

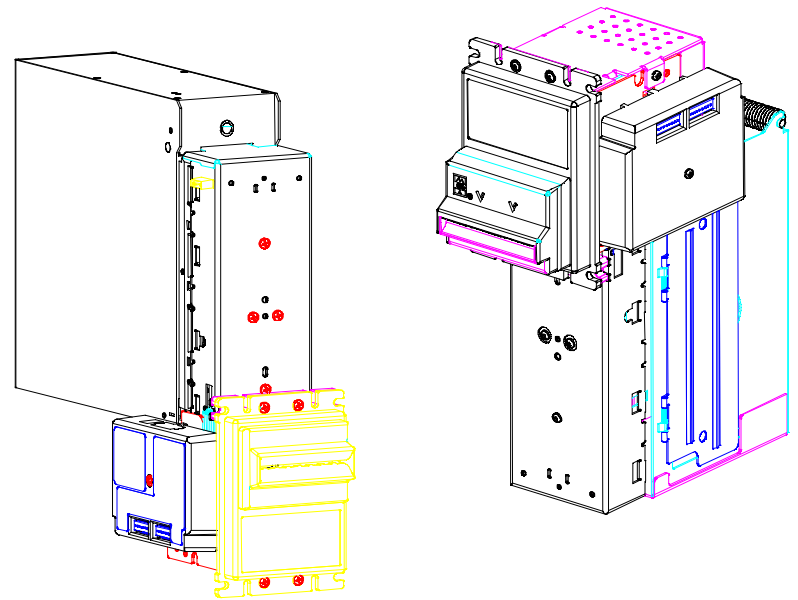
# MARS<sup>®</sup> Bill Acceptor *Series 3000*

## RS3000 SERIES BILL ACCEPTORS

---

### INSTALLATION GUIDE

---



---

## TABLE OF CONTENTS

---

If you have any questions please contact MEI via the following:

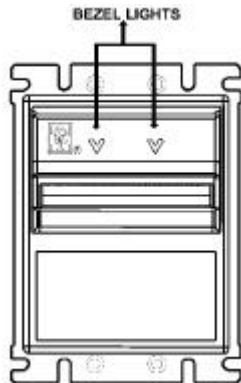
- ◆ Customer Service 1-800-345-8215
- ◆ Technical Support 1-800-345-8172
- ◆ Repair Service 1-800-634-1365
- ◆ [meiglobal.com](http://meiglobal.com)

General information	Page 3
Option Switches	Page 4
Setting Option Switches	Page 5
Mounting the Bill Acceptor	Page 6
Check Operation	Page 7
Coupon Configuration	Page 8,9
Notes	Page 10
Address Information	Page 11
Calibration	Page 12
Trouble Shooting Section	Page 13
Dimensions	Page 14,15
Connector Information	Page 16,17
Flash Diagnostic Codes	Page 18

## Flash Diagnostic Codes

The RS3000 Bill Acceptor has two LEDs that are located on the bezel (**Coin Resistant Style Bezel units only**). The bezel lights aid in determining the status of the bill acceptor. Below is a chart that lists all the flash codes of the RS3000 Bill Acceptor and a description of each code.

FLASH CODE	DESCRIPTION OF CODE
Steady Flashing	Ready To Accept
Rapid Flashing	Magazine or Cassette Full (Remove Bills)
LEDs Off	No power to unit, unit in Flash Download Mode or unit in Calibration Mode
1	Not used
2	Disabled By Interface
3	Configuration Coupon Ready Mode
4	Bill Jam (Remove Jammed Bill)
5	Lockable Removable Cassette (LRC) Removed
6	Tamper Detected (unit will reset after 15 minutes)
7	End of Stacker Switch Blocked (Remove Blockage)
8	Bill Held in Unit (No Credit Given)
9	Needs Cleaning
10	Needs Cleaning
RAPID BLINKING	Cassette Full



## GENERAL INFORMATION

The Mars Electronics RS3000 Series Bill Acceptors are designed for use in Retail Cash Management applications. The RS3000 is designed to be used with a Standard bill magazine or Lockable Removable Cassette (LRC).

