



REFRIGERATED SQUARE FRONT RSQF 2000



Models:

3175

3176

3177

SERVICE MANUAL

A10895

TABLE OF CONTENTS

SPECIFICATIONS	1	MENU 3	27
DIMENSIONS	1	Pos/Aux Mode	27
FACTORY CONFIGURATION.....	1	Time/Date Mode.....	30
ELECTRICAL	1	Shutdown Mode	31
REFRIGERATION	1	Temperature Mode.....	33
COINAGE.....	1	Discount Mode	36
INTRODUCTION	2	Auto-Reinstatement Mode	38
UNPACKING	3	Coupon/Token Mode.....	39
INSTALLATION	4	Can/Bottle Mode.....	40
GROUNDING (EARTHING) & ELECTRICAL.....	4	DEX/UCS	42
LOADING PRODUCTS	5	REFRIGERATION	43
TRAY ADJUSTMENTS	6	OPERATION.....	43
AUGER TIMING	6	TROUBLESHOOTING	43
TRAY SPACING	6	Compressor will not start.....	44
3 Wide & 4 Wide Tray Spacing Adjustments	7	Compressor trips on overload.....	44
5 Wide Tray Spacing Adjustments	8	Noisy or vibrating unit.....	45
CANDY TO SNACK.....	9	Unit short cycles	45
SNACK TO CANDY.....	10	Unit operates long or continuously	45
CONTROLLER FUNCTIONS	11	Refrigerated space too cold.....	46
SALES MODE.....	11	Refrigerated space too warm.....	46
Display and Vend Cycle	11	Troubleshooting circuits with Multi-Meter	46
Jammed Motor Condition	11	PREVENTIVE MAINTENANCE	48
Vend and Cash Counters	11	ONCE A MONTH	48
Resettable Vend and Cash Counters.....	12	Clean Cabinet Interior	48
SERVICE MODE	12	Clean Cabinet Exterior	48
Entering the Service Mode	12	EVERY 60-DAYS	48
Exiting the Service Mode.....	14	Clean Refrigeration Intake Screen.....	48
MENU 1	15	EVERY 6-MONTHS	48
Motor Mode.....	16	Clean condenser coil & rear exhaust screen.....	48
Account Mode.....	16	PARTS ORDERING PROCEDURE	49
Coin Mode.....	19	BEFORE CALLING FOR SERVICE	50
Test Vend Mode.....	20	SCHEMATIC	52
Range.....	21		
MENU 2	21		
Price Mode.....	21		
Options Mode.....	23		
Promo Vend Mode.....	25		
Configuration Mode	26		

The Model and Serial numbers are needed for you to obtain quick service and parts information for your machine. The numbers are given on the identification plate located on the back side of the cabinet of the machine.

MODEL NUMBER: _____

SERIAL NUMBER: _____

SPECIFICATIONS

DIMENSIONS			
MODEL	3175	3176	3177
TYPE	3 Wide	4 Wide	5 Wide
WIDTH	29.3 in. (74 cm)	35.2 in. (89 cm)	41 in (104 cm)
WEIGHT	577 lbs. (261 kg)	648 lbs. (295 kg)	778 lbs. (329 kg)
DEPTH	35.5 in. (87 cm)		
HEIGHT	72 in. (183 cm)		
FACTORY CONFIGURATION			
SELECTION	24 Select - Expandable to 36	36 Select - Expandable to 48	40 Select - Expandable to 60
ELECTRICAL			
VOLTAGE	230 Volt AC,		
CYCLE	50 Hz		
AMPS	3.75 Amps		
TRANSFORMER	24 VAC		
REFRIGERATION			
HORSEPOWER	1/3 Hp		
TYPE	Hermetically Sealed		
CONTROLS	Electronic		
REFRIGERANT	R-134a		
CHARGE	5.9 Ounces		
COINAGE			
MDB VERSION	MDB peripherals		

INTRODUCTION

This manual contains instructions, service and installation guidelines for the **Refrigerated Square Front** product line.

All **Refrigerated Square Front** models are equipped with an electronic control system. All programming of the vend functions, pricing and features are done at the controller. Changes can be made without any additional accessories or remote parts.

