Changer Monitor Instruction Set

This is a universal instruction set for all models of the Changer Monitor.
Not all aspects in this instruction set may apply to your monitor.

Overview

The Etowah Valley Equipment Changer Monitor is designed to detect abnormal changer use. When the adjustable dollar count is met, (within the adjustable time setting) the Monitor will signal the validator to stop accepting bills until the Monitor resets (with the ACW model, the monitor signals the controller to accept correct change only).

Installation

The Monitor is designed to simply plug inline at the existing validator-to-wiring harness connection. If the connections do not appear to be the correct type, or if you are unsure of where the connection is, please call us for additional help. The attached power cord is for an additional shutdown feature, but is not necessary for the primary operation of the Monitor.

Operation

The Monitor constantly registers the amount of bills changed. If the amount changed exceeds the adjustable dollar amount, (within the time setting) the bill acceptor will be signaled to stop accepting bills for 5 minutes. During this shutdown period, a 1 amp relay dry contact is provided to activate an alarm system and/or autodialer (not provided). After the 5 minute shutdown, the Monitor will automatically reset the changer and the alarm output will be turned off. If the dollar amount is exceeded again within an hour of the first shutdown, the Monitor will stop the acceptance of bills for 30 minutes before resetting. The monitor can be manually reset at any time by pressing the manual reset button.

"Total Count" Feature: The Monitor can limit the total amount of change allowed during a certain time period. By plugging the attached power cord into a common lamp timer, you can trigger the Monitor to stop bill acceptance after a total amount of change is given. For example, if you are certain that your changer takes less than $100 on any given night after 10 P.M., simply set the Monitor for $100 and set the lamp timer to come on at 10 P.M. and to go off at a time your choosing in the morning. The Monitor will automatically reset the total count when the power is removed in the morning. The primary Monitor mode is still active during this “total count” mode.

"Toggle Switch" Feature: This model of the changer monitor has been equipped with a front mounted toggle switch. This switch provides the operator with 2 operating modes. Alarm only mode activates the alarm circuit ONLY. Shut down AND alarm mode will trigger the alarm AND send a signal to the controller resulting in the machine displaying “Use Exact Change”. If you have a Paystation, you must manually reset the controller before the machine will resume giving change when using this mode.

Note: You must specify when ordering your monitor if you want either of these extra features.

Indicator Lights

There are 3 LEDs located next to the manual reset button. These will normally be off. When there is an active shutdown, LED D3 and D4 turn on (see figure 4). When the Monitor auto resets, LED D3 will turn off, but LED D4 will remain on until the manual reset button is pushed. The purpose of LED D4 is to inform you that an active shutdown has occurred. Keep in mind that you can manually reset the Monitor at any time by pressing the reset button (see figure 4). The LED D2 indicates if the "trigger" (bonus feature) from the lamp timer is present (indicating that the "total count" mode is active).

Setting Counts and Timing

Refer to Figure 3 for the pulse count, time duration, and total count settings. Refer to Figures 1 and 4 for board orientation when programming the dip switches. Make sure that the board is turned the correct way and is not upside down. **After choosing the desired dip switch settings, you must press the manual reset button to activate the new settings.**

Hints and Uses

The Monitor has been proven effective in limiting losses due to "stringers." Be sure to choose a low count setting and a high time setting to begin with. If you have too many false alarms, simply lower the time setting. The best way to determine initial settings is to record the changer use during a busy period and set the switches accordingly.

If you find that the Monitor is going "active" on a routine basis, you may want to change your settings slightly. Constantly changing the settings will thwart attempts by crooks to "learn" your particular setting pattern.

One of the Monitor's advantages over permanent anti cheat devices is the numerous settings. While crooks may defeat a "set" device, the ability to make adjustments with the Monitor is very helpful. The ability to hook up an alarm or autodialer also helps in preventing "stringing" and is highly recommended.