### Power Requirements

65 Watts at  
24 VAC, 60Hz  
115 VAC, 60 Hz or  
24 VDC

### Features

- Enhanced acceptance of quality bills.
- One, two or four way bill acceptance.
- Bezel lights (Coin Resistant Style Bezel units only).
- Designed for use with a Standard bill magazine or LRC.
- Uses Bi -Directional Serial Interfaces(BDS) RS232 and RS485  
*Note: a interface box is needed when using RS232 or RS485 interfaces. See Figure 1*
- Uses Non-Isolated Serial interface.
- Power supply is protected from rain and condensation.
- Optic components are sealed against contaminants.
- Gears are permanently lubricated and sealed from dirt and moisture.
- Fast transport of bill.
- Flash download software memory upgrades.

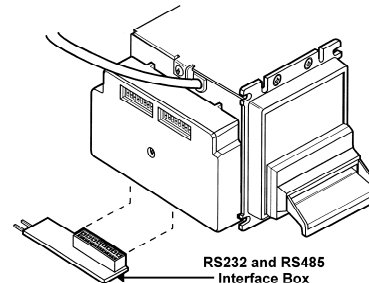


Figure 1.

## OPTION SWITCHES

The RS3000 Bill Acceptor has two banks of switches. Reference Figure 2 below for descriptions of switch settings for the RS3000. To enable addresses, move the appropriate switch on Switch Bank 1 to the ON position.

**Note: For a complete list of all addresses for the RS3000 turn to page 11 of this installation guide (Addressable Bi -Directional Serial Interface only).**

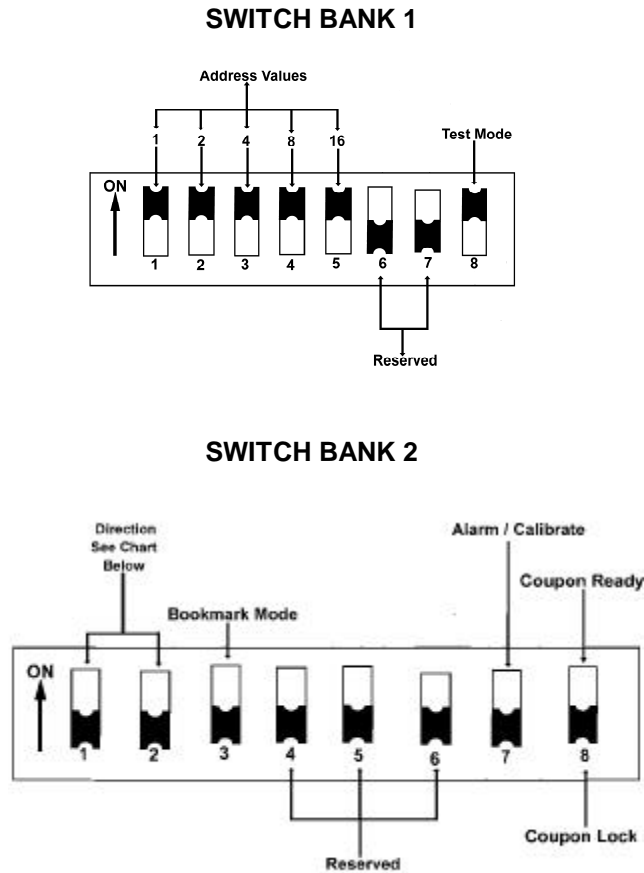


Figure 2. RS3000 Option Switches

Bill Direction	1 WAY	2 WAY	4 WAY
SWITCH 1	ON	OFF	ON
SWITCH 2	OFF	ON	ON

## CONNECTOR INFORMATION

### 18-Pin Mating Connector

AMP "MODU" 18 pin MT Receptacle  
 AMP Part #102398-7 IDC Connector Housing  
 AMP Part #102536-7 Back Cover  
 AMP Part #102681-4 Latching Front Cover  
 #22 or 24 Gauge wire recommended

