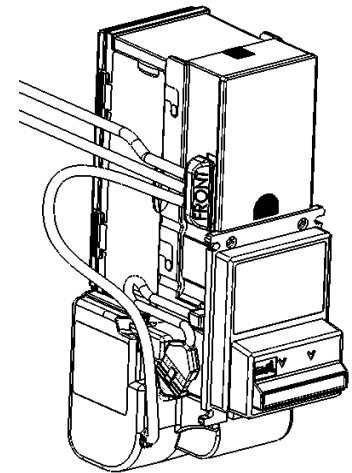# VN2700R Series with Recycler
Installation Guide

GENERAL INFORMATION

This bill validator 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 machine or on the mounting bracket provided in various mounting kits.

The VNR Recycler stores and provides $1 or $5 bills as change and accepts $1, $2, $5, $10 and $20 for transactions. Recycling bills reduces coin usage and expands vending to higher value bills.

Features of the VN2700R include:
- $1, $2, $5, $10 and $20 bill acceptance
- Four direction bill acceptance
- Re-programmable Flash Memory (Flashport™)
- Coupon configuration
- Enhanced Security
- Easy access to the bill path, even when mounted
- 2 Character Diagnostic display (back of unit)
- Multi-Drop Bus (MDB) vending Interface (24V)
- Supports free vend and value coupons
- Supports High Visibility Bezels (HVB) - Optional
- Lighted Bezel (standard)
- VNR Recycler (returns bills for change)

INTERFACE

The VN2700R Bill Acceptor operates via a MDB interface: The following harness is provided to support this interface:

250070096P - 24VDC MDB (Multi-Drop Bus)

Note: This harness fits onto the male connectors located on the left side of the Bill Acceptor and is designed to connect to the machine controller's and coin changer's Bill Acceptor interface harness.
For further information on either interface harnesses or mounting kits, please contact your supplier or MEI Approved Service Center.
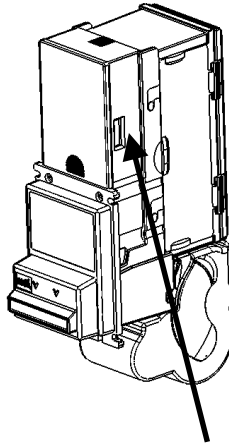
INSTALLATION INSTRUCTIONS

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 and $5 dollar bills.
- Four way accept.
- High Security accept.
- HVB (Optional) – Denom lights on with blended colors

Important Note: Placing any switch ON will override the above options, and the Bill Acceptor will operate according to the switch settings label.

NOTE: The unit may be configured with the attached coupon rather than using the option switches. **For coupon configuration, turn all option switches OFF and proceed to Coupon Configuration instructions on page 5.**

SWITCH DESCRIPTION	
1,2	Combination of these two switches selects number of enabled bill directions.
3	Position allows either acceptance or security to be maximized.
4-8	Individual switches enable or disable corresponding bill denomination.

1a. Recycler Factory Default Settings
When the VN2700R is received from the factory, the following option settings are by default:

- Recycled Bill (rb) = $1 (1)
- Interface (IF) =   Level 3 (L3)
- Capacity (CA)=   25 notes (25)
- Par Level (PL)=   12 notes (12)
- Accept Inhibit (AI)=   Yes
- High Visibility Bezel (Hb)= 'Rainbow' mode (bLEnd)

Please refer to Section 10 for instructions on changing the recycler option settings.

2. Remove power from the entire machine.
3. Install the VN2700R onto the Bill Acceptor mounting studs and through the mounting hole of the machine. Secure using the appropriate hardware. If you do not have a "full face" mounting bracket contact MEI or your MEI distributor and order part number: 250039026P

Note: Several alternate Bezels are available for different vending machine applications. For further information regarding available Bezels, please contact your supplier, MEI Approved Service Center or MEI Help Desk.
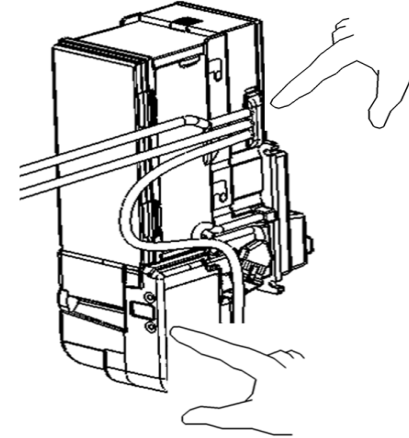
Configuration Coupon

