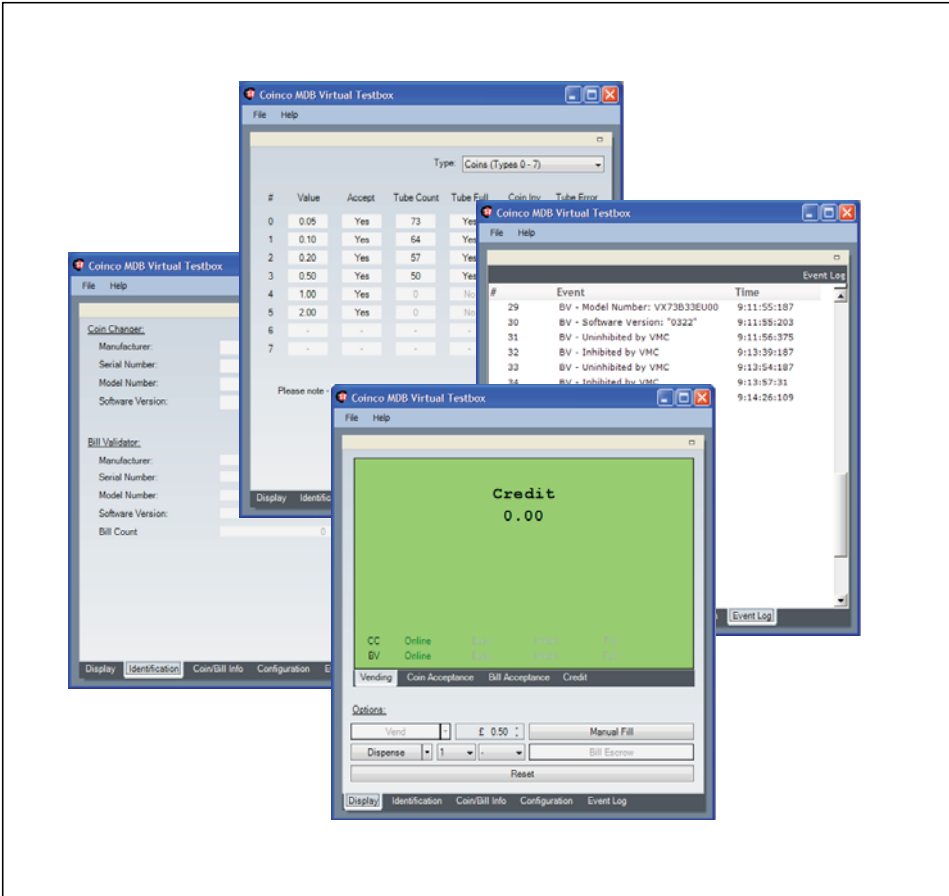


# Virtual MDB Test Box



## User Guide



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# SECTION 1: GENERAL INFORMATION

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## Introduction

MDB has become the primary method of communication inside modern vending machines.

The Virtual MDB test box provides a simple and reliable method for testing a coin changer and/or a bill acceptor using a PC.

## Minimum System Requirements

- Microsoft Windows XP with Service Pack 2 or later
- Pentium 600-megahertz (MHz) processor (1 gigahertz or faster recommended)
- 128MB RAM
- 30MB hard drive space (with additional 280 MB hard drive space for .Net Framework 2.0)
- Windows Installer 3.0 or later (included)
- Microsoft .Net Framework 2.0 (included)
- CD-Rom or DVD-Rom drive
- One available USB ports
- Video (800 x 600 or higher resolution) monitor with at least 256 colors (1024 x 768 High Color 16-bit recommended)
- Keyboard and Mouse or compatible pointing device
- Internet access

## Contents

The Virtual MDB test box comprises of the following:

- Application Installation CD
- USB to MDB interface
- USB lead
- MDB power supply and power cable

## Icons

The following icons will guide you throughout the manual. Each icon highlights an area you may want to pay closer attention to.



Indicates a checklist type of process that you can readily “check” as you proceed to the next step.



Indicates a warning that you should adhere to. It is often accompanied by the words “DO NOT...”



Indicates that this is a good time to pause, step back, and verify that everything is correct before proceeding further.



Indicates a helpful hint or shortcut to simplify the task.



Indicates frequently asked questions with their corresponding answers.



Indicates a possible issue dependent on the application and provides direction on how to correct the problem should it occur.