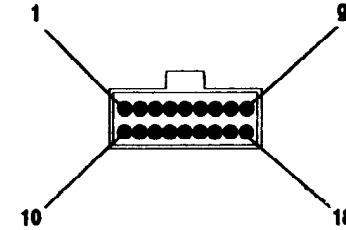


Figure 7.  
18 Pin Interface Connector

### 9-Pin Mating Connector

AMP "MATE-N-LOCK" 9 pin plug  
 AMP Part #172161-1 Shell  
 AMP Part #170364-1 Male Pin  
 #22 Gauge wire recommended

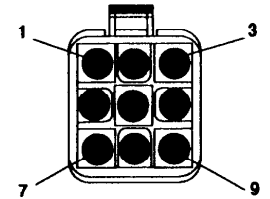


Figure 8.  
9 Pin Power Connector

### 2-Pin Mating Connector

AMP Part #770342 -1 Shell  
 AMP Part #640392 -1 Male Pin  
 #22 Gauge wire recommended

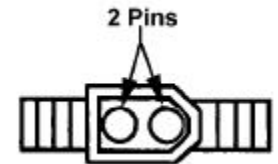


Figure 9.  
2 Pin Connector

## CONNECTOR INFORMATION

### Serial Interface

**NOTE:** Bold type indicates those connections required for Serial Interface to operate.

#### Pinout of RS3000 18-pin Connector (Figure 7.)

Pin 1 Credit Pulse ( test mode)	Pin 10 <b>Transmit Enable</b>
Pin 2 Reserved	Pin 11 <b>Serial Data Output</b>
Pin 3 Reserved	Pin 12 Reserved
Pin 4 <b>Ground</b>	Pin 13 Out-of-Service LED Power Source (200 ohm to 5VDC)
Pin 5 Reserved	Pin 14 Reserved
Pin 6 Reserved	Pin 15 Reserved
Pin 7 Reserved	Pin 16 <b>Serial Data Receive</b>
Pin 8 Reserved	Pin 17 Calibrate (Connect to GND)
Pin 9 Reserved	Pin 18 Reserved

#### Pinout of RS3000 9-pin Connector (Figure 8.)

##### 115VAC Model

Pin 1	Reserved
Pin 2	Reserved
Pin 3	Reserved
Pin 4	<b>115VAC HOT (Power)</b>
Pin 5	Reserved
Pin 6	<b>115VAC Neutral (Power)</b>
Pin 7	<b>Credit Relay, Normally Open</b>
Pin 8	<b>Credit Relay, Common</b>
Pin 9	Reserved

##### 24VAC Model

Reserved
Reserved
Reserved
Reserved
<b>24VAC HOT (Power)</b>
<b>24VAC Neutral (Power)</b>
<b>Credit Relay, Normally Open</b>
<b>Credit Relay, Common</b>
Reserved

#### Pinout of RS3000 2-pin Connector (Figure 9).

This optional connector is not biased and may be wired either way to detect the presence of the LRC.

## SETTING OPTION SWITCHES

**Note:** Disconnect AC power before setting the option switches.

- Option switches are shown on the side of the unit (See Figure 3).
- Set the switches with a small screw driver.  
**DO NOT USE A GRAPHITE PENCIL POINT.**

