COINCO GLOBAL® 800 SERIES
OPERATION AND SERVICE MANUAL

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SECTION 1: GENERAL INFORMATION

Introduction

This manual contains information on installing, operating and maintaining your COINCO GLOBAL® coin changer. This manual is intended for owners, route operators and shop-level technicians as a primary source of information. Taking time to read this manual and becoming familiar with this information will help you obtain the best performance from your COINCO GLOBAL® changer.

The COINCO GLOBAL® Changer from Coin Acceptors is available in a 700 Series and an 800 Series. The 700 Series changers can accept and validate up to 16 different coins or tokens. The 800 Series changers can accept and validate up to 16 different coins or tokens. The 800 Series has a digital display for easy programming.

800 Series COINCO GLOBAL® Changers are available in the following models:

- **GLOBAL MDB:** For electronic vending machines that utilizes COINCO's Multi-Drop Bus technology.
- **GLOBAL Single-Price/Four-Price:** For electromechanical vending machines.
- **GLOBAL A:** For vending machines equipped with an electronic Protocol A serial interface.
- **GLOBAL L/L+:** For vending machines equipped with a logic interface.
- **GLOBAL BDV:** For vending machines equipped with an electronic BDV serial interface.

For Your Records

A label indicating the coin changer model number and serial number can be found on the side of the coin changer. Refer to the model and serial number whenever you call upon your Coinco Service Center for information or service. For your information, the first four digits of the serial number indicates when the unit was built which is also the beginning of the warranty period. The first two digits indicate the week of manufacture; the third and fourth digits indicate the year of manufacture. For example, Serial Number 269407053 would indicate that the unit was manufactured in the 26th week of 1994.

The first three letters of the model number indicate the Country Code while the fourth letter indicates the model of changer ("G"=MDB, "F"=Single-/Four-Price, "L"=L/L+, "B"=BDV, "A"=Protocol A).

The first digit of the model number indicates whether the unit is a 700 (7) or 800 (8) series, and the last two digits indicates the changer's payout configuration.

EXAMPLE: Model Number GBP-F801 is an 800 Series Four-Price COINCO GLOBAL® changer for Great Britain.

SECTION 1: GENERAL INFORMATION

Features

- The COINCO GLOBAL® coin changer has a modular design for easy service.
- Tubes snap in and out of housing for easy customization of your changer.
- Pays out change from self-loading, high capacity change tubes.
- Two motors provide fast, accurate payout.
- Programmable tube floats allow variable tube level adjustment.
- State-of-the-art electronic logic system is designed for reliability and performance.
- Lightweight, rugged plastic construction.
- All models equipped with the MDB protocol.
- Lockable coin loading door allows easy hand-loading of coin tubes while keeping dirt and debris out of the changer.

After Unpacking

After unpacking the unit, inspect it for any possible shipping damage. If the unit is damaged, notify the shipping company immediately. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage. We recommend that you keep the original carton and packing materials to reuse if you need to transport or ship your changer in the future.

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

Specifications

Power Requirements (by model)

MDB .... 34V DC

Single/Four Price .... 24V AC, 50/60 Hz
120V AC, 50/60 Hz
220V-240V AC, 50/60 Hz

Protocol A .... 24V A, 50/60 Hz

L/L+ .... 24V DC

BDV .... 24V DC

Operating Temperature Non-Metric/Metric
0 to 150 Degrees Fahrenheit
-18 to 65 Degrees Celsius

Storage Temperature Non-Metric/Metric
-22 to 160 Degrees Fahrenheit
-30 to 72 Degrees Celsius

Relative Humidity
20% to 98% Noncondensing

Operating Attitude
Vertical ±3 degrees

Physical Dimensions Non-Metric/Metric
Height: BASE TO TOP OF COIN RETURN LEVER
14.93 inches or 37.92 centimeters
Width: 5.47 inches or 13.89 centimeters
Depth: GATE OPEN
3.00 inches or 7.62 centimeters
GATE CLOSED
3.25 inches or 8.25 centimeters

Weight in Shipping Carton Non-Metric/Metric
Approximately 7 pounds
Approximately 3.15 kilograms

Coin Size Range
Up to 16 coins or tokens in the size range of 15.0 to 33.5 mm diameter and 1.02 to 3.10 mm thickness can be validated.

SECTION 2: INSTALLATION

Installing The Changer

1. Remove power from vendor.
2. Remove the acceptor from the changer by releasing acceptor latch and rotating the top of the acceptor forward, away from changer (see Figures 1 and 2). Unplug ribbon cable from changer. Free acceptor studs from changer housing. Place the acceptor in a clean area.
3. With the acceptor removed, set the mounting holes in the back of the changer housing over the mounting screws in the vendor. Tighten snugly (see Figure 3).
4. Replace the acceptor by inserting bottom acceptor studs into changer housing guides. Plug the ribbon cable into the changer (see Figure 2).
5. On units that use a DEX/UCS Hand-held Computer, attach DEX Plug Ground Connector to the vending machine frame (see Figure 1).
6. Plug changer into vendor socket.
7. Set the desired vend price and options on the changer (see Figure 2). Refer to "Setting The Vend Price" and "Option Switch Module" section of this manual.
8. Press the top of the acceptor into the changer housing until the acceptor latches and locks.
9. If coin tube loading door is not locked (additional option) hand load the four coin tubes (see Figure 4). Tilting the coin tube loading door open, load the four coin tubes. Make sure all coins lie flat and that each tube is filled at least to the 20% mark. Payout at least two coins from each tube to set tube counters. If audit is required, enter Display Mode (see "Display Mode" section) and feed coins in through acceptor.
10. (Optional) Set the coin tube float levels. Refer to "Setting The Float Tube Levels" section of this manual.
11. Check to make sure the tube cover and acceptor studs are properly installed.
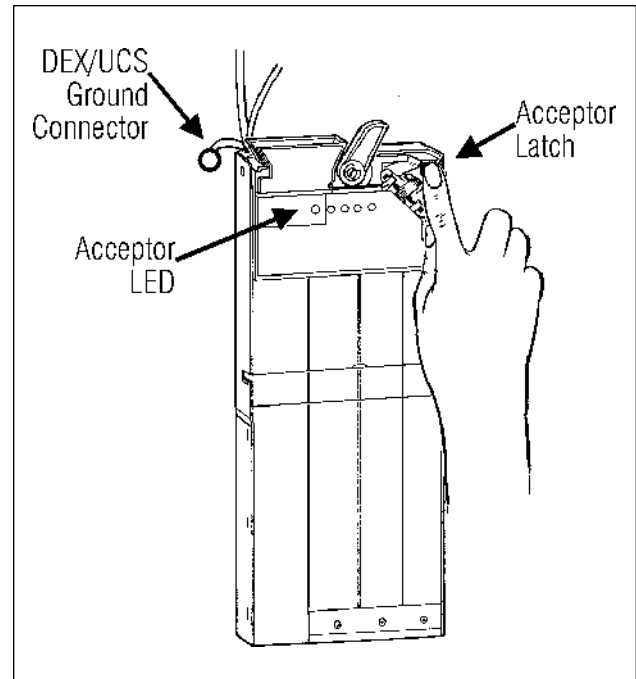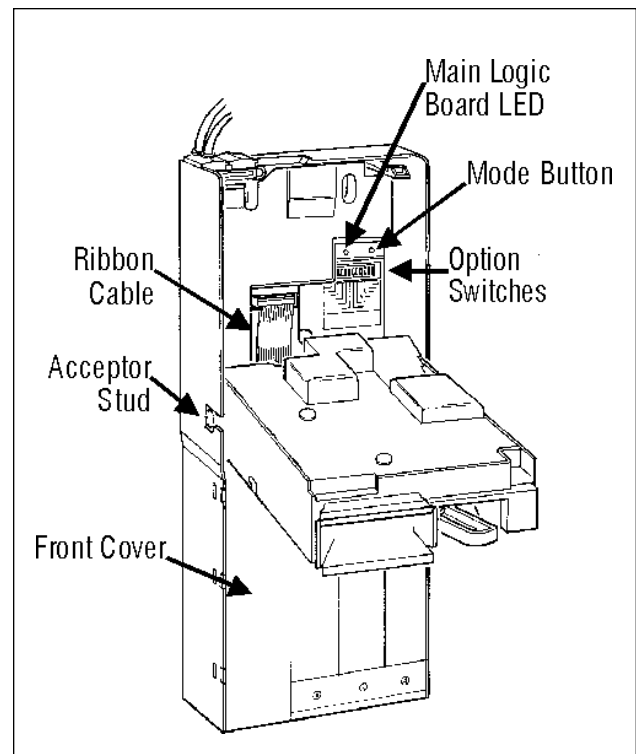12. Test the coin changer with a variety of coins to ensure proper operation.

