



SL5000



Operator's Manual

INTRODUCTION

Congratulations on the purchase of your new SL5000. This SL5000 has been designed to give you many years of dependable service. It requires little maintenance and is easy to set up and operate.

READ THIS MANUAL COMPLETELY

Your SL5000 is designed to operate simply and reliably, but to take full advantage of your vendor, please read this owner's manual thoroughly. It contains important information regarding installation and operations, as well as a brief trouble-shooting guide.

EQUIPMENT INSPECTION

After you have received your machine and have it out of the box, place it on a secure surface for further inspection. **Note:** Any damages that may have occurred during shipping must be reported to the delivery carrier immediately. Reporting damages and the seeking of restitution is the responsibility of the equipment owner. The factory is willing to assist you in this process in any way possible. Feel free to contact our Customer Care Department with questions you may have on this process. It is important that you keep the original packaging for your vending machine at least through the warranty period. If your machine needs to be returned for repair, you may have to purchase this packaging if it is not retained.

Once you have your vendor located, we suggest that you keep this manual for future reference, or you can view this manual online at www.seagamfg.com. Should any problems occur, refer to the section entitled "COMMON QUESTIONS AND ANSWERS". It is designed to help you quickly identify a problem and correct it.



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IMPORTANT NOTICES

Your vendor (s) are intended for indoor use only
Your vendor (s) must be set on a level, well-supported location.
Always unload vendor before transporting it.
Do not load your vendor with disfigured or damaged product.

Section 1 **Brief Description of your SL5000**

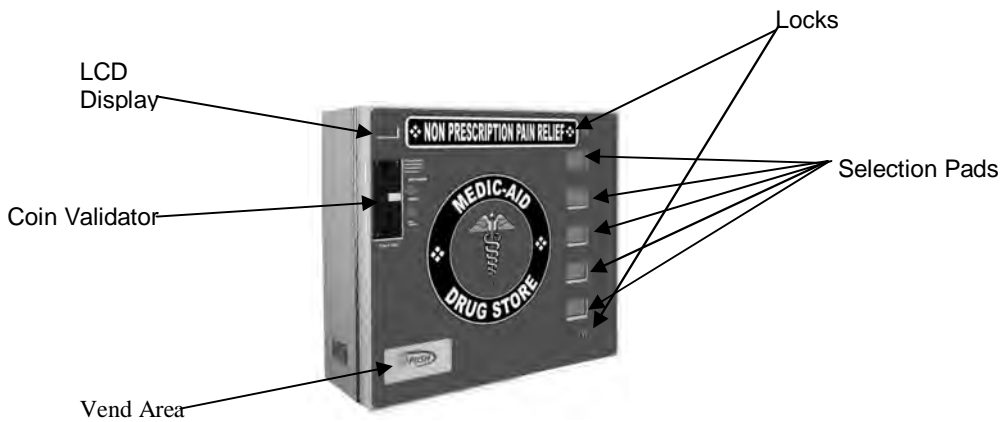
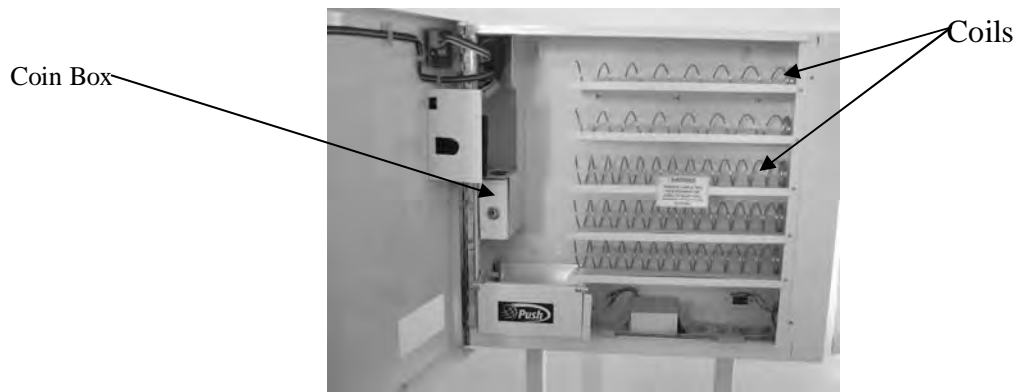


Fig.1



HOW TO LOCK & UNLOCK THE DOOR OF VENDOR

Your SL5000 has 2 locks. To open the door, unlock the top and bottom locks by turning the keys clockwise.

ELECTRICAL CONNECTION

The SL5000 may be driven by a 12-volt battery or via a permanent 12 VDC supply obtained through an AC/DC adapter. The SL5000 incorporates a Multi Functional Controller Board with a range of features such as 5 individual selections and multiple coin handling in a compact size.

PRODUCT SELECTION PRICING AND LABELS

Product selection is made using the 5 selection pads (see photo above). The prices can be set by entering the Service Mode.

