | \$5  | \$10 | \$20 | \$50 | \$100 |  |
|                |       |          | Y    | Y    | Y    | Y    | Y    | Y     |  |
|                |       |          | N    | N    | N    | N    | N    | N     |  |
|                |       | Exit     | Exit | Exit | Exit | Exit | Exit | Exit  |  |
|                |       | Security | High |      |      |      |      |       |  |
|                |       |          | Low  |      |      |      |      |       |  |
|                |       |          | Exit |      |      |      |      |       |  |
|                |       | Exit     |      |      |      |      |      |       |  |

## SETTING CARD PAYOUTS

### PAYOUT

Enter this menu to set the price of card being dispensed. Use the “Up ▲” and “Down ▼” buttons to adjust the price meet the desired price point. Press the “Select” button to save and exit the programming menu.

The next menu settings are ticket payouts for each accepted bill denomination. Setting ticket payouts this way enables you to dispense bonus tickets when certain bill denominations are used. If no bonuses are desired, then set all bill denomination payouts to “000”. Setting the bill payouts to “000” will not pay out zero tickets, rather, the individual ticket price set in the first step will be used for all additional tickets (see examples below for further explanation). **Note: When ticket payouts are set to non-zero numbers for individual bill denominations, those numbers override the individual ticket price, and will be the number of tickets dispensed when that bill is accepted. If the individual ticket price is to be used for all tickets, with no bonuses, then set all bill payouts to “000”.**

**NOTE: Always run tests using every accepted bill denomination once the ticket payouts have been set, to be sure they are correct and how you want them before final installation of the dispenser. The payouts can be set and reset as much as needed, and can be changed at any time to meet your requirements.**



## HARDWARE SETTINGS

### HARDWARE

The card dispenser’s hardware settings are mostly dependent on what hardware is installed in the unit. Aside from the “String” submenu, the hardware options should not be altered unless they are accidentally changed, or as part of troubleshooting if the unit is not working. The following describes the proper factory settings in case they need to be reset.

**Hoppers** – In the AC501/502 models this menu will always be set to “Card Dis” and should never be changed.

**Coin Acceptor** – The AC501/502 models are not available with a coin acceptor, so this submenu should always be set to the option “None!”.

**Dump** – This option controls the unloading of a coin hopper, which is not available on AC501/502. Setting this option to either Yes (Y) or No (N) has no effect on the operation of the dispenser, so it may be left in its current state.

**Mode** – All mode options appear in the programming menu. Changing the mode has no effect on the operation of the dispenser.

### ANTI-STRINGING PROTECTION

**String** – Configures the settings that help against “Stringing”. Select ‘String,’ and then choose either (Y) to enable stringing protection, or (N) to disable it. If Yes is chosen, there is a series of three settings that will follow, explained next, that together control the behavior of the changer with regard to stringing.

**Max \$** – This setting is the maximum dollar amount that can be accepted by the machine within the user-set time limit (next setting) before triggering the anti-stringing protection. The dollar amount can be chosen anywhere between \$20 and \$200 in \$5 increments.

**Max Time** – The time entered here is the time limit for the changer accepting the user-set maximum dollar amount (previous setting). If the changer accepts the maximum dollar amount within the amount of time set here, anti-stringing protection will be triggered. The length of time can be set to anywhere between 5 and 120 minutes in 5 minute increments.

**Shut Off** – This setting controls the anti-stringing protection, which is the shutting down of the changer for the time specified here. The changer can be set to shut down for 15, 30, 45, or 60 minutes, or until the MLB is reset by turning the power off then back on (‘Reset’).

|                |          |        |        |          |
|----------------|----------|--------|--------|----------|
| Total<br>00000 | Hardware | String | String |          |
|                |          |        | Yes    | Yes      |
|                |          |        |        | Max \$   |
|                |          |        |        | Max Time |
|                |          |        |        | Shut Off |
| No             |          |        |        |          |
| Exit           |          |        |        |          |

## 3.2 – Functional Description of the AC603, AC604, and AC605

1. **Dispense**                      This machine dispenses four different pre-valued cards. The price point can vary between \$0.01 and \$999.99.
  