Selections can be priced individually from \$.05 to \$99.95 in five cent increments (U.S. currency). When adapted to accept international or foreign currency, the maximum vend price will be 255 times the smallest denomination of coin being accepted.

Cash accountability records Total Cash transactions and Total Vend cycles performed by the vendor. Information for individual selections, complete rows or total machine can be compiled and used for inventory and ordering records.

Electrical malfunctions are recorded and displayed when the machine is placed in the **Service Mode**. Non-functional motors or selections are indicated. Each selection has an individual motor. Functional selections will continue to operate if other motors become nonfunctional.

The vending sequence is "first-in, first-out" for each selection, eliminating the need for stock rotation to maintain fresh products in the vending area.

Each **Refrigerated Square Front** vendor has the capability of supporting a "satellite" vending machine, such as a Can Vendor or Food Merchandiser (Menu Mart II). The satellite vendor utilizes the **Refrigerated Square Front** vendor's existing controller, coin mechanism, bill validator and keypad to perform the vend functions they require. For details on the satellite vendor, refer to the Service Manual pertaining to the specific vendor for installation instructions.

On air-conditioned Round Front models the temperature is controlled electronically.

This manual should be read thoroughly to familiarize yourself with the functions of all components, along with the features that are available. The initial set-up of a vending machine is a very important step of insuring that the equipment operates in a trouble-free manner. Following the instructions at the initial installation of the machine will avoid service problems and minimize set-up time.

If you have any questions pertaining to information in the manual, replacements parts or the operation of the vendor, then you should contact your local distributor.

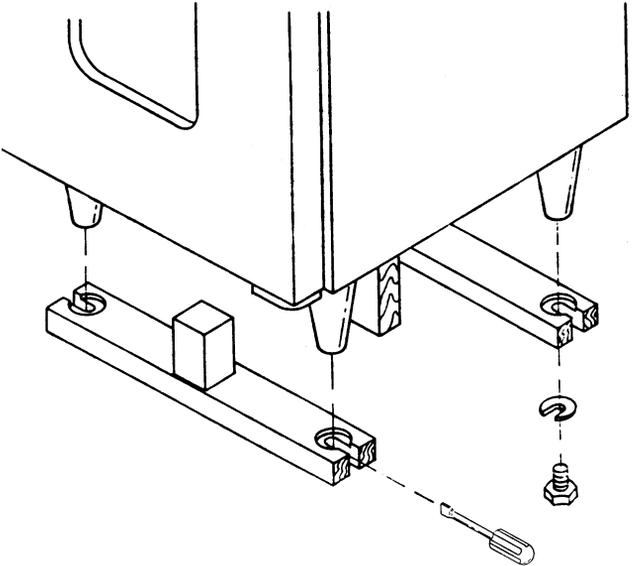
UNPACKING

This machine was thoroughly inspected before leaving the factory and the delivering carrier has accepted this vendor as their responsibility. Note any damage or irregularities at the time of delivery and report them to the carrier. Request a written inspection report from the claims inspector to file any claim for damage. File the claim with the carrier (not the manufacturer) within 15 days after receipt of the machine.

Carefully remove the outside packing material so as not to damage the finish or exterior of the machine. Inspect the machine for concealed shipping damage. Report any damage hidden by the shipping material directly to the delivering carrier on a hidden damage report.

Record the model number and serial number of the vendor for your records. These numbers can be found on the Serial Plate on the rear of the cabinet and/or inside the vendor. Refer to these numbers on all correspondence and inquiries pertaining to this vendor.

Remove the "Knock-A-Way" Support by placing a 2x6 under the vendor, inserting a screwdriver or prying tool into the groove and splitting it in two. Turn the leveling screws in as far as possible. See **Figure 1**.



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Figure 1. Remove shipping skids

INSTALLATION

Position the vendor in its place of operation no further than nine feet from the power outlet or receptacle and check that the door will open fully without interference. Leave at least six (6) inches of space between the back of the machine and any wall or obstruction for proper air circulation. Level the vendor, making sure all levelers are touching the floor. The vendor **must** be level for proper operation and acceptance of coins through the coin mechanism.