### Installation

To install the Virtual MDB test box application from the CD:

1. Insert the CD into the CD/DVD-ROM.
2. Click the Install Virtual MDB test box icon.
3. Follow the on screen instructions.
4. Restart PC

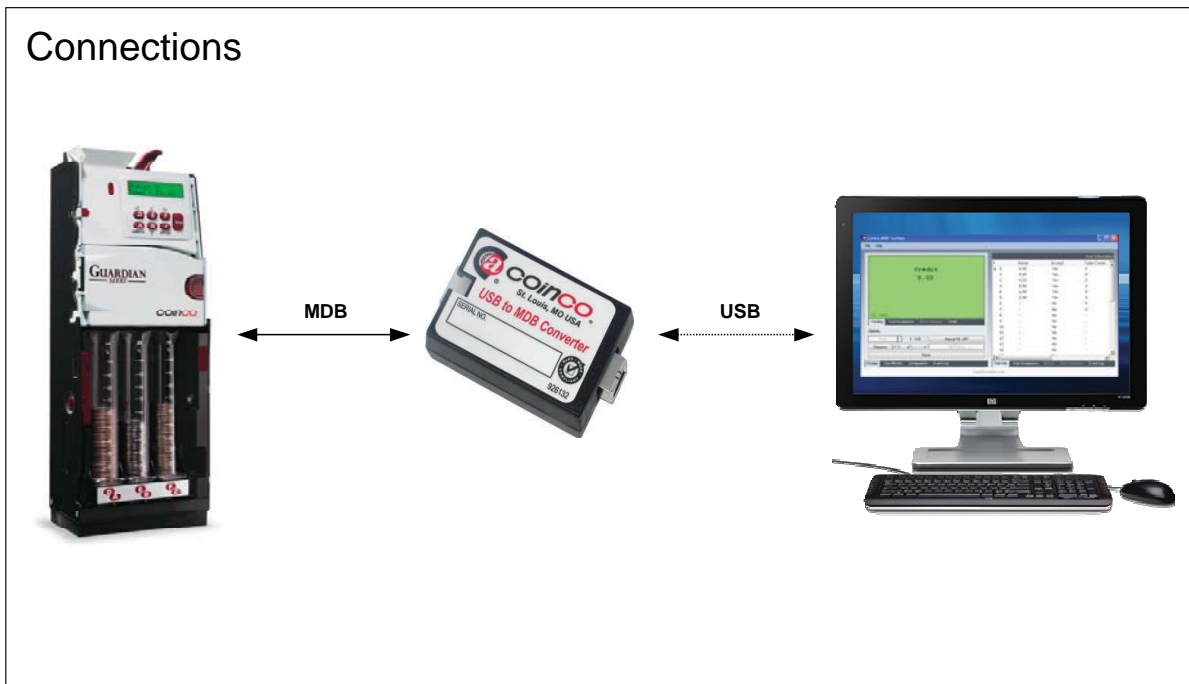


Figure 1 - Connections

5. Attach the USB to MDB converter to installation PC using the USB cable provided.
6. Attach an MDB Coin Changer and / or MDB Bill Validator to the supplied power supplies MDB connection.
7. Connect the other MDB connector on the supplied power supply to the USB to MDB converter.
8. Turn the power on to the supplied power supply.
9. Run the Virtual MDB test box application.



The power supply should be turned off before connecting / disconnecting MDB peripherals to prevent damage to either the peripheral or USB to MDB interface.

## SECTION 3: OPERATION

### Overview

The Virtual MDB test box comprises of five feature tabs:

- Display
- Identification
- Coin / Bill Info
- Configuration Settings
- Event Log

These tabs allow access to the features and functionality that the application provides.

### Display Tab

When starting the application the Display tab is displayed.

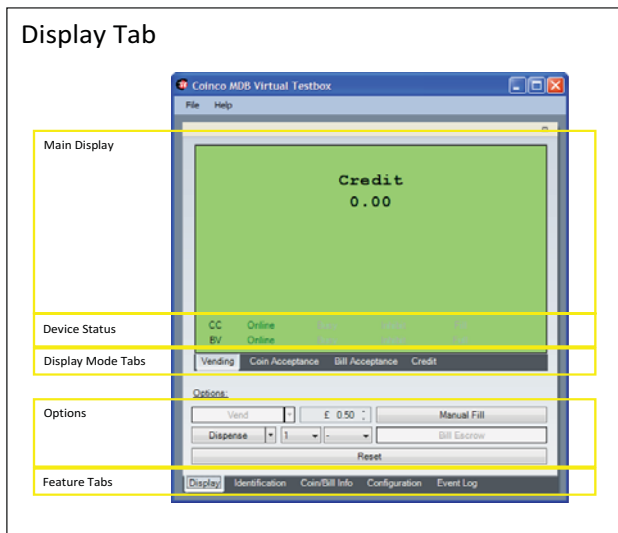


Figure 2 - Display Tab

The display tab is split into five areas.

