PROGRAMMING MANUAL

120 SELECT
CONTROLLER SOFTWARE

This manual contains only the programming instructions for the 120 Select Controller used on the vending machines listed below. Please refer to your service manual for other information.

VENDOR	MODEL	SOFTWARE
COMBO 3/6	3155, 3155A	67185-7
SNACK MART VI	3157, 3157A 3158, 3158A 3159, 3159A	67185-7
SM5700	3160, 3160A	67185-7
CF1000	3162, 3162A	67210-4
RFS	3168, 3168A 3169, 3169A 3170, 3170A	67185-7 67217-9 67257-1
RSQF 2000	3175, 3175A 3176, 3176A 3177, 3177A	67185-7
FF2000	3182, 3182A	67209-4
SC100	3187	67185-7 67212-1
DUAL ZONE SNACK	3195, 3195A 3193, 3193A	67232-6 67234-2
SZF/DZF SNACK	3207, 3207A 3208, 3208A	67256-1

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SERVICE MODE

The **SERVICE MODE** is used by the operator to program and service the machine. The keypad is used as an input device while the display is used to communicate with the operator.

SERVICE MODE BUTTON

To begin the **SERVICE MODE**, press the **SERVICE MODE BUTTON** located on the upper right corner of the controller (cover). See **Figure 1**.

To exit the **SERVICE MODE**, press the **SERVICE MODE BUTTON**.

> **NOTES**
> *If credit exists when entering the SERVICE MODE, then it will be restored when the machine is returned to SALES MODE.*
>
> *While in SERVICE MODE, the controller will automatically exit back to SALES MODE if no key is pressed for approximately 25 seconds.*
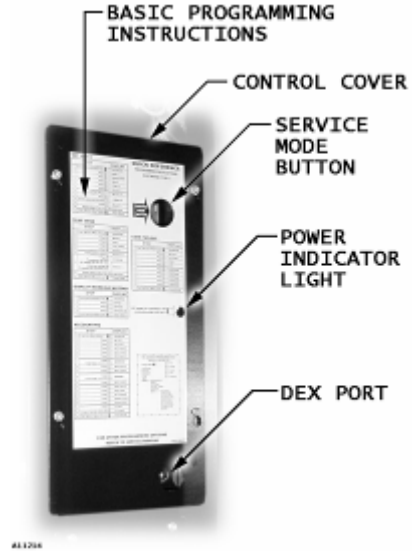
Figure 1. Controller Cover

KEYPAD

Press the buttons on the keypad as instructed by the step-by-step instructions in this manual.

> **NOTE**
> *If the program is not requiring you to input a letter or range value, then buttons A, B, C and E are used to move between the various modes, menus and sub-menus; while the D button is used to confirm and save a setting. See Figure 2.*

DISPLAY

Watch the display after pressing the **SERVICE MODE BUTTON** and/or **KEYPAD BUTTONS** to make sure that the program is responding correctly.

Figure 2. Keypad Buttons in Service Mode
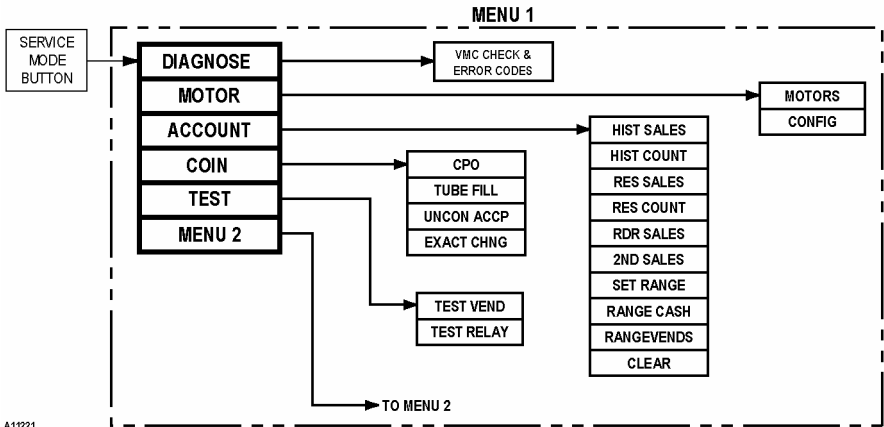
Figure 3 . MENU 1 Diagram

MENU 1

MENU 1 is the first group of service mode menus and it contains the following:

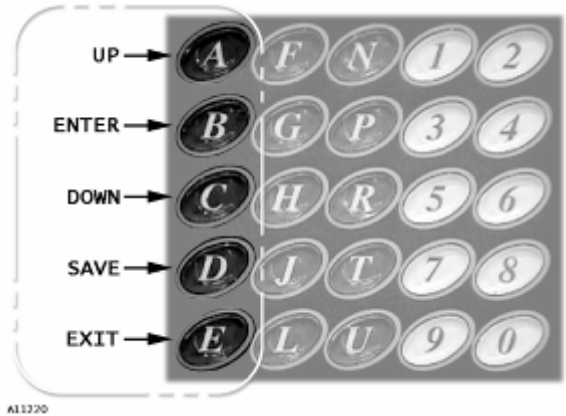- *DIAGNOSE* - Perform self-diagnostic check and display possible errors.

- *MOTOR* - Displays working motors and configures currently working motors.

- *ACCOUNT* - Displays various types of cash and vend totals.

STEP		DISPLAY
1.	Press Service Button ▣ .	*DIAGNOSE*
2.	Press A or C to scroll available menus.	*MOTOR* *ACCOUNT* *COIN* *TEST* *MENU 2*
3.	Press Service Button ▣ .	(Sales Mode)

- *COIN* - For loading or unloading the coin mech tubes and set unconditional acceptance and exact change.

- *TEST* - Test vend a selection motor or range of selection motors, and test relays.

- *MENU 2* - Access to *MENU 2* (and *MENU 3*) main menus.

DIAGNOSE

This menu is used to perform a self-diagnostics check and display results. The steps are listed at right.

It is possible that a sequence of error codes could follow the *VMC* display if multiple errors are found with that device.

	STEP	DISPLAY
1.	Press Service Button ■.	*DIAGNOSE*
2.	Press B. See Table 1 on page 3.	*VMC OK* *CHANGER OK* *VALIDATOR* *READER OK*
3.	Press Service Button ■.	(Sales Mode)

The diagnostics for the VMC will include an error code if any motor in the configuration has been flagged as bad. In addition, the error code for the bad motor will indicate why. A definition of possible error codes is shown in Table 1 on page 3.

For software versions 67149-1, 67149-2, and 67154-1, the diagnostics provides no indication as to which motor has failed.

Table 1. Error Codes

ERROR CODE	ERROR DESCRIPTION
VMC 1	Too little motor current (under 20mA). For an example, the display will show *VMC A1 1* (software versions 67149-2 and earlier display only *VMC 1* if any motor in the configuration exhibits this problem).
VMC 2	Too much time to complete vend (9 seconds). For an example, the display will show *VMC C2 2* (software versions 67149-2 and earlier display only *VMC 2* if any motor in the configuration exhibits this problem).
VMC 3	Optical sensor blocked.
VMC 4	NOVRAM checksum error. The display would read *VMC 4*
VMC 5	Health & safety error on temperature sensor 1. The display would read *VMC 5*
VMC 6	Health & safety error on temperature sensor 2. The display would read *VMC 6*
VMC 7	The door is still open after 30 minutes *VMC 7*
VMC 8	Eyes on the activated optical sensor are blocked.
VMC 9	Selection was not detected by optical sensor and, as such, is considered sold out.). For an example, the display will show *VMC A1 9*
CHANGER 3	Loss of changer communications or no changer. The display would show *CHANGER 3*
VALIDATOR7	Loss of bill validator communications or no bill validator. The display would read *VALIDATOR7* (Applies only to the MDB version of the controller)
READER 8	Loss of card reader communications or no card reader. The display would read *READER 8* (Applies only to the MDB version of the controller)

ERROR CODE		ERROR DESCRIPTION
SELS	*SS 1*	Select switch closed
	SS 12	
CHAr	*CC*	Changer communication
	TS	Changer tube sensor
	IC	Inlet chute blocked
	tJ	Changer tube jammed
	CrCh	Changer ROM checksum
ACCE	*EE*	Excessive escrow
	nJ	Coin acceptor jammed
	LA	Low acceptance rate
Chut	*CS*	Chute Sensor always on
StS	*DAXX*	Column double assigned
	UAXX	Column unassigned
bUAL	*bS*	Bill Validator Sensor
	biLL	Bill Validator Motor
	bJ	Bill jammed
	bOPn	Open Bill Cash Box
	bFUL	Full Bill Cash Box
	bC	Bill Validator communication
FriG	*SEnS*	Temperature Sensor
	CoLd	Sensing temperature 3 degrees under Cut out
	CnPr	Not cooling—within 30 minutes of Cut in
	ACLo	Less than 95 volts for more than 30 minutes

MOTOR

This menu is used to display the number of working motors or to configure the vendor to currently working motors.

MOTORS

This menu is used to display the number of working motors.

	STEP	DISPLAY
1.	Press Service Button ▣.	*DIAGNOSE*
2.	Press C.	*MOTOR*
3.	Press B.	*MOTORS*
4.	Press B.	*MOTORS 005*
5.	Press Service Button ▣.	(Sales Mode)

CONFIG

This menu is used to configure the vendor to currently working motors.

	STEP	DISPLAY
1.	Press Service Button ▪ .	*DIAGNOSE*
2.	Press C , B .	*MOTORS*
3.	Press A or C .	*CONFIG*
4.	Press B .	*CONFIGURED*
5.	Press Service Button ▪ .	(Sales Mode)

ACCOUNT

This menu is used to gain access to additional menus that display, set ranges, or clear (reset) data for various types of cash and vend totals.

	ACTION	DISPLAY
1.	Press Service Button ▪ .	*DIAGNOSE*
2.	Press C , C .	*ACCOUNT*
3.	Press B .	*HIST SALES*
4.	Press A or C to scroll through submenus.	*HIST COUNT* *RES SALES* *RES COUNT* *RDR SALES* *2ND VEND* *SET RANGE* *RANGE CASH* *RANGEVENDS* *CLEAR*
5.	Press Service Button ▪ .	(Sales Mode)

HIST SALES

This menu displays the total sales value since initialization of the control board.

	STEP	DISPLAY
1.	Press Service Button ▪ .	*DIAGNOSE*
2.	Press C , C .	*ACCOUNT*
3.	Press B .	*HIST SALES*
4.	Press B to display **Total Sales Value**.	*$00000.00*
5.	Press E .	*HIST SALES*
6.	Press Service Button ▪ .	(Sales Mode)

HIST COUNT

This menu displays the total vend count since initialization of the control board.

	STEP	DISPLAY
1.	Press Service Button ▣.	*DIAGNOSE*
2.	Press **C**, **C**, **B**.	*HIST SALES*
3.	Press **C**.	*HIST COUNT*
4.	Press **B** to display **Total Vend Count**.	*00000000*
5.	Press **E**.	*HIST COUNT*
6.	Press Service Button ▣.	(Sales Mode)

RES SALES

This menu displays the total sales value since the last reset.

	STEP	DISPLAY
1.	Press Service Button ▣.	*DIAGNOSE*
2.	Press **C**, **C**, **B**, **C**.	*HIST COUNT*
3.	Press **C**.	*RES SALES*
4.	Press **B** **Total Sales** since last reset.	*$000000.00*
5.	Press **E**.	*RES SALES*
6.	Press Service Button ▣.	(Sales Mode)

RES COUNT

This menu displays the total vend count since the last reset.

	STEP	DISPLAY
1.	Press Service Button ▣.	*DIAGNOSE*
2.	Press **C**, **C**, **B**.	*HIST SALES*
3.	Press **C**, **C**.	*RES SALES*
4.	Press **C**.	*RES COUNT*
5.	Press **B**. **Total Vends** since last reset.	*00000000*
6.	Press **E**.	*RES COUNT*
7.	Press Service Button ▣.	(Sales Mode)

RDR SALES

This menu displays the total card reader sales value.

	STEP	DISPLAY
1.	Press Service Button $\blacksquare$.	*DIAGNOSE*
2.	Press C , C , B .	*HIST SALES*
3.	Press C , C , C .	*RES COUNT*
4.	Press C .	*RDR SALES*
5.	Press B .	*$000000.00*
6.	Press E .	*RDR SALES*
7.	Press Service Button $\blacksquare$.	(Sales Mode)

2ND VEND

This menu displays total number of successful vends that required a second vend cycle. This value is resettable. Product must be detected as being delivered by the optical sensor.

	STEP	DISPLAY
1.	Press Service Button $\blacksquare$.	*DIAGNOSE*
2.	Press C , C , B .	*HIST SALES*
	Press C , C , C .	*RES COUNT*
3.	Press C , C .	*2ND VEND*
4.	Press B .	*00000000*
5.	Press E .	*2ND VEND*
6.	Press Service Button $\blacksquare$.	(Sales Mode)

SET RANGE

This menu allows the operator to define a specific range of selections to display total value or total vends since last reset. Use *RANGE CASH* or *RANGEVENDS* to display totals. Ranges can only be defined by row and not by selections.

	STEP	DISPLAY
1.	Press Service Button $\blacksquare$.	*DIAGNOSE*
2.	Press C , C , B .	*HIST SALES*
	Press C , C , C .	*RES COUNT*
	Press C , C .	*2ND VEND*
3.	Press C .	*SET RANGE*
4.	Press B .	*SR/ER A-L*
5.	Press starting row letter.	
6.	Press ending row letter.	
7.	Press D to save.	*SET RANGE*
8.	Press Service Button $\blacksquare$.	(Sales Mode)

RANGE CASH

This menu displays total value for the defined range.