Board shown without the blue box

Figure 1

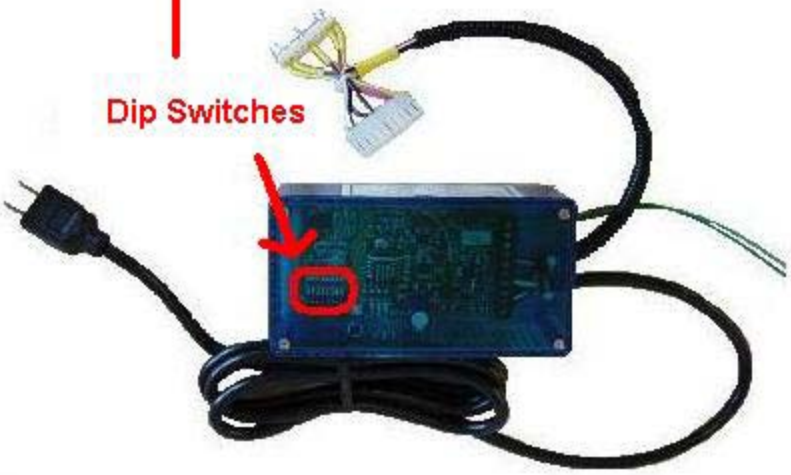


Figure 2

Board shown here is oriented the same as in the above diagram

The following figure shows the possible combinations of the dip switches and the settings that may be obtained:

TIME DURATION			
1	2	3	Duration (Minutes)
OFF	OFF	OFF	1 (default)
OFF	OFF	ON	2
OFF	ON	OFF	3
OFF	ON	ON	4
ON	OFF	OFF	5
ON	OFF	ON	6
ON	ON	OFF	7
ON	ON	ON	8

PULSE COUNT (DOLLAR BOARD)			
4	5	6	Count
OFF	OFF	OFF	5 (default)
OFF	OFF	ON	9
OFF	ON	OFF	14
OFF	ON	ON	19
ON	OFF	OFF	24
ON	OFF	ON	29
ON	ON	OFF	39
ON	ON	ON	41

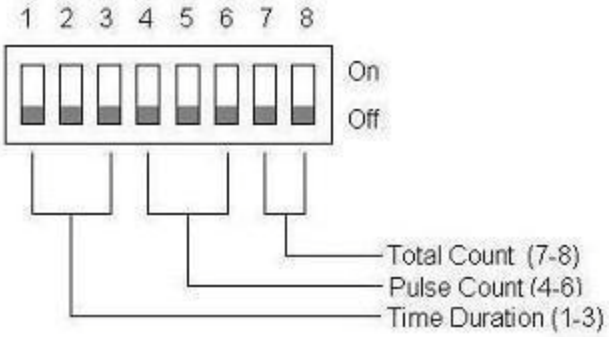


Figure 3

TOTAL COUNT		
7	8	Count
OFF	OFF	25 (default)
OFF	ON	50
ON	OFF	100
ON	ON	150

Most monitor boards are dollar boards. Check Figure 4 below to determine which type you have. If you have a quarter board, you will need to use the pulse count chart below.

PULSE COUNT (QUARTER BOARD)			
4	5	6	Count
OFF	OFF	OFF	5 (default)
OFF	OFF	ON	14
OFF	ON	OFF	19
OFF	ON	ON	36
ON	OFF	OFF	56
ON	OFF	ON	76
ON	ON	OFF	80
ON	ON	ON	81

The following figure shows the positioning of the board, LEDs, Switches, and the appropriate signal connections on J3