#### Main Display

Depending on the selected display mode tab the main display can indicate either credit or acceptance information. In addition it also indicates key events as they occur.

#### Device Status

Device status indicates the status of the attached peripherals. If either CC (Coin Changer) or BV (Bill Validator) are greyed out then the device is disabled (see Configuration - Application Settings - Device Enable on page 10).

### Display Mode Tabs

There are four display mode tabs.

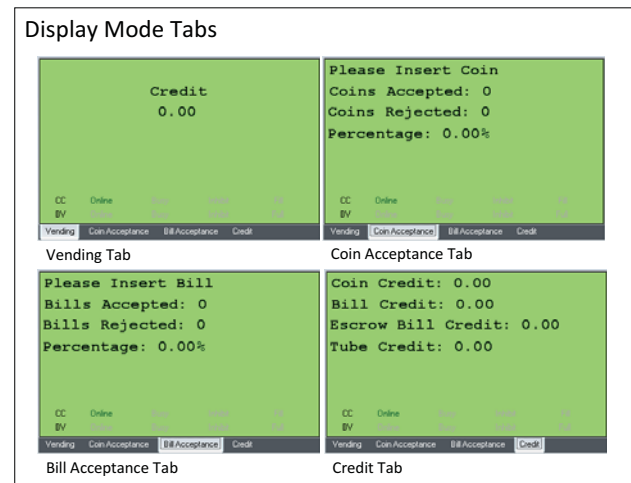


Figure 3 - Display Mode Tabs

These allow access to the following features:

#### Vending

The Vending display mode tab indicates either the amount of accumulated credit when vending or the amount of credit inserted during manual fill.

#### Coin Acceptance

The Coin Acceptance display mode tab allows the coin acceptance of an attached coin changer to be tested. All coin types are enabled when the Coin Acceptance display mode tab is selected overriding the coin enable settings defined in the Configuration – Vending settings.

As coins are inserted both an acceptance and rejection rate is calculated for MDB coin type. If a coin is not recognised it is assumed to be of the preceding accepted MDB coin type and added to the corresponding rejection rate counter.

Acceptance information can be exported to PDF / Excel and printed at any time by selecting the corresponding option from the file menu. It is also possible to view the acceptance information for each of the coin types in real time by enabling the extended view and selecting the

Coin Acceptance extended view tab.

Acceptance data is cleared either by selecting to clear the previous acceptance data (if applicable) when entering the Coin Acceptance display mode tab or by clicking the Reset button on the Display Features tab.

### *Bill Acceptance*

The Bill Acceptance display mode tab allows the bill acceptance of an attached bill validator to be tested. All coin types are enabled when the Bill Acceptance display mode tab is selected; overriding the bill enable settings defined in the Configuration – Vending settings.

As bills are inserted both an acceptance and rejection rate is calculated for MDB bill type. If a bill is not recognised it is assumed to be of the preceding accepted MDB bill type and added to the corresponding rejection rate counter. Acceptance information can be exported to PDF / Excel and printed at any time by selecting the corresponding option from the file menu.

It is also possible to view the acceptance information for each of the bill types in real time by enabling the extended view and selecting the Bill Acceptance extended view tab.

Acceptance data is cleared either by selecting to clear the previous acceptance data (if applicable) when entering the Bill Acceptance display mode tab or by clicking the Reset button on the Display Features tab.

### *Credit*

The Credit display mode tab displays a summary of the current accumulated credit split into overall credit, bill credit for stacked bills, bill credit held in escrow and the total value of coin in the tubes.

### **Options**

#### *Vend*

There are two vending options available Vend

and Failed Vend.

The Vend / Failed Vend options are only available when there is credit available. To select a vending option click the arrow on the right hand side of the vend button and select the option from the displayed list.

To perform a Vend / Failed Vend select the value to vend using the up/down arrows in the value box next to the Vend / Failed Vend button.

If a coin changer is attached the maximum vend that can be vended is 255 times the value of the lowest value coin accepted unless the value of coins in the total tube credit value is lower in which case it is limited to the tube credit value.

If multi-vend is selected (see Configuration –Vending – Vend Mode) then change will only be returned if the escrow level is pressed.

