

# American Changer



## AC2078 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.

American Changer

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# Table of Contents

## **Section 1 – Product Overview**

1.1 – Machine Specifications.....	2
1.2 – Warranty Information.....	2
1.3 – Machine Safety.....	3

## **Section 2 – Setup & Installation**

2.1 – Setup.....	5
2.2 – Mounting Instructions.....	6

## **Section 3 – Operational Overview**

3.1 – Component Description.....	8
3.2 – Functional Description.....	10
3.3 – Out-of-Service Conditions & Error Codes.....	10
3.4 – Programming Menu.....	11

## **Section 4 – Maintenance**

4.1 – Coin Hopper Maintenance.....	12
4.2 – Parts List.....	13
4.3 – Warranty Terms and Conditions.....	15

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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 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
Cabinet Dimensions	24" W x 62" H x 16" D 61cm x 157.5cm H x 41cm D
Machine Dry Weight	194 lbs / 88 kg

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

## 1.2 – Warranty Information

**PLEASE REFERENCE SECTION 4.3 ON PAGE'S 15 AND 16 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.

#### **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.

## 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.**



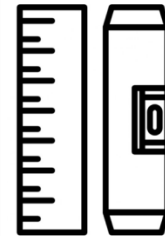
**NOTICE:** Ensure this machine is level when installed



**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.

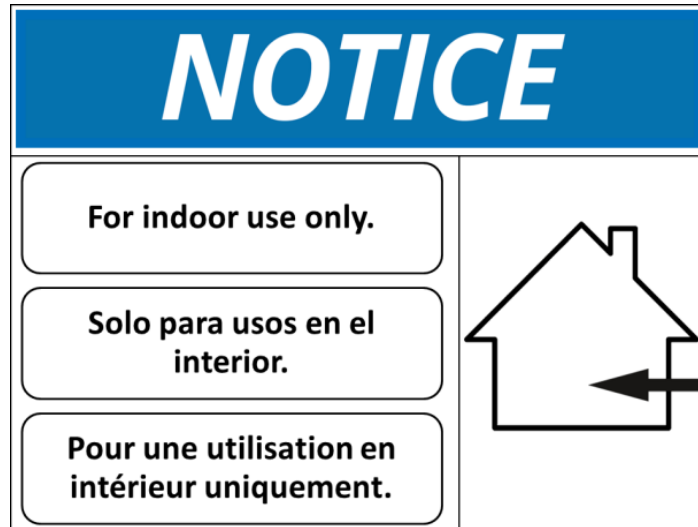
Inspect your machine (product), at a minimum annually, by a qualified service technician.

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 220VAC outlet.*** The machine is preset to accept 10p, 20p, 50p, £1 and £2 coins and dispense 2p coins (unless otherwise specified at the time of purchase).

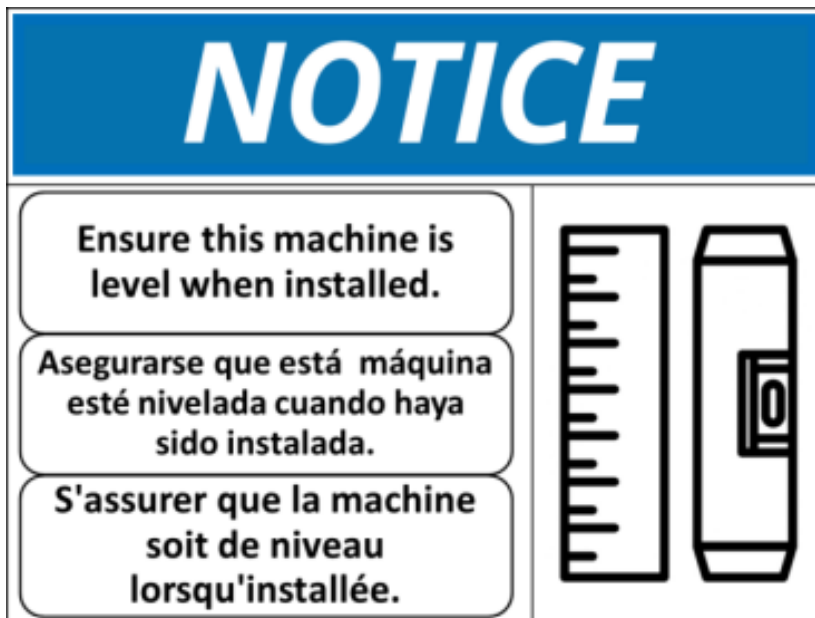
Fill each of the coin hoppers with a minimum of 100 coins. On the Main Logic Board, turn the switch on the bottom right corner “ON.” The rocker switch has an “I” and “O” printed on it. When the “I” is pressed down, the changer is “ON.”