Figure 1

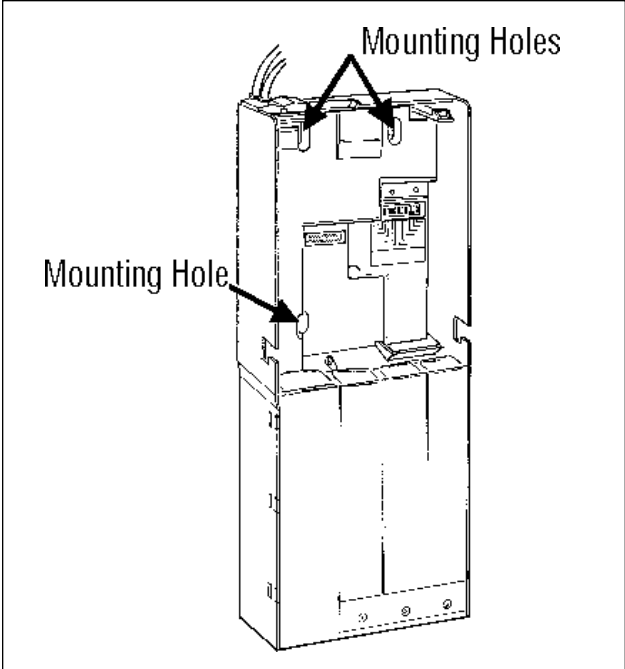

Figure 2
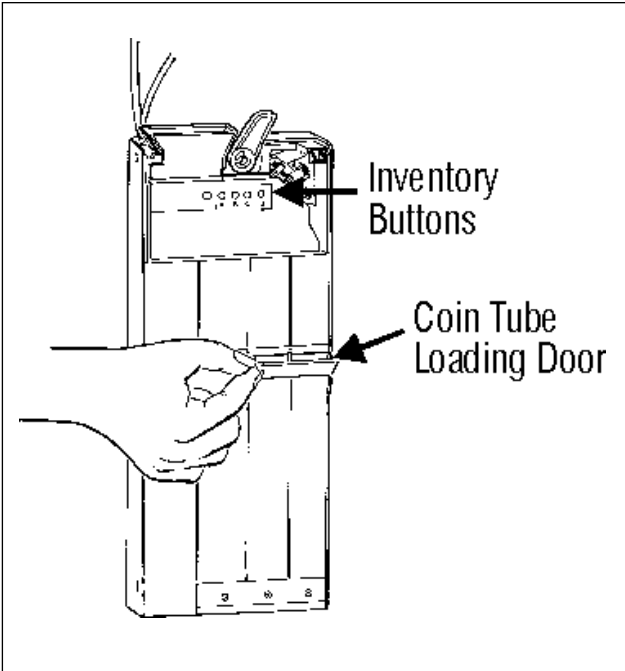
SECTION 2: INSTALLATION

Figure 3

Figure 4

SECTION 3: CONFIGURATION

Option Switch Module
Applies to Single-Price/Four-Price Changers Only

Located behind the acceptor on the middle right hand side of the changer housing are twelve switches (see Figure 2). The first eight are used to set the vend price (see "Setting The Vend Price" section of this manual).

The last four Option Switches are used to enable or disable the following options:

Switch A (SW9)
Controls whether the escrow feature of the changer is inhibited.
ON   Escrow inhibited.
OFF   Escrow not inhibited.

Switch B (SW10)
Determines the operation mode of the changer.
ON   Operates as a Four-Price changer.
OFF   Operates as a Single-Price changer.

Switch C (SW11)
(Single-Price Mode Only)
Controls the vend holding feature.
ON   Vend is held until selection is made.
OFF   Vend is pulsed.

Switch D (SW12)
Controls when the changer enters the "Use Correct Change" condition.
ON   Uses the sum of the highest price plus the value of the highest coin for the "Use Correct Change" indicator.
OFF   Uses a programmable value for "Use Correct Change" indicator. "Use Correct Change" indicator is illuminated when changer is unable to make change for the programmed value or any lesser value.

Switch 1	1 x Lowest Value Coin Accepted
Switch 2	2 x Lowest Value Coin Accepted
Switch 3	4 x Lowest Value Coin Accepted
Switch 4	8 x Lowest Value Coin Accepted
Switch 5	16 x Lowest Value Coin Accepted
Switch 6	32 x Lowest Value Coin Accepted
Switch 7	64 x Lowest Value Coin Accepted
Switch 8	128 x Lowest Value Coin Accepted

Figure 5

SECTION 3: CONFIGURATION

Setting The Vend Price On A Single-Price Changer

The vend price on a single-price changer may be set in four ways:
• via Global Support Tools;
• via DEX/UCS;
• via the first eight Option Switches;
• via the digital display.

The vend price can be set in single increments up to 255 times the lowest denomination coin that is accepted by the changer and routed to a coin tube.

EXAMPLE: If the lowest denomination coin is one, the highest vend price setting would be 255 x 1 or 255.

VIA GLOBAL SUPPORT TOOLS
Consult Global Support Tools manual for price setting instructions.

VIA DEX/UCS
Consult Hand-held Computer manufacturer.

VIA OPTION SWITCHES
1. Set the vend price by adding the amount of the appropriate switches and setting them to the ON position (see Figure 5).
2. Set Option Switch B to the OFF position.
3. Set Option Switches A, C and D to the desired configuration (see "Option Switch Module" section of this manual).
4. After setting the vend price and the desired options on the Option Switch Module, PRESS AND RELEASE THE MODE BUTTON to store the new setting. The LED and the "Use Correct Change" light will then flash once, indicating that the price was recorded.

EXAMPLE: If the first, fourth and fifth price setting switches are in the UP position, the vend price setting would be 25 x 1 or 25 (assuming the lowest denomination coin accepted is 1).

NOTE: The first vend price must be set to an amount greater than zero for the changer to accept coins in single-price mode.

VIA DIGITAL DISPLAY
1. Enter the Display Mode (see "Display Mode" section of this manual).
2. Press B to scroll up to Address 1 (Price 1).
3. Press C to enter Address 1.
4. Use buttons B (increase) and D (decrease) to change Address 1 to the appropriate price.
5. Press C to store price and return to the Address Display.
6. Press A to exit the Display Mode.

SECTION 3: CONFIGURATION

Setting The Vend Price On A Four-Price Changer

The vend price on a four-price changer may be set in four ways:
- via Global Support Tools;
- via DEX/UCS;
- via the first eight Option Switches;
- via the digital display.

The vend price can be set in single increments up to 255 times the lowest denomination coin that is accepted by the changer and routed to a coin tube.

EXAMPLE: If the lowest denomination coin is one, the highest vend price setting would be 255 x 1 or 255.

VIA GLOBAL SUPPORT TOOLS
Consult Global Support Tools manual for price setting instructions.

VIA DEX/UCS
Consult Hand-held Computer manufacturer.

VIA OPTION SWITCHES
1. To set the vend price of a selection, add the value of the rocker switches that are switched to the ON position.
2. Set Option Switch B to the ON position.
3. Set Option Switches A, C and D to the desired configuration (see "Option Switch Module" section of this manual).
4. After setting the desired vend price on the Option Switch Module, press and release the Mode Button (see Figure 2). The changer's Main Logic Board LED and the "Use Correct Change" light will begin to flash.
5. Within 30 seconds, press and release any one desired product selection switch on the front of the machine. The present price on the switch module is now set for all selections on that price line and the LED and "Use Correct Change" light will stop flashing.

6. Repeat the above steps until the remaining three price lines have been assigned a vend price.

EXAMPLE: If the first, fourth and fifth price setting switches are in the UP position, the vend price setting would be 25 x 1 or 25 (assuming the lowest denomination coin accepted is 1).

NOTE: If the price for one or more of the selections is set to zero, that selection is a free vend.

VIA DIGITAL DISPLAY
1. Enter the Display Mode (see "Display Mode" section of this manual).
2. Press B to scroll up to Address 1 (Price 1).
3. Press C to enter Address 1.
4. Use buttons B (increase) and D (decrease) to change Address 1 to the appropriate price.
5. Press C to store price and return to the Address Display.
6. Press B to increase to Address 2 (Price 2).
7. Repeat steps 3-5 for the remaining three prices.
8. Once all four prices have been set, press A to exit the Display Mode.

SECTION 3: CONFIGURATION

Setting The Vend Price On A Protocol A Changer

The Digital Display/Inventory Buttons are located on the acceptor gate (see "Display Mode" section of this manual). If the vending machine operates in Price Holding Mode, the the ten prices are set using Addresses 1-10 accordingly.

1. Enter the Display Mode (see "Display Mode" section of this manual).
2. Press B to scroll up to Address 1 (Price 1).
3. Press C to enter Address 1.
4. Use buttons B (increase) and D (decrease) to change Address 1 to the appropriate price.
5. Press C to store price and return to the Address Display.
6. Press B to scroll up to Address 2 (Price 2).
7. Repeat steps 3-5 for the remaining nine prices.
8. Once all ten prices have been set, press A to exit the Display Mode.

Setting The Vend Price On L/L+, MDB & BDV Changers

Vend prices for L and MDB changers are set through the vending machine controller (VMC). See vending machine manual for details.

SECTION 3: CONFIGURATION

Manual Fill Mode

Manual Fill Mode allows coins to be inserted into the acceptor which routes the coins to the proper coin tube without establishing credit. When high sensor level is reached, coins will be directed to the cash box. Enter the Display Mode (see "Display Mode" section of this manual). When "- - - -" appears in the display, deposit coins until the desired level. The changer will automatically return to operating mode after 45 seconds of no activity or if any inventory button is pressed and released.

Manual Fill Mode is supported for Single-/Four-Price, Protocol A, and BDV changers. Manual Fill Mode in L/L+ and MDB changers is accessed through the vending machine controller. See vending machine manual for details.