If single-vend is selected (see Configuration –Vending – Vend Mode) then change will be returned immediately after the vend button has been clicked. If Keep Change (see Configuration –Vending – Keep Change) is enabled then any change that cannot be paid back will be retained. If disabled, any change that cannot be paid back will be lost.

If a bill is held in escrow and is not required for to reach the selected vend price then it will be returned with any remaining change being returned by an attached coin changer (if applicable). If it is required then the bill will be stacked.

#### *Dispense*

There is four dispense options available: Dispense by Quantity, Dispense by Value, Dispense by Coin and Dispense All Coins. To select a dispense option click the arrow on the right hand side of the vend button and select the option from the displayed list.

Coins can only be dispensed if there is no outstanding coin credit.

## SECTION 3: OPERATION

The options are as follows:

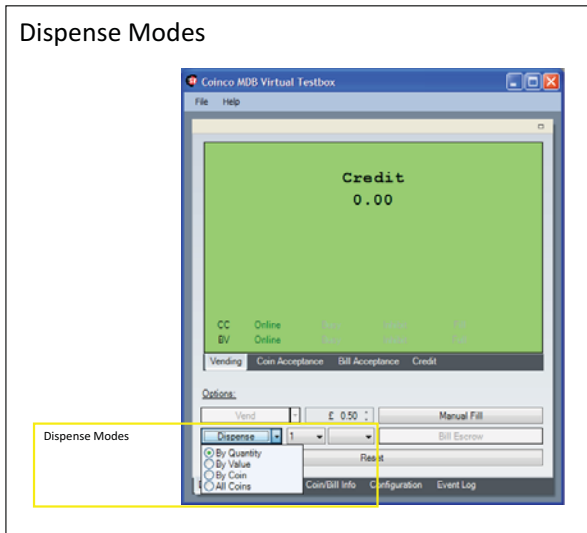


Figure 4 - Dispense Modes

**Dispense by Quantity** – Dispense up to 15 of the selected coin. This option uses the MDB dispense command.

**Dispense by Value** – Dispense the selected value of coins. If the attached coin changer does not support the MDB level 3 alternative payout command or level 3 payout is disable in the Configuration – Vending options then the MDB dispense command will be used otherwise the MDB level 3 alternative payout commands will be used.

**Dispense by Coin** – Dispense all coins of the select coin value. This option uses the MDB dispense command and can be stopped at anytime by clicking the Stop button.

**Dispense All Coins**– Dispense all of the payable coins in the coin changer in value order. This option uses the MDB dispense command and can be stopped at anytime by clicking the Stop button.

### Manual Fill

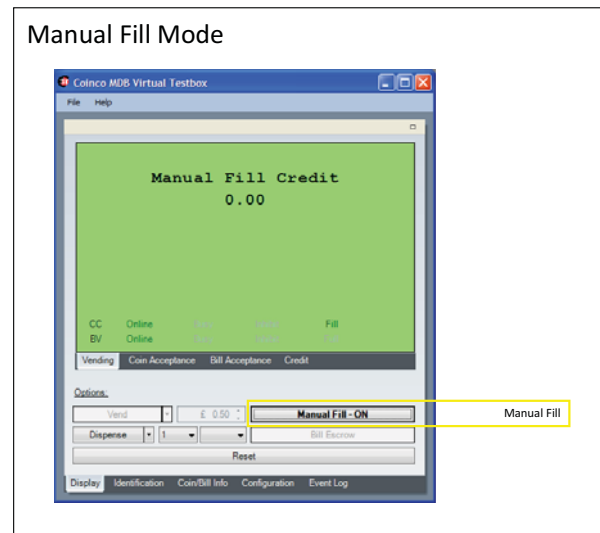


Figure 5 - Manual Fill

The manual fill option allows coin and bills (if not set to hold bill in escrow) to be inserted without accumulating credit. To turn manual fill on click the Manual Fill button.

When in manual fill mode the words Manual Fill Credit will appear at the top of the main display and the Manual Fill buttons caption will change to Manual Fill - ON.

To turn manual fill off click the Manual Fill button again.

### Bill Escrow

If there is no coin changer attached and a bill is held in escrow it can be returned by clicking the Bill Escrow button.

### Reset

Clicking the Reset button resets any attached peripheral, clears accumulated credit and resets coin and bill acceptance counters.