DELIVERY SYSTEM

The delivery system of your SL5000 incorporates a Selection Pad, an LCD Display and helix coils. The customer inserts money into the coin slot and enters their selection on the Selection Pad; the selected Driver Motor turns the helix coil and vends the product.

KEYPAD AND LCD DISPLAY

The Selection Pad has touch-sensitive operation. Light pressure will be necessary to activate the appropriate motor/helix coil relating to any particular shelf. The Selection Pad is used by the customer to make their selection, and by the operator to set and test the many functions of the vendor (Fig.1).

The LCD Display shows the customer the amount of money entered into the vendor and the cost of their selection, it shows the operator the Service Mode function for setting and testing the various functions of the vendor.

BATTERY MODE OF OPERATION

During Battery mode, the machine operates in 'Sleep Mode'. This means that when the machine is not in operation (between vends), it will automatically shut down in order to save battery power, thus prolonging the life of the battery. During 'Sleep Mode' the machine display turns off its left hand digit (unless there is a value greater than 0 present) and the machine monitors to see if a coin has been inserted or a button pressed in order to 'wake-up'. The following conditions will 'wake-up' the machine from 'Sleep Mode'.

1. Coin Insertion
2. Selection Button Press
3. Black (Reset) Button Press
4. Red Service Button Press

On Wake-up the machine will only go back to 'Sleep Mode ' under the following conditions:

1. Directly after a vend has been made (Unless there is excess credit present in which case the machine will wait a further 60 seconds before going to sleep).
2. After 30 seconds after a selection has been pressed and the machine contains product.
3. After 20 seconds after a selection has been pressed and the machine does not contain a product.
4. After 5 seconds if an invalidated coin has been inserted and the machine contains product.
5. After 60 seconds after a coin has been inserted and validated.
6. After 5 seconds if the machine is completely empty.
7. After 5 seconds after if the machine is out of order.
8. After 5 seconds after the black (reset) button is pressed and the machine is empty.
9. After 20 seconds after the black (reset) button is pressed and the machine contains product.
10. After 8 seconds after leaving service mode

These values are extended each time a selection is pressed or coin is inserted to a maximum of 60 seconds. When the machine goes to sleep, the following messages are displayed under set conditions

	When Awake	When Asleep	
i.	00.00 – 09.00	0.00 – 9.99	(Decimal points always on)
ii.	10.00 – 99.99	10.00 – 99.99	(Decimal points always on)
iii.	Free	Fr. ee	(Decimal points always on)
iv.	Test	Te. st	(Decimal points always on)
v.	Out of Ord	F- Er	(Fatal Error set)
vi.	- - . - -	- . - -	(Decimal point always on)

When the vending machine detects that a battery is low an error code will be displayed (51). This code will remain on display until the battery has been replaced and the black reset button has been pressed.

When the vending machine detects that a battery is dead, the machine will permanently turn itself off.

Section 2

SERVICE MODE

In this dedicated version of software the VMC is limited to 5 columns, each with a dedicated "negative counters" to count down the stock in each column. When the corresponding negative counter reaches zero the selection is shown as "**Sold Out**". The capacities for each column are set with the "**nC**" menu option. If all columns are sold out coin acceptance is inhibited.

The negative counters can be reset using the "**A**" or "**B**" buttons:

"**A**" Button – unconditionally resets ALL counters to maximum capacity. The operation is confirmed with a long bleep and **ALL r-ld** on the display.

"**B**" Button – only resets any counters that are zero (i.e. fully vended) to their maximum capacity. Counters that are not fully vended are not changed. The operation is confirmed with a long bleep and **r-ld** on the display.

Operation

The operation of the machine can be adjusted by entering service mode by pressing the red button on the VMC circuit board and then accessing the appropriate operation. Price setting, coin value setting, and vend-credit criteria can be read and adjusted from here. The user can also perform tests on the machine through this mode. Note: any Credit will be cancelled on entry to Service Mode.

1. Enter Service Mode by pressing the Service Button on the VMC Circuit board.
On entry to Service Mode, up to 8 Error Codes may be displayed. These can be cleared using the Clear Errors menu option.

Error Code Display Er.** where ** is the error number

2. Each Service Code can then be accessed by repeat pressing of the Service Button

	Pressing Service Button (AUDIT)	Displays	Au.--
	Pressing Service Button (PRICE SETTING)	Displays	PS.--
	Pressing Service Button (COIN VALUE SETTING)	Displays	Cn.--
	Pressing Service Button (CONTROL WORD SETTING)	Displays	Ct.** Where ** is the current word
	Pressing Service Button (SOUND On/Off)	Displays	So.0* Where * is the current state
OR	Pressing Service Button (STOCK MODE On/Off)	Displays	St.0* Where * is the current state
	SL5000 – (NEGATIVE COUNTERS)	(0 or 1)	
			OR
	Pressing Service Button (TEST MODE)	Displays	tE.--
	Pressing Service Button (TEST ALL MOTORS)	Displays	AL.--
	Pressing Service Button (CLEAR ERRORS)	Displays	CL.--
	Pressing Service Button (FACTORY RESET)	Displays	Fr.--
	Pressing Service Button (EXIT)		Machine goes to Sleep

3. Service Mode can be exited by stepping through all the menu options using the Service Button, or automatically if there is no activity for 30 seconds. On Exit the software version number is displayed as u2.10

Audit

Within Service Code AU (Audit) readings can be taken from the Display with regards to cash taken, and number of products vended. The following details can be obtained on the Display.