2. **Payment**                      The machine accepts payment in the form of cash or credit.

## 3.3 – Out-of-Service Conditions & Error Codes for the AC603, AC604, and AC605

### **System Failures**

Below are conditions that will cause the machine to go into an “Out-of-Service” mode. The message “Temporarily out of Service” will be displayed on the external LCD display when the machine is in an “Out-of-Service” mode.

**Note: These error messages can only be viewed by accessing the “Programming Menu”.**

#### **Card Dispenser**

Card Dispenser Error Conditions

- CardStuck      Indicates a card is stuck in the card dispenser’s card exit area.
  
- No Comm.      The Flex-2 main logic board is unable to communicate with the card dispenser’s Hopper Adaptor Board.
  
- Low              There are no cards in the card dispenser.
  
- Timed Out      The card dispenser did not complete a payout in its allotted time frame.

#### **Bill Validator**

Bill Validator Error Conditions. If the validator fails, the display shows a “Credit Cards only” message if applicable.

- Motor            Motor Failure
  
- Sensor          Sensor Failure
  
- Checksum      Checksum Failure

|                    |              |  |
|--------------------|--------------|--|
|                    | Jammed       | A bill or debris is stuck in the bill path.  |
|                    | Cashbox      | The cashbox/bill box has been removed.   |
|                    | No Comm      | The Flex-2 main logic board is unable to communicate with the bill validator.                                      |
|                    | Can't Enable | System has tried to enable the validator several times without success.  |
| <b>Credit Card</b> |              | Credit Card System error conditions. If the credit card processing fails, the display shows a "Cash only" message. |
|                    | No Comm      | The Flex-2 main logic board is unable to communicate with the credit card system.                                  |
|                    | No Reader    | Reader is not connected or defective. (Only if using DataCap IPTranLT with Magtek Reader)                          |

### 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

#### 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  
Card Dispenser #1 Status  
Card Dispenser #2 Status  
Card Dispenser #3 Status  
Card Dispenser #4 Status  
Credit Status  
Printer Status  
Temperature Info  
FTPServer Info

### **Menu 03 – Card Price**

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

### **Menu 04 – Card Payout**

Define how many cards to dispense.

### **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 – 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 07 – Date Setup**

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

### **Menu 08 – Time Setup**

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

### **Menu 09 – Machine Number**

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

### **Menu 10 – Access Code**

Change the access code.

### **Menu 11 – Key Beep Enable**

Enable or disable beep when a button is pressed.

**Menu 12 – Location Name**

Enter location name to print on credit card receipts.

**Menu 13 – Printer Options**

Credit Card and Cash receipt printing options: Always, Never, or Prompt.

Receipt length options: Long or Short.

Cut options: Full or Partial.

**Menu 14 – Validator Enable**

Enable or disable the bank note validator.

**Menu 15 – Nayax Test Mode**

This is used to verify Nayax messages. It is only used for during testing. It must be off during normal operation.

**Menu 16 – FTP Server**

Configure WebServer IP, gateway, DNS, port, network password and software update.

**Menu 17 – Anti Stringing**

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

## 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.

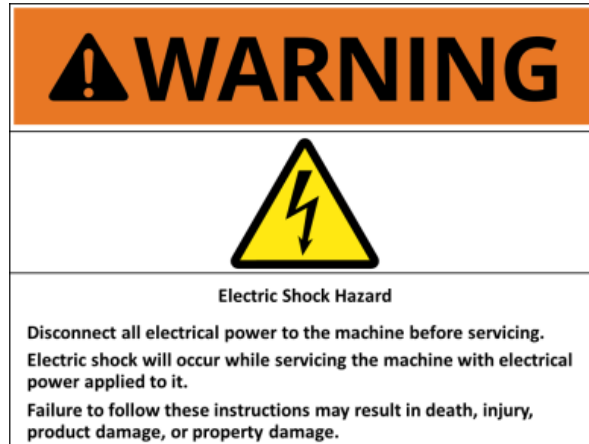
- 4.1 **EEPROM Error Please Try Again** – EEPROM error.
- 4.2 **Main CRC Error V:XXX Update Required!** – The computed main program CRC is incorrect.
- 4.3 **Frame Error V:XXX While Reading File** – There was a checksum error while reading one of the files entries.