**Identification Tab**

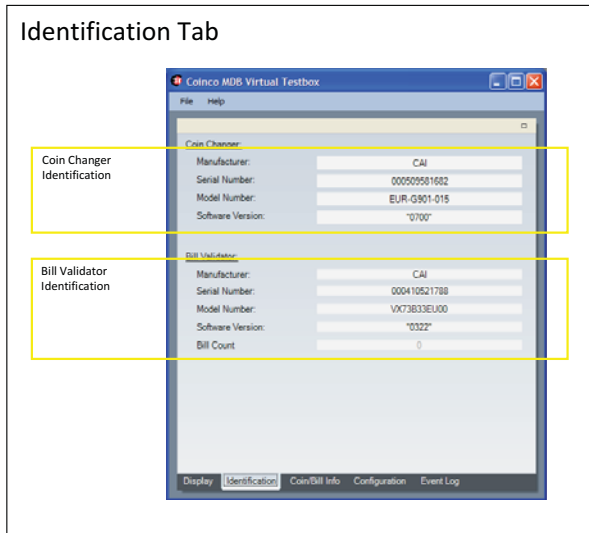


Figure 6 - Identification Tab

This Identification features tab displays the manufacturer, serial number, model number, and software version of the attached coin changer and/or bill validator.

When a bill validator is attached it also displays the number of stacked bills.

**Coin / Bill Info Tab**

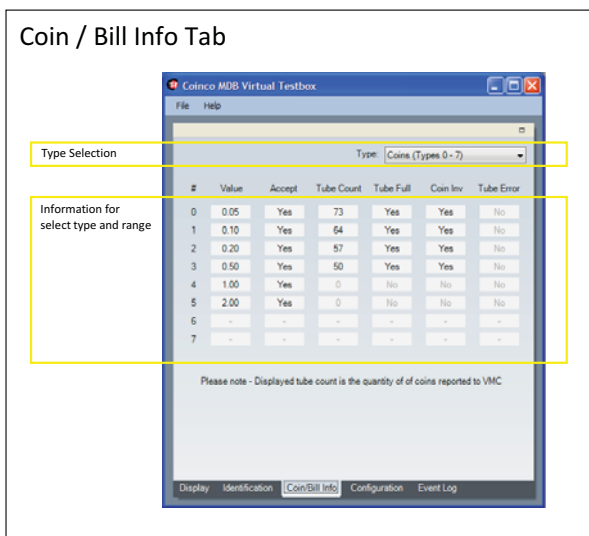


Figure 7 - Coin / Bill Info Tab

The Coin/Bill Info features tab displays the following coin information: value, if the coin is accepted, the number of coins in each tube, if the tube is full, if the coin can be paid out using the coin changer inventory buttons and if there is a

tube error; and the following bill information: value, if the bill is enabled, if bill escrow is enabled and if bill security is enabled.

Both coin and bill information are split into two MDB type sets, 0 to 7 and 8 to 15, accessed via a drop down list.

The same information is available on the extended view Coin Information and Bill Information tabs.

Both coin and bill type information can be exported to PDF / Excel and printed at any time by selecting the corresponding option from the file menu.

**Configuration Tab**

The Configuration features tab allows configuration settings to be altered. These settings are split into two sets, vending and application settings.

Changes to the configuration are applied and saved when the Apply button is clicked.

**Vending**

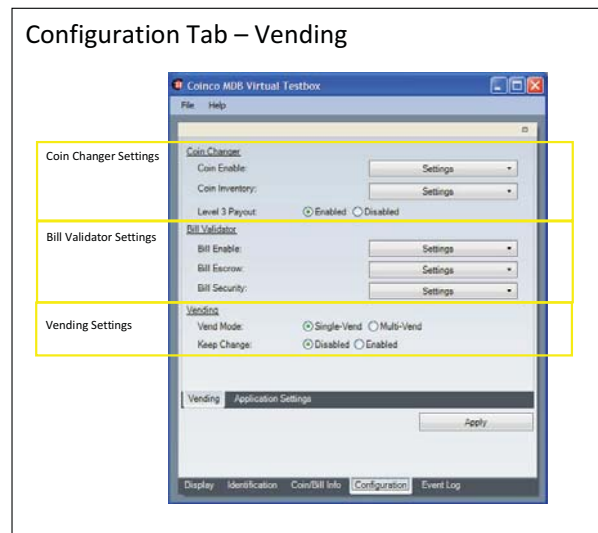


Figure 8 - Configuration Tab - Vending

The following vending configuration settings can be set:

*Coin Enable*

Sets the coin types that are enabled. Valid coin

## SECTION 3: OPERATION

types have the coins value next to them. To enable/disable a coin type, click the setting button and then select/deselect the corresponding coin type from the drop down list. By default all coin types are enabled.