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 220VAC 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.
  - a. **Do not use an extension cord unless allowed by the building electrical code.**
  - b. Installation is completed. Proceed to the “Programming the Changer” section.

## 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 21.01mm to 30mm in diameter and 1.25mm to 3.30mm in thickness. An option is available to dispense smaller coins. This machine's coin capacity is approximately 30,000 25mm diameter coins.

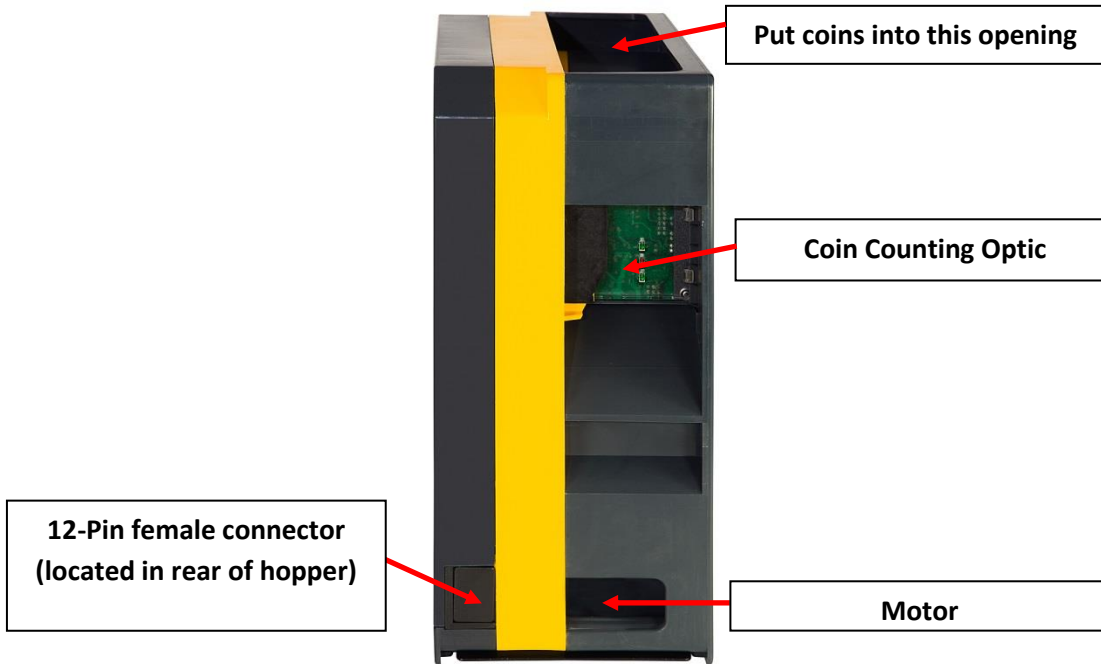


Figure 1

#### Coin Acceptor

The coin acceptor uses the ccTalk communication protocol. It can accept coins ranging in size from 15mm to 31.5mm in diameter and 1.5mm to 2.5mm in thickness.