Electronic copies of this manual will not have the coupon included. Please contact MEI if you need a configuration coupon.
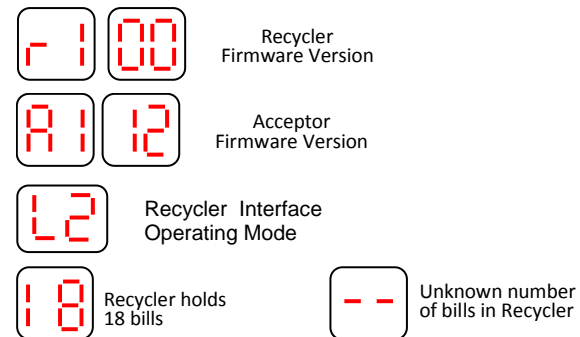
4. Connect the VN2700R

Locate the main MDB connector from the vending machine. Connect to the mating connector of the VN2700R. There is an additional cable coming from the VNR which connects to the coin changer. **Please note:** The coin changer MUST connect directly into the VN2700R. Other MDB devices must NEVER be connected between the coin changer and the VN2700R.

5. Apply power to the machine.

Observe that the MODE / SELECT display on the back of the VN2700R is ON.

During power up, the display shows the VNR Recycler firmware version and then the VN2700R Bill Validator firmware version. The display then changes to show the current interface and then the number of bills in the VNR Recycler.

r1 00   Recycler Firmware Version

A1 12   Acceptor Firmware Version

L2   Recycler Interface Operating Mode

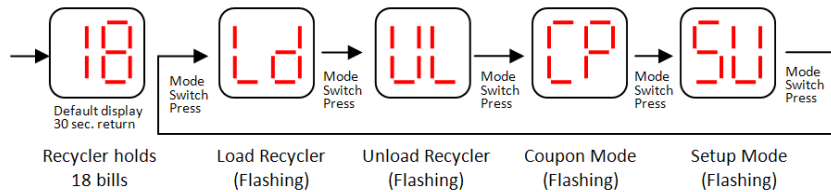18   Recycler holds 18 bills   - -   Unknown number of bills in Recycler

By default, in normal operation, the display always shows the number of bills currently held in the Recycler available for use as change. If the recycler has lost count of the number of bills for whatever reason, then a double dash will be displayed. The recycler will recalculate and display the number momentarily. This could take up to 1.5 minutes.

6. MODE / SELECT Switches

The **MODE** switch will cycle between the different set-up modes. The available modes are **Load Recycler**, **Unload Recycler, Coupon Mode and Setup Mode**. If you press and hold the mode switch for 2 seconds, the unit will enter the MODE menu. Only the Load, Unload and Coupon modes will be accessable. To enter the Setup mode, follow the note below.
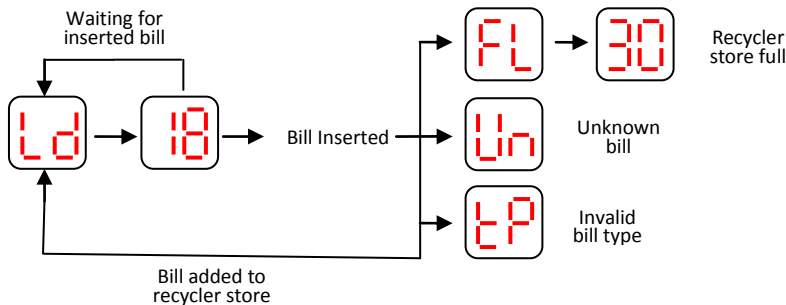
Note: The **Setup Mode** is normally hidden to prevent it being selected accidently. To enable access to the setup menu, press the **SELECT** switch for ≈ 3 seconds or until a '- -' appears before following the procedure below within 2 seconds. Then press and hold the **MODE** switch for 2 seconds, the unit will stop displaying the bill count and will enter the Load mode. The text will flash. Each press of the **MODE** switch will toggle to the next mode. If a mode is selected and the user takes no further action for 30 seconds, the unit will return to normal operation.