### *Coin Inventory*

Sets the coin types that can be inventoried (paid out) using an attached coin changers inventory buttons. Valid coin types have the coins value next to them. To enable/disable inventory of a coin type, click the setting button and then select/deselect the corresponding coin type from the drop down list. By default all coin types can be inventoried.

### *Level 3 Payout*

Overrides payout using the Level 3 expansion command (if supported).

### *Bill Enable*

Sets the bill types that are enabled. Valid bill types have the bills value next to them. To enable/disable a bill type, click the setting button and then select/deselect the corresponding bill type from the drop down list. By default all bill types are enabled.

### *Bill Escrow*

Sets the bill types that are held in escrow when a bill of that type is inserted. Bills that are not held in escrow are automatically stacked. Valid bill types have the bills value next to them. To enable/disable bill escrow for a bill type, click the setting button and then select/deselect the corresponding bill type from the drop down list. By default all bill types are held in escrow.

### *Bill Security*

Sets the bill type security setting. Valid bill types have the bills value next to them. To enable/disable bill security for a bill type, click the setting button and then select/deselect the corresponding bill type from the drop down list. By default security is enabled on all bill types.

Vend Mode – Two options are available, Single Vend (default setting) where change is returned automatically after a vend occurs and Multi Vend

### *Keep Change*

When enabled any change that cannot be paid back in Single Vend mode will be retained. When disabled (default setting) any change that cannot be paid back in Single Vend mode is lost.

### *Application Settings*

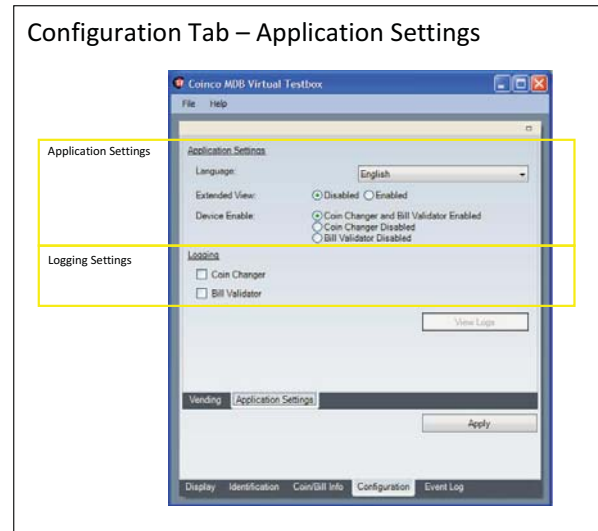


Figure 9 - Configuration Tab - App Settings

The following application settings can be set:

### *Language*

Sets the applications language.

### *Extended View*

Enables/disables the extended view tabs.

### *Device Enabled*

Sets whether both a coin changer and/or a bill validator should be polled. By default both device types are polled.

### *Logging*

Enables/disables low level logging of either the coin changer and/or bill validator.

### *View Logs*

If logs are available to be viewed the View Logs button will be enabled. Clicking the View Logs button displays the View Logs dialog box.

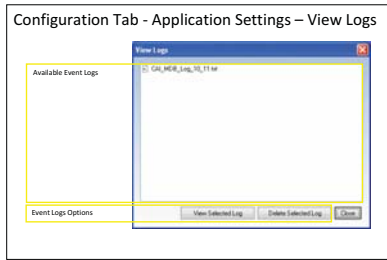


Figure 10 - Configuration Tab - View Logs

To view a log, select the log from the displayed list and then click the View Selected Log button.

To delete a log, select the log from the displayed list and then click the Delete Selected Log button.

**Event Log**

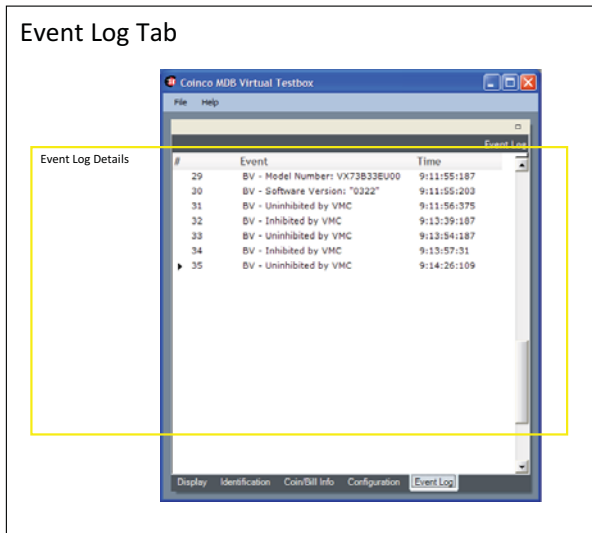


Figure 11 - Event Log Tab

The Event Log features tab displays a log of all events that have occurred since either starting the application or clearing the event log via the File – Clear Event Log menu option.