Retrieve the keys to the vendor from the coin return cup. Open outer door and remove all internal packing material.

Consult local, state and federal codes and regulations before installation of the vendor.

GROUNDING (EARTHING) & ELECTRICAL

Before connecting the vendor, the integrity of the main electrical supply must be checked for correct polarity, presence of ground (earth) and correct voltage. These checks should be repeated at six (6) month intervals with the routine safety electrical testing of the vendor itself.

To verify that the receptacle is properly grounded and polarized, insert one probe of a Multi-Meter (set to check AC line voltage) or a test light in the ground terminal (hole) and the other probe into the hot terminal of the outlet.

If the receptacle is not properly grounded or polarized, you should contact a licensed electrician to correctly polarize and/or ground the receptacle to ensure safe operation.

A noise suppressor has been installed in this machine to compensate for any mains signal noise that could interfere with the normal operation of the controller.

For proper operation of any equipment utilizing electronically controlled components, the equipment should be placed on an isolated or dedicated noise-free circuit, properly polarized and grounded.

Refer to **Electrical Specifications** on **page 1** to determine circuit amperage and protection.

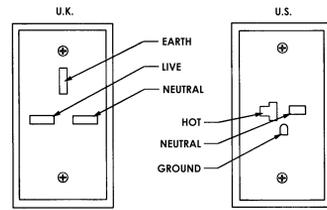


Figure 2. 230 Volt Outlets

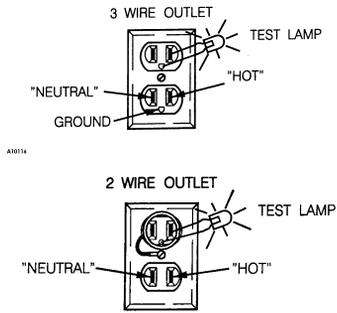


Figure 3. 115 Volt Outlets

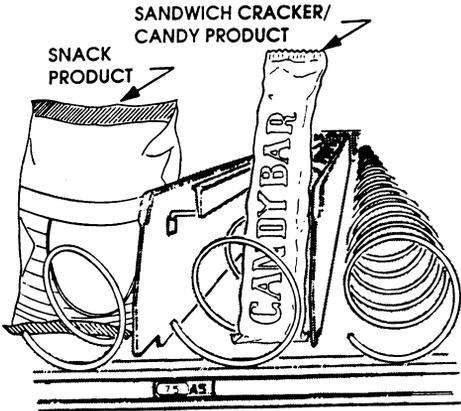
Shown in **Figure 2** are two properly grounded and polarized wall outlets. **Figure 2** shows two 230-volt wall outlets. **Figure 3** shows a 115-volt, two-wire outlet with a three-plug adapter in place.

LOADING PRODUCTS

To load products, lift the tray slightly and pull forward until the tray stops. The upper-most trays tilt for easier loading.

Load product from front to back making sure all items fit freely between the augers. Do not attempt to force oversized items or packages into the spaces. Do not skip a space. Place the product on the bottom of the compartment on the product augers with the label facing the front of the machine for easy identification by the customer. See **Figure 4**.

The size of the item being vended **must** be larger than the diameter of the auger being used to vend properly. Undersize items could cause vend problems. If the product does not fit the auger properly, use a different pitched auger. See **Table 1** for augers available from your distributor or service entity.



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Figure 4. Loading Products

Table 1 . Available Augers

PRODUCT				PART NUMBER
TYPE	WIDTH (INCH)	THICK (INCH)	QTY	
CANDY	2.75	0.50	30	4200272-003
		0.66	24	4200272-002
		0.94	18	4200272-001
		1.19	15	4200272-000
		1.50	12	4200272-004
		2.03	9	4200272-005
		3.09	6	4200272-006
SNACK	5.50	1.19	15	4200272-009
		1.50	12	4200272-008
		1.81	10	4200272-007
		2.62	8	4200272-011
		2.69	7	4200272-010

TRAY ADJUSTMENTS

By re-timing the augers, difficult-to-vend items can be dispensed more dependably. By altering tray spacing, larger items can be vended. By changing the tray configuration, different product mixes can be accommodated.