**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 – Card Dispenser Maintenance

Under ideal circumstances, routine maintenance should be performed after every 10,000 cards dispensed.

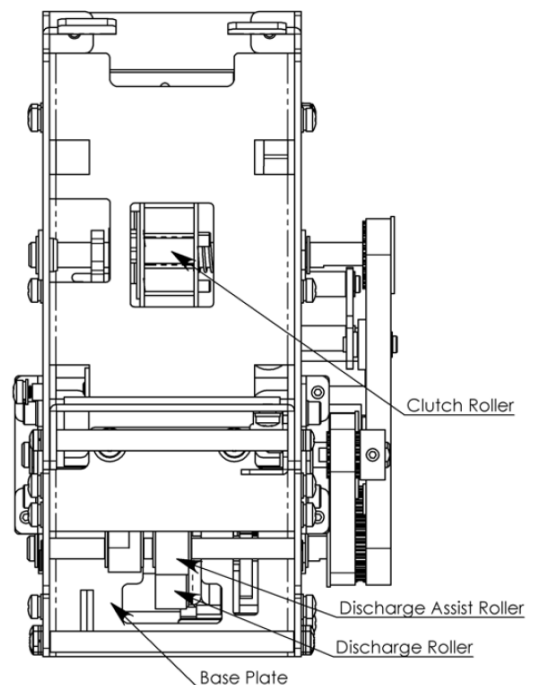
Using a cotton swab and isopropyl alcohol (rubbing alcohol), thoroughly clean the Discharge and Discharge Assist Rollers and the Clutch Roller. The unit must be operating (without cards), with rollers rotating to clean them completely. The Clutch Roller will rotate freely without the unit operating.

Using a small piece of cloth, dampened with isopropyl alcohol, wipe all metal surfaces on the interior of the unit.

Before re-stocking the unit with cards, make sure that the alcohol has completely dried.

Occasionally, the optic sensors may become dirty. Simply wipe them with a clean, dry cloth periodically to remove any dust buildup.

It is a good idea, during the maintenance session, that the unit be visually inspected for broken or damaged parts, frayed or worn belts, worn rollers, and debris buildup.



## 4.2 – Banknote Validator Maintenance

### Pyramid Acceptors Apex Model

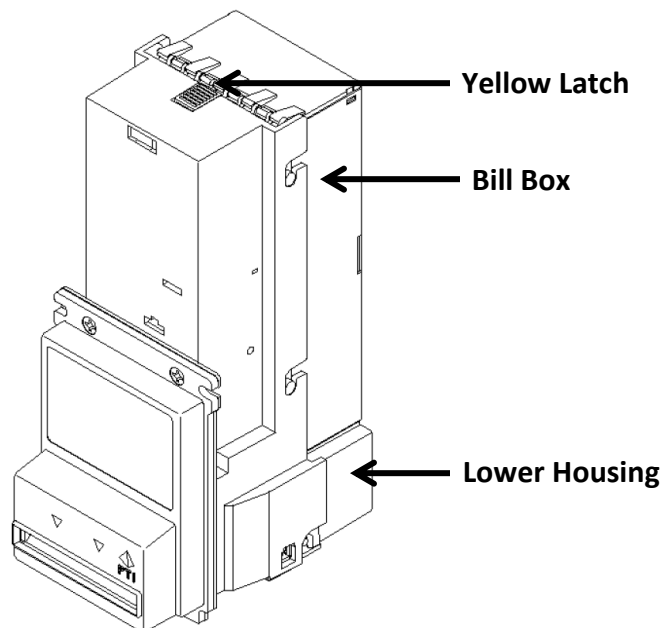
The Apex Series bill acceptor is relatively maintenance free. An occasional cleaning is all that is needed to keep the acceptor in top operation. **Please Visit the “service” section of the [pyramidacceptos.com](http://pyramidacceptos.com) website to view videos explaining how install, clean, program,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

