

# MDB Mini Tester for Coin Changers and Bill Validators

The tester is a small box attached via a 10 foot wire to a 24VAC (40VA rated) power transformer. The transformer size is specifically larger to accommodate hopper types of coin payout on coin changers as they tend to require brief but significant surges of current to start a dispense cycle when the hoppers are full of coins.

The tester is equipped with a toggle switch for ON/OFF on the top of the device, and also 4 tact style switches to the right of the display that are used two ways:

Any one or more of the four switches held down at power up will bypass the longer start up sequence of attempting to display the:

Manufacturer Code

Device Type

Device Serial Number-

Software Revision Level at startup

Holding down a switch as power up gets you to the "Quick Test Mode".

There are 3 LED indicators to the left of the LCD display.

Green is flashed each time the tester sends OUT and MDB message

Yellow is flashed each time an MDB peripheral responds to the tester

The RED indicator, is driven by a peripheral drawing more than 1.5 Amperes of MDB power from the tester and indicates that the self resetting PTC fuse has opened inside the tester to protect the power supply. If a defective peripheral causes this RED led to light, the tester should be powered down and the peripheral set aside as having excessive power consumption.

A PTC protective device once triggered, leaks a small amount of power to the offending load in order to stay open. The load must be removed to cause the automatic reset of the PTC and to continue testing. PTC devices reset in a couple of seconds once the overload is removed. The 24VAC power pack attached to the tester also has a PTC protector which protects it from an overload if the tester fails, just as the one inside the Tester protects the Tester from a Changer or Validator Overload condition.

The Green LED on the power pack goes OFF during overload while the Red LED on the Tester goes ON during overload.



## **To Operate the Tester:**

When first learning how to use this tester practice with a few known good units prior to testing questionable units. A instructional video is available on You Tube – search Capital Vending – MDB tester/

Power OFF, plug in MDB device under test and insert coins or currency.

Validator amount accumulated to date will tally until the tester is reset and Changer amount accumulated will tally until it detects the return lever being pushed, at which time it will zero out awaiting further coin insertion(s).

Quick Test Mode for either a changer or validator skips the display of manufacturer, serial number, and code revision prior to a test session and it can be invoked by simply holding any of the black tact switches down during power up of the tester. In Changer mode during testing the four black tact switches to the right of the LCD display are from top to bottom:

Dispense Nickel

Dispense Dime

Dispense Quarter

Dispense Dollar.

**DO NOT HOT PLUG MDB PERIPHERALS INTO THE TESTER WHILE IT IS POWERED UP.** This is hard on the MDB connectors and tends to pit and destroy them prematurely. Unplugging a peripheral that trips the RED MDB Power Fault LED is Okay as the current output from the tester is reduced to a trickle and not an issue for connector reliability due to this factor.

The Tester displays the following Status messages if supported by the peripheral, and after 5-7 seconds the tester will take the message from all capital letters to all lower case. This tells you the status is stale as recurring errors would keep the message as all capital letters.

Messages:

CCOK Changer is Functional

RTRN Changer Return Lever activated

PJAM Changer coin path is jammed

TERR Changer has tube error  
SLUG? A slug or a coin not accepted by the changer was inserted  
TJAM Changer has a tube jam  
BVOK Validator Functional  
MOTR Validator Motor Error  
SNSR Validator Sensor Error  
STRG Validator sensed stringing attempt  
RJCT Validator rejected bill inserted for validation  
\$BOX Cash Box is open or missing on Validator  
Free A Free Vend note or coin was inserted (if BV/CC accepts them)  
CHKSUM Changer or Validator reporting the internal software integrity suspect  
BUSY Changer or Validator reporting it is busy doing internal operation

The Processor (containing the test program internally), the 5V switching regulator IC, and the 4049 CMOS buffer for MDB serial data usage are all mounted in IC sockets for ease of repair when required, other circuits require service parts and skills not optimum for general field repair. There is a contrast trim pot inside for the LCD display, if your test environment is consistently very hot or very cold it can be adjusted for best display for such conditions. It is factory set at room temperature.

SKU: TESTER-MDB=MINI

Revision 01312016

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