Float Mode

Float Mode is used to systematically reduce the number of coins kept in a tube.

The 800 Series GLOBAL changer supports two Float Mode Options which are set through the use of Global Support Tools or the digital display.

STANDARD FLOAT MODE

In Standard Float Mode, once a tube float level is set (see "Setting The Float Mode Levels" section), the changer will try to maintain the set level of coins in the tube by routing accepted coins to the tube *only* if a coin was paid out. Once the tube reaches its float level in Standard Float Mode, any coins normally routed to that tube will be sent to the cash box. As usual, any cash box coins will be accepted and routed to the cash box.

FLOAT PAY-DOWN MODE

In Float Pay-down Mode, the acceptor will continue to route coins to the tube until the upper sensor is covered. The coins will then be routed to the cash box. Once a tube float level is set, activating Float Pay-down will dispense coins above the established levels until the coins reach the float levels (see "Activating Float Pay-down" section of this manual).

When in Manual Fill Mode, the acceptor will continue to route coins to the tube passing the level where float pay-down is set. The float pay-down level does not change. The changer will automatically return to operating mode after 45 seconds of no activity or if any inventory button is pressed and released.

SECTION 3: CONFIGURATION

Setting The Float Mode Levels

The Float Mode Levels for both Float Level and Float Pay-down can be set in two ways:
- via Global Support Tools;
- via the Digital Display.

VIA GLOBAL SUPPORT TOOLS

Consult Global Support Tools manual for tube float level setting instructions. Tube float levels can be set individually.

VIA DIGITAL DISPLAY

The Digital Display/Inventory Buttons are located on the acceptor gate. The tube float levels are set using Addresses 101-104 accordingly. Address 100 allows you to clear all float levels and to set all four float levels at one time.

100	Set or Clear All Float Levels	0	Clear All Float Levels
		1	Set All Standard Float Levels
		2	Set All Float Pay-down Levels
		3	Indicates Float Levels Have Been Set for 1-3 Tubes (Read Only)
101	Tube D Float Level	0	Disable Float Level
		1	Enable Standard Float
		2	Enable Float Pay-down
102	Tube C Float Level	0	Disable Float Level
		1	Enable Standard Float
		2	Enable Float Pay-down
103	Tube B Float Level	0	Disable Float Level
		1	Enable Standard Float
		2	Enable Float Pay-down
104	Tube A Float Level	0	Disable Float Level
		1	Enable Standard Float
		2	Enable Float Pay-down

Setting All Four Float Levels At Once:

1. Load the four coin tubes to the float level you want the coin changer to maintain.
2. Enter the Display Mode (see "Display Mode" section of this manual).
3. Press B to scroll up to Address 100.
4. Press C to enter Address 100 to set standard float levels.
5. Press B once to increase to "1" to set standard float levels.
6. Press B two times to increase to "2" to set float pay-down levels.
7. Press C to enter your selection.
8. Press A to exit the Digital Display. All four tube float levels are now set.
9. The Digital Display's second decimal point from the right will be illuminated if any tube float levels have been set.

Setting Float Levels Individually:

1. Load the individual coin tube to the float level you want the coin changer to maintain.
2. Enter the Display Mode (see "Display Mode" section of this manual).
3. Press B to scroll up to appropriate Address for individual tube you want to set (101-104).
4. Press C to enter the Address.
5. Use button B (increase) to reach the correct setting ("0" to disable, "1" for standard float, "2" for float pay-down).
6. Press C to store setting and return to the Address Display.
7. Press A to exit the Display Mode. The tube float level is now set for the individual tube you have chosen.
8. The Digital Display's second decimal from the right will be illuminated if any tube float levels have been set.

SECTION 3: CONFIGURATION

Activating Float Pay-Down

Pressing and releasing buttons A and B simultaneously activates Float Pay-down. Use Manual Fill to replenish low tubes (see "Manual Fill Mode" section of this manual).

Setting The "Use Correct Change" Value

Single-/Four-Price and Protocol A Models Only

When a value is selected for turning on the "Use Correct Change" light, the light is illuminated when the changer is unable to make change for *THAT* value or any lesser value.

NOTE: Option switch D set to the ON position will override any setting you make via the following instructions. See "Option Switch Module" section of this manual for information on Option Switch D.

The "Use Correct Change" light can be programmed to come on in three ways:
* via Global Support Tools;
* via DEX/UCS (Protocol A Only);
* via the Digital Display.

VIA GLOBAL SUPPORT TOOLS
Consult Global Support Tools manual for "Use Correct Change" light setting instructions.

VIA DEX/UCS
Consult Hand-held Computer manufacturer.

VIA DIGITAL DISPLAY
The "Use Correct Change" light is set using Address 32 of the Digital Display.

1. Enter the Display Mode (see "Display Mode" section of this manual).
2. Press B to scroll up to Address 32 ("Use Correct Change" Setting).
3. Press C to enter the Address.
4. Use button B (increase) or button D (decrease) to reach the correct value.
5. Press C to store setting and return to the Address Display.
6. Press A to exit the Display Mode. The Exact Change Setting is now programmed to the value you have set.

SECTION 3: CONFIGURATION

Setting The Exact Change Accept Group
Single-/Four-Price, Protocol A, & L/L+ Models Only

By setting the Exact Change Group for the Single-/Four-Price Models, you're telling the changer what coins to accept when the "Use Correct Change" light is ON.

On the L/L+ Model, the changer will not accept any coin outside this group if the value of the coins in the three tubes that are reported to the controller are less than the value of the coin being accepted.

The Exact Change Group can be programmed in three ways:
• via Global Support Tools;
• via DEX/UCS;
• via the Digital Display.

VIA PC SUPPORT TOOLS
Consult Global Support Tools manual for "Use Correct Change" light setting instructions.

VIA DEX/UCS
Consult Hand-held Computer manufacturer.

VIA DIGITAL DISPLAY
The Exact Change Group is set using Address 14 of the Digital Display.

1. Enter the Display Mode (see "Display Mode" section of this manual).
2. Press B to scroll up to Address 14 (Exact Change Group).
3. Press C to enter the Address.
4. Use button B (increase) or button D (decrease) to reach the correct coin group (see "Exact Change Group Settings" chart).
5. Press C to return to the Address Display.
6. Press A to exit the Display Mode. The Exact Change Group is now programmed to the value you have set.

EXACT CHANGE GROUP SETTINGS
(Address 14)

```
0 ............. Accepts only coin 0
1 ............. Accepts coins 0 and 1
2 ............. Accepts coins 0 and 2
3 ............. Accepts coins 0 and 3
4 ............. Accepts coins 0 and 4
5 ............. Accepts coins 0 and 5
6 ............. Accepts coins 0 and 6
7 ............. Accepts coins 0 and 7
8 ............. Accepts coins 0 and 8
9 ............. Accepts coins 0 and 9
10 ........... Accepts coins 0 and 10
11 ........... Accepts coins 0 and 11
12 ........... Accepts coins 0 and 12
13 ........... Accepts coins 0 and 13
14 ........... Accepts coins 0 and 14
15 ........... Accepts all coins
```

NOTE: The Exact Change Group will only be applied when the "Use Correct Change" light is ON. When the light is OFF, all coins in the coin set are accepted.

SECTION 3: CONFIGURATION

Display Mode

The 800 Series changer is equipped with a four-digit, seven-segment display, located on the acceptor gate. The Display Mode is utilized via the four Inventory Buttons also located on the acceptor gate (see Figure 6).

This Display Mode is used to read information as well as to set different options including price settings and tube float levels.

The Display Mode may be entered by activating Inventory Buttons A and D simultaneously. In response, the display will turn on the message "- - - -". Button activation will be recognized only if longer than 0.5 seconds. Once you have entered the Display Mode, Inventory Buttons A through D are used to move through the addresses as follows:

Button A .... ESCAPE
Button B .... INCREASE
Button C .... ENTER
Button D .... DECREASE

EXAMPLE: Simultaneously press A and D to enter Display Mode. Press B to increase (scroll) through the various addresses. Once you have reached the address you need to access, press Button C to enter the address. Use either Inventory Buttons B or D to increase or decrease the address values as needed. Press Button C again to return to the Address Display. Press A to exit the Display Mode.

You will exit the Display Mode if one of the following procedures is performed:
1. No Inventory Buttons are pressed or coins are dropped for more than 45 seconds;
2. Depressing the A Button until the Display Mode is exited;
3. Automatic exit after hardware reset.