AUGER TIMING

Each auger can be rotated in 20° (degree) increments for a different drop-off point. Most items can be vended successfully when the auger end is positioned at 6 o'clock.

To change the auger end position:

1. Remove the motor cover. See **Figure 5**
2. Raise the motor slightly and pull forward on the auger until it separates from the motor.
3. Rotate the auger to the desired position and re-insert the auger coupling into the motor.
4. Make sure the auger coupling is seated over the vertical rail or retaining rib on the tray.
5. Replace the motor cover making sure it is securely tightened.

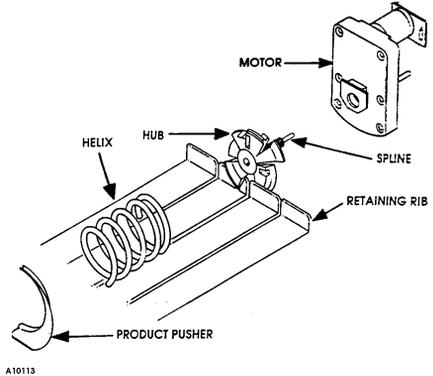


Figure 5. Motor & Auger

TRAY SPACING

The trays can be adjusted up or down in one-inch increments to provide additional headroom for vending taller products. When increasing the height in one area, the same amount of room will be lost at the tray above or below the one being adjusted.

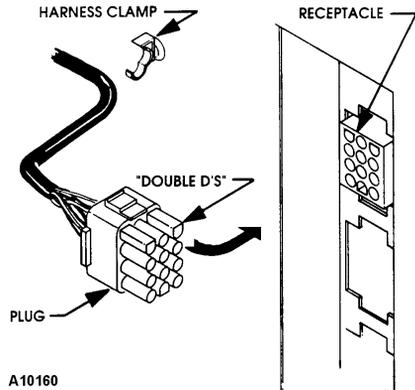


Figure 6. Tray Harness

NOTE:

When increasing the headroom between the two trays, a corresponding decrease in headroom of an adjoining tray may result.

3 WIDE & 4 WIDE TRAY SPACING ADJUSTMENTS

1. Pull out the tray to be adjusted until it stops.
2. Disengage the tray harness from its snap-open harness clamp on the right side wall. See **Figure 6**.
3. Disconnect the tray plug from its receptacle on the right-hand side wall. See **Figure 6**.
4. Lift up on the front of the tray and pull slightly approximately 1/2 inch (1 cm) forward to clear the tray stop.
5. Lift up on the rear of the tray and remove it from the vendor.
6. Disengage both left and right tray rails from their corresponding slots on the left and right side walls by pulling inward on the bottom front of each rail and lifting its flange out of the slot.
7. Pull each rail forward to disengage its rear tabs from the hole in the rear wall. See **Figure 7**.
8. Re-locate both left and right rails by reversing steps 6 and 7.

NOTE:

Rails must be level from front to back and evenly spaced from top to bottom of each side.

9. Replace the tray by placing its rear rollers on the left and right rails and lifting up on the front of the tray as it is pressed back.
10. Install the tray plug into its receptacle on the right side wall.
11. Re-engage the tray harness into its harness clamp and snap the clamp closed.
12. Test vend the tray in its new position to assure that the tray plug is properly seated.