	STEP	DISPLAY
1.	Press Service Button ∎ .	*DIAGNOSE*
	Press C , C , B .	*HIST SALES*
2.	Press C , C , C .	*RES COUNT*
	Press C , C , C .	*SET RANGE*
3.	Press C .	*RANGE CASH*
4.	Press B .	*$000000.00*
5.	Press E .	*RANGE CASH*
6.	Press Service Button ∎ .	(Sales Mode)

RANGEVENDS

This menu displays the number of vended products for the defined range.

	STEP	DISPLAY
1.	Press Service Button ∎ .	*DIAGNOSE*
	Press C , C , B .	*HIST SALES*
2.	Press C , C , C .	*RES COUNT*
	Press C , C , C .	*SET RANGE*
3.	Press C , C .	*RANGEVENDS*
4.	Press B .	*00000000*
5.	Press E .	*RANGEVENDS*
6.	Press Service Button ∎ .	(Sales Mode)

CLEAR

This menu clears all reset-table values.

	STEP	DISPLAY
1.	Press Service Button ∎ .	*DIAGNOSE*
2.	Press C , C , B .	*HIST SALES*
3.	Press A .	*CLEAR*
4.	Press B to clear all reset-able values.	*CLEARED*
5.	Press Service Button ∎ .	(Sales Mode)

COIN

Coin mode is used to gain access to additional menus that can load or unload the coin mech coin tubes, or sets Unconditional Acceptance and Exact Change values.

	STEP	DISPLAY
1.	Press Service Button ◼.	*DIAGNOSE*
2.	Press C, C, C.	*COIN*
3.	Press B.	*CPO*
4.	Press A or C to scroll through submenus.	*TUBE FILL* *UNCON ACCP* *EXACT CHNG*
5.	Press Service Button ◼.	(Sales Mode)

CPO

Coin Pay Out - Pays out coins from the coin mech coin tubes.

	STEP	DISPLAY
1.	Press Service Button ◼.	*DIAGNOSE*
2.	Press C, C, C.	*COIN*
3.	Press B, B.	*DISPENSE*
4.	Press 1 to dispense most significant coin. Press 2 for next lower significant coin. Press 3 to dispense next lower significant coin. Press 4 to dispense least significant coin. *Note: Press and hold down to rapidly dispense coins.*	
5.	Press Service Button ◼.	(Sales Mode)

TUBE FILL

Tube Fill Mode - This mode allows the controller to accurately track the amount of available coins for change.

The display will show an increasing total as coins are entered through the coin mech.

Manually ejecting coins will <u>not</u> subtract from the total.

	STEP	DISPLAY
1.	Press Service Button ◼.	*DIAGNOSE*
2.	Press C, C, C.	*COIN*
	Press B, C.	*TUBE FILL*
3.	Press B.	*FILL COINS*
4.	Begin loading coins through the coin slot.	*00.000*
5.	Press Service Button ◼.	(Sales Mode)

UNCON ACCP

Unconditional Acceptance - Sets the unconditional acceptance value. All coins or bills equal to or less than this set value will be accepted even if the changer cannot return an equal amount of change.

The Unconditional Acceptance set value is adjustable but the maximum value is equal to the largest denomination of currency or coin accepted by the changer or validator.

	STEP	DISPLAY
1.	Press Service Button ■.	*DIAGNOSE*
2.	Press C, C, C.	*COIN*
	Press B, C.	*TUBE FILL*
3.	Press C.	*UNCON ACCP*
4.	Press B.	*00.000*
5.	Press numbers on keypad.	
6.	Press D to save.	*UNCON ACCP*
7.	Press Service Button ■.	(Sales Mode)

If the operator attempts to save a value that exceeds this amount, a warning message *MAXIMUM VALUE* will appear and the displayed setting will revert to this maximum value.

EXACT CHNG

Exact Change - Sets the exact change value which also triggers the display of the *INSERT EXACT CHANGE* message.

	STEP	DISPLAY
1.	Press Service Button ■.	*DIAGNOSE*
2.	Press C, C, C.	*COIN*
	Press B, C, C.	*UNCON ACCP*
3.	Press C.	*EXACT CHNG*
4.	Press B.	*000.00*
5.	Press numbers on keypad.	
6.	Press D to save.	*EXACT CHNG*
7.	Press Service Button ■.	(Sales Mode)

TEST

This menu provides access to menu functions that allow the operator to test motors or test relay output control lines.

	STEP	DISPLAY
1.	Press Service Button ■.	*DIAGNOSE*
2.	Press A, A.	*TEST*
3.	Press B.	*TEST VEND*
4.	Press A or C to scroll through submenus.	*TEST RELAY*
5.	Press Service Button ■.	(Sales Mode)

Test Vend Motors - This menu provides functions that allow the operator to test vend individual motors or a range of motors. The selection and price will display with the test vend.

If a test vend attempt on a particular motor fails, then the controller will beep 3 times.

A successful test vend on a motor clears all errors associated with that selection.

	STEP	DISPLAY
1.	Press Service Button ■.	*DIAGNOSE*
2.	Press A, A, B.	*TEST VEND*
	Press B.	*SELECT --*
3.	Press selection letter and number or starting and ending selection row letters. *Example:* A 1 *for selection A1, or* A G *selection rows A through G.*	*SELECT A1*
4.	Press D to begin test.	*A1$001.00*
5.	Repeat **steps 3** and **4** for other selections.	*SELECT --*
6.	Press E three (3) times to exit.	*TEST VEND*
7.	Press Service Button ■.	(Sales Mode)

Testing of Relays - This menu provides functions that allow the operator to test the operation of the individual relay lines 1 through 3.

- *RELAY1* - Refrigeration Compressor.

  Dual Zone (software 67232 & 67234) only: If machine is located in a high ambient temperature environment, the condenser fan can be run all the time by turning off the Energy Saver Mode switch. This switch is located on the power panel.

- *RELAY2* - Evaporator Fan

- *RELAY3* - Heater

Upon exit from the function the state of the corresponding relay control line will revert to a state that is dependent on the controller's normal relay control algorithm.

	STEP	DISPLAY
1.	Press Service Button ■.	*DIAGNOSE*
2.	Press A, A, B.	*TEST VEND*
3.	Press A or C.	*TEST RELAY*
4.	Press B.	*RELAY1*
5.	Press B.	*OFF **
6.	Press B to test.	*ON **
7.	Press D or E to exit.	*RELAY1*
8.	Press C.	*RELAY2*
9.	Press B.	*OFF **
10.	Press B to test.	*ON **
11.	Press D or E to exit.	*RELAY2*
12	Press C.	*RELAY3*
13.	Press B.	*OFF **
14.	Press B to test.	*ON **
15.	Press D or E to exit.	*RELAY3*
16.	Press Service Button ■.	(Sales Mode)

WARNING:

The operator should be aware that operations of the functions within this menu have direct control over whatever device(s) is/are connected to those lines. With some devices (such as compressors), there is the potential for damaging the device with frequent toggling of this line.
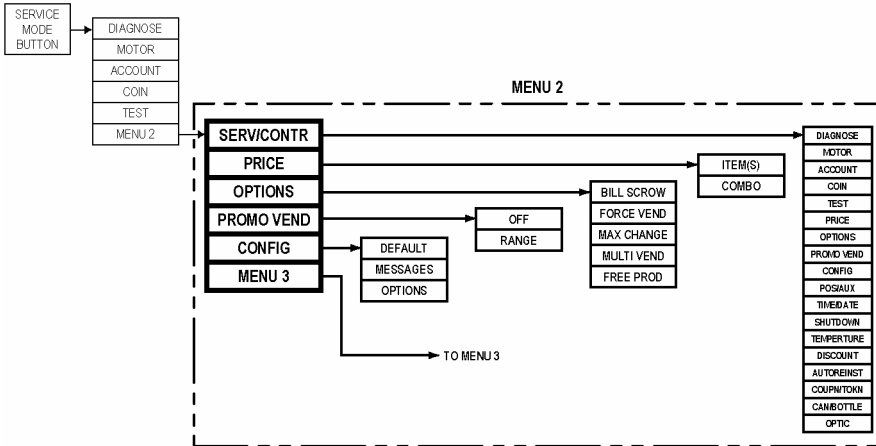
Figure 4. MENU 2 Diagram

MENU 2

MENU 2 is the second group of service mode menus and it contains the following:

- *SERV/CONTR*   Hides or displays service menus.
- *PRICE*   Assign prices to selections.
- *OPTIONS*   Sets various options on the coin mech and the validator.
- *PROMO VEND*   Allows free vend of promotional items.
- *CONFIG*   Sets vendor to original factory settings.
- *MENU 3*   Access to *MENU 3*.

SERV/CONTR

Service Mode Menu Control - This password accessible menu allows the operator to control which menus to hide or display during navigation of the service mode. The only menus not under this control are *MENU 2*, *MENU 3* and *SERV/CONTR*.

The user enters this menu by pressing the $\boxed{\text{B}}$ button after navigating to the menu item labeled *SERV/CONTR*. Upon entry to this menu, the controller will request that the operator enter a password (**D B C A**) and the display will read *PASS ----*.

If password entry is exited or if the password entered is incorrect then control passes back to *SERV/CONTR*.

Refer to **Figures 3, 4 & 5** for a diagram of all menus. The following steps set all the menus to factory default. The main menus `DIAGNOSE`, `MOTOR`, `ACCOUNT`, `COIN`, `TEST` and `PRICE` to display and hides all other menus.

	STEP	DISPLAY
1.	Press Service Button ▣.	*DIAGNOSE*
2.	Press A.	*MENU 2*
3.	Press B.	*SERV/CONTR*
4.	Press B.	*PASS ----*
5.	Press D B C A.	*PASS *****
6.	Press any key once or H twice.	*DIAGNOSE*
7.	Press C 6 times.	*OPTIONS*
8.	Press B	*ON* *
9.	Press B	*OFF* *
10.	Press D	*OPTIONS*
11.	Press C	*PROMO VEND*
12.	Press B	*ON* *
13.	Press B	*OFF* *
14.	Press D	*PROMO VEND*
15.	Press C	*CONFIG*
16.	Press B	*ON* *
17.	Press B	*OFF* *
18.	Press D	*CONFIG*
19.	Press C	*POS/AUX*
20.	Press B	*ON* *
21.	Press B	*OFF* *
22.	Press D	*POS/AUX*
23.	Press C	*TIME/DATE*
24.	Press B	*ON* *
25.	Press B	*OFF* *
26.	Press D	*TIME/DATE*

	STEP	DISPLAY
27.	Press C	*SHUTDOWN*
28.	Press B	*ON* *
29.	Press B	*OFF* *
30.	Press D	*SHUTDOWN*
31.	Press C	*TEMPERTURE*
32.	Press B	*ON* *
33.	Press B	*OFF* *
34.	Press D	*TEMPERTURE*
35.	Press C	*DISCOUNT*
36.	Press B	*ON* *
37.	Press B	*OFF* *
38.	Press D	*DISCOUNT*
39.	Press C	*AUTOREINST*
40.	Press B	*ON* *
41.	Press B	*OFF* *
42.	Press D	*AUTOREINST*
43.	Press C	*COUP/TOKN*
44.	Press B	*ON* *
45.	Press B	*OFF* *
46.	Press D	*COUP/TOKN*
47.	Press C	*CAN/BOTTLE*
48.	Press B	*ON* *
49.	Press B	*OFF* *
50.	Press D	*CAN/BOTTLE*
51.	Press C	*OPTIC*
52.	Press B	*ON* *
53.	Press B	*OFF* *
54.	Press D	*OPTIC*
55.	Press Service Button ▣	(Sales Mode)

If the password entered is correct, then the display will read $\boxed{DIAGNOSE}$ which corresponds to the first selection that appears upon entry to the service mode. The operator may now either:

- Scroll through the remaining functions in the menu which correspond to all of the configurable menus in the service mode;
- Enter a function by pressing the $\boxed{B}$ button;
- Exit this whole menu by pressing the $\boxed{E}$ button which returns control to the menu just above the $\boxed{SERV/CONTR}$ menu.

If any of the menu items are entered, then the display will change to $\boxed{ON \qquad *}$ or $\boxed{OFF \qquad *}$ where the * indicates editing mode. This initial on/off status indicates if the corresponding service menu is currently active or inactive. Pressing $\boxed{B}$ again will toggle the on/off state. At any time the state may be stored and this function exited by pressing $\boxed{D}$. If the $\boxed{E}$ button is pressed then the status of the specific service mode menu function is not modified.

PRICE

Price Setting - This menu allows the operator three (3) methods to assign prices: a) To individual selections, b) Over a range of selections, or c) To a combination of selections.

The maximum price that can be set is 199.99 for a scale factor of 1 and 999.95 for a scale factor of 5.

ITEM(S)
Pricing by Selection or Range of Selections - This menu allows price setting by selection or range of selections.

It is not necessary to enter leading zeros and only the first five numbers will be used.

NOTE:
For Protocol A versions of the controller, the operator should be aware of changers that are operating in price holding mode. When this mode is active, product price information passed from the controller to the changer represents a price address.