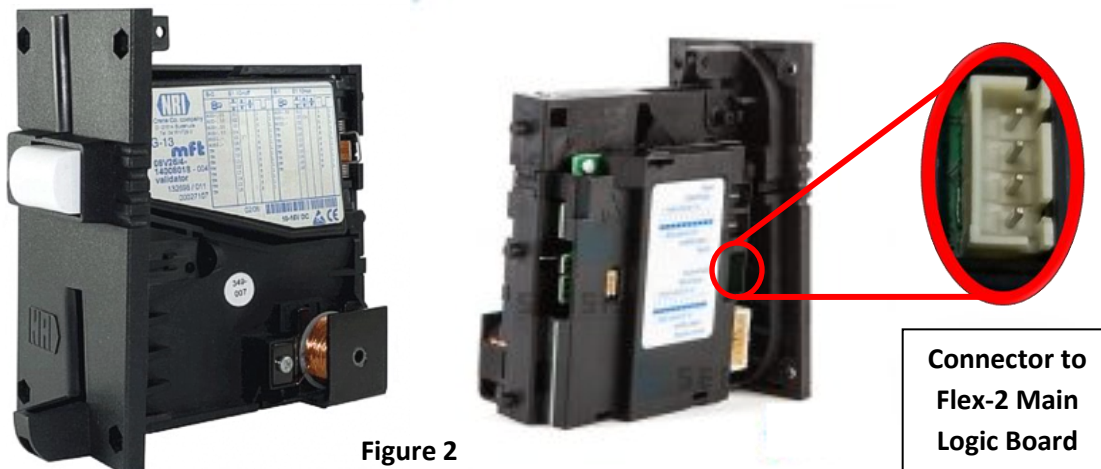


Figure 2

### I/O Board with External LCD Display

This device displays the payout to the customer

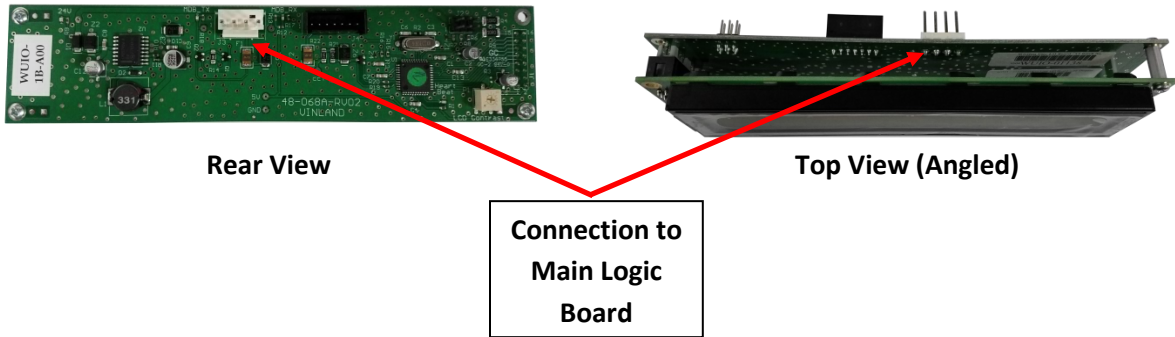


Figure 3

### Universal Main Logic Board

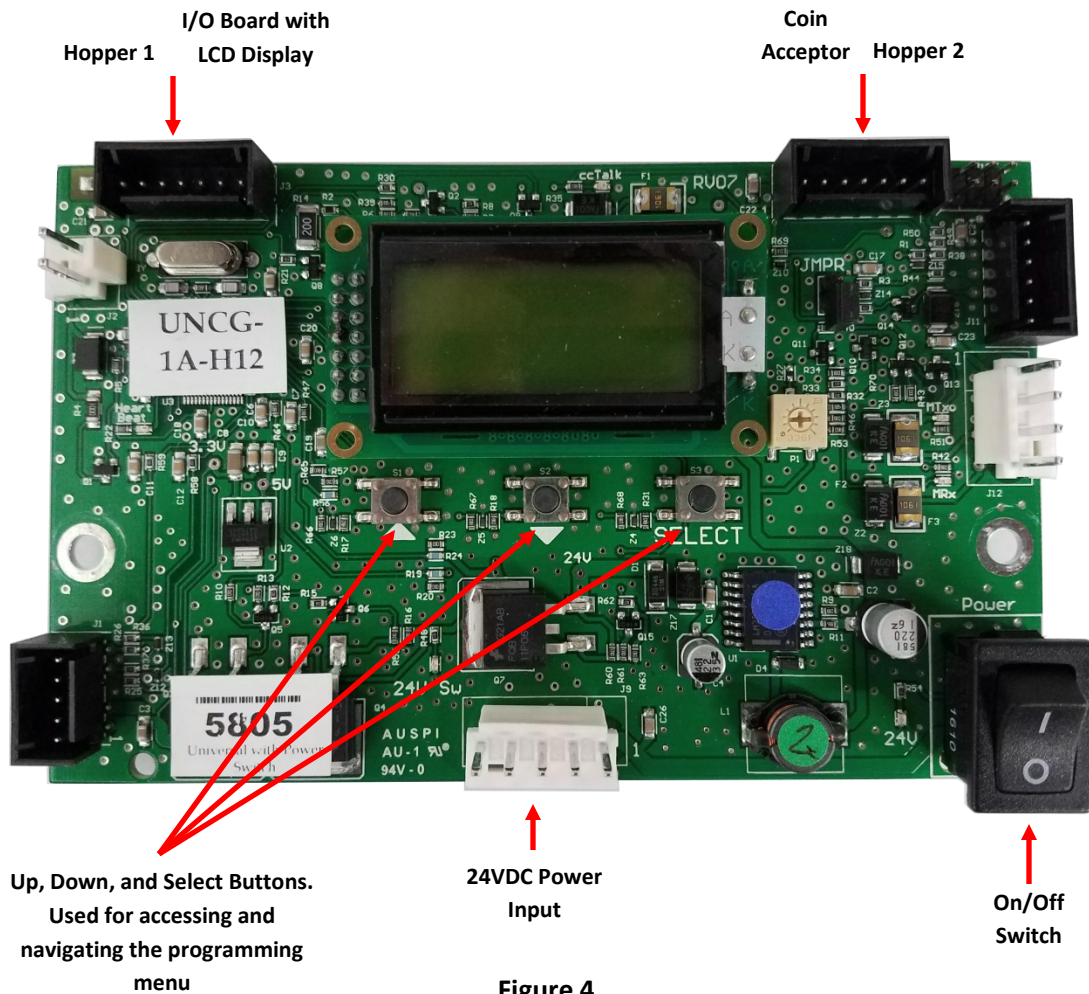


Figure 4

## 3.2 – Functional Description

1. **Dispense**                      The coin hopper content can be defined as currency by entering its value in the programming menu, for example, \$00.02.
2. **Payment**                      The machine accepts payment in the form of coins.