- 1 Total Cash Taken (up to 9999.99)
- 2 Total Product Vended (up to 9999)
- 3 Individual Product Vended (from each selection) up to 999
- 4 Total Cash Out as change (up to 9999.99) #

Press the Red Service Button repeatedly till the LCD Displays Au.
You are now in Audit Mode

Press Selection 1 to reveal the total cash (\$) and (c) taken.
Displays 88.88 for 0.75 seconds before showing the cash values: Displays ****and--. **

Press Selection 2 to reveal the total product vended Displays ****

Press Selection 3 to reveal the individual product vended

The display scrolls through each selection displaying the quantity vended 1.*** to 9.***, then A.*** through to F.*** and then 0.*** for selections 1 to 16 respectively. Press any selection key to end this sequence immediately.

Returns to Au- at end of routine.

Press Selection 4 to clear all the Audit data Displays Clr

Press Selection 5 to :

- | | | | |
|--|-----------|---------------------|----|
| show the total cash OUT(\$) | and (c) # | Displays ****and--. | ** |
| then negative counter values (selection n, count xx) | | Displays 0n.xx | |
| then the “no load” battery voltage | | Displays **.0 | |
| then the “under load” battery voltage | | Displays **.0 | |

Press Service Button to scroll to exit.

Price Setting

Price Setting can be done by entering Service Code PS.

Each selection can be allocated any price from 00.00 to 99.99, and is achieved by inserting coins to the vend amount and allocating that amount to the desired selection(s).

- | | | |
|--|----------|--------|
| 1 Press the Red Service Button repeatedly until the LCD
You are now in Price Setting Mode | Displays | PS.— |
| 2 Insert coins to the first desired price (for simplicity set the lowest price first)
Credit will accumulate on the display. | Displays | **. ** |
| 3 Press desired selection button to store displayed credit to that selection – a long bleep and a “Set” display will confirm that the price has been programmed. | | |
| 4 Insert additional coins if required and repeat for other selections. | | |
| 5 Press Service Button to scroll to exit. | | |

Prices may be set from 00.00 to 99.99 (depending upon coin values). The default price setting is 1.00

Coin Value Setting

Coin Value setting allows for the changing of the individual values for the 6 coin outputs from the Coin Acceptor. Values can be adjusted from 00.00 to 99.99 or can be set as a free vend token.

- | | | |
|--|----------|--------|
| 1. Press the Red Service button repeatedly until

<i>You are now in the Coin Value setting Mode
You first need to set the value for the coin</i> | Displays | Cn.-- |
| 2. Press Selection Button 1 to increment the --.** Value | Displays | 00.** |
| 3. Press Selection Button 2 to decrement the --.** Value | Displays | 00.** |
| <i>That is the cent/pence value set, now we need the dollar/euro/pound value</i> | | |
| 4. Press Selection Button 3 to increment the **.- Value | Displays | **.**? |
| 5. Press Selection Button 4 to decrement the **.-Value | Displays | **.**? |
| 6. Press Selection Button 5 to set the coin as a Free vend Token (pressing any other key reverts to a value) | Displays | FrEE |

Now with the value on the display, insert the coin for which the value must be assigned

7. Insert Required Coin until it is accepted and the unit “bleeps” and displays “Set” to assign the value to that coin
8. Repeat steps 3 to 7 until all coins are set.
9. Press Service Button to exit

Control Word Setting

1. Press the service button repeatedly until
(where ** is current value)
You are now in Control Word Setting Displays Ct. **
 2. Press Selection Button 1 to increment the value Displays Ct.**
- The control word is now set*

4. Press Service Button to exit

The control word options supported are:

Code	Credit vs. Vend Price Before vend is performed	Excess Credit (G13 Coin Acceptor)	Excess Credit (Coin Changer) #
03	Credit >= Vend Price	Cancelled immediately	Given as change immediately
04	Credit >= Vend Price	Held until power removed	Returned when ER pressed or held until power removed
05	Credit >= Vend Price	Held for 60 seconds	Returned when ER pressed or held for 60 seconds
06	None – Free Vend Mode	Not applicable	Not applicable

SOUND (On/Off)

1. Press the service button repeatedly until
(where * is current value) Displays So.0*
2. Press Selection Button 1 to toggle the setting Displays So.0*
3. Press Service Button to exit

A value of 1 enables the sound, 0 disables the sound. Sounds within the menus cannot be disabled.