	STEP	DISPLAY
1.	Press Service Mode Button $\boxed{\blacksquare}$.	*DIAGNOSE*
2.	Press $\boxed{A}$, $\boxed{B}$, $\boxed{C}$.	*PRICE*
3.	Press $\boxed{B}$.	*ITEM(S)*
4.	Press $\boxed{B}$.	*SELECT --*
5.	Press selection letter and number, or starting and ending selection letter. *Examples: $\boxed{A}$ $\boxed{1}$ for selection A1 or $\boxed{A}$ $\boxed{J}$ for selections A through J.*	*SELECT A1*
6.	If correct selection(s) selected, press $\boxed{D}$ and go to **step 9**. If wrong selection(s) selected, press $\boxed{E}$ and repeat **step 7** and **8**.	*A1$000.50*
7.	Press number keys on keypad to set the desired price.	
8.	Press $\boxed{D}$.	*SELECT --*
9.	Repeat **steps** 5 through 8 for other selections.	
10	Press Service Mode Button $\boxed{\blacksquare}$.	(Sales Mode)

The price set in the controller must be equal to the address multiplied by the lowest coin accepted by the coin mechanism (the scaling factor).

An example price of .05 stored in the controller for a particular item would be equivalent to the changer's price holding address 1 when the scale factor is 5. In this case, .05 would be displayed as the item's price and not the actual price stored in the coin mechanism.

COMBO

Combination Pricing - This function allows setup of several products to be purchased at a single combined price.

The combo selection must not be in the vendor configuration of currently working motors.

A maximum of five products (*RG1-RG5*) can be combined under a combo selection and up to five combo selections (*COMBO1-COMBO5*) can be programmed into the vendor.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A, B, C, B.	*ITEM(S)*
3.	Press C.	*COMBO*
4.	Press B.	*SELECT --*
5.	Press selection letter and number. Example: A 4 for selection **A4**.	*SELECT A4*
6.	Press D.	*A4$000.50*
7.	Press number keys to set the desired price.	
8.	Press D.	*COMBO1*
9.	Press A or C to select and link to a combo selection.	
10.	Press B.	*RG1*
11.	Press B.	*RG1 **
12.	Press starting selection letter and number.	*RG1 XX **
13.	Press ending selection letter and number.	*RG1 XX YY**
14.	Press D to save, or press E to erase and start again at **step 11**.	*RG2*
15.	Repeat **steps 11** through **14** to combine other selections to combo selection.	
16.	Press E.	*SELECT --*
17.	Repeat **steps 5** through **16** to create another combo selection.	
18.	Press Service Mode Button ■.	(Sales Mode)

OPTIONS

Vending Options - This menu allows access to the following optional submenu features:

- Bill Escrow
- Force Vend
- Maxi Change
- Multi Vend
- Free Product

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press Ⓐ, Ⓑ, Ⓒ, Ⓒ.	*OPTIONS*
3.	Press Ⓑ.	*BILL SCROW*
4.	Press Ⓐ or Ⓒ to view available menus.	*FORCE VEND* *MAX CHANGE* *MULTI VEND* *FREE PROD*
5.	Press Service Mode Button ▣.	(Sales Mode)

BILL SCROW

Bill Escrow Option - Allows the last bill accepted to be returned, provided the bill acceptor is capable of such a feature.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press Ⓐ, Ⓑ, Ⓒ, Ⓒ.	*OPTIONS*
3.	Press Ⓑ.	*BILL SCROW*
4.	Press Ⓑ to view or change setting.	*ON **
5.	Press Ⓑ to change setting.	*OFF **
6.	Press Ⓓ to save.	*BILL SCROW*
7.	Press Service Mode Button ▣.	(Sales Mode)

FORCE VEND

This option will force the customer to complete a purchase once they have deposited money of any form.

Note: If a vend is attempted on a configured selection and the motor fails during this vend, the customer will be allowed to escrow the credit, regardless of the force vend status.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press Ⓐ, Ⓑ, Ⓒ.	*PRICE*
	Press Ⓒ, Ⓑ.	*BILL SCROW*
3.	Press Ⓒ.	*FORCE VEND*
4.	Press Ⓑ to view or change setting.	*ON **
5.	Press Ⓑ to change setting.	*OFF **
6.	Press Ⓓ to save.	*FORCE VEND*
7.	Press Service Mode Button ▣.	(Sales Mode)

MAX CHANGE

Maximum Change Option - This option will prevent change from being returned to the customer until the amount of credit has been reduced to a value less than or equal to the programmed maximum change limit.

Note:

The highest value that can be set for the maximum price is 199.99 for a scale factor of 1 and 999.95 for a scale factor of 5.

	STEP	DISPLAY
1.	Press Service Mode Button ■ .	*DIAGNOSE*
2.	Press A , B , C .	*PRICE*
	Press C , B , C .	*FORCE VEND*
3.	Press C .	*MAX CHANGE*
4.	Press B .	*OFF*
5.	To change on/off setting, press B twice.	*OFF* * *ON* *
6.	Press D to save.	*ON*
7.	Press C .	*VALUE*
8.	Press B to view or change the maximum change limit.	*000.00*
9.	Press numbers on keypad.	
10.	Press D to save.	*VALUE*
11.	Press Service Mode Button ■ .	(Sales Mode)

MULTI VEND

Multi-Vend Option - This option will allows the customer to purchase more than one product if enough credit has been deposited.

When this option is active, any credit remaining after a vend attempt is not automatically returned. At this point, the customer has the option of:

	STEP	DISPLAY
1.	Press Service Mode Button ■ .	*DIAGNOSE*
2.	Press A , B , C .	*PRICE*
	Press C , B , C .	*FORCE VEND*
3.	Press C , C .	*MULTI VEND*
4.	Press B .	*OFF* *
5.	Press B to change.	*ON* *
6.	Press D to save.	*MULTI VEND*
7.	Press Service Mode Button ■ .	(Sales Mode)

- Making another selection if there's enough credit.
- depositing more money (cash credit from a changer or bill acceptor); or
- Escrowing the remaining credit. If force vend is also active then the customer will be forced to attempt the purchase of at least one valid (the selection is in configuration) item. If a vend is attempted on a configured selection and the motor fails during this vend, the customer will be allowed to escrow the credit, regardless of the force vend status.

Note: *For card reader sessions, the multi-vend feature will function only if the card reader supports multiple vend capability.*

FREE PROD

Free Product Option - This option allows a free product to be given to the customer at a preprogrammed vend interval.

When enabled, every nTH product will be vended at no cost, all accumulated credit will be returned, and the message "FREE ON US" will be displayed during the vend process.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
	Press A, B, C.	*PRICE*
2.	Press C, B, C.	*FORCE VEND*
	Press C, C.	*MULTI VEND*
3.	Press C.	*FREE PROD*
4.	Press B to view or change interval setting.	*FREE 000*
5.	Press number keys on keypad.	
6.	Press D to save.	*FREE PROD*
7.	Press Service Mode Button ■.	(Sales Mode)

Setting vend interval to *001* provides a free vend at every transaction, *000* disables the option, and the maximum valid vend interval is *255*.

Note: The determination of free product status is made only after credit equal to or greater than the normal cost of a product has been deposited and the customer has selected the specific product.

PROMO VEND

Promotional Vend - This function will allow a promotional product to be given to a customer for free in response to their purchase of another product. When enabled, purchasing selection '1' from one of the two possible promotional rows will result in both selection '1' and '2' of that row to vend sequentially.

OFF/ON

Promo Vend Off/On - This menu displays and controls the current status of the Promo Vend menu.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A, B, C.	*PRICE*
3.	Press C, C.	*PROMO VEND*
4.	Press B.	*OFF*
5.	Press B twice to change setting.	*OFF ** *ON **
6.	Press D to save.	*ON*
7.	Press C.	*RANGE*
8.	Press starting letter of promotional selections row. Press ending letter of promotional selections row.	*SR/ER A-A*
9.	Press D to save.	*RANGE*
10.	Press Service Mode Button ■.	(Sales Mode)

RANGE

Promo Vend Range - This menu is used for setting the promotional rows.

CONFIG

Configuration Menu - This menu provides access to additional submenus that allow the operator to restore some or many of the controller default settings.

The following submenus are available:

- *DEFAULT*
- *MESSAGES*
- *OPTIONS*

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A, B, A, A.	*CONFIG*
3.	Press B.	*DEFAULT*
4.	Press A or C to view available submenus.	*MESSAGES* *OPTIONS*
5.	Press Service Mode Button ▣.	(Sales Mode)

DEFAULT

Configuration Default - This function allows the operator to choose a specific set of default machine settings that correspond to the type of vending machine.

Refer to Table 2 on page 20 for the list of factory default settings that apply to each of the different machine types that are applied every time a machine type is saved.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
3.	Press A, B.	*DEFAULT*
4.	Press B.	*SNACK **
5.	Press A or C to select a default setting.	*COMBO ** *CHILLED ** *CLO FRONT** *FOOD ** *SLACK ** *FROZEN **
6.	Press D to save.	*DEFAULT*
7.	Press Service Mode Button ▣.	(Sales Mode)

CAUTION:

The Point of Sale Message (see page 22) and the Settings for Options (see page 22) are also restored to factory defaults whenever a default machine setting is saved.

Table 2. Default Configurations [2]

		SNACK	COMBO	CHILLED	CLO FRONT	FOOD	SLACK	FROZEN	2 ZONE	2 ZONE (SZF/DZF)
SOFTWARE VERSION		67185-7	67185-7	67185-7/ 67217-9/ 67257-1	67185-7	67210-4	67209-4	67209-4	67232-6/ 67234-2 [4]	67256-1 [4]
AUTO REINST		ON	ON	ON	ON	ON	ON	ON	ON	ON
	RANGE	A-L	A-L	A-L	A-L	A-L	A-L	A-L	A-L	A-L
TEMPERTURE	DEGREE	°F	°F	°C	°C	°F	°F	°F	°C / °F	°C
	SENSOR1	OFF	ON	ON	ON	ON	ON	ON	ON	ON
	SENSOR2	OFF	ON	OFF	OFF	OFF	ON	ON	ON	OFF
	SENSOR3									
	SENSOR4									
	PRIORITY								SENSOR1	SENSOR1
SET POINT	SENSOR1	61°F	36°F	16°C	2°C	35°F	5°F	-10°F	7°C / 45°F	4°C / 39°F (10°C / 50°F)
	SENSOR2	61°F	70°F	16°C	16°C	35°F	50°F	50°F	17°C / 63°F	17°C / 63°F
	SENSOR3									
	SENSOR4									
DELTA	SENSOR1	6°F	10°F	4°C	3°C	8°F	10°F	6°F	4°C / 7°F	4°C / 7°F
	SENSOR2	6°F	6°F	4°C	4°C	8°F	1°F	1°F	3°C / 5°F	3°C / 5°F
	SENSOR3									
	SENSOR4									
DEFROST DURATION	SENSOR1	15 MIN	15 MIN	15 MIN	15 MIN	15 MIN	30 MIN	30 MIN	10 MIN	10 MIN
	SENSOR2	15 MIN	15 MIN	15 MIN	15 MIN	15 MIN				
	SENSOR3									
	SENSOR4									
DEFROST PERIOD	SENSOR1	2 HRS	2 HRS	2 HRS	2 HRS	2 HRS	12 HRS	8 HRS	2.5 HRS	2.5 HRS
	SENSOR2	2 HRS	2 HRS	2 HRS	2 HRS	2 HRS				
	SENSOR3									
	SENSOR4									
DEFROST DELAY	SENSOR1	0.0 HRS	0.0 HRS	0.0 HRS	0.0 HRS	0.0 HRS	0.0 HRS	0.0 HRS	3 MIN	3 MIN
HEALTH SAFETY LEVEL (FROZEN=0°F) (SLACK=15°F) (COLD=41°F)	SENSOR1	NONE	NONE	NONE	COLD	COLD	SLACK	FROZEN	NONE	NONE
	SENSOR2	NONE	NONE	NONE	NONE	NONE				
	SENSOR3									
	SENSOR4									
HEALTH SAFETY RANGE [1]	SENSOR1	J-L	J-L	J-L	A-L	H-L	H-L	H-L	D-F	D-F
	SENSOR2	F-L	F-L	F-L	F-L	F-L				
	SENSOR3									
	SENSOR4									
CAN-BOTTLE		OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	RANGE	H-H	J-J	H-H[1]	H-H[1]	H-H[1]	H-H[1]	H-H[1]	H-H[1]	H-H[1]
	DEPTH	DOUBLE DEPTH								
OPTIC		ON	OFF	ON	ON	ON	ON	ON	ON	ON
	RANGE	A-G	A-G	A-G	A-G	A-G	A-G	A-G	A-G	A-G
PRICES [3]		1.00	1.00	1.00 / 50	1.00	2.00	2.00	2.00	50 / 1.00	50
MOTORS		ALL MOTORS CONFIGURED WITH NO ERRORS								

1. SR-ER = Starting Range-Ending Range.
2. If software should reset on its own, it defaults to this configuration setting.
3. Software versions 67217-9, 67232-6, 67257-1 & 67256-1 only: the price defaults to 50.
4. Software versions 67232.639 & 67234.239 used on SZF/DZF only: SENSOR1 SETPOINT default is 4°C (39°F).