| Default display 30 sec. return | Mode Switch Press | Mode Switch Press | Mode Switch Press | Mode Switch Press | Mode Switch Press |
| Recycler holds 18 bills | Load Recycler (Flashing) | Unload Recycler (Flashing) | Coupon Mode (Flashing) | Setup Mode (Flashing) | |

When a mode is displayed, pressing the **SELECT** switch will enter that mode.

7. Load Recycler Mode

If the Load Recycler mode is selected, the display will stop flashing and alternate with the current bill count. The user may then insert bills of the type being recycled. Validation will be performed on the inserted bills. Unrecognized bills will be rejected and **'Un'** displayed for 5 seconds or until the user inserts another bill. Bills of the wrong type will be rejected with a **'tP'** error message displayed for 5 seconds or until the user inserts another bill. If the recycler is full, or the set maximum capacity has been met, then **'FL'** will be displayed and bill input is inhibited. If there is no activity from the user for 30 seconds or the mode button is pressed, the Load Recycler mode will be exited.

Waiting for inserted bill
Bill Inserted
Bill added to recycler store
Recycler store full
Unknown bill
Invalid bill type

17. Trouble shooting VN2700R

Unit Dead (won't power up)
1. Harness(es) may be loose, not properly connected, or bent pins.
2. Check source voltage to ensure that power is being supplied to the bill acceptor.

Pressing and holding the mode button does not change the display to the menu.
1. Unit may be in demo mode. Press the mode and select buttons simultaneously and release to enter the menu mode and change the interface to L2 or L3.
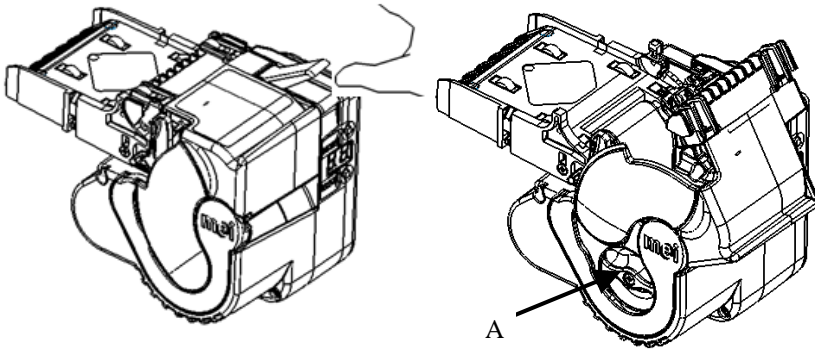
Error Codes
If an error occurs, the display will alternately flash '**Er**' followed by an error code and then the number of bills in the recycler. When multiple errors occur, the display will cycle through each error in turn.

Note: For further information on trouble shooting and error codes for the VN2700R, please contact your MEI Authorized Service Center, the MEI Tech Support line, or the VN2700R Operation and Service Guide.

13. Open Access Cover

Push up yellow release latch and pull back on Access Cover. This will open like a clamshell. Finger Disc is revealed (A).

A

14. Removing Recycled Bills

1. Powered - The push button (mode) will slowly move the rotor forward for unloading recycled bills. Please note: After opening the clamshell while powered up, the display will show **'Op'**.
2. Manual - Rotate finger disc counter clockwise (see "A" above) to remove recycled bills.

15. Close Access Cover and Install VNR Recycler

To insert the VNR Recycler, push unit into LED location allowing yellow latches to snap engage into chassis.

Recycler will now reset itself (could take up to 1 minute), then start counting the loaded bills. Counting could take up to 1 and 1/2 minutes and depends on the number of bills loaded on the Recycler. The fewer the bills, the reset will take longer. This operation is required for the Recycler to function.