The Event Log can be exported to PDF / Excel and printed at any time by selecting the corresponding option from the file menu.

**Extended View**

Enabled via Configuration - Application Settings - Extended View (see page 10).

*Coin Information*

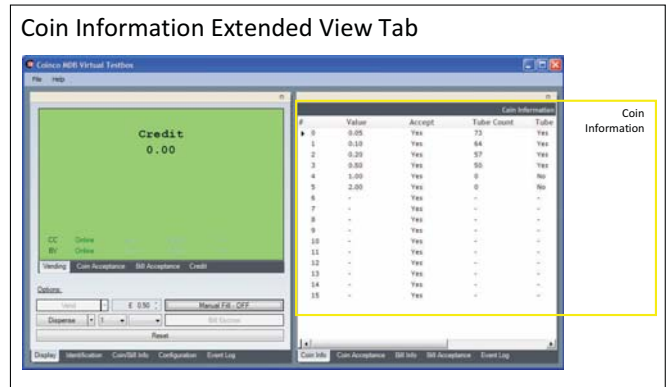


Figure 12 - Coin Information Extended View

The Coin Information extended view tab displays the following coin information for all 16 coin types: value, if the coin is accepted, the number of coins in each tube, if the tube is full, if the coin can be paid out using the coin changer inventory buttons and if there is a tube error.

Coin type information can be exported to PDF / Excel and printed at any time by selecting the corresponding option from the file menu.

*Coin Acceptance*

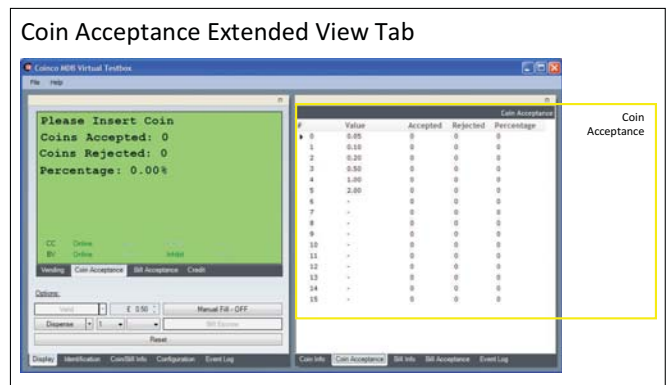


Figure 13 - Coin Acceptance Extended View

The Coin Acceptance extended view tab displays the number of coins accepted and rejected per coin type along with a percentage acceptance rate. Coin acceptance information is only

## SECTION 3: OPERATION

accumulated when the Coin Acceptance display mode tab is selected. Acceptance information can be exported to PDF / Excel and printed at any time by selecting the corresponding option from the file menu.

### Bill Information

Bill Information Extended View Tab

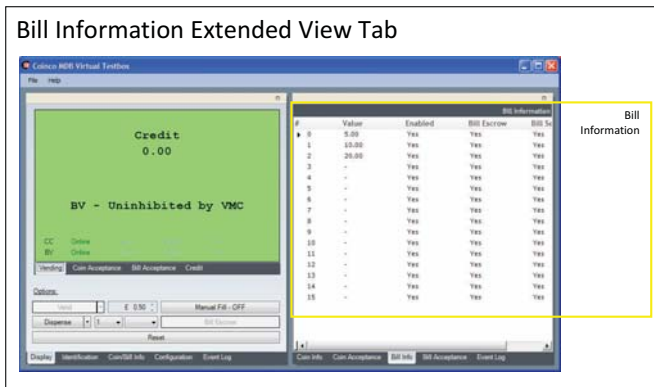


Figure 14 - Bill Information Extended View

The Bill Information extended view tab displays the following bill information for all 16 bill types: value, if the bill is enabled, if bill escrow is enabled and if bill security is enabled.

Bill type information can be exported to PDF / Excel and printed at any time by selecting the corresponding option from the file menu.