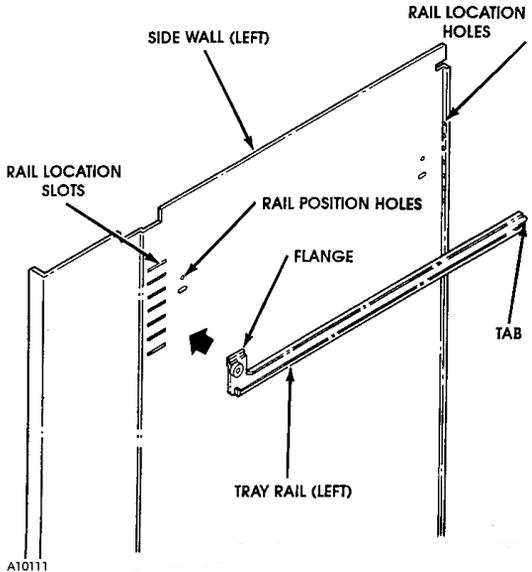


Figure 7. Tray Rail

5 WIDE TRAY SPACING ADJUSTMENTS

1. Pull out the tray to be adjusted until it stops.
2. Locate the harness clamp on the right side wall. See **Figure 6**.
3. Open the harness clamp by pressing up on the tab.
4. Unplug the "Double D" tray plug from its receptacle on the right side wall.
5. Lift up on the front of the tray and pull slightly (approximately 1.5 cm (.5 in) forward to clear the tray stop.
6. Locate the release lever on the left and right tray rails. See **Figure 8**. Swing the release levers all the way up to unlatch.
7. Lift up on the rear of the tray and remove it from the vendor.
8. Relocate both left and right tray rails from the left and right side walls.
 - A. Remove tray mounting screws.
 - B. Pull each rail forward to disengage its rear tab from the hole in the rear wall. See **Figure 8**.
9. Relocate both left and right rails by reversing step 8.

NOTE:

Rails must be level front to back and right to left.

10. Replace the tray by placing its rear rollers on the left and right rails and lifting up on the front of the tray as you push it back.
11. Swing the tray rail release levers all the way down.
12. Install the tray plug into its receptacle on the right side wall.
13. Re-engage the tray harness into its harness clamp and snap the clamp closed.
14. Test vend the tray in its new position to assure that the tray plug is properly seated.

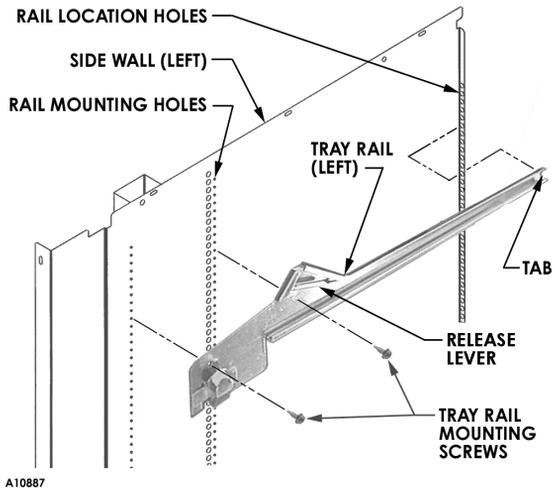


Figure 8. Tray Rails

CANDY TO SNACK

To change the tray configuration, order a conversion kit. See the Parts Ordering Procedure section of this manual.

1. Order the conversion kit from your local distributor or service entity.
2. Unplug and remove the tray assembly from the vendor. Place the tray harness in the tray before removal.
3. Remove the motor cover by pulling up on front edge of the cover to clear the stop and then pull forward on cover.
4. Remove existing tray divider and discard.
5. Remove existing auger assemblies and discard.
6. Remove the existing "even" numbered motor. This motor will not be needed.
7. Tape or secure the terminals removed from the motor out of your way.
8. Move the "odd" numbered motor to the center slot of the compartment.
9. Install the auger retainer furnished as part of the conversion kit.
10. Install auger assembly furnished as part of the conversion kit, making sure the motor coupling properly engages the motor and is securely snapped over the vertical rail or retaining rig on the tray.
11. Re-assemble the motor cover removed in step 3.
12. Replace the tray assembly into the vendor making sure that the tray is properly located and latched and connect the tray harness.
13. Set the selection to the desired vend price and adjust the price scroll to agree.

NOTE:

In large item selections, the selection numbers will be the "odd" numbers. For example, selections C3 and C4 are converted to a single selection, C3.

14. Test vend the converted selection for proper operation and price settings.

SNACK TO CANDY

To change the tray configuration, order a conversion kit. See Parts Ordering Procedure section of this manual.