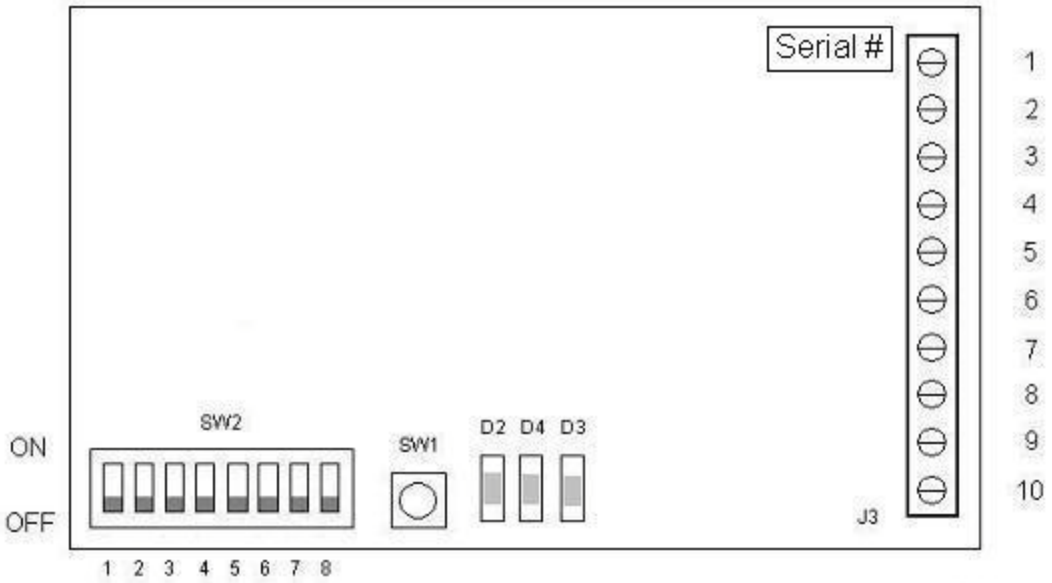
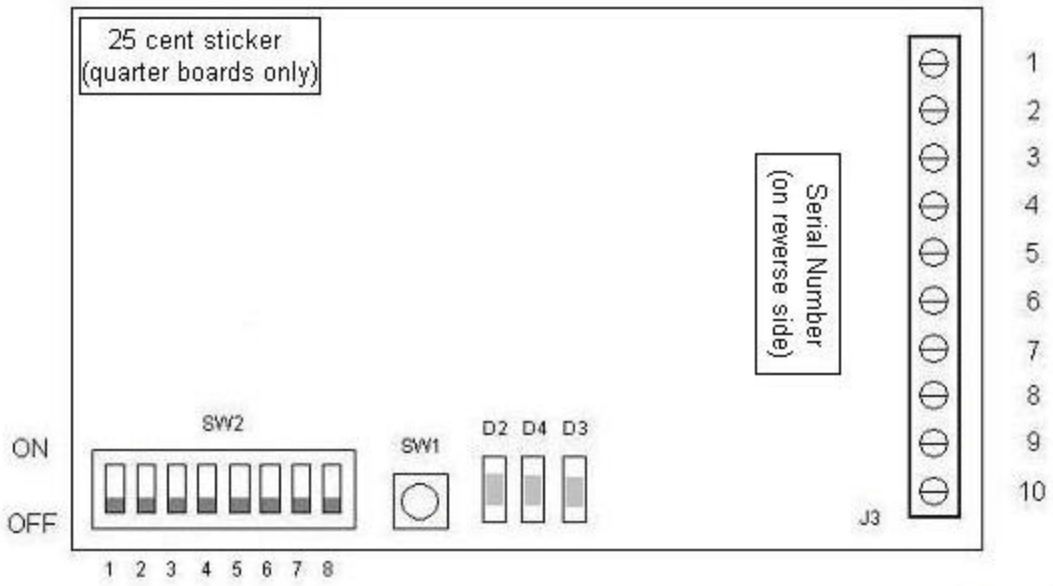


Figure 4

The diagram above is of the older version of the changer monitor. The serial number is found on the top right of the board. If you have this board, you will see a three digit serial number. If there is a "Q" in front of the numbers then you have a quarter board. If not, then you have a dollar board.

The diagram below is of the newer version of the changer monitor. The serial number is found on the underside of the board and can be seen through the bottom of the clear blue box. If you have this version of the monitor, you need to look at the upper left hand side on the top of the board to see if you have the quarter version. If there is a "25cent" sticker on this version of the monitor, then you have a quarter monitor. If there is no sticker, theen you have a dollar monitor.



Board Label Descriptions	
Label	Function
SW1	System (Manual) Reset Switch
SW2	System Program Switches
D2	System Active LED
D3	System Shut Down Active LED
D4	System Shut Down Done LED
J3	Wire Inputs

J3 Pin Specifications			
J3 pin	Name	Description	Allowable Range
1	Dry Contact 2b NO	Normal Open Relay	120VAC 1A
2	Dry Contact 2a NO	Normal Open Relay	120VAC 1A
3	Dry Contact 1b NC	Normal Closed Relay	120VAC 1A
4	Dry Contact 2a NC	Normal Closed Relay	120VAC 1A
5	Open Collector GND	Changer Common (GND)	0V Nominal
6	Open Collector In	Open Collector From Changer	5V Nominal
7	Trigger GND	Trigger Neutral	100VAC - 130VAC <2ma
8	Trigger	Trigger Input	100VAC - 130VAC <2ma
9	AC Neutral	AC Neutral	19VAC - 130VAC <100ma
10	AC Hot	AC Input Power	19VAC - 130VAC <100ma