Negative Counter Setting

This menu option, only available within the SL5000 version of the software allows the maximum capacity to be set for each selection. When the stock is “filled” (A or B button) these are the numbers that are loaded into the negative counters.

1. Press the Red Service button repeatedly until Displays nC.--
Press any selection : You are now in the Negative Counter setting Mode

- | | | |
|---|----------|-------|
| 2. Press Selection Button 1 to increment the 0s.--. Value (the selection number, 01 – 05, nn is the current negative counter capacity for this selection) | Displays | 0s.nn |
| 3. Press Selection Button 2 to decrement the 0s.--. Value (the selection number, 1 – 5, nn is the current negative counter capacity for this selection) | Displays | 0s.nn |
| 4. Press Selection Button 3 to increment the counter capacity nn (maximum value 40) | Displays | 0s.nn |
| 5. Press Selection Button 4 to decrement the counter capacity nn | Displays | 0s.nn |
| 6. Press the Red Service Button to exit the mode | | |

TEST MODE

- | | | |
|--|----------|-------|
| 1. Press the service button repeatedly until | Displays | tE.-- |
| 2. Press Service Button to exit | | |

In Test Mode, pressing a selection switch will operate the selected motor. If a coin is inserted its value will be displayed for 1 second.

ALL MOTORS MODE

- | | | |
|--|----------|-------|
| 1. Press the service button repeatedly until | Displays | AL.-- |
| 2. Press Service Button to exit | | |

In this mode, press selection button 1 to commence a single test vend on all fitted motors.

CLEAR ERRORS

- | | | |
|--|----------|-------|
| 1. Press the service button repeatedly until | Displays | CL.-- |
| 2. Press Service Button to exit | | |

In this mode, press any selection button to clear all errors – confirmed with a “CLr” display.

FACTORY RESET OF SETTINGS

- | | | |
|--|----------|-------|
| 1. Press the service button repeatedly until | Displays | Fr.-- |
| 2. Press Service Button to exit | | |

In this mode, press selection button 2 for two seconds to reset to these factory default settings (confirmed with a “Set” display).

Prices ; Depends on software version
 Coin Values: 0.05, 0.10, 0.20, 0.50, 1.00, 2.00
 Control Word: 05
 Sound: ON
 Stock Mode: OFF
 Payment Devices: 00 (Change giver and Bill Reader disabled)
 Negative Counters All 12

Error Codes

Error Code Number	Fault detected	Hard/Soft fault	Action
01 .. 16	Motor 01..16 respectively	Soft	Repair/replace motor/home switch
20	EEPROM Checksum Error	Hard	Factory Reset through the menus to clear the fault, then set up prices etc again
30	Coin Mech fault	Hard	Repair/replace Coin Mech
41 – 57	Keypad fault (key 1..16 respectively)	Hard	Repair/replace keypad
70	Battery Low – no load voltage too low	Hard*	Replace/recharge the battery
71	Battery Low – under load voltage too low	Hard*	Replace/recharge the battery
72	Battery Low – battery internal resistance too high	Hard*	Replace the battery
73	Battery nearly low	Warning	Replace/recharge the battery soon

Soft Errors – unit will continue to operate though failed motors will show as “Sold Out” and be blocked from operation if selected. If the unit has detected 8 different soft faults it will become a Hard fault.

Hard Errors – the unit is put out of service. This mode can only be cleared via the service button.

Hard* Errors – the unit is put out of service until the battery is replaced/recharged and the service button is pressed to clear the error conditions.

MOTOR ASSIGNMENT

The following details would be helpful in a proper assignment of the Motor version. The SL5000 uses Seaga 3 wire 12v DC gray motor.

Motor Version Map

Version	Name	Description	Start Sense	Home	Time-out	Assignment	Indicator
1	Spiral Motor	Seaga 3 Wire Motor 24V white	Open	Yes	**	Individual	----
2	Spiral Motor	Seaga 3 Wire Motor 12V grey	Open	Yes	**	Individual	----
3	Reserved						
4	Reserved						
5	Reserved						
6	Reserved						

Operation

How to Set up your Motor Version:

To Change .. do the following:

- | | |
|---|--|
| 1. Press the Red Service Button till AS
where * is the current version # | Displays AS-* |
| 2. Press Button 1 (or 2) to increment/decrement Version # | Displays AS.0? where ? is version 1 to 6 |
| 3. Press Button 3 to store Version Value | Displays set |
| 4. Press Red Service Button or Reject to scroll to exit | Displays 00.00 |

Notes

- When setting up a Motor Version a default Timing value will be assigned automatically, (see default value). This may need to be changed (see timing value setting).
- The default motor version is Version 2.
- The VMC will return to Normal Mode (00.00) 60 seconds after the last button has been pressed unless the Red Service Button has been pressed or the reject is pressed.