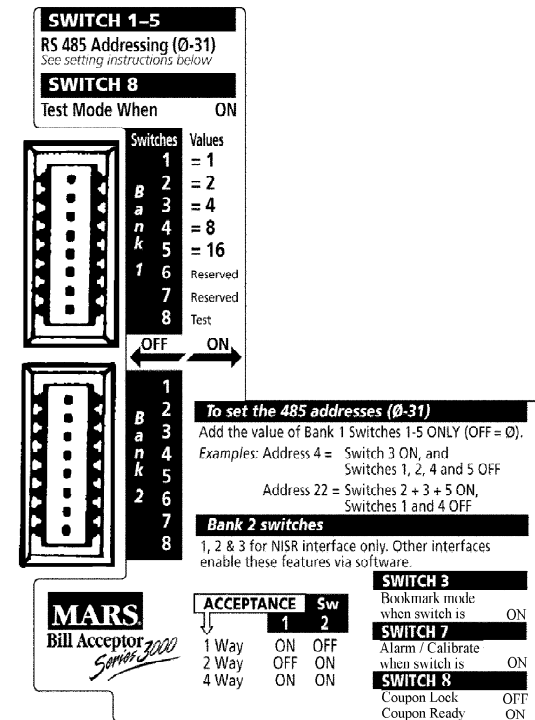


Figure 3. Setting The Option Switches

## MOUNTING THE BILL ACCEPTOR

### NOTE: REMOVE POWER BEFORE MOUNTING THE BILL ACCEPTOR

1. Connect the power harness to the 9 pin power connector of the Bill Acceptor (Figure 4). Connect the 18 pin connector of the interface harness to the 18 pin connector socket on the control board (Figure 4). Connect the 2 pin cassette present harness (if applicable) to the cassette present connector (Figure 4).

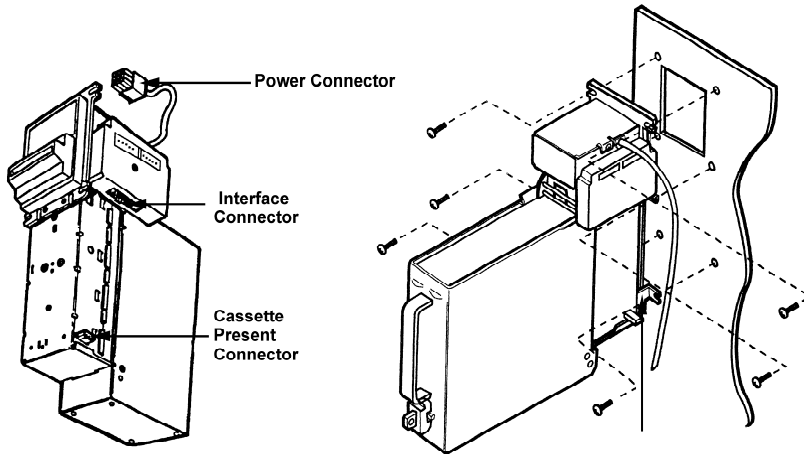


Figure 4. Mounting / Harness Connections

2. It is recommended to use a *Support Bracket* (kit # 111638145) for the stacker housing when using any cassette larger then 600 bills, see figure 4.
3. Line up the Bezel Mounting Screw Holes with the Mounting Screw Holes and install 4 Mounting Screws. Follow the same procedure for mounting the optional Support Bracket and install 2 Bezel Screws.
4. With one end of the harness connected to the Bill Acceptor, route the harness through the machine and make the necessary connections. Dress all harness wires to avoid interference with equipment operation.