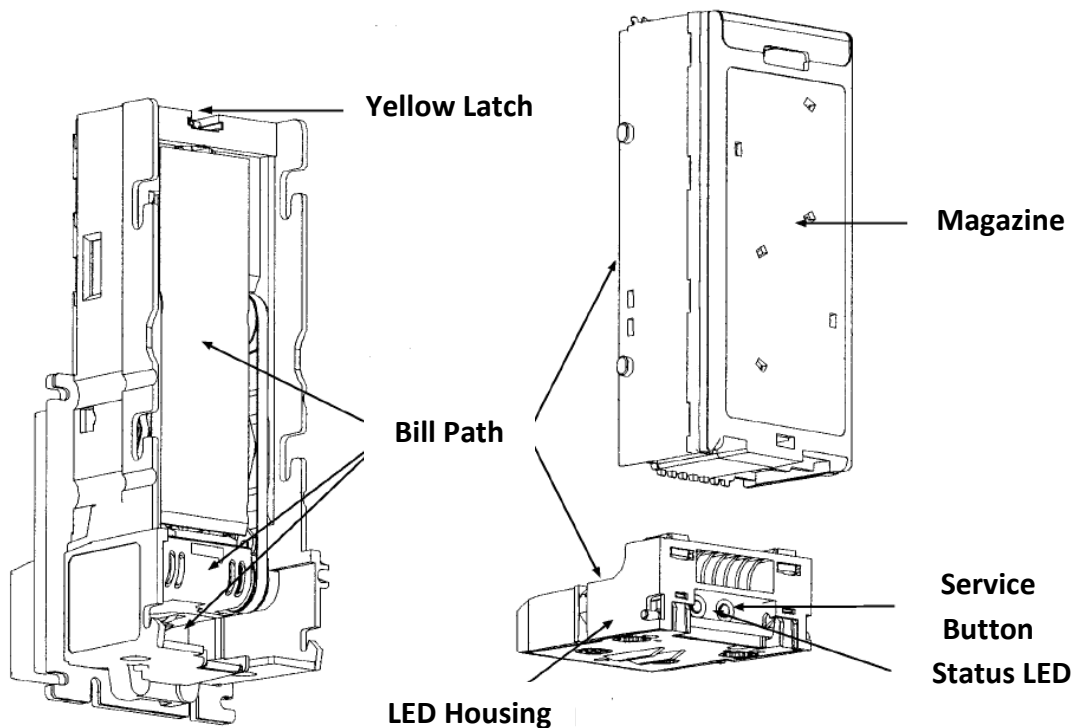




## Crane Payment Innovations (CPI) AE 2600 Series

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

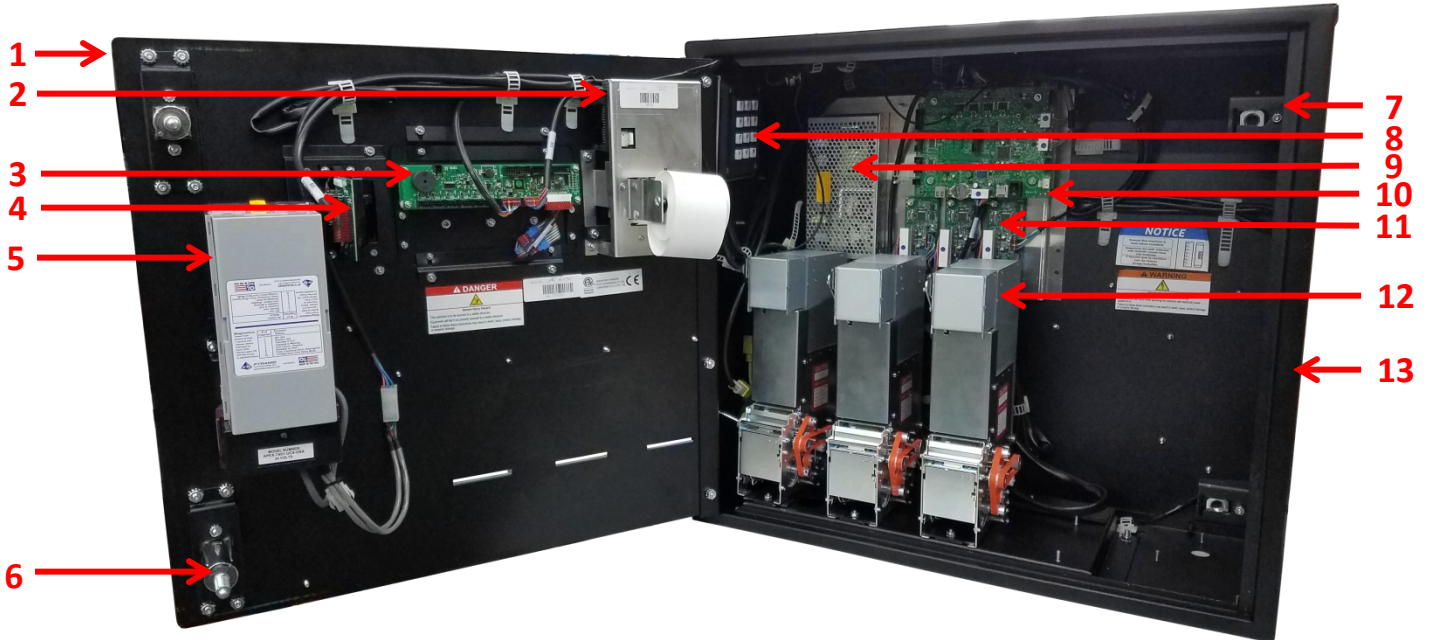
1. Ensure the power supply to the GBA ST1C unit is switched OFF.
2. Remove the Cassette.
3. Lift up the purple Access Latch on the back of the Bottom Sensor Assembly, and gently slide the module out of the Channel Assembly.
4. Clear the jammed note(s) from the note path.
5. Re-assemble unit and switch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



## 4.3 – Parts List

### AC603 and AC604

Note: The external display is not shown. It is located behind the Flex I/O board. The part # is 8065.1.



| Number | American Changer Part # | Description  |
|--------|-------------------------|--|
| 1      | AC603-DR/AC604-DR       | Door for AC603/Door for AC604  |
| 2      | AC790                   | Receipt Printer  |
| 3      | AC8001.1-FLXI0B         | Flex I/O Board   |
| 4      | AC9090                  | Magtek Credit Card Reader  |
| 5      | Bill Validator          | Various Models Available. Contact American Changer for part number. Apex 7000 Series shown in above picture.           |
| 6      | AC5080-QS               | T-Handle   |
| 7      | AC1000-LB               | Lock Bracket   |
| 8      | AC9044                  | 12 Key Keypad  |
| 9      | AC8062-Flex             | Meanwell RS-150-24 24VDC 6.5A Power Supply   |
| 10     | AC8001-FLEX2BD          | Flex-2 Main Logic Board  |
| 11     | AC8001-HOPADAP          | Hopper Adaptor Board   |
| 12     | Card Dispenser          | Two Models Available. Contact American Changer for part number. CD1000 with lockable cassettes shown in above picture. |
| 13     | AC5012                  | AC603/AC604 cabinet  |

## 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.

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