Table 3. SC100 Dual Satellite (67212-1) Default Configurations[2]

		FRZ FRZ	FOD FRZ	FOD FOD	CHL FRZ	CHL FOD	CMO FRZ	CMO FOD
SOFTWARE VERSION		67212-1	67212-1	67212-1	67212-1	67212-1	67212-1	67212-1
AUTO-REINSTATEMENT		ON	ON	ON	ON	ON	ON	ON
	RANGE	A-L	A-L	A-L	A-L	A-L	A-L	A-L
TEMPERATURE	DEGREE	°F	°F	°F	°F	°F	°F	°F
	SENSOR1	ON	ON	ON	ON	ON	ON	ON
	SENSOR2	ON	OFF	OFF	OFF	OFF	ON	ON
	SENSOR3	ON	ON	ON	ON	ON	ON	ON
	SENSOR4	ON	ON	OFF	ON	OFF	ON	OFF
SET POINT	SENSOR1	-12°F	35°F	35°F	61°F	61°F	36°F	36°F
	SENSOR2	50°F	35°F	35°F	61°F	61°F	70°F	70°F
	SENSOR3	-12°F	-12°F	35°F	-12°F	35°F	-12°F	35°F
	SENSOR4	50°F	50°F	35°F	50°F	35°F	50°F	35°F
DELTA	SENSOR1	10°F	8°F	8°F	6°F	6°F	10°F	10°F
	SENSOR2	1°F	8°F	8°F	6°F	6°F	6°F	6°F
	SENSOR3	10°F	10°F	8°F	10°F	8°F	10°F	8°F
	SENSOR4	1°F	1°F	8°F	1°F	8°F	1°F	8°F
DEFROST DURATION	SENSOR1	30 MIN	15 MIN	15 MIN	15 MIN	15 MIN	15 MIN	15 MIN
	SENSOR2							
	SENSOR3	30 MIN	30 MIN	15 MIN	30 MIN	15 MIN	30 MIN	15 MIN
	SENSOR4							
DEFROST PERIOD	SENSOR1	12 HRS	2 HRS	2 HRS	2 HRS	2 HRS	2 HRS	2 HRS
	SENSOR2							
	SENSOR3	12 HRS	12 HRS	2 HRS	12 HRS	2 HRS	12 HRS	2 HRS
	SENSOR4							
HEALTH SAFETY LEVEL (FROZEN=0°F) (SLACK=15°F) (COLD=41°F)	SENSOR1	FROZEN	COLD	COLD	NONE	NONE	NONE	NONE
	SENSOR2							
	SENSOR3	FROZEN	FROZEN	COLD	FROZEN	COLD	FROZEN	COLD
	SENSOR4							
HEALTH SAFETY RANGE	SENSOR1	A-C	A-C	A-C	A-C	A-C	A-C	A-C
	SENSOR2							
	SENSOR3	H-L	H-L	H-L	H-L	H-L	H-L	H-L
	SENSOR4							
CAN-BOTTLE							ON	ON
	RANGE						J-J	J-J
	DEPTH						DOUBLE	DOUBLE
OPTIC								
	RANGE							
PRICES[3]		.50	.50	.50	.50	.50	.50	.50
MOTORS		MOTORS CONFIGURED WITH NO ERRORS						

1. SR-ER = Starting Range-Ending Range.
2. If software should reset on its own, it defaults to this configuration setting.
3. Software versions 67217-9, 67232-6, 67257-1 & 67256-1 only: the price defaults to 50.

MESSAGES

Configuration Messages - This menu restores the following factory default Point of Sale Message: *"YOU ARE GETTING HUNGRY ITS TIME TO ENJOY A SNACK".*

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
3.	Press A , B .	*DEFAULT*
4.	Press C .	*MESSAGES*
5.	To restore factory default message, press B	*CONFIGURED*
6.	Press Service Mode Button ■.	(Sales Mode)

OPTIONS

Configuration Options - This menu restores the option menus listed in Table 4 (on page 23) to factory default settings.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
	Press A , B , C .	*messages*
3.	Press C .	*OPTIONS*
4.	To restore options default settings, press B .	*CONFIGURED*
5.	Press Service Mode Button ■.	(Sales Mode)

Table 4. Default Setting of Options

MENU	DEFAULT SETTING
Service Menu Configuration	All menus restored
Diagnostic errors	Cleared
Accounting Resettable Range	Start row = "A" and End Row = "L"
Exact Change Value	0
	Software 67234-2: $ 2.00
	Software 67217-9, 67232-6, 67256-1 & 67257-1 only: 20.00
Unconditional Acceptance Value	0
	Software 67234-2: $ 0.25
	Software 67217-9, 67232-6, 67256-1 & 67257-1 only: 5.00
All Combo Values	0
All Combo Ranges	Start selection = "A1" and End selection = "A1"
Bill Escrowing	Enabled
Force Vending	Disabled
Multiple Vending	Disabled
Free Product	Disabled
Maximum Change	Disabled
Maximum Change Value	200 x least coin factor
Promotional Vending	Disabled
Promotional Vend Range	Start row = "A" and End Row = "A"
Language	English
	Software 67217-9, 67232-6, 67256-1 & 67257-1: Spanish
Time Hours Value	0
Time Minutes Value	0
Time Date Value	1
Time Month Value	1
Time Year Value	0
Daylight Savings	North American Rules
Shutdown	Disabled
Shutdown Range[1]	Start row = "A" and End Row = "A"
	Software 67256-1 only: Range settings for **INTERVAL 1** are ignored
Shutdown Start Time[1] **Intervals 1 thru 4**	00:00 (hours : minutes)
Shutdown Stop Time[1] **Intervals 1 thru 4**	00:00 (hours : minutes)
	Software 67256-1 only: 06:00 (6:00 am) for **INTERVAL 1** only
Shutdown Days[1] **Intervals 1 thru 4**	All days are turned **OFF**
	Software 67256-1 only: All **d**ays for **INTERVAL 1 only** are turned **ON**
Discount	Disabled
Discount Start Time	00:00 (hours : minutes)
Discount End Time	00:00 (hours : minutes)
Discount Days	All days are turned off
Discount Range	Start selection = "A1" and End selection = "A1"
Discount Value	0
All Coupon and Token Values	0
All Coupon and Token Ranges	Start selection = "A1" and End selection = "A1"
All Resettable Fields	Cleared

1. Software 67256 only: Interval-1 becomes Advanced Power Management instead of Shutdown Mode. Intervals 2 thru 4 are still available for Shutdown Mode.
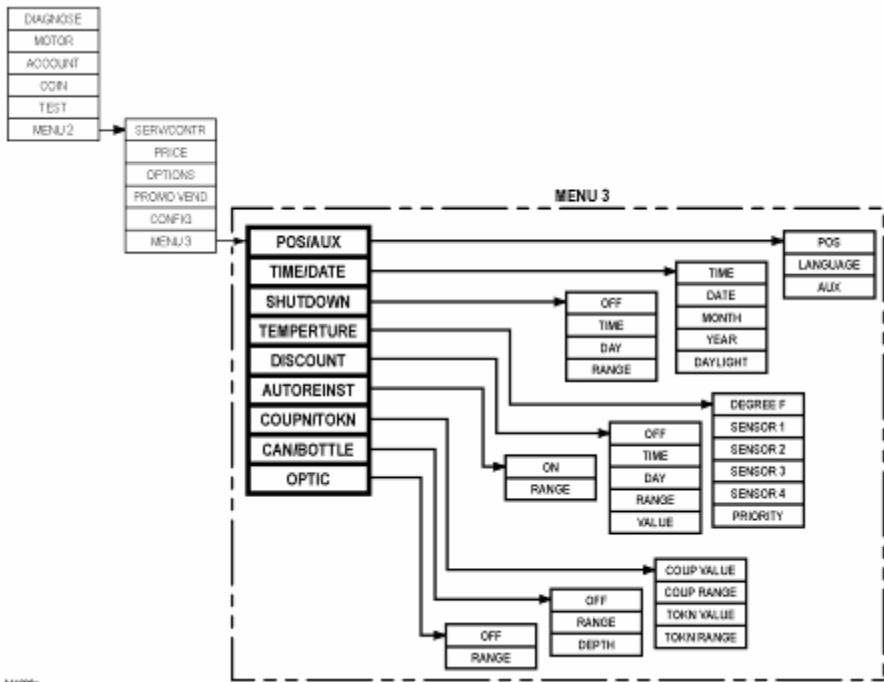
Figure 5. MENU 3 Diagram

MENU 3

MENU 3 is the third group of service mode menus. It includes the following additional controller customization functions that may be used by an operator:

- **POS/AUX** — Allows customization of Point Of Sale messages.
- **TIME/DATE** — Sets time and date for timed operations.
- **SHUTDOWN** — Allows controller to shut down selections based on four time of day intervals.
- **TEMPERTURE** — Temperature control.
- **DISCOUNT** — Allows discount to specific items at preprogrammed intervals.
- **AUTOREINST** — Sets a range of rows so that every time a product range is selected, a vend attempt will be made.
- **COUPN/TOKN** — Allows operator to designate the values of coupons and/or tokens that are accepted from attached changers or validators.
- **CAN/BOTTLE** — Allows designating ranges of rows that will contain cans and/or bottles.
- **OPTIC** — Provides options for designating ranges of product rows that will be monitored for product delivery by an optical sensor.

POS/AUX

Message Programming - This menu allows access to additional submenus for customizing the Point of Sales messages. The following menus are available:

- *POS*
- *LANGUAGE*
- *AUX*

	STEP	DISPLAY
1.	Press Service Mode Button `■`.	*DIAGNOSE*
2.	Press `A`, `B`, `A`.	*MENU 3*
3.	Press `B`.	*POS/AUX*
4.	Press `B`.	*POS*
5.	Press `A` or `C` to view available menus.	*LANGUAGE* *AUX*
6.	Press Service Mode Button `■`.	(Sales Mode)

POS

Point of Sale Message - This menu allows the operator to change the scrolling Point of Sales message. It will be necessary to use the keypad overlay that came with your vendor. Refer to **Figure 6** & **Figure 7**.

Note: If the maximum limit of 105 characters is entered, the new message is automatically saved and any subsequent characters entered will overwrite the 105th character.

Shortcut Suggestion: Use the **CONFIG** / **MESSAGES** *menu (on page 22) to revert back to the original factory default message.*

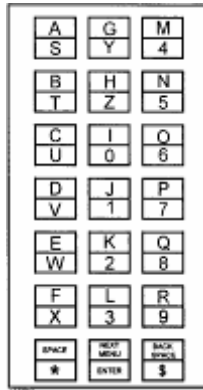|	STEP	DISPLAY
1.	Press Service Mode Button `■`.	*DIAGNOSE*
2.	Press `A`, `B`, `A`.	*MENU 3*
3.	Press `B`, `B`.	*POS*
4.	Press `B`.	*MESSAGE*
5.	Use keypad overlay and press new message on keypad.	*(new message)*
6.	If finished with message, press `ENTER` 2 times on keypad overlay.	*POS*
7.	Press Service Mode Button `■`.	*(new message)*

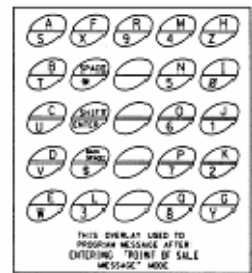**Figure 6. 3x7 Keypad Overlay**

Figure 7. 5x5 Keypad Overlay

The **POS** menu has special function characters that allow a special effect or machine specific information to be included in the scrolling **POS** message. The following is a list of all the special function characters:

CODE	DESCRIPTION
*B	**B**eep - When character is reached, a space will appear and controller will beep.
*D1	**D**isplay Sensor**1** temperature - It will appear in degrees Celsius or Fahrenheit depending on the unit of temperature the controller is set to.
*D2	**D**isplay Sensor**2** temperature - It will appear in degrees Celsius or Fahrenheit depending on the unit of temperature the controller is set to.
*D3	**D**isplay Sensor**3** temperature – It will appear in degrees Celsius or Fahrenheit depending on the unit of temperature the controller is set to. Software 67212-1 only.
*D4	**D**isplay Sensor**4** temperature – It will appear in degrees Celsius or Fahrenheit depending on the unit of temperature the controller is set to. Software 67212-1 only.
*P	**P**ause - When character is reached, scrolling will stop for 1/2 second.
*T	**T**ime - Current time will be displayed in military format "hours.minutes".

LANGUAGE

Language Message - This menu function allows the operator to choose a specific language in which sales mode messages will be displayed. The following is a list of languages available:

- *ENGLISH*
- *FRENCH*
- *GERMAN*
- *AUXILIARY*
- *ITALIAN*
- *DUTCH*
- *SPANISH*
- *DANISH*

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, B.	*POS*
3.	Press C.	*LANGUAGE*
4.	Press B.	*ENGLISH **
		FRENCH *
		GERMAN *
5.	Press A or C to select a language.	*AUXILIARY**
		ITALIAN *
		DUTCH *
		SPANISH *
		DANISH *
6.	Press D to save.	*LANGUAGE*
7.	Press Service Mode Button ■.	(Sales Mode)

If *AUXILIARY* is selected, then an alternative list of operator created sales mode messages will be used.

CUSTOMER LEAD THROUGH MESSAGES - The following messages will be affected by the language selection and will be stored in the controller memory to be displayed as described in section LANGUAGE on page 26.