1. Order the conversion kit from your local distributor or service entity.
2. Unplug and remove the tray assembly from the vendor. Place the tray harness in the tray before removal.
3. Remove the motor cover by pulling up on front edge of the cover to clear the stop and then pull forward on cover.
4. Remove the existing auger assembly and discard.
5. Remove the auger retainer and discard.
6. Move motor from the center slot to the left slot in the compartment.
7. Add the new motor furnished as part of the conversion kit in the right hand slot of the compartment.
8. Properly wire the motor and switch. Refer to the schematic diagram on page 52 for wire colors and locations.
9. Add the divider furnished as part of the conversion kit.
10. Install new auger assemblies furnished as part of the conversion kit, making sure the motor couplings properly engage with the motor and are securely snapped over the vertical rail or retaining rib on the tray.
11. Re-assemble the motor cover removed in step 3.
12. Replace the tray assembly into the vendor making sure that the tray is properly located and latched and connect the tray harness.
13. Set the selections to the desired vend price and adjust the price scrolls to agree.
14. Test vend the converted selections for proper operation and price settings.

CONTROLLER FUNCTIONS

SALES MODE

The vendor accepts deposits, pays out change, and dispenses product to the customer. The 10-character scrolling display is used to communicate with the customer.

DISPLAY AND VEND CYCLE

When no credit has been established and a selection is made, the price for that selection displays for approximately one second.

When credit is deposited the amount displays. Five digits are available.

After a selection is made, the controller will determine if sufficient credit is available. If the accumulated credit is greater than or equal to the price of the selection a vend attempt will take place. If credit is less than the selection price, the price will display will scroll ***PLEASE INSERT MORE MONEY***.

After a successful vend, the amount of change to be returned will be displayed until all coinage is paid back.

If a selection is made and a vend cannot take place, or selection is empty, (assuming that sufficient credit and change are available) the ***MAKE ALTERNATE SELECTION*** message scrolls.

If the payout tubes in the coin mechanism are below the low-level sensors, the ***USE CORRECT CHANGE*** message will scroll.

If no motors have been assigned or if the motor has been recorded as faulty, the ***MAKE ALTERNATE SELECTION*** message scrolls.

JAMMED MOTOR CONDITION

The controller will not run motors that have been recorded as “jammed” or have not been assigned. A motor jam is detected when power is applied to a motor and the motor fails to return to the home position within about 9 seconds.

Motors recorded as inoperative can be reset by running a test vend of that particular selection. See the **Test Vend Mode** section of this manual on page 20.

VEND AND CASH COUNTERS

Following a successful vend, the vend counter will be incremented by one (1) and the cash counter will be incremented by the price of the vended selection. The counter rollovers occur at 79,999,920 and \$99,999.95 respectively.

NOTE:

Test vends are not included in the counter totals.

RESETTABLE VEND AND CASH COUNTERS

The resettable counters track Total Vends dispensed and Total Cash collected since last reset. The vend count and cash totals will be available by individual selections, range (rows) and entire machine utilizing all the rows (i.e. row A to row J for the combo vendor).

Following a successful vend, the resettable vend counter will be incremented by one (1) and the resettable cash counter will be incremented by the price of the selection vended. The counter rollovers occur at 79,999,920 and \$99,999.95 respectively if never reset.

NOTE:

Test vends are not included in the counter totals.

SERVICE MODE

Used by the operator to program and service the machine. The display is used to communicate with the operator.

ENTERING THE SERVICE MODE

To change any settings or programs in the vendor, the controller must be placed in the **Service Mode**. To enter the **Service Mode**, push the red Service Mode Button once (located on the control board). If credit exists when entering the **Service Mode**, it will be restored when the machine is returned to the **Sales Mode**.

Key Functions while in Service Mode:

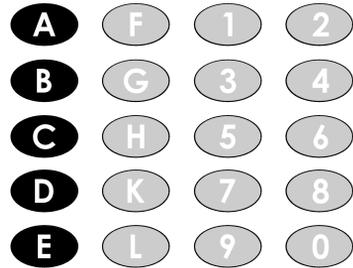
Key **A** = Scrolls UP through a menu, sub-menu.

Key **B** = ENTERS a menu, sub-menu or routine within a menu.

Key **C** = Scrolls DOWN through a menu, sub-menu.