800 Series Changer
DIGITAL DISPLAY

Figure 6

DIGITAL DISPLAY
(Normal Operating State)

Indicates Power is ON

Indicates Float Level Is Set On At Least One Tube

Indicates At Least One Coin Is Enabled
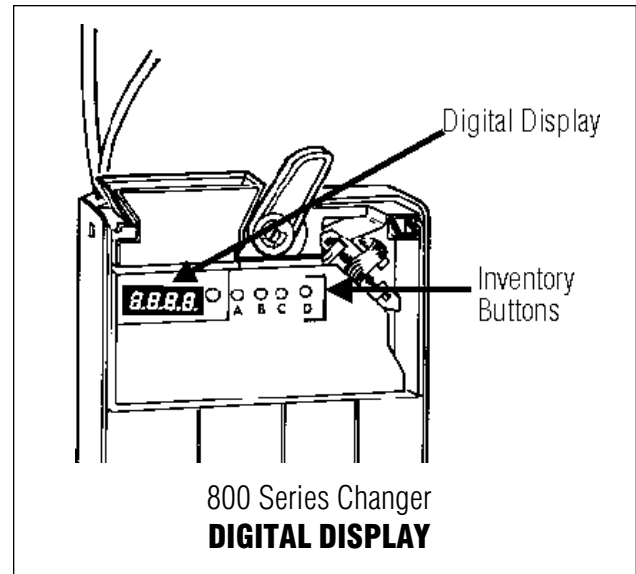
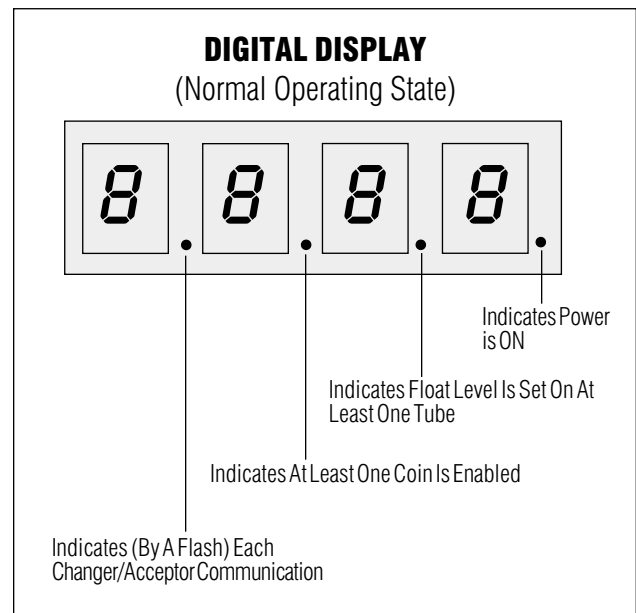Indicates (By A Flash) Each Changer/Acceptor Communication

Figure 7

NOTE: All addresses in the Display Mode can be made "Read Only" (disabled) via Global Support Tools (see separate Global Support Tools manual for further information).

NOTE: If power is removed from the changer before the Display Mode is exited, the changes may not be saved.

SECTION 3: CONFIGURATION

Reading Audit Information
Protocol A and Single-/Four-Price Models Only

By reading Audit Information, you can gain valuable information about your vendor's performance. Audit information is retrieved via the Digital Display by performing the following steps:

1. Enter the Display Mode (see "Display Mode" section of this manual).
2. Press C. In response, the display will show Address 1.
3. Press B or D to scroll to the desired audit address (see Audit Information Addresses).

4. Press C to view the upper four digits of the displayed address. Press C again to view the lower four digits, including the decimal point (if any). *EXAMPLE: 10,480.20 would be displayed as 0104 in the upper four digits followed by 80.20 in the lower four digits.*
5. Press C again to return to the Address Display.
6. Press A to exit to the "- - - -" message.

NOTE: Audit Information is "read only" and cannot be reset via the Digital Display.

NOTE: Free vends issued directly from the vending machine are not audited by the changer.

DIGITAL DISPLAY
AUDIT INFORMATION ADDRESSES

Y=Yes
N=No
R=Read Only

ADDRESS	FIELD	DESCRIPTION	APPLIES TO:				
			MDB	S/F	A	L/L+	BDV
1	Cash To Tubes	Total Value of Coins Routed To Tubes.	N	Y	Y	N	N
2	Cash To Cashbox	Total Value of Coins Routed To Cashbox.	N	Y	Y	N	N
3	Dispensed Cash	Total Value Dispensed.	N	Y	Y	N	N
4	Inventoried Cash	Total Value Dispensed Using Inventory Buttons	N	Y	Y	N	N
5	Overpay Value	Change Lost.	N	Y	Y	N	N
6	Vend Value	Total Value of All Vends.	N	Y	Y	N	N
7	Exact Change Vend Value	Value of Vends Taken When "Use Correct Change" Light is Illuminated.	N	Y	Y	N	N
8	Discount Value	Actual Value of Discount Given.	N	N	Y	N	N
9	Token Value	Value of Vends From Tokens.	N	N	Y	N	N
10	Prepaid Card Value	Value Taken From Prepaid Cards	N	N	Y	N	N
11	Total Vends for Price 1	Count of Vends for Price 1	N	Y	Y	N	N
12	Total Vends for Price 2	Count of Vends for Price 2	N	Y	Y	N	N
13	Total Vends for Price 3	Count of Vends for Price 3	N	Y	Y	N	N
14	Total Vends for Price 4	Count of Vends for Price 4	N	Y	Y	N	N
15	Total Vends for Price 5	Count of Vends for Price 5	N	N	Y	N	N
16	Total Vends for Price 6	Count of Vends for Price 6	N	N	Y	N	N
17	Total Vends for Price 7	Count of Vends for Price 7	N	N	Y	N	N
18	Total Vends for Price 8	Count of Vends for Price 8	N	N	Y	N	N
19	Total Vends for Price 9	Count of Vends for Price 9	N	N	Y	N	N
20	Total Vends for Price 10	Count of Vends for Price 10	N	N	Y	N	N
21	Total Slugs Rejected	Count of Number of Invalid Coins	N	Y	Y	N	N

SECTION 3: CONFIGURATION

ADDRESS	DESCRIPTION	OPTIONS	APPLIES TO:				
			MDB	**S/F**	**A**	**L/L+**	**BDV**
1	Price 1	Value	N	Y	Y	N	N
2	Price 2	Value	N	Y	Y	N	N
3	Price 3	Value	N	Y	Y	N	N
4	Price 4	Value	N	Y	Y	N	N
5	Price 5	Value	N	N	Y	N	N
6	Price 6	Value	N	N	Y	N	N
7	Price 7	Value	N	N	Y	N	N
8	Price 8	Value	N	N	Y	N	N
9	Price 9	Value	N	N	Y	N	N
10	Price 10	Value	N	N	Y	N	N
11	Maximum Change	Value	N	N	Y	N	N
12	Discount Award (increase in credit when discount trigger reached)	Value	N	N	Y	N	N
13	Discount Trigger	Value	N	N	Y	N	N
14	Exact Change Accept Group	0 Accepts only coins 0 1 Accepts coins 0 and 1 2 Accepts coins 0 through 2 3 Accepts coins 0 through 3 4 Accepts coins 0 through 4 5 Accepts coins 0 through 5 6 Accepts coins 0 through 6 7 Accepts coins 0 through 7 8 Accepts coins 0 through 8 9 Accepts coins 0 through 9 10 Accepts coins 0 through 10 11 Accepts coins 0 through 11 12 Accepts coins 0 through 12 13 Accepts coins 0 through 13 14 Accepts coins 0 through 14 15 Accepts all coins	N	Y	Y	Y	N

SECTION 3: CONFIGURATION

ADDRESS	DESCRIPTION	OPTIONS	APPLIES TO:				
			MDB	S/F	A	L/L+	BDV
15	Multi-vend/card revaluation	Card Revaluation OFF 0 Single-vend, Credit Limit 1 Multi-vend, Credit Limit 2 Single-vend, Price Limit 3 Multi-vend, Price Limit Card Revaluation ON 4 Single-vend, Credit Limit 5 Multi-vend, Credit Limit 6 Single-vend, Price Limit 7 Multi-vend, Price Limit	N	N	Y	N	N
16	Coin Return	0 Coin Return Allowed 1 Coin Return Disallowed	N	Y	Y	Y	N
19	Peripheral and Checksum	No Card Reader 0 Checksum OK 1 Checksum Error Card Reader Installed 4 Checksum OK 5 Checksum Error	N	N	Y	N	N
20	Bill Pulse Value	Value	N	Y	N	N	N
21	Four-Price Vend Time Out	Programmable 4-20 seconds	N	Y	N	N	N
22	L+ Mode Enabled	0 L Mode 1 L+ Mode	N	N	N	Y	N
23	L+ Alternate Coins Enabled	0 3 Lowest Tube Coins 1 Use Programmed Coins	N	N	N	Y	N
24	L+ Programmed Left Coin Tube	0-15 Coins 0-12	N	N	N	Y	N
25	L+ Programmed Right Coin Tube	0-15 Coins 0-12	N	N	N	Y	N
26	L+ Programmed M Coin Tube	0-15 Coins 0-12	N	N	N	Y	N
27	L/L+ Full Buffer Mode	0 Normal Buffer Mode 1 Full Buffer Mode	N	N	N	Y	N
28	4th Tube Routing Reporting	0 Cashbox Sorting Always Reported 1 Accurate Sorting Reported	N	N	N	Y	N
29	Card Scale Factor	Value	N	N	Y	N	N
30	Maximum Credit	Value	N	N	Y	N	N
32	"Use Correct Change" Value	Value	N	Y	Y	N	Y