MESSAGE 1	
English	PLEASE INSERT EXACT MONEY
Italian	PER FAVORE INTRODURRE I PRECISI SOLDI
Dutch	AFGEPAST GELD IN WERPEN
Spanish	POR FAVOR DEPOSITE CANTIDAD EXACTA PLEASE INSERT EXACT MONEY For Software 67217, 67232, 67256 & 67257 Only: POR FAVOR DEPOSITE LA CANTIDAD EXACTA
Danish	INDKAST AFTALTE PENGE
French	FAITES L'APPOINT PLEASE INSERT EXACT MONEY
German	ABGEZAHLTES GELD EINWERFEN
Auxiliary	[maximum length: 30]
MESSAGE 2	
English	PLEASE INSERT MORE MONEY
Italian	PER FAVORE INTRODURRE PIU SOLDI
Dutch	MEER GELD IN WERPEN
Spanish	POR FAVOR DEPOSITE MAS DINERO PLEASE INSERT MORE MONEY
	For Software 67217, 67232, 67256 & 67257 Only: POR FAVOR DEPOSITE MAS DINERO
Danish	INDKAST FLERE PENGE
French	MONTANT INSUFFISANT INTRODUISEZ D'AUTRES PIECES PLEASE INSERT MORE MONEY
German	MEHR GELD EINWERFEN
Auxiliary	[maximum length: 30]
MESSAGE 3	
English	MAKE ALTERNATE SELECTION
Italian	FARE UNA ALTRE SCELTA
Dutch	ANDERE KEUZE MAKEN
Spanish	SELECIONE OTRO PRODUCTO MAKE ALTERNATE SELECTION
	For Software 67217, 67232, 67256 & 67257 Only: SELECIONE OTRO PRODUCTO
Danish	VAELG ANDEN VARE
French	FAITES UNE AUTRE SELECTION MAKE ALTERNATE SELECTION
German	ANDERE WARE WAHLEN
Auxiliary	[maximum length: 25]
MESSAGE 4	
English	PLEASE CALL SERVICE
Italian	PER FAVORE CHIAMARE SERVIZIO
Dutch	SERVICEDIENST BELLEN
Spanish	POR FAVOR LLAMAR A SERVICIO PLEASE CALL SERVICE
	For Software 67217, 67232, 67256 & 67257 Only: POR FAVOR LLAMAR A SERVICIO
Danish	TILKALD SERVICEMONTOR
French	DEMANDEZ LE RESPONSABLE PLEASE CALL SERVICE
German	BITTE KUNDENDIENST RUFEN
Auxiliary	[maximum length: 25]
MESSAGE 5	
English	VENDING OPERATION TO RESUME AT hh.mm
Italian	VENDING OPERATION TO RESUME AT hh.mm
Dutch	VENDING OPERATION TO RESUME AT hh.mm
Spanish	VENDING OPERATION TO RESUME AT hh.mm
	For Software 67217, 67232, 67256 & 67257 Only: LA MAQUINA SE ENCENDERA A LAS hh.mm
Danish	VENDING OPERATION TO RESUME AT hh.mm
French	VENDING OPERATION TO RESUME AT hh.mm
German	VENDING OPERATION TO RESUME AT hh.mm
Auxiliary	[maximum length: 25]

MESSAGE 6:	
English	MAKE SNACK SELECTION ONLY
Italian	DISPONIBILI SOIO LE SELEZIONI SNACK
Dutch	ALLEEN SNACK KEUZES
Spanish	SOLO DISPONIBLE PRODUCTOS EN ESPIRAL MAKE SNACK SELECTION ONLY
	For Software 67217, 67232, 67256 & 67257 Only: SOLO DISPONSIBLE PRODUCTOS EN EXPIRALES
Danish	KUN VALG AF KONFEKTURE MULIGT
French	CHOISISSEZ UNIQUEMENT LES CONFISERIES MAKE SNACK SELECTION ONLY
German	NUR AUSGABE VON SUSSWAREN MOGLICH
Auxiliary	[maximum length: 25]
MESSAGE 7:	
English	DOOR OPEN ERROR
Italian	DOOR OPEN ERROR
Dutch	DOOR OPEN ERROR
Spanish	DOOR OPEN ERROR
Danish	DOOR OPEN ERROR
French	DOOR OPEN ERROR
German	DOOR OPEN ERROR
Auxiliary	[maximum length: 25]
MESSAGE 8	
English	VERIFY REFRIGERATION OPERATION
Italian	VERIFY REFRIGERATION OPERATION
Dutch	VERIFY REFRIGERATION OPERATION
Spanish	VERIFY REFRIGERATION OPERATION
Danish	VERIFY REFRIGERATION OPERATION
French	VERIFY REFRIGERATION OPERATION
German	VERIFY REFRIGERATION OPERATION
Auxiliary	[maximum length: 30]
MESSAGE 9	
English	THANK YOU
Italian	GRAZIE
Dutch	DANK U
Spanish	GRACIAS
Danish	TAK
French	MERCI
German	VIEL. DANK
Auxiliary	[maximum length: 10]
MESSAGE 10	
English	FREE ON US
Italian	FREE *
Dutch	FREE **
Spanish	FREE ***
	For Software 67217, 67232, 67256 & 67257 Only: GRATIS
Danish	FREE ****
French	FREE *****
German	FREE******
Auxiliary	[maximum length: 10]

AUX

Auxiliary Message - This function allows the operator to create custom messages that can be used in place of the customer lead through messages. Refer to customer lead through messages in LANGUAGE section on page 26.

	STEP	DISPLAY
1.	Press Service Mode Button ▪.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, B.	*POS*
3.	Press A.	*AUX*
4.	Press B.	*MESSAGE 01*
5.	Press B.	*MESSAGE*
6.	Use keypad overlay and press new message on keypad.	
7.	If finished with message, press ENTER 2 times.	*MESSAGE 2*
8.	Repeat **steps 5** through **7** to modify *MESSAGE 1* through *MESSAGE 9*.	
9.	Press D to save.	*AUX*
10.	Press Service Mode Button ▪.	(Sales Mode)

TIME/DATE

Set Time and Date - This menu allows access to submenus that allow the operator to set the time and date for timed operations.

The following submenus are available:

- *TIME*
- *DATE*
- *MONTH*
- *YEAR*
- *DAYLIGHT*

	STEP	DISPLAY
1.	Press Service Mode Button ▪.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
3.	Press B, C.	*TIME/DATE*
4.	Press B.	*TIME*
		DATE
5.	Press A or C to view available submenus.	*MONTH*
		YEAR
		DAYLIGHT
6.	Press Service Mode Button ▪.	(Sales Mode)

TIME

Time Setting - This menu controls and displays the current time of day. The display will show a 24 hour format.

Examples:
08:05 a.m. = **TIME 08.05**
01:15 p.m. = **TIME 13.15**
11:45 p.m. = **TIME 23.45**

DATE

Date Setting - This menu controls and displays the current date of the month.

Examples:
18th day of the month = **DATE 18**

MONTH

Month Setting - This menu controls and displays the current month.

Example:
8th month or August = **MONTH 08**

YEAR

Year Setting - This menu controls and displays the current year.

Example:
2002 = **YEAR 02**

DAYLIGHT

Daylight Savings Setting - This menu controls and displays the currently active daylight savings rule.

The following is a list of rules available:

- **OFF *** = None
- **N AMERICA*** = North American
- **EUROPE *** = European
- **AUSTRALIA*** = Australian

	STEP	DISPLAY
1.	Press Service Mode Button ■	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C.	*TIME/DATE*
4.	Press B.	*TIME*
5.	Press B.	*TIME 23.17*
6.	Press numbers on keypad to change the current time.	
7.	Press D to save.	*TIME*
8.	Press C.	*DATE*
9.	Press B to display or change current date.	*DATE 18*
10.	Press numbers on keypad to change the date.	
11.	Press D to save.	*DATE*
12.	Press C.	*MONTH*
13.	Press B to view setting.	*MONTH 07*
14.	Press numbers on keypad to change the month.	
15.	Press D to save.	*MONTH*
16.	Press C.	*YEAR*
17.	Press B to view setting.	*YEAR 02*
18.	Press numbers on keypad to change the year.	
19.	Press D to save.	*YEAR*
20.	Press C.	*DAYLIGHT*
21.	Press B to view or change the setting.	*N AMERICA** *OFF **
22.	Press A or C to select the matching time zone.	*AUSTRALIA** *EUROPE **
23.	Press D to save.	*DAYLIGHT*
24.	Press Service Mode Button ■.	(Sales Mode)

SHUTDOWN

This option allows the controller to shut down a range of selections or the entire machine based on four (4) time of day intervals. If the time falls within one of these intervals and the entire machine has been selected for shutdown then the customer lead through message *VENDING OPERATION TO RESUME AT hh.mm* is scrolled.

If a range of selections has been chosen for shutdown that does not encompass the entire machine then the same message will scroll once for every time the customer makes a selection that falls within the range.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A . B . A .	*MENU 3*
	Press B . C .	*TIME/DATE*
3.	Press C .	*SHUTDOWN*
4.	Press B .	*OFF*
5.	Press A or C to scroll menus.	*TIME* *DAY* *RANGE*
6.	Press Service Mode Button ■.	(Sales Mode)

*Note: The correct time and date must be set so that the **SHUTDOWN** intervals work correctly. Refer to page 29. Also, for any given day these 4 time intervals may overlap one another. For each interval, the machine (controller) can be programmed from no days up to every day of the week on which the specified shutdown time intervals will be active.*

FOR SOFTWARE VERSION 67256-1 (SPANISH SZF/DZF) ONLY:

*INTERVAL 1 becomes the **ADVANCED POWER MANAGEMENT** instead of a shutdown interval. Shutdown intervals 2 thru 4 will continue to be available for use as vending shutdown timers.*

*The **ADVANCED POWER MANAGEMENT** feature reduces the energy consumption of the refrigeration system from 12:00 am to 6:00 am by increasing the **SET POINT** for **SENSOR1** to 10°C (50°F). When it is active, the point of sale message is displayed as ** GRACIAS ** MODO DEL AHORRO DE ENERGIA ACTIVO **.*

*Upon entering the **SHUTDOWN** menu, the display scrolls the menu **TEMPORIZADOR DE ENERGIA 1 O APAGADOR DE TEMPORIZADOR 2-4**. (ENERGY TIMER 1 OR SHUTDOWN TIMER 2-4). Once the enter key is pressed, toggle the status to **ON** to turn on the **ADVANCED POWER MANAGEMENT** and **SHUTDOWN** interval timers.*

*Note: **TIME/DATE** must also be set accurately in order for the **ADVANCED POWER MANAGEMENT** and **SHUTDOWN** timers to activate correctly. See page 29.*

This menu controls and displays the on/off status of the shutdown option.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
3.	Press B to display the status.	*OFF*
4.	Press B twice to change.	*ON * *
5.	Press D to save.	*ON*
6.	Press Service Mode Button ▣.	(Sales Mode)

FOR SOFTWARE VERSION 67256-1 (SPANISH SZF/DZF) ONLY:

*The **OFF/ON** sub-menu controls the status of the **ADVANCED POWER MANAGEMENT** and the **SHUTDOWN INTEVALS**. The factory default setting is **OFF**. It must be turned **ON** to activate all the features of the **ADVANCED POWER MANAGEMENT** and **SHUTDOWN INTERVALS 2-4**. When it is active, the point of sale message is displayed as* `** GRACIAS ** MODO DEL AHORRO DE ENERGIA ACTIVO **`.

TIME

Shutdown Time Interval - This menu allows programming of four (4) shutdown intervals.

Each shutdown interval consists of a start time and stop time (in military time format).

Please refer to **Table 5. Shutdown Chart** on page 33 and examples shown below before setting shutdown time intervals.

Examples:

1STRT 07.30
1STOP 09.00

Interval **1 Start** 7:30 a.m.
Interval **1 Stop** 9:00 a.m.

2STRT 11.00
2STOP 13.45

Interval **2 Start** 11:00 a.m.
Interval **2 Stop** 01:45 p.m.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
3.	Press B, C.	*TIME*
4.	Press B to view start time of shutdown interval.	*1STRT 00.00*
5.	Press numbers on keypad to change start time of interval.	
6.	Press D to save start time, and display stop time of interval.	*1STOP 00.00*
7.	Press numbers on keypad to change stop time of interval.	
8.	Press D to save stop time, and view start time of next interval. *Note: If invalid time values were entered, the setting will not be saved.*	*2STRT 00.00*
9.	Repeat **steps 5** through **8** for the remaining intervals or if invalid time values were pressed until *TIME* is displayed.	*TIME*
10.	Press Service Mode Button ▣.	(Sales Mode)

Shutdown Day

This menu allows each of the four (4) shutdown interval settings to be activated (on/off) for a specific day of the week.

1 SUN   OFF

INTERVAL   DAY   SETTING
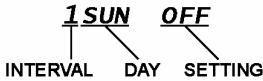
Please read Shutdown Chart Instructions and fill out Shutdown Chart before setting shutdown time.

Shutdown Chart Instructions - Use a pencil to write down the **Shutdown Interval** start and stop times (in military time) on the **Shutdown Chart** shown below. Also indicate (circle) if the shutdown interval will be on/off (active/inactive) for the specific day of the week. Use it to record your settings and refer to it during programming.

	STEP	DISPLAY
1.	Read **Shutdown Chart Instructions** and fill out the **Shutdown Chart** shown on shown below.	
2.	Press Service Mode Button ▣.	*DIAGNOSE*
	Press A , B , A .	*MENU 3*
3.	Press B , C , C .	*SHUTDOWN*
	Press B , C , C .	*DAY*
4.	Press B .	*1SUN OFF*
5.	To change the interval, press A or C .	
6.	Press B .	
7.	To change the day, press A or C ,	
8.	To change (on/off) setting press B , press A or C .	
9.	Press D to save.	
10.	Repeat **steps 7** through **9** to set other days of the same interval. To view another interval, press E and go to **step 5**.	
11.	Repeat **steps 5** through **10** until all days are set according to **Shutdown Chart**.	
12.	Press Service Mode Button ▣.	(Sales Mode)

Table 5. Shutdown Chart

	INTERVAL 1[1]	INTERVAL 2	INTERVAL 3	INTERVAL 4
START	*1STRT :*	*2STRT :*	*3STRT :*	*4STRT :*
STOP	*1STOP :*	*2STOP :*	*3STOP :*	*4STOP :*
SUN	*1SUN ON OFF*	*2SUN ON OFF*	*3SUN ON OFF*	*4SUN ON OFF*
MON	*1MON ON OFF*	*2MON ON OFF*	*3MON ON OFF*	*4MON ON OFF*
TUE	*1TUES ON OFF*	*2TUES ON OFF*	*3TUES ON OFF*	*4TUES ON OFF*
WED	*1WED ON OFF*	*2WED ON OFF*	*3WED ON OFF*	*4WED ON OFF*
THR	*1THUR ON OFF*	*2THUR ON OFF*	*3THUR ON OFF*	*4THUR ON OFF*
FRI	*1FRI ON OFF*	*2FRI ON OFF*	*3FRI ON OFF*	*4FRI ON OFF*
SAT	*1SAT ON OFF*	*2SAT ON OFF*	*3SAT ON OFF*	*4SAT ON OFF*

1. Software version **67256-1** only: When SHUTDOWN is ON, then INTERVAL 1 is factory set to ON for every day. The machine does not to shut down but to goes into ADVANCED POWER MANAGEMENT. INTERVAL 1 start time is set to *1STRT 00:00* (12:00am) while stop time is set to *1STOP 06:00* (6:00am).