Key **D** = SAVES a change within sub-menus or routines.

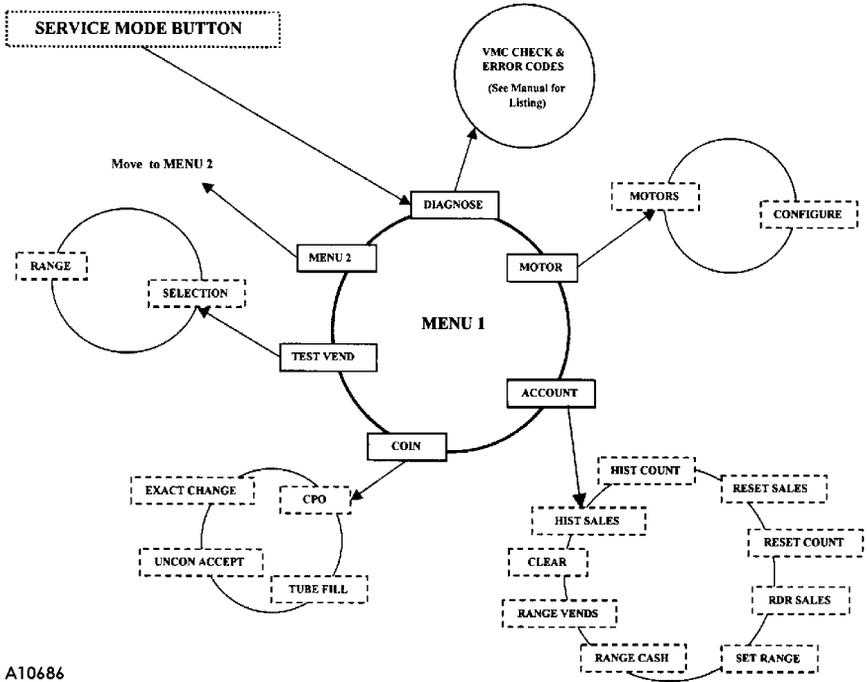
Key **E** = EXITS down a level from a menu, sub-menu or routine without making a change.



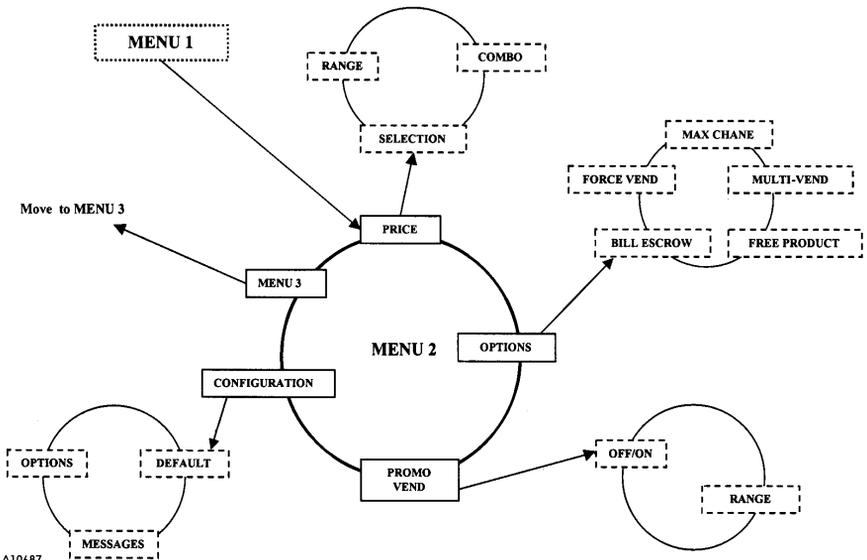
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Figure 9. Key Functions in Service Mode