Timing Value

The timing value is a measure of time that allows the VMC to either ignore any signals from the motor until the time has expired, or if the time has expired without any signals. Depending on the Version, the timing Value has different characteristics.

Generally speaking the timing value is set to the normal vend time. For example, if the vend normally takes 6 seconds to complete, then set the timing value to 6. This allows for the VMC to 'expect' a home signal at the required time and to ignore any spurious signals in the meantime. It also sets an appropriate delay after a 'home' should be expected, disabling power to the motor if this home wasn't reached. In this case the motor is inhibited, the appropriate error code is set and the money entered is returned to the user.

The Vend cycle is Voltage and Load dependent so an approximate setting of the timing value needs to be set. The vend cycle, is the time from motor start (when at home) to motor end (return to Home) in seconds. This translates directly to the timing value that re-conditions the value for correct operation.

Operation

- | | |
|---|---|
| 1. Press the Red Service Button to scroll to | Displays AS.— |
| 2. Press Button 1 (or 2) to increment/decrement Value | Displays AS.** where ** is value 01 to 99 |
| 3. Press Button 4 to store Timing Value | Displays set |

Notes

- The current timing value is displayed whilst doing a test as Pl.**, where ** is current value
- The timing Value can be set from 00 to 99.
- For Version 1 Motors the default timing value is 7
- For Version 2 Motors the default timing value is 7
- The timing value reverts back to default every time a version change is set
- The timing value cannot be individually assigned and applies to all outputs when set.
- The VMC will return to Normal Mode (00.00) 60 seconds after the last button has been pressed unless the Red Service Button has been pressed or the reject is pressed.

Negative Counter Sold Out Feature

Negative Counter can only be set and calibrated for each selection by entering Service Code nc . Selection can be incremented or decremented from 1 to 5 using buttons 1 and 2 respectively and each shelf can be allocated a negative counter from --.00 to --.99, where - - belongs to the shelf number. Negative counter value is incremented by button 3 and decremented by button 4. Each configuration can be saved by button no. 5.

1.Operation

1. Press the Red Service Button Repetitively till LCD Displays:- **nC .- -**

You are now in Negative Counter Setting Mode.

2. Press Selection Button 1 to increment the **.- - Value i.e shelf selection no (** no. of shelf).

The LCD will now display the incremented selection no.

3. Press Selection Button 2 to decrement the **. - Value i.e shelf selection no (** no. of shelf).

The LCD will now display the decremented shelf selection no.

The Shelf for which the Negative Counter has to be set has now been decided ; We now need to set the value of the Negative Counter for the selected shelf.

4. Press Selection Button 3 to increment the - . ** Value i.e negative counter value (** negative counter setting).

5. Press Selection Button 4 to decrement the - - . ** Value i.e negative counter value (** negative counter setting).

Press button 5 to store the decided negative counter value assigned to the selected shelf.

The Display will show C.set

6. Repeat steps 2 to 5 till all the shelves have been assigned the desired negative counter value.

7. Press Reject Button to exit

Note: *Default values of all Negative Counters are factory set as per the No. of spaces in each coil. If the user changes a coil to one which has different number of spaces then the Negative Counter pertaining to that coil will have to be reprogrammed as per procedure mentioned earlier.*

2. Negative Counter Display : To see the current status of all the Negative Counters assigned to different shelves , enter the service Audit mode. (Au - -).

In the Audit mode Press button 5 , the Negative Counter value along with the selection no (**. - - where ** represents the shelf that has been selected and the - - represents the current value of the Negative Counter that has been assigned to that shelf.) is displayed in scrolling mode from shelf 1 to 5.

3. Sold out Feature: After setting the Negative Counter for each selection, the Negative Counter will get decremented by 1 each time that a valid vend is made. Negative Counters for each shelf thus keep on decrementing as and when a vend is made, from the set value to zero.

When the value of any Negative Counter reaches zero, pressing the selection button assigned to that Negative Counter will then prompt the display to show **SOLD OUT**. No vend can then be made from that shelf. Vends from other shelves will not be interrupted and can be made as normal

Note: *If a coil has 7 spaces/products, it will show SOLD OUT after vending 7 products.*

4. Resetting of Negative Counters of fully vended shelves: **Button no. B** (fig.2) has been assigned for the resetting of the Negative Counter of fully vended shelves. If one or more selection(s) is /are sold out, then keeping the button B pressed for 3-4 seconds will reset all the Negative Counters of the shelves which were fully sold out at that moment.



Button A & B

Fig.2

A long beep with **r-ld** will appear on the display indicating that partial resetting has taken place and that the Negative Counters which were zero prior to resetting have been restored to set value.

The Negative Counters of all other selections which were not fully sold out at that moment will not be disturbed and will maintain the value they had reached.