SECTION 3: CONFIGURATION

ADDRESS	DESCRIPTION	OPTIONS	APPLIES TO:				
			MDB	S/F	A	L/L+	BDV
36	Price Holding and Display	0 Disable Price Holding and Display 2 Enable Price Holding 3 Enable Price Holding and Display	N	N	Y	N	N
42	Price Display Mode	0 Disable 1 Enable	N	Y	N	N	N
43	Keep Change Mode	0 Disable 1 Enable	N	Y	N	N	N
44	Four-Price Mode	0 Single-Price Mode 1 Four-Price Mode	N	Y	N	N	N
45	Single Vend Until Escrow	0 Pulse Vend 1 Vend Holding	N	Y	N	N	N
46	Alternate "Use Correct Change" Value	0 Programmed Value 1 Use (highest price plus highest coin)	N	Y	N	N	N
47	Mode Switch Disabled	0 Enable Mode Switch 1 Disable Mode Switch	N	R	N	N	N
48	Price/Option Set Disabled (affects Addresses 1-99 only)	0 Enable Changes From Digital Display 1 Disable Changes From Digital Display	N	R	R	R	R
74-89	Token Values (Types A-P)	Value	N	N	Y	N	N
100	Set or Clear All Float Levels	0 Clear All Float Levels 1 Set Standard Float Levels for all 4 Tubes 2 Set Float Pay-down Levels for all 4 tubes 3 Indicates Float Levels Have Been Set Individually For 1-3 Tubes	Y	Y	Y	Y	Y
101	Tube D Float Level Setting	0 Disable Float Level 1 Enable Standard Float 2 Enable Float Pay-down	Y	Y	Y	Y	Y
102	Tube C Float Level Setting	0 Disable Float Level 1 Enable Standard Float 2 Enable Float Pay-down	Y	Y	Y	Y	Y
103	Tube B Float Level Setting	0 Disable Float Level 1 Enable Standard Float 2 Enable Float Pay-down	Y	Y	Y	Y	Y

SECTION 3: CONFIGURATION

ADDRESS	DESCRIPTION	OPTIONS	APPLIES TO:				
			MDB	**S/F**	**A**	**L/L+**	**BDV**
104	Tube A Float Level Setting	0 Disable Float Level 1 Enable Standard Float 2 Enable Float Pay-down	Y	Y	Y	Y	Y
105	Payout Method	0 Least Coin 1 Enhanced Method	Y	Y	Y	Y	Y
110-125	Validation Acceptance Level Coins 0-15	1 Improved Slug Protection 7 Factory Setting 10 Improved Coin Acceptance	Y	Y	Y	Y	Y
130-145	Coins 0-15 Routing Information (Reject Coin, Tubes A, B, C, D or cashbox)	0 Disabled 1 Tube A 2 Tube B 3 Tube C 4 Tube D 5 Cashbox	Y	Y	Y	Y	Y
146	Tube "A" as duplicate of ...	0 No duplicate tube found 2 Tube B 3 Tube C 4 Tube D	Y	Y	Y	Y	Y
147	Tube "B" as duplicate of ...	0 No duplicate tube found 1 Tube A 3 Tube C 4 Tube D	Y	Y	Y	Y	Y
148	Tube "C" as duplicate of ...	0 No duplicate tube found 1 Tube A 2 Tube B 4 Tube D	Y	Y	Y	Y	Y
149	Tube "D" as duplicate of ...	0 No duplicate tube found 1 Tube A 2 Tube B 3 Tube C	Y	Y	Y	Y	Y
150-165	Coins 0-15 Values	Read Only	R	R	R	R	R
190	Scaling Factor	Read Only	R	R	R	R	R
191	Decimal Point Value	0 0000 1 000.0 2 00.00 3 0.000	R	R	R	R	R
201	Factory Tune Status	0 Factory Coin Handling Info Has Been Changed 1 Factory Coin Handling Info Has Not Been Changed (Restores Factory Coin Handling Info)	Y	Y	Y	Y	Y

SECTION 3: CONFIGURATION

Changing The Coin Tubes

REMOVING/REPLACING THE TUBES
To remove the coin tubes, remove the acceptor and then remove the grey, smoked front cover by spreading out the right side of the changer housing just enough to disengage the side snaps. Remove the four inventory tubes one at a time by pulling upward. Replace the coin tubes by inserting the dove tail guides into the tube holes and pushing inward and downward.

ABOUT THE SHIMS
The coin tubes in your COINCO GLOBAL® changer utilize six interchangeable shims to accommodate variable thicknesses of coins. These shims are color-coded. Enclosed with this manual is a Coin Set insert sheet which outlines the different tube/shim/coin combinations which are possible for your particular coin set. Shims are removed and replaced by sliding in or out of the bottom of the coin tube.

NOTE: Do not reuse shims. Continuous installation and removal can stress the plastic, causing the shims to lose their ability to stay firmly in place.

Rerouting The Coins
Having consulted the Coin Set insert sheet and changed the coin tubes, the coin routing needs to be reconfigured via the Digital Display using Addresses 130-145.

CAUTION: If a coin is rerouted to a new tube, the coin that was previously assigned to that tube must also be rerouted.

EXAMPLE: Coin type 0 has always been routed to Tube C. Coin type 1 is rerouted to Tube C. Coin Type 0 must now be rerouted to another tube or to the cashbox (unless the value and dimensions of both coins allow them to be routed to the same tube).

To configure the coin tubes via the Digital Display, follow these steps:
1. Enter the Display Mode (see "Display Mode" section of this manual).
2. Press B to scroll up to the Address of the Coin Type you need to reroute (see "Digital Display General Use Addresses) chart."
3. Press C to enter the Address.
4. Use buttons B (increase) or D (decrease) to change Address to the appropriate value. By changing the option on the Address of a particular coin type, you are changing which tube that particular coin will go to.
5. Press C to enter the new routing information.
6. Repeat Steps 2-5 for the remaining coins you wish to reroute.
7. Once all necessary changes have been made, press A to exit the Display Mode.

SECTION 3: CONFIGURATION

EXAMPLE: The COINCO GLOBAL® changer is configured as follows:
Coin Type 0 goes to Tube A
Coin Type 1 goes to Tube B
Coin Type 2 goes to Tube C
Coin Type 3 goes to Tube D
Remaining Coin Types 4-15 go to Cashbox.

BUT, Coin Type 6 is rerouted to Tube A.

Enter the Display Mode. Press B to scroll up to Address 137 (Coin Type 6). Press C to enter the Address. Set the value to "1" ('go to Tube A'). Coin Type 6 is now rerouted to Tube A. Press C to enter.

Don't forget, Coin Type 0 must also be rerouted. Press D to scroll down to Address 130 (Coin Type 0). Press C to return to the Address Display. Set the value to "5" ('go to Cashbox'). Press C to enter and A to exit the Display Mode.

NOTE: Accepted coins not assigned to a specific tube OR unused addresses (130-145) should be set to "5" (cashbox).

NOTE: Coins not accepted but included in the design should be set to "0" (disabled).

NOTE: If the least value coins are disabled, the vend prices will change since they are based on the least value coin enabled.

Paying Out Additional Coins of the Same Value

If you wish to configure your changer with more than one payout tube of the same coin, refer to the General Use Address List (addresses 146-149) found in this manual.

To add an additional payout tube of the coin presently dispensed from the "A" tube position, choose the new tube position(s) (B, C or D) and make any mechanical changes necessary to accomodate the duplicated coin (see "Changing the Coin Tubes" section of this manual). Using the General Use Address table, locate the address of the tube position you intend to change, enter the Display Mode, press "B" to scroll to the address then "C" to read the present setting. Using button B or D, select the appropriate setting of the tube you wish to duplicate.

EXAMPLE: To add another tube of coins the same as the tube "A" coins (assuming we want to place the additional coins in the tube "B" position), scroll to address 147 and enter "1" into the address (1=tube A). This would now begin routing the same coin, originally only in tube A, to both tube A and tube B. The coin originally routed to tube B would then be automatically sent to the cash box.

If more tubes of the same coin are required, repeat this procedure for each tube address.

SECTION 4: MAINTENANCE

Routine Maintenance

Routine maintenance will improve performance and extend the working life of your COINCO GLOBAL® changer and reduce the need for more involved repairs. Frequency of maintenance will depend on environment and number of transactions. For normal environments, cleaning is recommended every six months. However, in harsh environments with lots of dirt and dust, cleaning is recommended every three months.

The coin changer should be kept in its original shipping carton when not in use. This will keep the changer clean and offer the best protection for the unit.
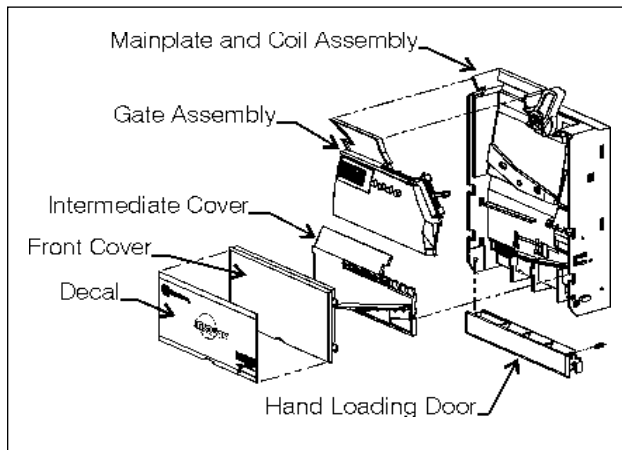

Figure 8

Cleaning

A majority of your COINCO GLOBAL® changer is manufactured from a high-quality plastic, which should only be cleaned with a warm water and mild detergent solution.

CAUTION: • Never submerge unit in water.
• Do not use petroleum solvents, steel wool, scouring pads, or a metal brush for cleaning.
• Do not spray any part of the changer with any type of lubricant.