## DIMENSIONS

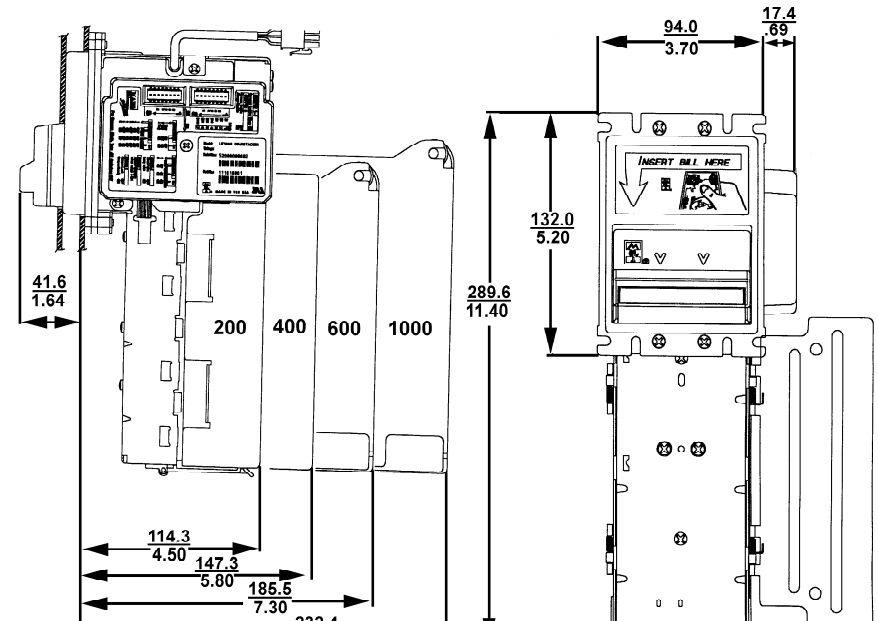


Figure 6. Dimensions for Standard Units, Front and Side View

## DIMENSIONS

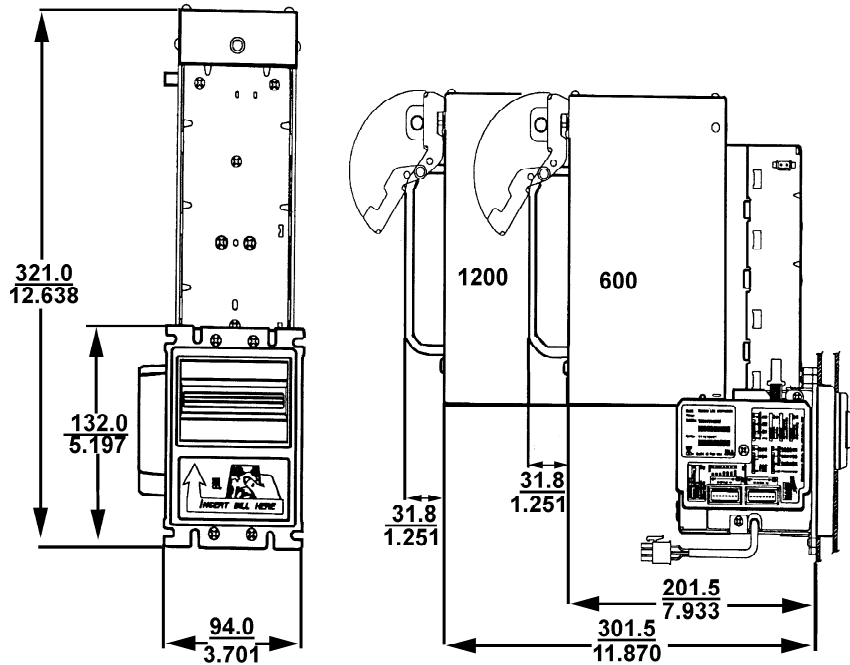


Figure 5. Dimensions for LRC Units, Front and Side View

## CHECK OPERATION

### REMOVE POWER BEFORE PERFORMING CHECKOUT PROCEDURE

Verify proper operation using instructions as provided by the equipment manufacturer.

Bill Acceptance may be tested without interfering with site accounting by using the following steps:

1. Disconnect the power harnesses from the 9 pin and the 18 pin connectors.
2. Set all DIP switches (Bank 1) to the **ON** position.
3. Connect the power harness to the 9 pin connector and apply power.
4. Verify stacker actuation and bill acceptance.
5. **REMOVE POWER**, then disconnect the power harness from the 9 pin connector.
6. Return the option switches to their original settings.
7. Connect the power harnesses to the 9 pin and the 18 pin connectors.
8. Apply power and procedure with normal operational tests.

## COUPON CONFIGURATION

### COUPON CONFIGURATION

1. **Make copies of the coupon with a standard copier.**  
Copies of the coupon are useable if cut to match the size of the attached coupon.
2. Fill out the coupon using a #2 pencil to fill in the blocks for desired options. For correct operation, all 8 lines must be completed. Fill in only one block per line. **Do not mark the back of the coupon.**
3. Complete lines 1 thru 7 to enable desired bill denominations. Fill in one block for each denomination. High Accept enables maximum bill acceptance. High security may be desired for locations where a higher level of discrimination is desired. Off will reject bills of the selected denomination.
4. Complete line 8 to enable desired bill direction. Enable 1 or 2 way face up, or 4 way acceptance (which allows acceptance in all directions).

### TO ENABLE THE COUPON CONFIGURATION MODE

1. Turn DIP switches #1 thru 7 (switch bank 1) to the **OFF** position. Turn DIP Switch #8 (switch bank 1) **ON** if the 18 pin interface harness is disconnected.
2. To enter the coupon mode turn DIP switch # 8 (switch bank 2) to the **ON** position and cycle power. After using the coupon return DIP switches #8 to their original position.