Note:

a). Safety Feature : Button **B** will only be operational from the moment that any of the Negative Counters have reached to zero value.

If none of the neg. counters are zero, then pressing button no. B will not yield any results.

b). To prevent accidental partial resetting, button no. B needs to be kept pressed for 3-4 seconds, till the display shows **r-ld**, confirming the partial resetting has been executed.

5. All Reset Feature: If it is desired to totally reset all the shelves, irrespective of whether any of them have reached zero value, then button no. A needs to be kept pressed for 3-4 seconds.

A long beep with **ALL r-ld**, on display will confirm that the resetting/reloading of all the 5 Negative Counters to their preset value has taken place

Note :

a) To avoid accidental reloading of all the neg. counters, button no. A (fig.2) needs to be pressed for 3-4 seconds, till the display shows **ALL r-ld**, thereby confirming the reloading of all Negative Counters.

b) It is desirable to indicate on an Instruction label on the front of the machine that the customer should first press the selection button on the machine to check product availability before inserting money into the coin validator.

If money is first inserted into the validator and all the shelf selections are empty i.e. 'Sold Out' and then a selection is made, then the display will show 'Sold Out' and the money will not be returned.

Test Sequence

The VMC constantly tests the operation of the machine, the data stored and the peripherals attached. Every .01 seconds, a self-test analysis is done to verify correct operation of the machine. Further tests are done on Power Up, Button Press, Coin Insertion and entering/exiting Service mode. These tests will generate the relevant fault code as necessary. However, it is possible to do a thorough analysis through Service Code AP, which will individually test each motor as well as escrows and other related functions. This is useful to re-align any jammed motors.

Test Code Map

	TEST	WHAT IS VISIBLE	ACTION
1	Escrow Return	Displays ' TEST'	Escrow Return Opens [if present]
2	Power		Power Status Checked
3	LEDS	Displays ' 88.88 ' all Column LEDES on	Ensure all LED Segments Illuminate
4	Price Setting		Confirm Prices are set
5	Escrow Keep	Displays PL.** [Timing Value]	Escrow Keep Opens [if present]
6			Confirms Coin Values
7	Motor 1	Displays 01.-* where * is motor Version	Motor 1 operates [if present]
8	Control word		Confirms that a valid control word is set
9	Motor 2	Displays 02.-* where * is motor Version	Motor 2 operates [if present]
10	Motor Assignment		Confirms that a valid motor assignment is set
11	Motor 3	Displays 03.-* where * is motor Version	Motor 3 operates
12	Coin count value		Confirm that a valid coin count value is set
13	Motor 4	Displays 04.-* where * is motor Version	Motor 4 operates [if present]
14	Audit		Confirms that all audit registers are valid
15	Motor 5	Displays 05.-* where * is motor Version	Motor 5 operates [if present]
16	Timing belt		Confirms that valid timing belt value is set
17	End of Test	Displays 0.-**	Where ** is a fault found during test

1. Press the Red Service Button to Enter Service Mode to scroll to *You are now in applications Mode* Displays AP.–
2. Press Selection 1 to activate test sequence Displays test
The machine will now perform a test as outlined below any faults that occurred will be indicated

3. Press Red Service Button to exit or Press Reject Button to exit.

- Notes:**
- The test sequence may activate a motor for two cycles; this is normal.
 - If after a test a fault code appears, correct the fault and test again.
 - The Display will return Normal Mode 60 seconds after the last button has been pressed unless the Red Service has been pressed or the reject is pressed.

FACTORY DEFAULT SETTING

The SL5000 can be reverted back to factory defaults by the user by entering service code AP.-- Care must be taken while doing this as all data will be lost and will have to be entered again.

A list of factory defaults is as follows:

DATA	DEFAULT VALUE	TO CHANGE
Standard Audit Totals	0000.00	
Prices	Factory set	Service Code PS
Coin Value Settings	Factory set	Service Code Cn
Coin Count Value	15 [if escrow present] 99 [if no escrow present]	Service Code Cn
Credit [Display]	00.00	
Control Word	5 [excess credit carried forward for 60 seconds]	Service Code Ct
Motor Version	Version 2 [all motors]	Service Code AS
Motor Timing Value	7	Service Code AS
Motor Assignment	Selection 1 – Motor 1 etc	Service Code AS
Motor Backup	No-Individual Assignment (1)	Service Code AS
Negative Counter	Factory set	

1. Press the Red Service Button to enter Application Mode Displays Ap.-
You are now in application mode
2. Press and hold selection 2 for seconds till Displays set
 The machine will automatically exit from service mode and display ‘ Out Of Ord(e)r ‘
3. Press Red Service Button to re-enter Service Mode and re-configure settings.