## 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**

- OptoBlkd      Indicates the coin counting optic is blocked.
- No Comm.      The Universal main logic board is unable to communicate with the coin hopper.
- High Current      The hopper motor exceeded its maximum current rating.
- Low      The amount of coins in the coin hopper is below its operational threshold.
- Timed Out      The coin hopper did not complete a payout in its allotted time frame.

#### **Coin Acceptor**

#### **Coin Acceptor Error Conditions**

- Credit Sns.      Credit sensor blockage or failure
- Piezo Sns.      Piezo sensor blockage or failure
- Exit Sns.      Exit sensor blockage or failure
- Reject Sns.      Reject sensor blockage or failure
- Return Mech      Unit failure. Needs to be replaced.
- Thermistor      Thermistor failure
- No Comm      The Universal main logic board is unable to communicate with the coin acceptor.

### 3.4 – Programming Menu

To enter the programming menu, begin by pressing the “Select” button on the Universal main logic board. Refer to Figure 4.

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** – This menu is not used

**Coins** – This menu controls which coins get accepted and rejected by the coin acceptor. To accept a coin set the coin option to “Y”. To reject a coin set the coin option to “N”.

Total 00000	Coins	5p	10p	20p	50p	£1	£2
		Y	Y	Y	Y	Y	Y
		N	N	N	N	N	N
		Exit	Exit	Exit	Exit	Exit	Exit

**Payout** – Here is where the value of the coin dispensed is entered. i.e. 2p is entered as £00.02.

Total 00000	Payout	Change
		£00.00

**Hardware** – These submenus are used to configure the different devices (Banknote validator, Coin Acceptor, and the Main Logic Board). Unused menus have been left out of this section.

Hoppers – Configure the machine to use 1 or 2 cctalk hoppers.

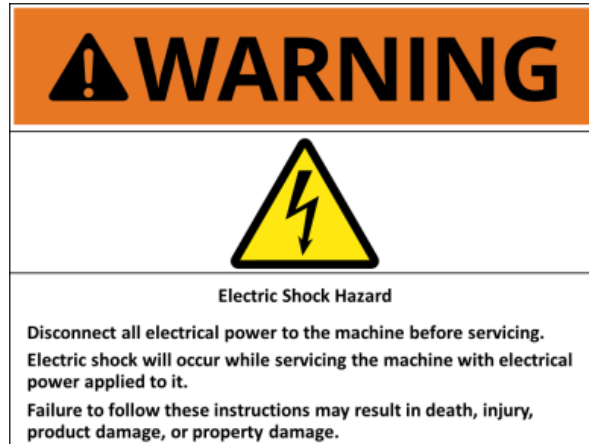
Coin Acceptor – Configure the machine to use a cctalk coin acceptor.

Dump – This menu will enable or disable the “Dump” function. To enable the “Dump” function set to “Y”. To disable the dump function set to “N”.

Total 00000	Hardware	Hoppers	Hoppers	ccTalk	ccTalk	
					1	
					2	
					Exit	
			Coin Acceptor	Coin Acceptor	ccTalk	
					None	
					Exit	
			Dump	Dump	Y	
					N	
					Exit	

## 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 – Parts List



Number	American Changer Part #	Description
1	AC2078-HA	AC2078 Header Assembly
2	AC7777	LCD Display with I/O Board
3	AC2078-DOOR	AC2078 Door
4	AC1065.3	Universal Main Logic Board
5	AC2066.7	NRI G-13 Coin Acceptor
6	1080.1	3-Point T-Handle
7	AC2078-CCHUTE	AC2078 Door Coin Chute
8	AC2078-PCC	Acrylic Coin Tube
9	AC1047.2	Evolution Hopper with 12 Pin Male Connector
10	AC2078-CCL	AC2078 Coin Cup Liner





Number	American Changer Part #	Description
1	AC2078-BTMDOOR	AC2078 Bottom Door
2	AC5080-QSPINS	T-Handle with Drill Resistant Pins
3	AC3078-PSY	SE-350-24 Power Supply
4	AC3078-LCB	Lockable Coin Box
5	AC2002-LB	Lock Bracket



## 4.3 – 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.