RANGE

Shutdown Range - This menu option sets the range of the selection rows that will be affected by the shutdown option.

Valid selection row letters are A through L. The ending row letter must be greater than or equal to the starting row letter.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press B, C, C.	*DAY*
3.	Press C.	*RANGE*
4.	Press B.	*SR/ER A-J*
5.	Press starting row letter on keypad.	
	Press ending row letter on keypad.	
6.	Press D to save.	*RANGE*
7.	Press Service Mode Button ▣.	(Sales Mode)

TEMPERTURE

> **NOTE:**
>
> While in Sales Mode, press 0 to display the current temperature sensor readings. SENSOR2 will display on the left while SENSOR1 is on the right.
>
> SC100 Dual Satellite software version 67212-1 only: While in Sales Mode, press 0 to display the current temperature readings of SENSOR1, SENSOR2, SENSOR3 and SENSOR4. The left or A satellite (for selections A-C) sensors will display as A Sensor1 SENSOR2 for 3 seconds, then the right or B satellite (for selections H-L) sensors will display B SENSOR3 SENSOR4 for 3 seconds.
>
> Dual Zone Software 67232, 67234 & 67256 only: While in Sales Mode, press 0 to display the current temperature readings of each zone and the status of RELAY1 and RELAY3. SENSOR1 is displayed on the left side as Bxxx* where B=bottom, xxx=temperature°C, *=RELAY1 (compressor) is on. SENSOR2 is displayed on the right side as Tyyy* where T=top, yyy=temperature°C, *=RELAY3 (heater) is on.

Temperature Control - This menu has submenus that can be used to activate and modify the controller's temperature control capabilities.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
3.	Press C.	*TEMPERTURE*
4.	Press B.	*DEGREE F*
5.	Press A or C to view available menus.	*SENSOR1*
		SENSOR2
		SENSOR3
		SENSOR4
		PRIORITY
6.	Press Service Mode Button ▣.	(Sales Mode)

FOR DUAL ZONE (SOFTWARE 67232, 67234 & 67256) ONLY:
*Refer to **PRIORITY** setting on page 43 for detailed information on refrigeration and heating systems for Dual Zone machines.*

DEGREE F - DEGREE C

Temperature Units - This menu allows the operator to specify between Celsius (°C) and Fahrenheit (°F) temperature units.

	STEP	DISPLAY
1.	Press Service Mode Button ▪.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press C.	*TEMPERTURE*
3.	Press B.	*DEGREE F*
4.	To change units, press B twice.	*DEGREE F ⁎*
		DEGREE C ⁎
5.	Press D to save.	*DEGREE C*
6.	Press Service Mode Button ▪.	(Sales Mode)

SENSOR1

Sensor Control - Except where noted, **SENSOR1** and **SENSOR2** submenus allow the operator to control individual characteristics that are associated with 2 separate temperature sensors.

	STEP	DISPLAY
1.	Press Service Mode Button ▪.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press C, B.	*DEGREE F*
3.	Press C.	*SENSOR1*
4.	Press B.	*ON*
5.	Press A or C to view available menus.	*SET POINT* *DELTA* *DEFROST* *H/S*
6.	Press Service Mode Button ▪.	(Sales Mode)

ON/OFF

Sensor On/Off - This menu controls and displays the on/off state of the **SENSOR1** menu.

FOR DUAL ZONE SOFTWARE 67256-1 ONLY:

The factory default setting for SENSOR2 is OFF.

	STEP	DISPLAY
1.	Press Service Mode Button ▪.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press C, B.	*DEGREE F*
3.	Press C.	*SENSOR1*
4.	Press B.	*ON*
5.	To change setting, press B twice.	*ON ⁎*
		OFF ⁎
6.	Press D to save.	*OFF*
7.	Press Service Mode Button ▪.	(Sales Mode)

Temperature Set Point - This menu allows the user to set an ideal operating temperature that the controller will attempt to maintain provided the sensor is already on (enabled).

For Frozen or Slack health/safety modes of operation, then **SENSOR1** (compressor) set point temperature controls the refrigeration system while **SENSOR2** (evaporator fan) set point designates the warm temperature above which the normal defrost operation will cease and the refrigeration operation will restart.

	STEP	DISPLAY
1.	Press Service Mode Button ▣ .	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
	Press B , C , C .	*SHUTDOWN*
	Press C , B , C .	*SENSOR1*
	Press B .	*ON*
3.	Press C .	*SET POINT*
4.	Press B .	*36F*
5.	Press A to increase or press C to decrease set point.	
6.	Press D to save.	*SET POINT*
7.	Press Service Mode Button ▣ .	(Sales Mode)

In the event that this temperature is not exceeded during the normal defrost operation, then the expiration of the normal **DURATION** time will determine the end of the defrost cycle.

Temperature **SENSOR1** and **SENSOR2** will also be monitored during the normal refrigeration cycle to control the enablement of a fan. Specifically, if the temperature of **SENSOR1** is greater than 40 degrees Fahrenheit or the temperature of **SENSOR2** is less than 30 degrees Fahrenheit then the fan will be turned on. Once the fan turns on, it will remain on until the end of the refrigeration cycle regardless of the temperature of either sensor.

The maximum value is 70°F or 21°C. The minimum value is -30°F and -34°C. The temperature rolls over when the user scrolls through the maximum or minimum values.

FOR DUAL ZONE (SOFTWARE 67232, 67234 & 67256) ONLY:

*The display is different from other software versions. The **SET POINT** for **SENSOR1** is shown on the left half of the display while the **SET POINT** for **SENSOR2** is also shown on the right half. This is because the program will automatically adjust the **SET POINT** of **SENSOR2** to maintain a maximum temperature difference of 23°F (13°C) between the two zones.*

	STEP	DISPLAY
1.	Press Service Mode Button ▣ .	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
	Press B , C , C .	*SHUTDOWN*
	Press C , B , C .	*SENSOR1*
	Press B .	*ON*
3.	Press C .	*SET POINT*
4.	Press B .	*B 4 T 17**
5.	Press A to increase or press C to decrease set point.	
6.	Press D to save.	*SET POINT*
7.	Press Service Mode Button ▣ .	(Sales Mode)

*Refer to **Table 2 Default Configurations** on page 20 for **SENSOR1** factory default **SET POINT** settings. Minimum is 35°F (2°C) and maximum is 80°F (27°C).*

SENSOR2 - SET POINT

The display is different from other software versions. The **SET POINT** for **SENSOR2** is shown on the right half while the **SET POINT** for **SENSOR1** is also shown on the left half of the display. This is because the program will automatically adjust the **SET POINT** of **SENSOR1** to maintain a maximum temperature difference of 23°F (13°C) between the two zones.

Refer to **Table 2 Default Configurations** on page 20 for **SENSOR2** factory default **SET POINT** settings. Minimum is 35°F (2°C) and maximum is 80°F (27°C).

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press C, B, C, C.	*SENSOR2*
	Press B.	*ON*
3.	Press C.	*SET POINT*
4.	Press B.	
5.	Press A to increase or press C to decrease set point.	*B 4 T 17**
6.	Press D to save.	*SET POINT*
7.	Press Service Mode Button ■.	(Sales Mode)

DELTA

Temperature Delta - With the exception of the Frozen and Slack refrigeration modes, this function allows the user to specify the temperature region around the set point (described in previous section) that refrigeration control will use to switch on and off.

The refrigeration switch on point is equivalent to the **SET POINT** plus the **DELTA** value divided by 2.

The switch off point is the **SET POINT** minus the **DELTA** value divided by 2.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press C, B, C.	*SENSOR1*
	Press B, C.	*SET POINT*
3.	Press C.	*DELTA*
4.	Press B.	*10F*
5.	Press A to increase or press B to decrease.	
6.	Press D to save.	*DELTA*
7.	Press Service Mode Button ▣.	(Sales Mode)

The value for delta is set in the same manner as the set point (see previous section). The maximum value is 20°F or 11°C. The minimum value is 5°F and 2°C. In the case of the Frozen and Slack refrigeration modes, the temperature delta only applies to the **SENSOR1** set point.

For the case of the **SENSOR2** set point, there's no need for a delta value since the temperature only has to exceed this temperature to end the defrost cycle and there's no equivalent defrost cycle switch on temperature.

FOR DUAL ZONE (SOFTWARE 67232, 67234 & 67256) ONLY:

SENSOR1 - DELTA

*The factory default **DELTA** setting for **SENSOR1** is 4°C. Minimum is 3°C and maximum is 11°C. The compressor switch on point (cut-in) is equivalent to **SET POINT** plus the **DELTA** value divided by 2. The switch off point (cut-out) is the **SET POINT** minus the **DELTA** value divided by 2.*

SENSOR2 - DELTA

*The factory default **DELTA** setting for **SENSOR2** is 3°C. Minimum is 3°C and maximum is 11°C. The heater switch on point (cut-in) is equivalent to **SET POINT** plus **DELTA** value divided by 2. The switch off point (cut-out) is the **SET POINT** setting.*

NOTE:

Refer to **PRIORITY** setting on page 43 for detailed information on refrigeration and heating systems for Dual Zone machines.

COMBO • SMVI • SM5700 • RFS • RSQF • SC100 • DUAL ZONE • P/N 4212619

DEFROST

Defrost Settings - This menu has four (4) submenus which allows the user to set the following:

- **DURATION** - Set the (time) duration for a defrost cycle. See page 40.

- **PERIOD** - Set the (time) period between defrost cycles. See page 40.

- **DELAY** - Controls the (relative time) delay when the defrost cycle starts. See page 41.

  For Dual Zone (software 67232 & 67234) only:
  DELAY - Controls the minimum amount of time the compressor must remain off before it is allowed to turn on.

- **MANUAL** - Manually force the defrost operation to run immediately. See page 41.

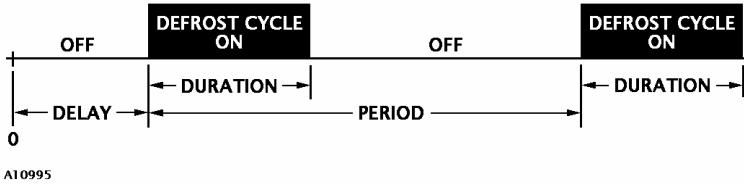|	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press C, B, C.	*SENSOR1*
	Press B, C, C.	*DELTA*
3.	Press C.	*DEFROST*
4.	Press B.	*DURATION*
5.	Press A or C to view available submenus.	*PERIOD DELAY MANUAL*
6.	Press Service Mode Button ■.	(Sales Mode)

Figure 8. Defrost Cycle

FOR DUAL ZONE (SOFTWARE 67232, 67234 & 67256) ONLY:
*Refer to **PRIORITY** setting on page 43 for detailed information on refrigeration and heating systems for Dual Zone machines.*

DURATION

This menu sets the length of time of a defrost cycle.

The maximum value is 60 minutes. The minimum value is 10 minutes.

Refer to Table 2 on page 20 for factory default settings.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press C, B, C.	*SENSOR1*
	Press B, C, C, C.	*DEFROST*
3.	Press B.	*DURATION*
4.	Press B.	*10 MIN*
5.	Press C to increase or press A to decrease.	
6.	Press D to save.	*DURATION*
7.	Press Service Mode Button ■.	(Sales Mode)

PERIOD

This menu sets the total amount of continuous time (hours) a refrigeration compressor must run before the defrost cycle will execute. Pressing A or C will cause the time to increase or decrease by 1/2 hour increments. The maximum and minimum value is 24.0 and .5 hours respectively.

Refer to Table 2 on page 20 for factory default settings.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press C, B, C.	*SENSOR1*
	Press B, C, C.	*DELTA*
	Press C, B.	*DURATION*
3.	Press C.	*PERIOD*
4.	Press B.	*12.0 HRS*
5.	Press C to increase or press A to decrease.	
6.	Press D to save.	*PERIOD*
7.	Press Service Mode Button ■.	(Sales Mode)

DELAY

This menu controls the amount of time delay that will elapse between the present time and the time at which the defrost portion of the refrigeration cycle will start. Refer to Table 2 on page 20 for factory default settings.

After this delay has expired, the normal period setting will control the time between defrost cycles and this delay will revert to 0.0 hours.

	STEP	DISPLAY
1.	Press Service Mode Button [■].	*DIAGNOSE*
	Press [A], [B], [A].	*MENU 3*
	Press [B], [C], [C].	*SHUTDOWN*
2.	Press [C], [B], [C].	*SENSOR1*
	Press [B], [C], [C].	*DELTA*
	Press [C], [B], [C].	*PERIOD*
3.	Press [C].	*DELAY*
4.	Press [B].	*0.00 HRS*
5.	Press [C] to increase or press [A] to decrease.	
6.	Press [D].	*DELAY*
7.	Press Service Mode Button [■].	(Sales Mode)

Pressing [A] or [C] will cause the time to increase or decrease by 1/2-hour increments. The maximum value is 24.0 hours. The minimum value is .5 hours respectively.