Fault Analysis

Within the machine there is an internal fault analysis. Every 0.1 second the machine will do a self analysis test. This test does not affect the normal operation of the machine. There will be no change of status of the machine from a users point of view. The machine will still accept coins, display prices and vend products even during self-analysis test. If the machine observes a problem it will double verify the cause and store the error, which will be displayed during service mode. To display an error code, simply enter service mode by pressing the red button. The error code will be displayed intermittently. To clear an error code, simply exit service mode (rectify error if necessary).

Note: If more than 5 normal error codes have been detected the machine will assume ‘Fatal error’ status putting the machine ‘Out of Ord(e)r’.

Fault Code Map

Code	Description	Remedy
--	No error present	None
00	Empty Error Location	None
01	Motor 1 Error	Remove Jam-Activate Test Sequence-Exit Service Mode
02	Motor 2 Error	Remove Jam-Activate Test Sequence-Exit Service Mode
03	Motor 3 Error	Remove Jam-Activate Test Sequence-Exit Service Mode
04	Motor 4 Error	Remove Jam-Activate Test Sequence-Exit Service Mode
05	Motor 5 Error	Remove Jam-Activate Test Sequence-Exit Service Mode
30	Zero Price Setting	Reset all prices - Exit Service Mode
31	Zero Coin Count Value	Reset Coin Count Value - Exit Service Mode

32	Zero Control Word	Reset Control Word Value - Exit Service Mode
33*	Zero Coin Value	Reset Coin Value - Exit Service Mode
35	Incorrect Motor Version	Motor Version outside of norm. Confirm Motor Version
40	Data Corrupt Price	Reset all Prices [Fatal error] - Exit Service Mode
41	Data Corrupt Coin	Reset Coin Values [Fatal error] - Exit Service Mode
42	Data Corrupt Control	Reset Control Code [Fatal error] - Exit Service Mode
43	Data Corrupt Selection	Reset Motor selection [Fatal error] - Exit Service Mode
44	Fatal Power Up	Confirm Prices, Product codes and Coin values - Exit Service Mode
45	Power Interrupt	Possible Fraud attempt - Exit Service Mode
46	Invalid Coin Output Code	Replace/Reprogram Coin Acceptor
47*	Button Panel fault	Check all buttons are operating currently - Exit Service Mode
48	Coin Validator Error/Fault	Check operation of Coin acceptor - Exit Service Mode
49*	Coin Validator alarm	Possible fraud on Coin acceptor – Check operation of Coin Acceptor
51*	Battery Low	Replace Battery - Exit Service Mode – Press any selection button 5 times
52	Coin Acceptor Rate Low	Check Coin Acceptor- Check battery - Exit Service Mode
53*	Battery Dead	Replace Battery - Exit Service Mode - Press any selection button 5 times
55*	Printer Communication Error	Check Printer operation – Disconnect printer
56*	Change giver Comm's Error	Check Change giver operation
57*	Modem Communication Error	Check Modem Operation
58*	Note/Bill reader Comm's Error	Check Note/Bill reader operation
59*	Cash-Less device Comm's error	Check Cash-Less device operation
60*	External Alarm Activation	Alarm has been activated – check for machine tampering
61*	Escrow Keep Time-out	Check Escrow Unit- Activate Test Sequence – Exit Service Mode
62*	Escrow Return Time-out	Check Escrow unit- Activate Test Sequence – Exit Service Mode
70*	EEPROM Write Error	Check Prices and Coin data
71*	EEPROM Read Error	Check Prices and Coin data
99*	Machine Lock-up	Code Required-Consult Machine Supplier

Note: * Reserved Codes – Not present in current SL5000 model

SOFTWARE VERSION

Currently the VMC is powered by a Flash Based Micro-Controller Integrated Circuit. Flash based technology is the latest of its kind and is unique in that all data is retained within the IC even on power loss. Flash based systems also have the advantage of being able to be re-programmed with relevant updates.

The software version is displayed for a fraction of a second on exiting from service mode.

SOFTWARE RESET

As with all microprocessor based devices, a device reset must be incorporated in case the device goes into loop state. The VMC has incorporated on board an internal device reset or watchdog which pulls the device out of any loop state. A loop state occurs when the software locks itself on a particular branch code, thus preventing the VMC from operating correctly. Occurrences of this are extremely rare and are usually a result of Voltage Spikes or strong Electro-Magnetic Interferences.

The Device may also be reset by depressing the Black Reset Button on the Circuit Board. This does not affect any of the overall operations of the VMC, it purely pulls the device back as if it were initially powered up. The only information lost on pressing the Black Button is the following:-

- 1.Any Credit on the display will be cleared
- 2.Any error Codes that occurred are cleared.

