# VN2500 Series
## Installation Guide

**MARS** Bill Acceptor
Series 2000
with **MARS** Flash Port.

## GENERAL INFORMATION

This document contains information for installing the Mars Electronics VN2500 Series Bill Acceptor. This Bill Acceptor is designed to fit into the standard bill acceptor opening provided by vending machine manufacturers. It mounts on either the existing four mounting studs located in the vending machine or on the mounting bracket provided in various mounting kits.

Features of the VN2500 include:

- $1,$2, and $5 bill acceptance
- Four Direction bill acceptance
- Re-programmable Flash Memory (FLASHPORT$_{TM}$)
- Enhanced Security
- Easy Access to the bill path even while mounted
- Diagnostic LED (see back of unit)
- Multi-Drop Bus and Vending Interfaces (115/24V)
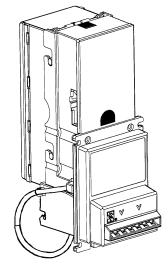- Lighted Bezel (On Compact Model Only)
- Coupon Configuration

**Figure 1**

## FLASHPORT$_{TM}$

The VN2500 Bill Acceptor with Mars Flashport$_{TM}$ has the ability to update software in the field by flash downloading.

## INTERFACE OPTIONS

The VN2500 Bill Acceptor is capable of operating via four interfaces: Low Level Pulse, AC/High Level Pulse, Serial, or MDB. The following harnesses are available to support these interfaces.

250077006 - 115 VAC Power Cable (High/Low Level Pulse or Serial Interface)
250075007 - 24 VAC Power Cable (High/Low Level Pulse or Serial Interface)
250071009 - 24 VAC Multi-Drop Bus Interface (MDB)

*Note: These harnesses fit onto the male connectors located on the left side of the Bill Acceptor (see Fig. 4) and are designed to connect to the vending machine controller's or coin changer's Bill Acceptor interface harness. For further information on either interface harnesses or mounting kits, please contact your supplier or Mars Electronics Service Center.*
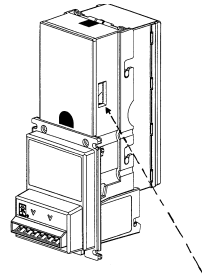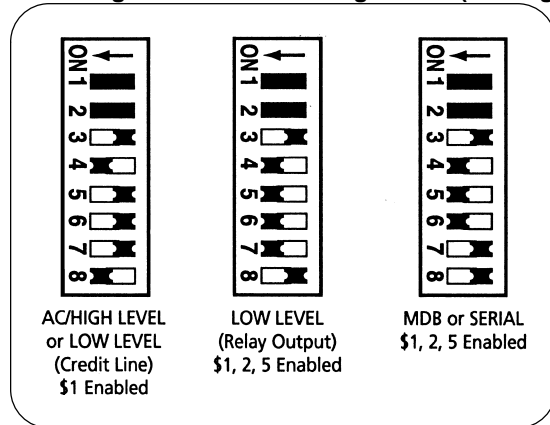
## INSTALLATION INSTRUCTIONS

**1. Set Bill Acceptor option switches**
   Note: When you receive the product, all
   switches are off. This will automatically
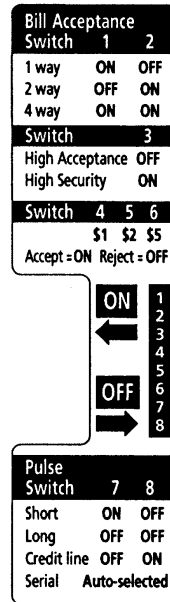   enable the options as follows;
*   Accept $1 dollar bills.
*   Four way accept.
*   High Security accept.
*   30ms on/ 50ms off pulse (short pulse).
*   One pulse per dollar.

**Important note:  Placing any switch ON will override the
above options, and the Bill Acceptor will operate
according to the switch settings label! (See Figure  2).**

AC/HIGH LEVEL     LOW LEVEL        MDB or SERIAL
or LOW LEVEL      (Relay Output)   $1, 2, 5 Enabled
(Credit Line)     $1, 2, 5 Enabled
$1 Enabled

**Figure 3**
**(Typical Switch Settings)**

Bill Acceptance
| Switch | 1 | 2 |
|---|---|---|
| 1 way | ON | OFF |
| 2 way | OFF | ON |
| 4 way | ON | ON |

| Switch | | 3 |
|---|---|---|
| High Acceptance | | OFF |
| High Security | | ON |

| Switch | 4 | 5 | 6 |
|---|---|---|---|
| | $1 | $2 | $5 |
| Accept = ON  Reject = OFF | | | |

Pulse
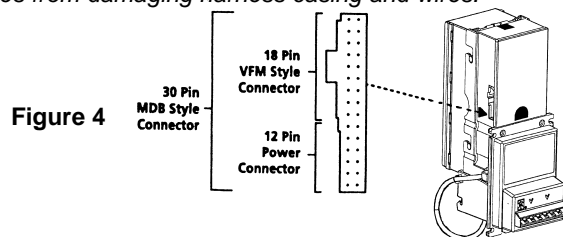| Switch | 7 | 8 |
|---|---|---|
| Short | ON | OFF |
| Long | OFF | OFF |
| Credit line | OFF | ON |
| Serial | Auto-selected | |