FOR DUAL ZONE (SOFTWARE 67232, 67234 & 67256) ONLY:

DELAY sets the minimum amount of time the compressor must remain off before it is allowed to turn on. The factory default is 3 minutes. The minimum value is 3 minutes and the maximum value is 10 minutes. Refer to Table 2 on page 20 for other factory default settings.

MANUAL

This menu is to manually force the defrost operation to run immediately.

Note that upon exit from service mode, a new period for continuous refrigeration operation that is shorter than the current time remaining in the old refrigeration cycle will reset the old cycle to the new programmed period. Also, defrost cycles will start counting down as soon as a refrigeration cycle starts for either sensor.

	STEP	DISPLAY
1.	Press Service Mode Button [■].	*DIAGNOSE*
	Press [A], [B], [A].	*MENU 3*
	Press [B], [C], [C].	*SHUTDOWN*
2.	Press [C], [B], [C].	*SENSOR1*
	Press [B], [C], [C].	*DELTA*
	Press [C], [B], [C], [C].	*DELAY*
3.	Press [C].	*MANUAL*
4.	Press [B].	*OFF **
5.	Press [B] to start manual defrost.	*ON **
6.	Press [D].	*MANUAL*
7.	Press Service Mode Button [■].	(Sales Mode)

Health Safety - This submenu allows the user to specify the operating region for passing health safety requirements and the range of rows over which the health safety requirements will be applied. If the requirements are violated then those rows will be shut down accordingly. Note that each sensor has independent H/S (health safety) settings.

LEVEL

Health Safety Level - This menu allows the user to select a health safety requirement for the particular sensor:

- **NONE** - (Sensor1, Sensor2 & Sensor3) Ignore health safety requirements for this sensor.

- **COLD** - (Sensor1 & Sensor3) Block designated rows if temperature exceeds 41°F (5°C) for 5 minutes*.

- **SLACK** - (Sensor1 & Sensor3) Block designated rows if temperature exceeds 15°F (-9°C) for 15 minutes*.

- **FROZEN** - (Sensor1 & Sensor3) Block designated rows if temperature exceeds 0°F (-18°C) for 15 minutes*.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
	Press B , C , C .	*SHUTDOWN*
	Press C , B , C .	*SENSOR1*
	Press B , C , C , C .	*H/S*
3.	Press B .	*LEVEL*
4.	Press B .	*NONE* ✳
5.	Press A or C to select a health/safety level setting.	*FROZEN* ✳
		SLACK ✳
		COLD ✳
		NONE ✳
6.	Press D to save.	*LEVEL*
7.	Press Service Mode Button ■.	(Sales Mode)

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*NOTE:

The time requirements for FROZEN or SLACK levels do not apply for a period of 75 minutes immediately following machine filling (door open state), servicing (service mode button pressed or door open detected) or a defrost cycle. The time requirements for the COLD setting do not apply for a period of 30 minutes immediately following machine filling or servicing.

RANGE

Health Safety Range - This submenu allows the user to specify the range of rows over which the health safety requirements will be applied.

SENSOR2

See **SENSOR1** on page 35.

SENSOR3

See **SENSOR1** on page 35.

SENSOR4

See **SENSOR1** on page 35.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press C, B, C.	*SENSOR1*
	Press B, A, B.	*LEVEL*
3.	Press C.	*RANGE*
4.	Press B.	*SR/ER A-J*
5.	Press starting and ending selection letters on keypad.	
6.	Press D to save.	*RANGE*
7.	Press Service Mode Button ▣.	(Sales Mode)

PRIORITY

*The **PRIORITY** menu is used only on Dual Zone (software **67232, 67234 & 67256**). This menu designates which zone sensor has priority. The factory default is **SENSOR1** (lower zone). The other setting is **SENSOR2** (upper zone).*

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C.	*SHUTDOWN*
	Press C, B, A.	*PRIORITY*
3.	Press B to view setting.	*SENSOR2*
4.	Press B to toggle setting. *Example:* **SENSOR1**=*Cool (Lower Zone) Priority* **SENSOR2**=*Warm (Upper Zone) Priority*	*SENSOR1*
5.	Press D to save.	
6.	Press Service Mode Button ▣.	(Sales Mode)

- **If the machine is plugged in and the power switch is on and the door is open, then the top fan is on.** RELAY1 (compressor), **RELAY2** (evaporator fan), and **RELAY3** (heater and heater fan) are all turned off. A 30 minute door timer starts and a compressor delay timer starts. The condenser fan is off. *(For Dual Zone software 67232 & 67234 only: If Energy Saver Mode switch is off, then the condenser fan remains on.)*

  If the door is open for more than 30 minutes, then the controller will resume closed door operation and set an error code (**VMC 7**). The **DIAGNOSE** menu will also display the current state of the door switch after all other messages (if any) are displayed. $\boxed{DOOR}$ is displayed if the door switch is in the "door open position" and no message is displayed if the door switch is in the "closed door position". The controller evaluates the **PRIORITY** setting of the machine and starts that mode of control. Refer to **SENSOR1** OR **SENSOR2** sections below.

  If a defrost cycle is in progress and the door is opened, then the **DURATION** timer continues while the door is open.

  The **PERIOD** timer is reset if the compressor was on and the door was opened for more than 95% of the defrost **DURATION** timer setting. If the door was opened briefly (less than 95% of the defrost **DURATION** timer setting), then the **PERIOD** timer continues even though the compressor is off.

- **If the door is closed,** then **RELAY2** (evaporator fan) is turned on. When the compressor delay timer (defrost **DELAY**) expires, then the controller evaluates the **PRIORITY** setting of the machine and starts that mode of control. Refer to **SENSOR1** or **SENSOR2** sections below.

SENSOR1

The temperature settings of the cool/lower zone must be satisfied first, only then can it begin to satisfy the temperature requirements of the warm/upper zone. Specific details are as follows:

If the temperature at **SENSOR1** is greater than or equal to its cut-in temperature and if the compressor has been off for the amount of time equal to the defrost **DELAY** setting, then **RELAY1** (compressor) is turned on, **RELAY3** (heater and heater fan) is turned off if it was on and the defrost **PERIOD** timer starts.

- If the temperature at **SENSOR1** is less than or equal to its cut-out temperature, then **RELAY1** (compressor) is turned off and the compressor delay timer (defrost **DELAY**) starts.

- If the temperature at **SENSOR1** has not reached cut-out temperature when defrost **PERIOD** timer expires, then **RELAY1** (compressor) is turned off and the compressor delay timer (defrost **DELAY**) and defrost **DURATION** timer starts. The heater system for **SENSOR2** is allowed to turn on while the compressor is off if the temperature at **SENSOR2** is less than or equal to its cut-in temperature. When the defrost **DURATION** timer expires, then the temperature at **SENSOR1** is checked.

If the temperature at **SENSOR1** is less than cut-in temperature, then **SENSOR2** is checked.

- If the temperature at **SENSOR2** is less than or equal to its cut-in temperature, then **RELAY3** (heater and heater fan) is turned on and remains on until the temperature at **SENSOR2** is equal to or greater than its cut-out temperature (**SET POINT**) or if **SENSOR1** is greater than or equal to its cut-in temperature.

- If temperature at **SENSOR2** is greater than cut-in temperature (**SET POINT**), then **SENSOR1** temperature is checked.

SENSOR2

The temperature of the warm/upper zone must be satisfied first, and only then can it begin to satisfy the temperature requirements of the cool/lower zone. Specific details are as follows:

If the temperature at **SENSOR2** is less than or equal to cut-in temperature, then **RELAY1** (compressor) is turned off, **RELAY3** (heater and heater fan) are turned on and the compressor delay timer (defrost **DELAY**) is starts.

- If the temperature at **SENSOR2** is greater than or equal to its **SET POINT** temperature (cut-out), then **RELAY3** (heater and heater fan) are turned off and **SENSOR1** is checked.

If temperature at **SENSOR2** is greater than its cut-in temperature, then **SENSOR1** is checked.

- If the temperature at **SENSOR1** is greater than or equal to its cut-in temperature and if the compressor has been off for a time equal to the defrost **DELAY** timer setting, then the defrost **PERIOD** timer starts and **RELAY1** (compressor) is turned on and remains on until the temperature at **SENSOR1** is less than or equal to its cut-out temperature <u>or</u> the temperature at **SENSOR2** is less than or equal to its cut-in temperature.

- If the temperature at **SENSOR1** has not reached its cut-out temperature when defrost **PERIOD** timer expires, then **RELAY1** (compressor) is turned off and the compressor delay timer (defrost **DELAY**) and defrost **DURATION** timer starts. The heater system for **SENSOR2** is allowed to turn on while the compressor is off if the temperature at **SENSOR2** is less than or equal to its cut-in temperature. When the defrost **DURATION** timer expires then temperature at **SENSOR1** is checked.

DISCOUNT

This menu option will access to the following sub-menus that allow the vending machine (controller) to charge a different price for selections at different times or on different days:

- **OFF (ON)**
- **TIME**
- **DAY**
- **RANGE**
- **VALUE**

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, C, C, C.	*TEMPERTURE*
3.	Press C.	*DISCOUNT*
4.	Press B.	*OFF*
5.	Press A or C to view available sub-menus.	*TIME* *DAY* *RANGE* *VALUE*
6.	Press Service Mode Button ▣.	(Sales Mode)

Discounting On/Off - This menu controls and displays the (on/off) status of the discount mode.

TIME

Discounting Time - This sub-menu sets the time of day that the discount mode is in effect.

DAY

Discounting Day - Sets the day(s) of the week the discount mode is in effect.

RANGE

Discounting Range - Sets the range of selections to be discounted.

Valid selection letters are A through L. The ending selection letter must be equal to or greater than the starting selection letter.

VALUE

Discounting Value - Sets the amount for the discounted price.

Setting a value greater than or equal to the maximum priced product in the machine will make all products within the discount range free.

NOTE:
The maximum settable value for discounting is equal to 199.99 for a scale factor of 1 and 999.95 for a scale factor of 5. If the operator attempts to save a value that exceeds this amount, a warning message will appear and the displayed setting will revert to this maximum value.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
	Press B , C , C .	*SHUTDOWN*
	Press C , C .	*DISCOUNT*
3.	Press B .	*OFF*
4.	To change the on/off setting press B twice.	*ON ＊*
5.	Press D to save.	*ON*
6.	Press C .	*TIME*
7.	Press B to view start time.	*1STRT 00.00*
8.	Press numbers on keypad to change the start time	
9.	Press D to save.	*1STOP 00.00*
10.	Press numbers on keypad to change stop time.	
11.	Press D to save.	*TIME*
12.	Press C .	*DAY*
13.	Press B to view day setting.	*SUN OFF*
14.	Press A or C to view another day.	
15.	To change on/off setting press B , then press A or C	*SUN ON*
16.	Press D to save.	
17.	Repeat **steps 14** through **16** to set other days of the week.	
18.	Press E .	*DAY*
19.	Press C .	*RANGE*
20.	Press B to set discount range.	*A1-A1*
21.	Press starting selection letter and number on keypad. Press ending selection letter and number on keypad.	
22.	Press D to save.	*RANGE*
23.	Press C .	*VALUE*
24.	Press B .	*000.00*
25.	Press numbers on keypad to set the discount price value.	
26.	Press D to save.	*VALUE*
27.	Press Service Mode Button ■.	(Sales Mode)

AUTOREINST

Auto-Reinstatement of Failed Selections - Use this feature for a satellite soft drink or similar vendor utilizing a sold out or empty switch. Normally, when an empty selection is detected during an attempted vend, that selection is recorded inoperative and requires resetting before it can be vended again. Satellite units utilize a range of selections within the controller. Programming this range of selections into the auto reinstatement will eliminate the necessity of manually resetting the controller after re-loading a selection that went into a sold out condition.

NOTE:

If iVend™ Optical System is installed, then set optical rows to **AUTOREINST** on.

ON (OFF)

Auto-Reinstatement On/Off - This menu displays and controls the current on/off state of auto-reinstatement mode.

RANGE

Auto-Reinstatement Range - This menu allows the setting of the range of selection row(s) affected by the auto-reinstatement mode.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A, B, A. Press B, A, A, A.	*MENU 3* *COUPN/TOKN*
3.	Press A.	*AUTOREINST*
4.	Press B to view setting.	*OFF*
5.	Press B twice to toggle **off/on**.	*ON ⁕*
6.	Press D to save.	*ON*
7.	Press A or C.	*RANGE*
8.	Press B to view *RANGE* setting.	*SR/ER A-J*
9.	Press starting and ending selection letters on keypad.	
10.	Press D to save.	*RANGE*
11.	Press Service Mode Button ■.	(Sales Mode)

COUPN/TOKN

Value Coupon and Token - This menu enables the use of coupons and/or tokens—this option requires a [MDB version] validator or coin mechanism (coin changer). Several sub-menus are available that allows setting of the values of coupons and/or tokens. It also allows the range of selection row(s) over which such coupons and/or tokens will apply.

The following sub-menus are available:

- *COUP VALUE*
- *COUP RANGE*
- *TOKN VALUE*
- *TOKN RANGE*

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A, B, A. Press B, A, A.	*MENU 3* *CAN/BOTTLE*
3.	Press A.	*COUPN/TOKN*
4.	Press B.	*COUP VALUE*
5.	Press A or C to view available sub-menus.	*COUP RANGE* *TOKN VALUE* *TOKN RANGE*
6.	Press Service Mode Button ■.	(Sales Mode)

COUP VALUE

Coupon Value Setting - Sets the value of a coupon to be used with this vendor. Up to five different coupons can be used. Coupons beyond the first 5 will be considered free vend coupons.

After one coupon is accepted, further coupons will not be accepted until a successful vend has taken place.