16. Cleaning

The VN2700R 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.
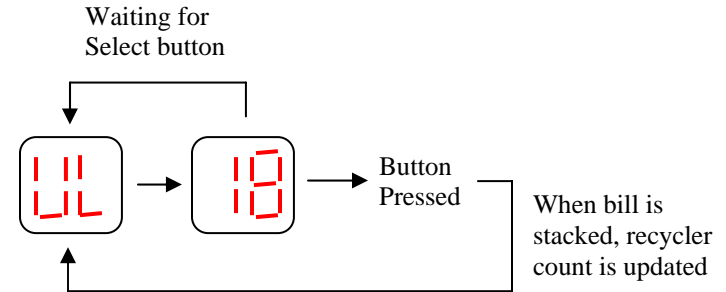
To clean the bill validator bill path remove both the VNR Recycler and Magazine for full bill path access.

The VNR Recycler does not require cleaning and could be damaged by aggressive cleaning.

8. Unload Recycler Mode

If the Unload Recycler mode is selected, the display will alternate number of bills and **UL**, Each further short press of the select button will move one bill from the recycler to the cassette. If there is no activity from the user for 30 seconds or the mode button is pressed, the Unload Recycler mode will exit. If the recycler is empty, then pressing the select button will have no effect.

If the select button is pressed for more than 2 seconds, the recycler will continuously move bills from the recycler to the cassette until a pre-determined, programmable number is reached. This number can be set using the **Par Level** option in **Setup Mode**, section 10, page 6. To unload to zero, the above method must be used to stack one bill at a time.

Waiting for
Select button

Button
Pressed

When bill is
stacked, recycler
count is updated

9. Coupon Mode

9a. Configuration Coupon Input Mode (All option switches set to OFF, see page 2)
If the Coupon Input mode is selected, the recycler will wait 120 seconds for the user to input a configuration coupon. If no coupon is inserted, the system will exit configuration mode and re-display the bill count.

If a configuration coupon is fed into the recycler, the system will attempt to decode the coupon and then return it. The display will momentarily show CF.

If the configuration is successful, then the front LEDs will flash 10 times. If the configuration process is not successful, the LEDs will flash a number corresponding to the section of the configuration coupon that is either not completed or completed incorrectly. Also, if the coupon is damaged or not the correct size, it will not configure correctly.

Coupon
Inserted

9b. Free Vend and Value Coupon programming.
If the Coupon Input mode is selected, the recycler will wait 120 seconds for the user to insert a Free Vend coupon, a $1 Value coupon or a $5 Value coupon. Depending on the current status of the coupon mode, the inserted coupon will either be accepted (display momentarily shows En for enabled) or rejected (display momentarily shows DI for disabled). If the coupon was accepted, then it is now enabled for use. If it was rejected, it is disabled. This mode toggles between enabling and disabling coupons.
NOTE: Value coupons are treated by the vending machine as cash. Change, including bills and coins, will be dispensed after a transaction.

9. Configuration Coupon Input Mode (continued)

Carefully cut the coupon from this Installation Guide. Copies are usable if made on a standard, carbon-based, non-color copier, AND if cut to match the size of the attached coupon. **(Coupon is located on page 11.)**

Fill out the coupon using a #2 or HB pencil. Fill in one block for each line (except section 3). Do not mark the back of the coupon.

Section 1 - Bill Direction Enable one or two-way (face-up) or four-way acceptance (all directions).

Section 2 - Bill Denomination Fill in one block for each denomination. Select High Accept for maximum bill acceptance. Select High Security for a higher level of discrimination. Select OFF to reject bills of that denomination.

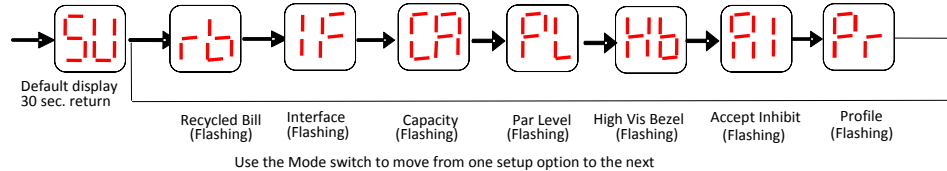**Section 3 – High Visibility Bezel (HVB) options. (if applicable)**
Fill in Denom to enable the denomination lights to operate. Leave blank for denomination lights to remain off. If color blending is desired, do not fill in any other box. Refer to Table 1 below for color combinations and fill in the appropriate box(es).