**2. Remove power from the vending machine.**
**3. Connect the VN2500 to the appropriate interface harnesses.     Figure 2**
   **(See  Figure 4.) Forcing harness(es) into Bill Acceptor will cause
   pins to bend or break.**

### DO NOT USE THE ARDAC T-ADAPTER CABLE!

*IMPORTANT NOTE:  Dressing of harness wires around the front of the Bill
Acceptor stacker may be necessary in some machines to prevent  the sharp
edges of nearby assemblies from damaging harness casing and wires.*

**Figure 4**     30 Pin MDB Style Connector     18 Pin VFM Style Connector     12 Pin Power Connector

**4. Install the VN2500** onto the Bill Acceptor mounting studs and through the mounting hole of the vending machine. Secure using the appropriate hardware. **NOTE:** On 110V units, attach the enclosed tie-wrap to the mounting stud closest to the harness connection on the Bill Acceptor.  Pull tie-wrap tightly around harness wires, including ground wire (equipped with ring terminal), to provide strain relief.  **See Figure 5.**
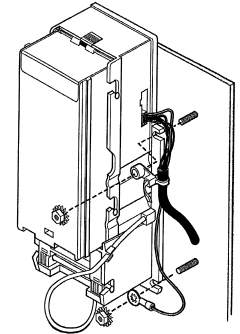
**5.** On 110V units, place the ring terminal of the ground wire onto one of the mounting studs and secure with appropriate hardware.  **See Figure 5.**
**IMPORTANT NOTE TO OEMs: Step 5 must be performed prior to Machine Dielectric Voltage - Withstand (Hi-Pot) Testing.**

**6. Load the coin changer's coin tubes** with sufficient coins (at least ten each).

**7. Apply Power to the vendor** and observe that the power indicator light on the back of the VN2500 is ON and NOT flashing. **Note**: If the light is flashing, refer to the label located on the back of the magazine for  a description of the diagnostic codes and check the following:

- Power has been applied to the vending machine.
- The coin changer has adequate change.
- The machine has product.
- The vendor's display does not indicate that credit has been established.

**Figure 5**

 **8. Check operation of the VN2500:**

- Set vend price for under $1 (see vendor operation manual).
- Insert $1 bill and observe that it is accepted and stacked.
- Make vend and verify proper amount of change is returned.
- Remove the bill from the magazine (see instructions on the label located on the Bill Acceptor magazine).

**COUPON CONFIGURATION (All Switches Off)**

**1. Carefully remove the coupon** from this Installation Guide.
If possible, make copies of the coupon with a standard, carbon-based, non-color copier. Copies of the coupon are usable 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 5 sections must be completed. Fill in only one block per line. **Do not mark the back of the coupon**

**COUPON CONFIGURATION - Step 2 (con't)**

**Complete Section 1** to enable desired bill direction. Enable 1 or 2 direction face up, or 4 way acceptance (which allows acceptance in all directions).

**Complete Section 2** 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.

**Complete Section 3** to enable appropriate Credit function for pulse and credit line interfaces.

**Complete Section 4** to enable desired pulses per dollar. Most vendors use 1 pulse per dollar.

**Complete Section 5** to control the Bezel Lights (Compact Bezel only). Flashing or constantly ON may be selected.

**3. Locate the service button** on the back of the unit (refer to Figure 6). Depress the button once to enter coupon setup mode. Depressing again will exit the mode.
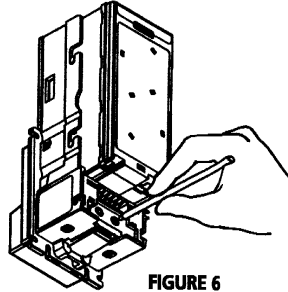


**FIGURE 6**

**4. Insert coupon and verify settings were accepted.**

**ACCEPTED:**    Coupon returned immediately and
LED flashes 10 times when coupon is pulled out.

**REJECTED:**    Coupon returned after ten seconds. LED flashes number of times corresponding to section improperly filled out. Example: Six flashes for improper section six. If rejected, review instructions or try new coupon.

**CLEANING**

The VN2500 series will not need cleaning as often as magnetic sensing Bill Acceptors. If cleaning is required, use a soft cloth moistened with mild, non-abrasive detergent. Refer to label located on the back of the magazine for cleaning instructions.

| If a problem occurs | Please check the following |
|---|---|
| Unit dead (won't power up). | 1. Harness(es) may be loose, not properly connected, or bent pins. 2. If Ardac T-adaptor cable has been used at power up, the unit is defective. 3. Check source voltage to ensure that power is being supplied to the bill acceptor. |
| Red message light flashing twice (disabled from coin mech). **NOTE:** If flashing other than twice refer to label located on back of the magazine. | 1. Make sure coin mech has enough change to cover all lower coin tube sensors. 2. Check settings on both the controller and bill acceptor to ensure that proper interface options are being used. For more information on interface options check the machine manufacture service guide. 3. On controller applications make sure that the door switch is closed. Then vend one time using coins only. |
| Unit takes a bill, but won't credit. | 1. Check interface switch on coin mech to see If the correct interface option is being used. Single price applications should be in either low level or high level interface mode. |