Since all coins share a common coin ramp, heavy usage or a dirty environment can result in dirt build-up. To clean the coin ramp, lift the acceptor gate upward and diagonally to the right. Hold gate to prevent it from snapping back. Wipe the exposed coin ramp and inner surface with a damp cloth, being cautious not to harm the coin stabilizer (a thin piece of polyester film). If the coin stabilizer looks buckled, wrinkled or is not firmly adhered to the changer, replace it at this time.

NOTE: Not all COINCO GLOBAL® changers are equipped with a coin stabilizer.

For detailed cleaning of the acceptor, remove the front cover by opening the coin tube loading door and wedging thumb underneath front cover. To remove cover, push out and up. Next, remove the intermediate cover by depressing snap on right side and pivot intermediate cover away from unit. You are now able to fully clean both the intermediate cover (paying particular attention to the mirrored surface), as well as the interior coin rail and gates. (Use caution when removing the metal debouncer. Due to it's small size, it can be easily misplaced.) Reassemble front of acceptor in reverse order of disassembly.

SECTION 4: MAINTENANCE

Removing/Replacing Individual Modules

Modular assembly replacement provides the basis of all COINCO GLOBAL® series changer repair. Instructions for removing and replacing modules are provided below. These modules should be removed in the following sequence:

ACCEPTOR

To remove the acceptor from the changer, release the acceptor latch and pull the top of the acceptor forward, away from the changer. Unplug ribbon cable from changer. Free lower acceptor studs from changer housing.

UPPER TUBE SENSE BOARD

Remove the front cover by spreading out the right side of changer housing just enough to disengage side snaps. Remove the four inventory tubes one at a time by pulling upward. Remove strain relief bracket, which is located in the upper left corner of changer housing, by removing screw. Remove recessed screw that secures logic board cover and remove cover. Push snap toward top of housing and remove upper tube sense board (which will separate from main logic board upon removal).

PAYOUT BASE

Disconnect the two motor harnesses and the tube sense harness. Remove the screws from the bottom, exterior sides of the changer housing and remove payout base.

MAIN LOGIC BOARD ASSEMBLY

Unplug harnesses from logic board and lift the logic board out of the housing.

Clearing Coin Jams

Should a coin jam occur in the cash box chute area, use the following steps to help dislodge coins:

1. Remove changer from vendor.
2. Keeping changer in an upright position, remove cash box chute (located on the back of the changer) by pulling lower edge out and down at the same time.
3. Remove any lodged coins.
4. Replace the cash box chute by pressing in and up to snap into place.

SECTION 5: TROUBLESHOOTING

Error Codes

Upon entering the Display Mode. If a single error is detected in the changer, the error code will be displayed in place of the "- - - -" message. If there is more than one error, the codes will alternate one after the other in place of the "- - - -" message.

"- - - -" .... No Errors
"E001" .... Validation Sensors Error
"E002" .... Tube Sensors Error
"E003" .... Coin Jammed
"E004" .... Payout Error
"E005" .... ROM Error
"E006" .... Configuration Error

Diagnostics

When the coin return lever is depressed or a coin is dropped, both the decimals points (Figure 9) and the four digits (Figures 10 and 11) are used to communicate various diagnostic conditions as follows:
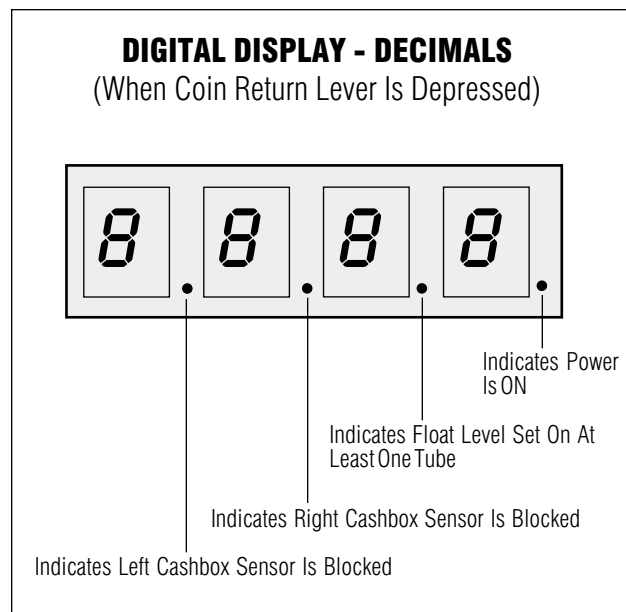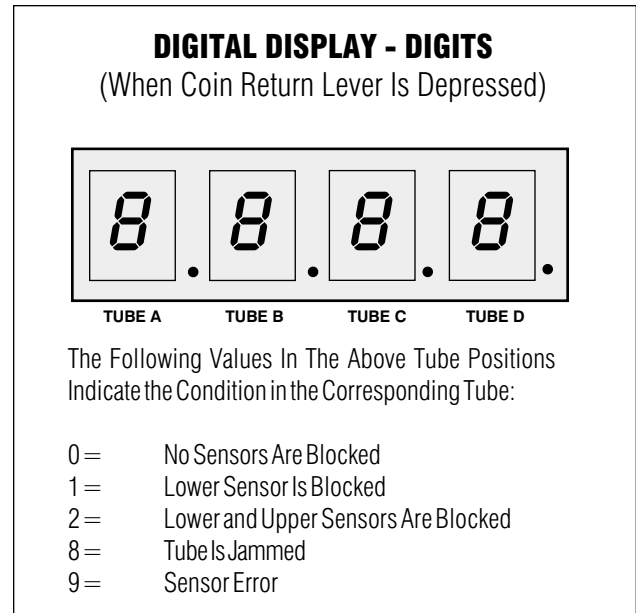
DIGITAL DISPLAY - DECIMALS
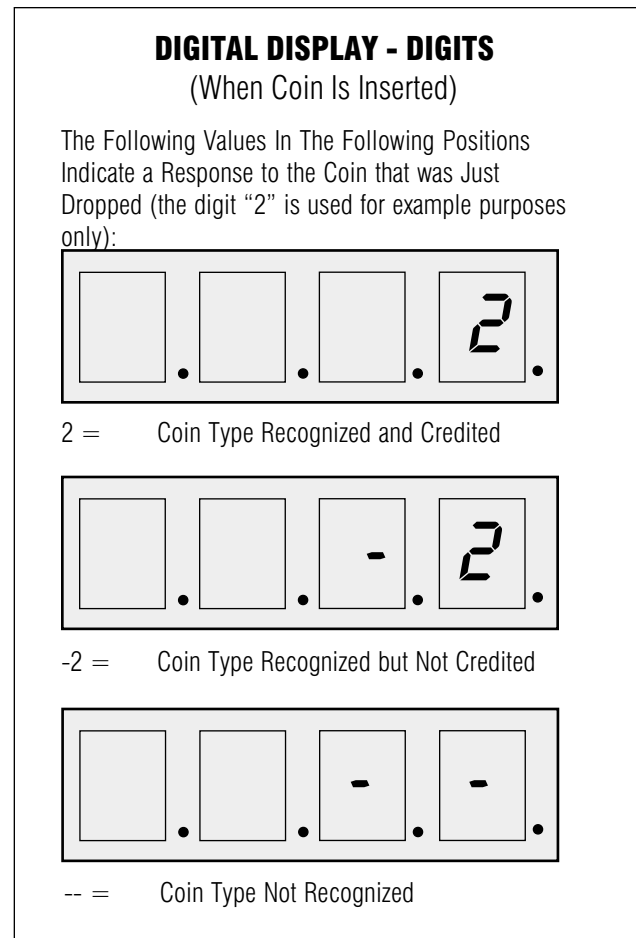(When Coin Return Lever Is Depressed)

Indicates Power Is ON

Indicates Float Level Set On At Least One Tube

Indicates Right Cashbox Sensor Is Blocked

Indicates Left Cashbox Sensor Is Blocked

Figure 9

DIGITAL DISPLAY - DIGITS
(When Coin Return Lever Is Depressed)

TUBE A   TUBE B   TUBE C   TUBE D

The Following Values In The Above Tube Positions Indicate the Condition in the Corresponding Tube:

0 =   No Sensors Are Blocked
1 =   Lower Sensor Is Blocked
2 =   Lower and Upper Sensors Are Blocked
8 =   Tube Is Jammed
9 =   Sensor Error

Figure 10

DIGITAL DISPLAY - DIGITS
(When Coin Is Inserted)

The Following Values In The Following Positions Indicate a Response to the Coin that was Just Dropped (the digit "2" is used for example purposes only):

2 =   Coin Type Recognized and Credited

-2 =   Coin Type Recognized but Not Credited

-- =   Coin Type Not Recognized

Figure 11

SECTION 5: TROUBLESHOOTING

Troubleshooting Guide

TROUBLE	POSSIBLE CAUSE	PROCEDURE	REMEDY
No coin acceptance	No power	Make sure changer is plugged into vendor.	Plug changer into into vendor.
	Acceptor	Check power/blocker LED behind acceptor. If LED is on, replace acceptor.	Replace acceptor.
		If still no coin acceptance,	Replace changer's main logic board.
		If still no coin acceptance,	Replace changer's main power harness.
		If LED is off, check to see that acceptor cable and changer power harness are properly connected to changer's main logic board.	Plug acceptor cable and/or changer power harness into changer main logic board.
		If still no coin acceptance,	Replace changer's main logic board.
		If still no coin acceptance,	Replace changer's main power harness.
	Low Power.	Flashes "20" on display when coin is dropped.	Check power source.
	Vend price is set to 0.	Set vend price (see "Setting the Vend Price" sections of this manual.	
No Coin Acceptance or Rejects Percentage of Good Coins	Coin Return Lever	Make sure changer is mounted correctly and coin return lever is in proper position	Reposition changer and/or vendor coin return lever.
	Acceptor is dirty or foreign matter in coin accept path	Check to see that acceptor coin path is clean and free of matter	Clean acceptor and remove any foreign matter.
		If still rejects good coins,	Replace acceptor.
		If still rejects good coins,	Replace changer's main logic board .
Accepts Coins But Gives No/Or Erratic Credit	Acceptor	Replace acceptor with good acceptor and test to see if changer functions properly.	Replace defective acceptor.
		If still no/erratic credit,	Replace changer's main logic board.
		If still no/erratic credit,	Replace changer's main power harness.