### Bill Acceptance

Bill Acceptance Extended View Tab

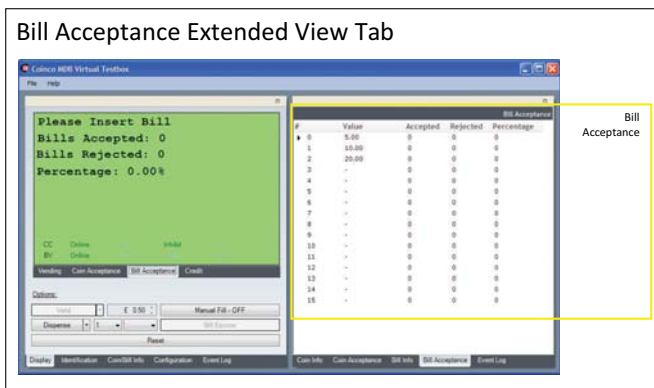


Figure 15 - Bill Acceptance Extended View

The Bill Acceptance extended view tab displays the number of bills accepted and rejected per bill type along with a percentage acceptance rate. Bill acceptance information is only accumulated when the Bill Acceptance display mode tab is selected.

Acceptance information can be exported to PDF / Excel and printed at any time by selecting the corresponding option from the file menu.

### Event Log

Event Log Extended View Tab

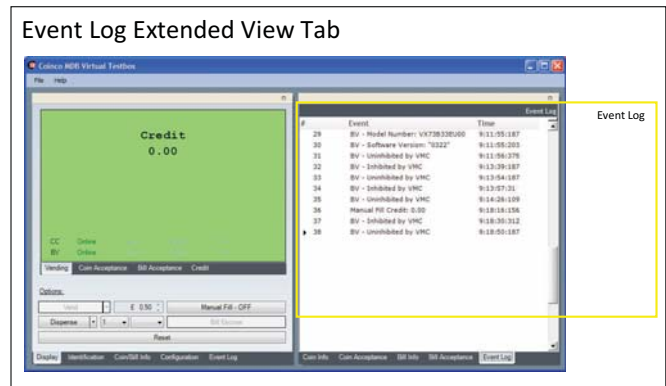


Figure 16 - Event Log Extended View

The Event Log features tab displays a log of all events that have occurred since either starting the application or clearing the event log via the File – Clear Event Log menu option.

The Event Log can be exported to PDF / Excel and printed at any time by selecting the corresponding option from the file menu.

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## Frequently Asked Questions

*Why can't I vend using a Free-Vend token (coin or bill)?*

Although free-vend tokens are accepted and their acceptance rate can be tested, the application does not allow them to be vended against.

*Why is the either CC or BV icon on the main display greyed out?*

The CC (Coin Changer) and BV (Bill Validator) icons are greyed out on the main display when they are disabled in the configuration - application settings - device enable option (see page 10).

*When I select either dispense all coins or dispense coin from all tubes there are a few coins in each that are not paid out, why is this?*

These coins are not paid out because they are hidden from the application by the coin changer. They are known as "hidden" coins and are used to prevent payout problems caused by coins not falling flat in an empty tube.

*Why do the MDB coin type not match the coin types listed on my Coinco Global 2/€ coin changer?*

They do not match because the coin types shown on the acceptor of a Coinco Global 2/€ coin changer represent each of the coins programmed into the acceptor regardless of whether they are reported under or compressed (reporting coins of the same value as the same MDB coin type) in MDB.

*Why does a message saying that the payout method is not supported appear when vending?*

This message indicates that the application tried to payout using the Level 3 expansion payout command. However, the command is not supported by the attached coin changer. Payout using the Level 3 expansion payout command can be disabled via the configuration - vending -

Level 3 payout enable option (see page 10).

*Why do the number of coins shown in the tube credit on the credit screen and individual coin types on the coin / bill info and coin information screen not match the number of physical coin in the tubes?*

The application displays the number of coins reported using the MDB tube status command. This command typically does not include the "hidden" coins used by the coin changer to prevent payout problems.

*Why when dispensing using the "by coin" and "all coins" options does the payout continue after clicking the stop button?*

The MDB dispense command used tells the coin changer to dispense up to 15 coins per command. Dispense commands cannot be cancelled. So if stop is clicked after the command has been issued the payout process will not stop until the next dispense command.

*Am I able to connect a coin changer or bill validator of any currency?*

Yes. The application supports any MDB coin changer or bill validator regardless of currency code. The only limitation is that the currency symbol shown in the vend price and dispense value boxes will always be the local currency symbol setup on your PC.

*What Coin Changer and Bill Validator faults are reported?*

The application reports all faults that are reported in MDB including extended diagnostics faults. These are shown in the main display and recorded in the event log.



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Coinco Publication No. 928710  
12/09 Printed in the U.S.A.