Note: Entering a price of 0 disables the coupon and it is considered to be a free vend token.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
	Press B , A , A , A .	*COUPN/TOKN*
3.	Press B .	*COUP VALUE*
4.	Press B .	*CV1 000.00*
5.	Press A or C to view other coupon values.	
6.	Press B to change value.	
7.	Press number keys on keypad to set the desired value.	
8.	Press D to save.	*COUP VALUE*
9.	Repeat **steps 4** through **8** to view or set other coupon values.	
10.	Press Service Mode Button ▣.	(Sales Mode)

COUP RANGE

Coupon Range Setting - Sets a range of selections where the coupon is redeemable.

This selection allows the user to select 5 separate ranges of products that each corresponding coupon will cover.

	STEP	DISPLAY
1.	Press Service Mode Button ▣.	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
	Press B , A , A .	*CAN/BOTTLE*
	Press A , B .	*COUP VALUE*
3.	Press C .	*COUP RANGE*
4.	Press B .	*C1R1*
5.	Press A or C to view other coupon range settings.	
6.	Press B to change settings.	*C1R1 **
7	Press starting selection letter and number on keypad. Press ending selection letter and number on keypad.	*C1R1A1 A2**
8.	Press D to save.	*COUP RANGE*
9.	Repeat **steps 4** through **8** o view or set other coupon ranges.	
10.	Press Service Mode Button ▣.	(Sales Mode)

Token Value Setting - Sets the values of tokens to be used with this vendor. Up to 5 different tokens can be used.

Note: The controller will assign [these] values to the first 5 tokens that the attached validator reports. Tokens beyond the first 5 will be considered free vend tokens. After one token is accepted, further tokens will not be accepted until a successful vend has taken place.

	STEP	DISPLAY
1.	Press Service Mode Button ◼.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, A, A.	*CAN/BOTTLE*
	Press A, B, C.	*COUP RANGE*
3.	Press C.	*TOKN VALUE*
4.	Press B.	*TV1 000.00*
5.	Press A or C to view other token settings.	
6.	Press B to change value.	
7.	Press numbers on keypad to set token value.	
8.	Press D to save.	*TOKN VALUE*
9.	Repeat **steps 4** through **8** for other token settings.	
10.	Press Service Mode Button ◼.	(Sales Mode)

Token Range Setting - Sets the ranges of selections a token can be used with.

	STEP	DISPLAY
1.	Press Service Mode Button ◼.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, A, A.	*CAN/BOTTLE*
	Press A, B, C, C.	*TOKN VALUE*
3.	Press C.	*TOKN RANGE*
4.	Press B.	*T1R1*
5.	Press B to edit.	*T1R1 **
6.	Press the letter and number of the 1st selection on the keypad. Press the letter and number of the 2nd selection on the keypad.	
7.	Press D to save.	*TOKN RANGE*
8.	Press Service Mode Button ◼.	(Sales Mode)

CAN/BOTTLE

Can/Bottle Control Options - This submenu provides the option of designating ranges of rows that will contain cans and/or bottles.

Note: Selections that are designated as either cans or bottles will have the vend motor run continuously during the vend cycle until a drop sensor has signaled the controller or the maximum vend time of 9 seconds has expired.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
	Press B , A , A .	*CAN/BOTTLE*
3.	Press B .	*OFF*
4.	Press A or C to scroll menus.	*RANGE DEPTH*
5.	Press D to save.	*ON*
6.	Press Service Mode Button ■.	(Sales Mode)

OFF (ON)

Can/Bottle On/Off - Displays and controls the status of the Can/Bottle Control Option.

When Can/Bottle Mode is ON, the Drop Sensor is enabled for vending of bottles or cans for the range selected. Set Can/Bottle Mode to OFF if bottles or cans will not be vended.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
	Press B , A , A .	*CAN/BOTTLE*
3.	Press B .	*OFF*
4.	Press B twice to change.	*ON ✳*
5.	Press D to save.	*ON*
6.	Press Service Mode Button ■.	(Sales Mode)

RANGE

Can/Bottle Mode Range - This submenu sets the range of selection rows that will contain cans and/or bottles.

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A , B , A .	*MENU 3*
	Press B , A , A , B .	*ON*
3.	Press C .	*RANGE*
4.	Press B .	*SR/ER H-H*
5.	Press starting row letter, then ending row letter on keypad.	
6.	Press D to save.	*RANGE*
7.	Press Service Mode Button ■.	(Sales Mode)

DEPTH

Can/Bottle Single Or Double Depth Status - Sets the depth of each selection for single or double operation. Single is used for dispensing bottles and double is used for dispensing cans.

Note: Can/Bottle On/Off must already be set to ON to access the Depth setting. Selections set at single depth will vend for an additional 2.5 seconds following detection of the product delivery signal.

	STEP	DISPLAY
1.	Press Service Mode Button ▉.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, A, A, B.	*ON*
3.	Press A.	*DEPTH*
4.	Press B.	*SELECT H1*
5.	Press A or C to scroll to another selection.	
6.	Press B.	*DOUBLE **
7.	Press B to change setting.	*SINGLE **
8.	Press D to save.	*SELECT H1*
9.	Repeat **steps 5** through **8** for other can/bottle selections.	
10.	Press E to exit.	*DEPTH*
11.	Press Service Mode Button ▉.	(Sales Mode)

OPTIC

Optical Sensor Control Options - This submenu provides the operator with options for designating ranges of product rows that will be monitored for product delivery by an optical sensor.

This optical sensor connects to the controller through pin 8 of header P7. This is the same pin used by the Can/Bottle sensor. Due to this sharing of resources, it is not possible to run the controller with both the Can/Bottle and Optical modes being simultaneously active.

The controller must be in **Sales Mode**. If the accumulated credit is equal to or larger than the selection price when a selection is entered, then the motor corresponding to that selection will be turned on. Selections that are designated as optical will have an associated vend operation that differs from the normal vend operation.

For 5 milliseconds at the start of a vend, the **iVend™** optical sensor will be checked for blockage.

If blocked - the normal home-switch-vend cycle will be used and the optical sensors will be ignored. Both the vend motor and a 9 second vend timeout timer are started.

- The selection motor rotates to the home-switch position.
- If there is a home-switch signal, then the vend is considered successful.
- If after 9 seconds and there is no home-switch signal, then the vend failed. The vend motor is shut down and *MAKE ALTERNATE SELECTION* is displayed. The customer can press selection buttons to activate this or another motor or press the coin return button.

  NOTE: Force Vend is overridden under this vend cycle.

If not blocked - the iVend™ Sensor System is used. The vend motor and a 9 second vend timeout timer are started.

- The selection motor rotates to the home-switch position.
- If a product is detected during this time period, then the vend is considered successful.
- If after reaching the home-switch position and a product is not detected, then the vend motor will pause for 1 second while the controller continues to monitor the optical sensor for product delivery.
  - If a product is detected during this pause, then the vend is considered successful.
  - If a product is not detected, then the controller initiates a second vend cycle and a 9 second timer while continuing to monitor the optical sensor.
    - o If a product is detected during this second cycle, the motor will be stopped immediately. The vend is considered successful. The 2nd Vend Count is increased by 1.
    - o If a product is not detected and the motor reaches the home-switch position or if a 9 second timer runs out, then the vend has failed or the selection is sold out. Such a state will trigger the display of the │ *MAKE ALTERNATE SELECTION* │ message. The amount of credit is displayed. The customer can press selection buttons to activate this or another motor <u>or</u> press the coin return button.

OFF - ON

Optical On/Off State - This menu displays and controls the current on/off state of the optical option.

Note: *If iVend™ is present, this is normally set to ON.*

STEP	DISPLAY
1. Press Service Mode Button ■.	*DIAGNOSE*
2. Press A, B, A.	*MENU 3*
Press B, A.	*OPTIC*
3. Press B.	*OFF*
4. Press B twice to change setting.	*ON* *
5. Press D to save.	*ON*
6. Press Service Mode Button ■.	(Sales Mode)

FOR SOFTWARE VERSIONS 67256-1 AND 67257-1 ONLY.

- *When **OPTIC** is **OFF**, the machine will operate using the optical sensors and the standard iVend™ algorithm program.*

- *When **OPTIC** is **ON**, the iVend™ optical sensors will be checked during the idle sales mode every 200ms. If there are three (3) or more consecutive readings of a blocked or disconnected sensor, the VMC Error 8 (optics error) will be set.*

  When the VMC Error 8 is set, the controller will add to the default point of sale message an illuminated decimal point on the right-most digit.

  When the VMC Error 8 is set and a selection is made, vending is inhibited. The controller will beep three (3) times and scroll the current Spanish message │ *SELECIONE OTRO PRODUCTO* │ *(select another product). If any credit has been established, pressing the escrow button shall return it in like coin fashion.*

  Once the vend cycle has begun, the current iVend™ algorithm will be used.

  In the Service Mode, the VMC Error 8 will continue to be visible in the Diagnostics menu. Upon door switch opening or closing, if the iVend™ sensors continue to be disconnected or blocked the controller will beep (3) times to alert the service person.

RANGE

Range of Optical Mode - This menu allows the operator to specify which rows of products are sensed for product delivery by the optical sensor.

*Note: The last row in the range may then be selected by entering any letter that is greater than or equal to the first row in the range (**A** through **L**).*

	STEP	DISPLAY
1.	Press Service Mode Button ■.	*DIAGNOSE*
2.	Press A, B, A.	*MENU 3*
	Press B, A, B.	*ON*
3.	Press C.	*RANGE*
4.	Press B.	*SR/ER A-L*
5.	Press starting row letter on keypad.	
6.	Press ending row letter on keypad.	
7.	Press D to save.	*RANGE*
8.	Press Service Mode Button ■.	(Sales Mode)

DEX/UCS

DEX/UCS or **DEX** stands for **D**ata **EX**change/**U**niform **C**ommunications **S**tandard. Within the vending industry, it defines the transfer of information/data between a **H**and **H**eld **C**omputer (**HHC**) or data collector and the electronic vending machine.

If the vendor operation will be tracked using a **DEX/UCS** capable hand held computer, then please note the following:

- Just below the instructional decal on the control board cover is the plug-in point for the connecting cable from the hand-held computer. See **Figure 1** on page 1.

- The vending machine must be in **SALES MODE**, and then plug in a **HHC** and the vendor will enter **DEX/UCS MODE**. The exchange of information will begin automatically. All resettable counters are automatically cleared (set to zero).

- For software versions 67217-8 or later and 67257 only: Will accept DEX uploads of prices (PC101, PC102) and asset number (IC106) with a 13 character limit.

The following is a list of the DEX/UCS codes and descriptions:

DEX FIELD	DEX FIELD DESCRIPTION
ID101	Machine serial number
ID102	Machine model number ("SM6 67185-4 " for the Mdb version and "SM6 67201-2 " for the protocol a version)
VA101	Value of all paid sales since initialization
VA102	Number of all paid vends since initialization
VA103	Value of all paid sales since last reset
VA104	Number of all paid vends since last reset
CA201	Value of cash sales since initialization
CA202	Number of cash vends since initialization
CA302	Value of cash to coin box since last reset
CA303	Value of cash to tubes since last reset
CA304	Value of bills in since last reset
CA305	Value of cash in since initialization
CA306	Value of cash to coin box since initialization
CA307	Value of cash to tubes since initialization
CA308	Value of bills in since initialization
CA401	Value of cash dispensed since last reset
CA402	Value of cash manually dispensed since last reset
CA801	Value of cash overpay since last reset
CA1001	Value of cash filled since last reset
CA1401	Bill value,($1, 2, 5, 10, & 20)
CA1403	Number of bills to stacker since last reset
MA202	Serial number of the vending machine controller.
MA504 block 1	Number of product deliveries detected during second vend cycle by optical sensing. (See **2ND VEND** on page 7)
MA504 block 2	"True" or "False" indication of machine health and safety error
MA504 block 3	Software versions 67217-9, 67256-1 & 67257-1 only: Value of credit cleared since initialization
MA505	Software versions 67217-9, 67256-1 & 67257-1 only: Value of credit cleared since last reset.

DEX FIELD	DEX FIELD DESCRIPTION
TA201	Value of vend token sales since initialization(free token no value)
TA202	Value of vend token vends since initialization(free token no value)
TA203	Value of vend token sales since last reset
TA204	Number of vend token vends since reset
TA205	Value of value token sales since initialization
TA206	Number of value token vends since initialization
TA207	Value of value token sales since last reset
TA208	Number of value token vends since initialization
TA301	Value of value tokens in since last reset
TA302	Value of value tokens in since initialization
PA101	Product number
PA102	Product price
PA201	Number of products vended since initialization
PA202	Value of paid product sales since initialization
PA203	Number of products vended since last reset
PA204	Value of paid product since last reset
PA303	Number of test vends since last reset
EA201	Event identification; one free product vends
EA202	Number of events since last reset
EA204	User defined field; value
EA201	Event identification; promo vends
EA202	Number of events since last reset
EA204	User defined field; value
EA201	Event identification; tube value (.05,.10,.25, 1.00)
EA204	User defined field; value
EA201	Event id; value of bills & cash box since last reset
EA204	User defined field; value
EA301	Number of reads since initialization
EA302	Date of this read out
EA303	Time of this read out
EA304	This terminal/interrogator identification
EA305	Date of last read out
EA306	Time of last read out
EA307	Last terminal/interrogator identification
EA501	Date of price setting
EA502	Time of price setting

NOTES

NOTES

VendNet™
165 North 10th Street
Waukee, Iowa 50263
United States of America

	USA & Canada	International
Service	**(800) 833-4411**	**(515) 274-3641**
Parts	**(888) 259-9965**	
Email	**vendnet@vendnetusa.com**	
Web Site	**www.vendnetusa.com**	

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