Boxes Filled In - RED, GREEN, BLUE	Resulting Colors on Bezel
None (no colors filled in)	Blend of all available colors
Blue only	Blue
Green only	Green
Green and Blue	Cyan
Red only	Red
Red and Blue	Magenta
Red and Green	Yellow
Red and Green and Blue	White

Section 4 – Bezel lights flash/ON.

10. Setup Mode
If the Setup Mode is selected, the recycler will cycle between different options. The available options are **Recycled Bill, Interface, Capacity, Par Level, High Visibility Bezel, Accept Inhibit and Profile**. The mode switch selects between the different options. Press and hold Select to save the displayed value. Pressing and holding the Mode Button will return to the Setup Option menu starting with **'rb'**.

Default display
30 sec. return

Recycled Bill (Flashing) Interface (Flashing) Capacity (Flashing) Par Level (Flashing) High Vis Bezel (Flashing) Accept Inhibit (Flashing) Profile (Flashing)

Use the Mode switch to move from one setup option to the next

The **Recycled Bill** can be set to the value of the bill to be recycled. MEI recommends $1 or $5 notes for recycling in Vending applications.

The **Interface** can be set to:
dE - Demo Mode – This will allow unit to store, return and stack notes with power only. Once in Demo Mode, you must press mode and select simultaneously to get back to the menu.
Au – Automatic I/F Selection. The recycler will try to determine the interface setting
L2 – Level 2 MDB (use this when accepting $20 notes)
L3 – Level 3 MDB (this is the default mode from the factory)

RE – Standalone recycler. Use when the vending machine supports the MDB V4 recycler extensions.

The **Capacity** defines the number of bills held by the Recycler in operation. Excess bills get stacked into the Magazine. The **Capacity** can be set to between 0 and 30.

The **Par Level** can be set to a value between 0 and 30. It defines the number of bills left in the Recycler when in unload mode and the Select Button is pressed and held. The Recycler will add bills up to the capacity setting during normal operation. This setting should be set to something below the **Capacity** level.

High Visibility Bezel (HVB) Options allows the operator to choose a primary color on the HVB or blend colors when the HVB is fitted.

The **Accept Inhibit** Option can be set to 'Yes' or 'No'. When set to 'Yes', the recycler will inhibit acceptance of high value bills if it cannot payout the majority of change in bills. This prevents a large amount of coins being returned to the customer if the recycler is low or empty.
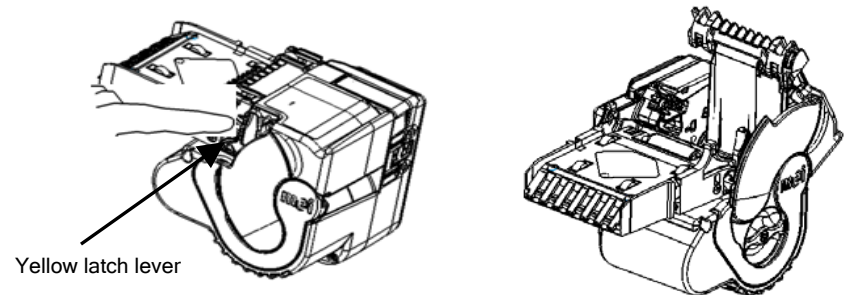
Profile mode allows the operator to calibrate the bill acceptor or the recycler film. It is recommended that operators do not enter this mode unless proper training has been received and calibration paper is available.

11. Check operation
- Insert a recycled bill ($1 or $5) and observe that it is accepted, and stored in the VNR Recycler.
- Load the recycler with recycled bills to the **Par Level** or **full** setting.
- Insert a high denomination bill ($5, $10 or $20) and verify that proper credit has been established.
- Vend a selection with the largest enabled bill and confirm correct change given.

TO ACCESS BILL PATH
Remove both VNR Recycler and magazine for full bill path access.

Yellow latch lever

12. Remove VNR Recycler
To remove the VNR Recycler, pull yellow latch lever releasing latches and pull out Recycler.