Summary Of Software Versions

Motor Version Numbers

Ver	1	2	3	4	5	6	FLASH	TAS	NOTES	DATE
1.01	X	X					X		Negative Counter, improved motor handling & Battery performance	Nov '04

** Includes 00—07. minor device changes

TAS Token Access System

ACC: Accumulated Audit Readings

Section 3

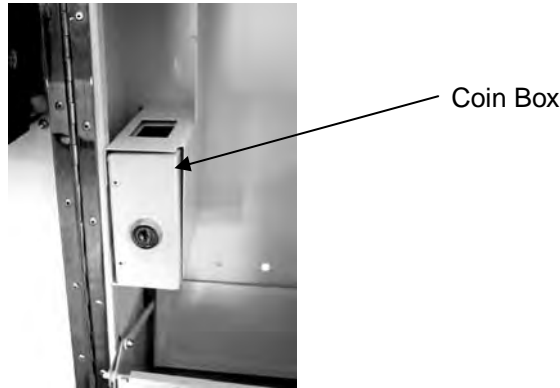
MONEY MECHANISM

COIN VALIDATOR

The Coin Validator receives the coin from customers. The Coin Validator will accept quarters, dimes, and nickels. The Coin Validator can be set to accept the new golden dollar

One (1) coin box is provided with your SL5000, it is stored in the bottom left side inside the machine (Fig. 3). Once the front door is opened, pull out the coin box to empty it.

Fig. 3



CLEANING

Your Coin Validator needs to be cleaned only when the Coin Validator no longer reads the coin values.

1. Cleaning the Optics. You will need cotton swabs [Q-tips], and a 50/50 water/isopropyl [rubbing] alcohol solution.

- a. Unlock and open the front door
- b. Remove the Coin Box, and Pull the Vertical shelf out.
- c. Swab the lenses with the solution, and reassemble.

COMMON QUESTIONS AND ANSWERS

Q. How High Can I set my Prices?

A. Each selection can be priced individually up to \$99.99

Q. Can Customers reach down and help themselves to product?

A. No, They Can't. The product door is a Triangle shaped flap designed to deter reach and theft. When pushed, the back of the triangle flap will come in contact with the bottom product tray and will become an anti-theft wall to act as a block.

Q. In the event of a power outage, will I have to reprogram my Vendor?

A. No, Your selection prices are safely stored.

Q. Coin Validator is not accepting Coins

A. Lenses may be dirty
Coins may be damaged or worn out
Wire harness may not be connected properly
Coin Validator may not have power

Special Note: We suggest that you always partially fill the vendor with product and perform at least five (5) test vends. Test vends can be performed easily by entering Service Mode and running "Individual motors testing".

LIMITED WARRANTY

Seaga warrants to the original purchaser that the equipment is free from defects in material and factory workmanship for a period of one (1) year from date of shipment.

Repair or replacement of proven defective parts is limited to manufacturing defects demonstrated under normal use and service during warranty period. Prior to returning any parts with transportation charges prepaid for replacement, the customer is to contact Seaga's Customer Care Department at 815.297.9500 and be assigned an RA number. Seaga will refuse any collect shipment. To obtain an RA number, contact Seaga with complete information including the serial number(s), date of purchase and description of the part and/or suspected defect to:



Seaga Manufacturing, Inc.
700 Seaga Drive
Freeport IL 61032

We may also be contacted, with complete information, as follows:

phone: 815.297.9500

fax: 815.297.1700

email: customercare@seagamfg.com

Seaga will repair or replace, at our option, any covered part which meets the provisions herein during the warranty period. It is our discretion to replace defective parts with remanufactured parts. Seaga reserves the right to make changes or improvements in its products without notice and without obligation, and without being required to make corresponding changes or improvements in equipment already manufactured or sold.

This warranty applies only if the equipment has been serviced and maintained in strict accordance with the instructions presented in the Operator's Manual and no unauthorized service, repair, alteration or disassembly has been performed. Any defects caused by improper power source, poor water quality or pressure, an installed water filtration system not fully functioning, abuse of the product, accident, alteration, vandalism, improper service and maintenance schedules, neglecting to de-scale and sanitize on a regular basis, use of products or ingredients not allowed in the machine, corrosion due to use of non-approved detergents or cleaning solutions, or damage incurred during return shipment will not be covered by this warranty. Further, equipment that has had the serial number removed, altered or otherwise defaced will not be covered by this warranty.

Lighting components, refrigerant, glass, paint, decals, fuses, filters or hygiene replacement parts, labor and/or installation are not covered by this warranty.

Follow proper maintenance procedures and use of equipment, as described in the Operator's Manual provided on Seaga's web site at seagamfg.com, which include but are not limited to:

- Cleaning of equipment including regular maintenance
- Proper installation and location of equipment with respect for the indicated temperature and humidity levels
- Proper use of equipment including loading, programming and setup

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, TO INCLUDE, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AS TO THE UNIT AND ACCESSORIES. UNDER NO CIRCUMSTANCES SHALL SEAGA BEAR RESPONSIBILITY FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL LOSSES OR EXPENSES. Seaga neither assumes nor authorizes any person to assume for it any obligation or liability in connection with the sale of said unit(s) or any part(s) thereof.

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