### INSERT COUPON AND VERIFY SETTINGS WERE ACCEPTED

**ACCEPTED:** If the coupon is accepted, it will be hold in escrow mode for about 3 seconds then returned.

**REJECTED:** If the coupon is rejected, it will be immediately returned. If rejected, review instructions or try new coupon.

## TROUBLE SHOOTING SECTION

RS3000 CHECK LIST		
If a problem occurs	Possible cause	Please check the following
<b>Acceptor does not run and stack when power is applied.</b>	Unit is not getting power.	Check the voltage being supplied to the unit.
	Unit in calibration mode.	Insure that DIP switch 7 on bank 2 is OFF on power up.
<b>Acceptor does not give credit for bills accepted.</b>	The acceptor is in "test/pulse" mode.	Insure that DIP switch 8 on bank 1 is OFF and cycle power.
<b>Acceptor won't pull in a bill (motor does not start).</b>	There is no cassette (LRC) present.	Install a cassette (LRC).
	The cassette (LRC) is installed incorrectly.	Insure that a cassette (LRC) is mounted correctly with the knob turned completely to the install position and not beyond.
	Unit is disabled by control system.	Ensure that the Acceptor is enabled by the control system.
<b>Acceptor has excessive bill jams.</b>	The tab of the acceptor is bent.	The tab that a cassette locks onto should be in line (flat) with respect to the top of the stacker housing. If it is bent (up or down), bend it back until it is flat.
	The cassette (LRC) is installed incorrectly.	Insure that a cassette (LRC) is mounted correctly with the knob turned completely to the install position and not beyond.
<b>Acceptor rejects all bills.</b>	The acceptor has had a failure of one or more components.	Replace Acceptor.
	The acceptor is out of calibration.	Calibrate the Acceptor.



---

## CALIBRATION

---

### REMOVE POWER BEFORE PERFORMING THE FOLLOWING PROCEDURE

NOTE: MEI Kit # 111636021 required for calibration.

1. Unplug both the power (9 pin) and interface (18 pin) connectors from the unit.
2. Move DIP switch # 7 (Bank 2) to the **ON** position. (MEI does not recommend calibrating the Acceptor in direct sunlight)
3. Connect the calibration jumper plug to the interface connector (18 pin) on the control board.
4. Reconnect the power connector (9 pin). The red bezel lights will illuminate, but the acceptor will not reset (run and stack) until the calibration is complete.
5. Insert a piece of hole-punched or date stamped calibration paper into the mouth of the bill acceptor. The hole or date stamp (face up or face down) should be at the trailing edge of the insertion. The bill acceptor will pull the calibration paper into the unit in segments. After a pause, the calibration paper will be rejected by the bill acceptor, remove calibration paper and the stacker push plate will cycle indicating a successful calibration.  
**NOTES:** Should the stacker push plate fail to cycle, remove power and repeat Steps 5. Do not use bent, scratched, or dirty calibration paper.
6. After the unit has been calibrated, turn DIP switch # 7 (Bank 2) to its original position.
7. Test bill acceptance with the calibration jumper plug (Test Mode). The calibration jumper plug automatically enables test mode. When the Bill Acceptor is in test mode, the unit may be tested without altering the site accounting.
8. After bill acceptance has been tested, remove the calibration plug. Insert 18 pin connector and cycle power to the bill acceptor (restart the bill acceptor).

---

## COUPON CONFIGURATION

---

**"USE COPIES ONLY"**

---

**NOTES**

---

---

**ADDRESS INFORMATION**

---

ADDRESSES	SWITCH 5	SWITCH 4	SWITCH 3	SWITCH 2	SWITCH 1
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1
16	1	0	0	0	0
17	1	0	0	0	1
18	1	0	0	1	0
19	1	0	0	1	1
20	1	0	1	0	0
21	1	0	1	0	1
22	1	0	1	1	0
23	1	0	1	1	1
24	1	1	0	0	0
25	1	1	0	0	1
26	1	1	0	1	0
27	1	1	0	1	1
28	1	1	1	0	0
29	1	1	1	0	1
30	1	1	1	1	0
31	1	1	1	1	1