SECTION 5: TROUBLESHOOTING

Troubleshooting Guide

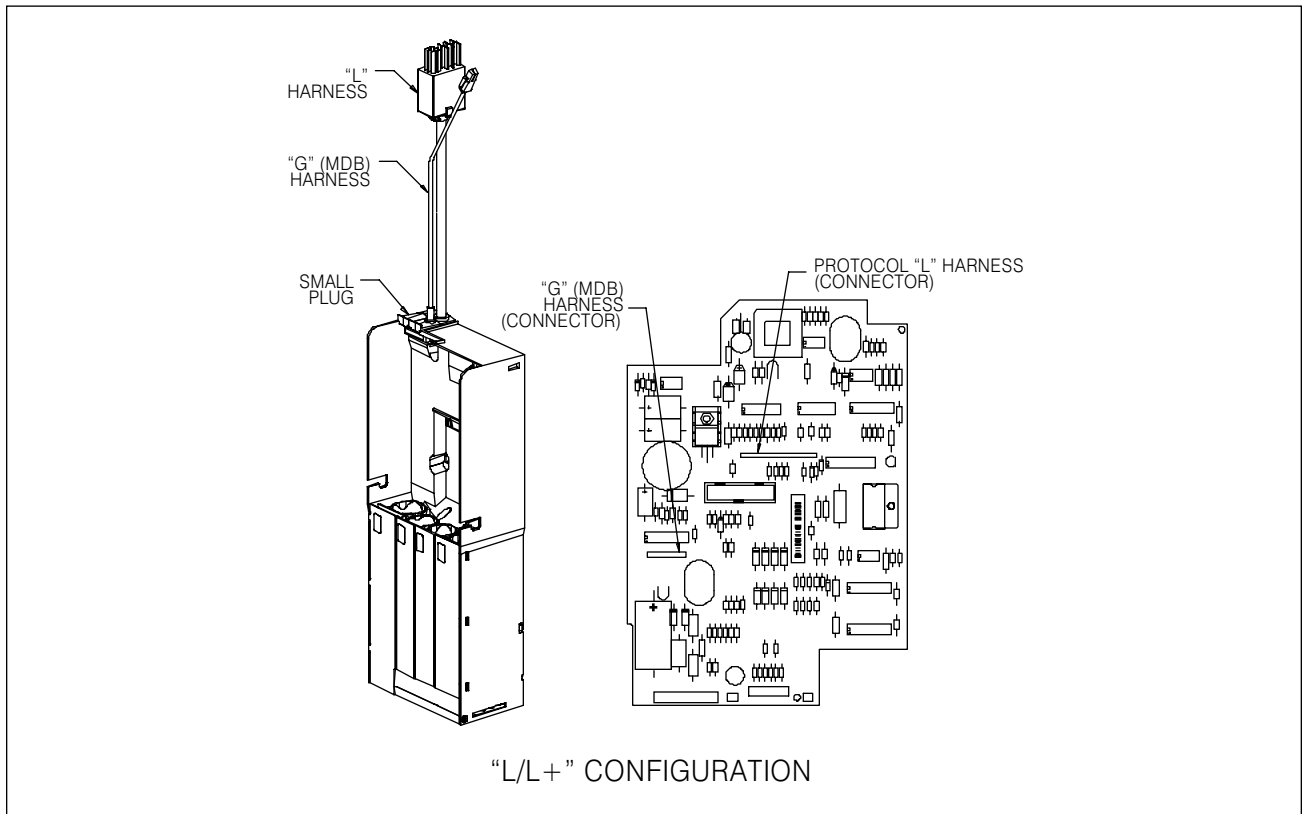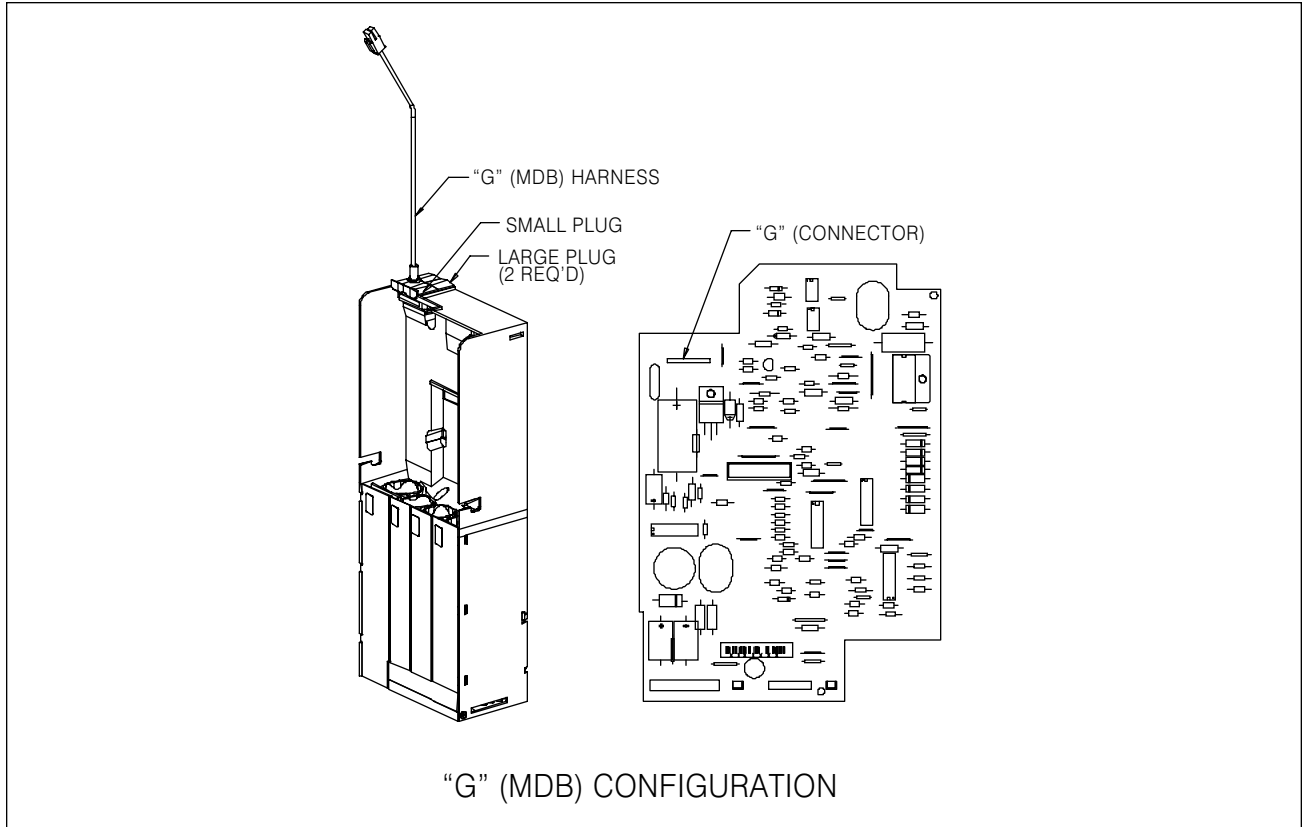| TROUBLE	POSSIBLE CAUSE	PROCEDURE	REMEDY
Accepted Coins Always Go To Cashbox	Tube Sensor Board or Acceptor	Check the sensor board for loose components. Make sure tube sensor board is properly secured to main logic board. Check cable from sensor board for damage or improper connection.	Replace tube sensor board.
		If coin still goes to cashbox, replace acceptor with good acceptor and test to see if changer functions properly.	Replace acceptor.
		If coin still goes to cashbox,	Replace changer's main logic board.
	Coin Routing	Check that coins are routed to tubes.	See "Rerouting the Coins."
Accepted Coins Always Go To Coin Tubes	Coin tube gate is in the open position	Remove acceptor back cover and check solenoid for free operation.	Replace acceptor.
	Tube Sensor Board	Replace tube sensor board with good board and test to see if changer functions properly.	Replace tube sensor board.
		If coins still go to tubes,	Replace changer's main logic board.
Changer Credits Coins But Does Not Escrow	Coin return lever	Make sure changer is mounted correctly and acceptor gate opens when vendor coin return lever is operated.	Reposition changer and/or vendor coin return lever.
	Acceptor	Replace acceptor with good acceptor and test to see if changer operates correctly.	Replace defective acceptor.
	Switch 9 is ON – escrow is inhibited.	Uninhibit the escrow feature.	Turn switch 9 OFF and press the Mode Switch.
No Payout	Payout Motor	Make sure motor wires are properly connected to changer's main logic board.	Plug motor wires into logic board.
		If still no payout, replace motor with good motor and test to see if changer operates properly.	Replace defective payout motor.

SECTION 6: EXPLODED VIEWS

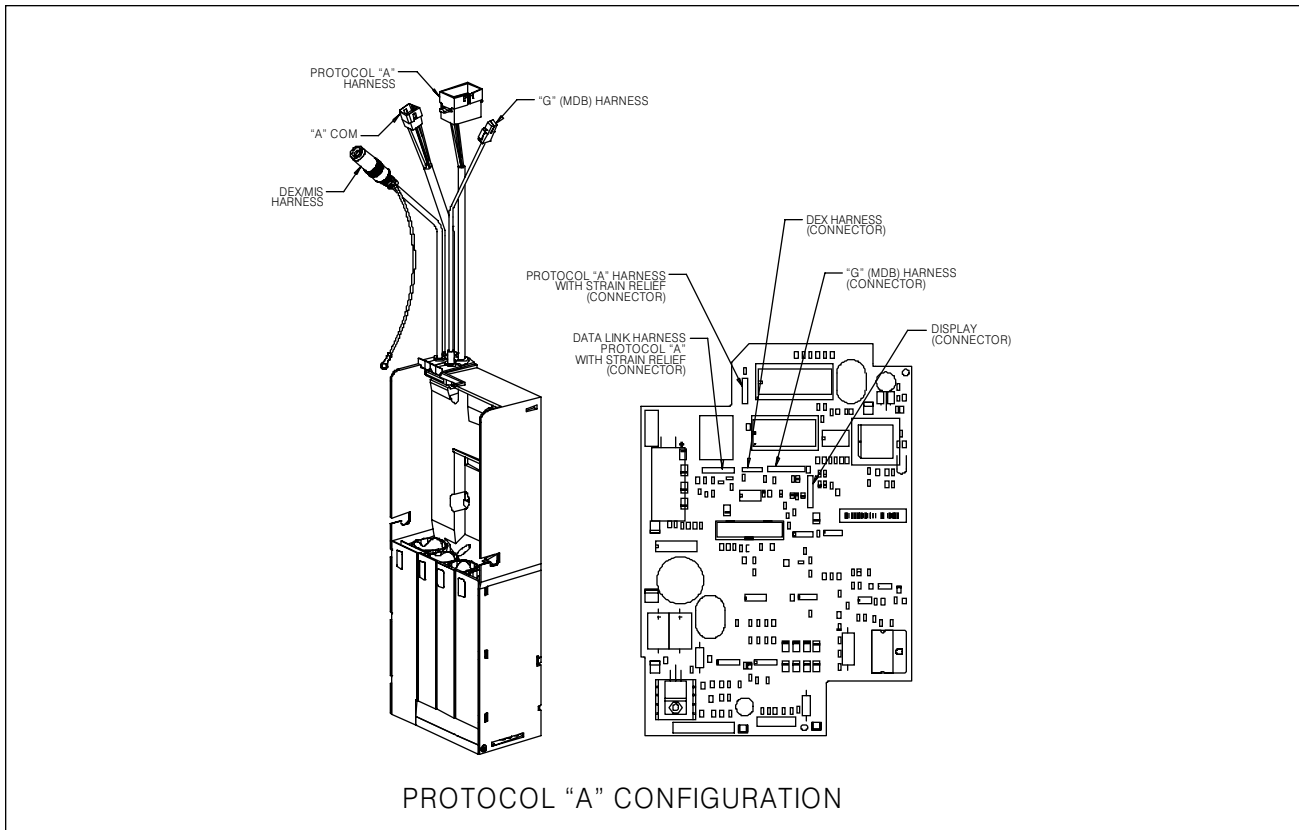## 800 Series Dimensional View
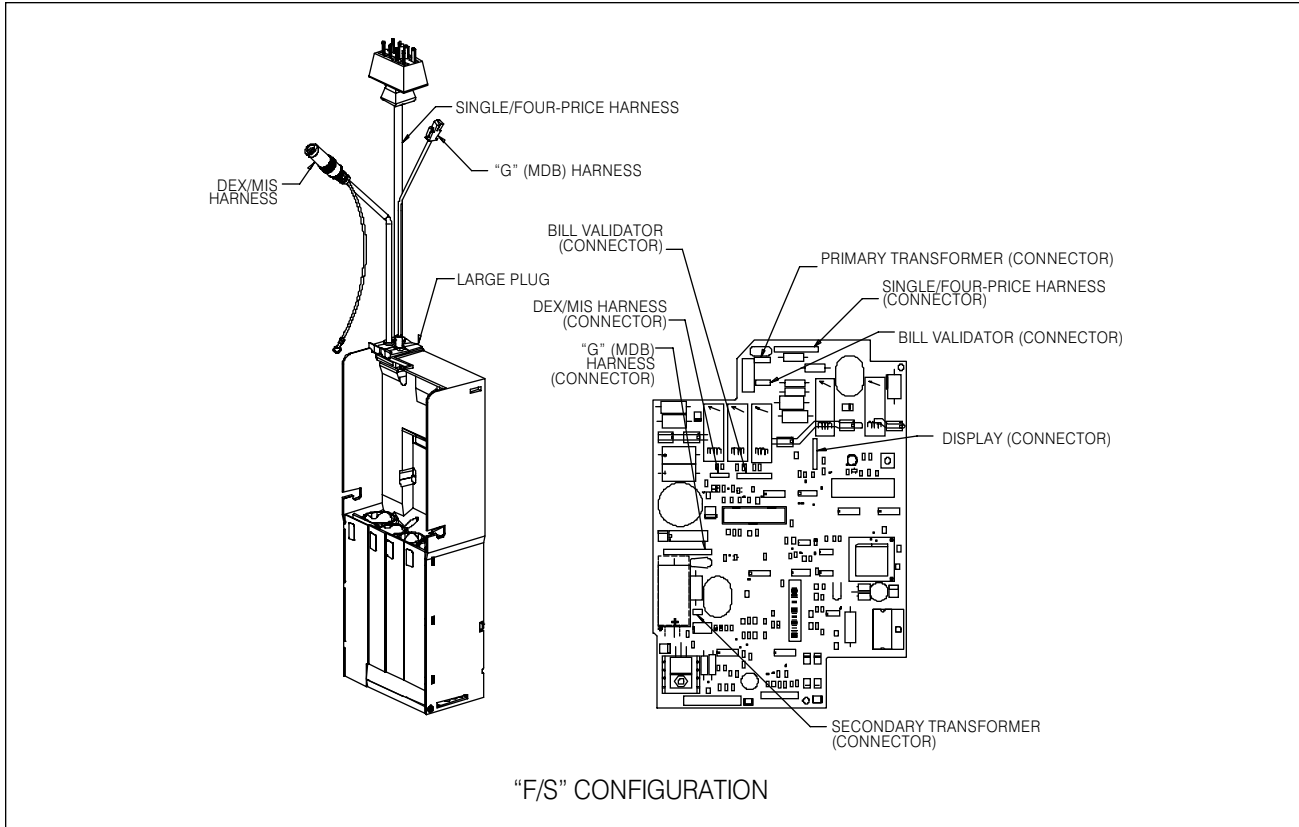*ALL MEASUREMENTS ARE SHOWN IN CENTIMETERS*

SECTION 6: EXPLODED VIEWS

700/800 Series Harness and Logic Board Configuration

"G" (MDB) HARNESS

SMALL PLUG

LARGE PLUG (2 REQ'D)

"G" (CONNECTOR)

"G" (MDB) CONFIGURATION

"L" HARNESS

"G" (MDB) HARNESS

SMALL PLUG

"G" (MDB) HARNESS (CONNECTOR)

PROTOCOL "L" HARNESS (CONNECTOR)

"L/L+" CONFIGURATION

SECTION 6: EXPLODED VIEWS

700/800 Series Harness and Logic Board Configuration

SINGLE/FOUR-PRICE HARNESS

"G" (MDB) HARNESS

DEX/MIS HARNESS

BILL VALIDATOR (CONNECTOR)

PRIMARY TRANSFORMER (CONNECTOR)

LARGE PLUG

SINGLE/FOUR-PRICE HARNESS (CONNECTOR)

DEX/MIS HARNESS (CONNECTOR)

BILL VALIDATOR (CONNECTOR)

"G" (MDB) HARNESS (CONNECTOR)

DISPLAY (CONNECTOR)

SECONDARY TRANSFORMER (CONNECTOR)

"F/S" CONFIGURATION

PROTOCOL "A" HARNESS

"G" (MDB) HARNESS

"A" COM

DEX/MIS HARNESS

DEX HARNESS (CONNECTOR)

PROTOCOL "A" HARNESS WITH STRAIN RELIEF (CONNECTOR)

"G" (MDB) HARNESS (CONNECTOR)

DISPLAY (CONNECTOR)

DATA LINK HARNESS PROTOCOL "A" WITH STRAIN RELIEF (CONNECTOR)

PROTOCOL "A" CONFIGURATION