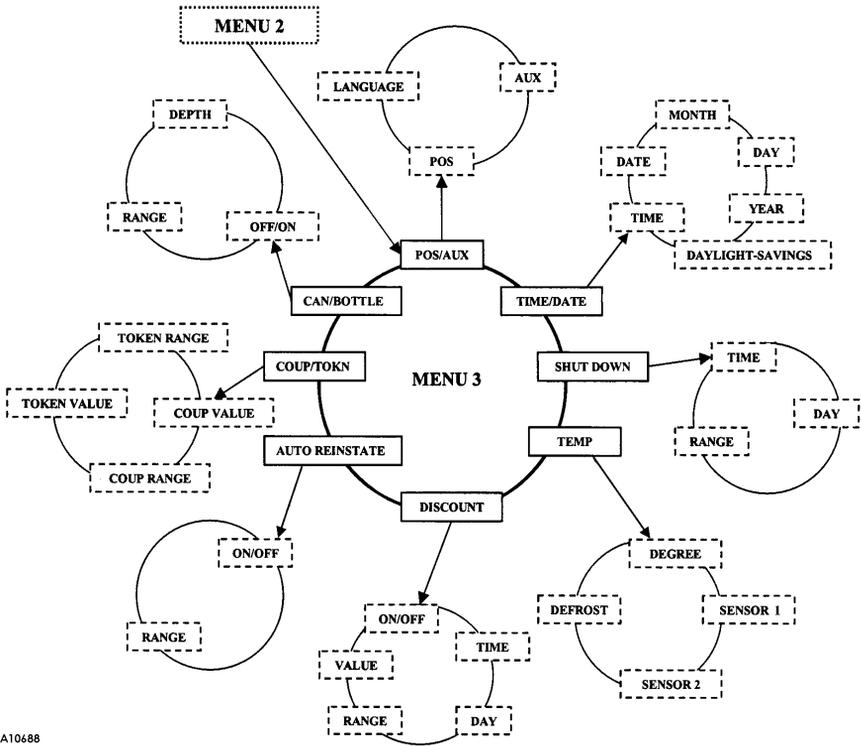
The following three diagrams illustrate the three menu levels and the sub-menu levels of each main menu. Use the **A** and **C** keys to scroll through each menu or sub-menu. use the **A** key to move from menu to sub-menu levels.



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NOTE:
 A quick way to access Menu levels 2 & 3:
 Press Service Mode Button. Diagnose will display.
 Press **A** to display Menu 2. Press **B** to enter menu 2. Price will display.
 Press **C** to display Menu 3. Press **B** to enter Menu 3. POS/AUX will display.
 Pressing **E** will exit a menu or sub-menu item without saving any changes.

EXITING THE SERVICE MODE

To exit the **Service Mode**, push the Service Mode Button.

The controller will automatically exit the **Service Mode** if no key is pressed for approximately 25 seconds.

MENU 1

Upon entering Service Mode the display will show *DIAGNOSE*, which marks the beginning of MENU 1 of the Service Menu.

NOTE:

Press **A** or **C** to scroll through the Menu1 sub-Mode menu.

Diagnose Mode..... Displays Error codes.

Motor Mode..... Counts and Configures motors.

Account Mode..... Account Mode is used to display various types of cash and vend totals.

Coin Mode..... Coin mode is used to load or unload the coin mech coin tubes and to set Unconditional Acceptance and Exact Change.

Test Vend Mode..... Test Vend cycles each selection or range of selections to assure that they are working properly.

Press **B** to enter Errors Mode. *VMTL OK* (Vendor Motor Configuration) will be displayed.

Press **B** again to display error codes. If there are no errors, the display will scroll through:

VMTL OK
CHANGER OK
VALIDAT OK
READER OK

If the display reads for example: (*READER 0*) the controller cannot locate a card reader. See the following table for error codes.

Table 2. Error Codes

CODE	ERROR DETAIL
<i>CHANGER 3</i>	Controller cannot locate the Coin Mechanism
<i>VALIDAT 7</i>	Controller cannot locate the Validator
<i>READER 0</i>	Controller cannot locate the Card Reader
<i>SELS</i>	<i>55 1 - 55 12</i> (select switch closed)
<i>CHAR</i>	<i>CC</i> (changer communication) <i>TS</i> (Changer Tube Sensor) <i>IC</i> (Inlet Chute blocked) <i>TJ</i> (Changer Tube jammed) <i>CRCH</i> (Changer ROM Checksum)
<i>ACCE</i>	<i>EE</i> (excessive escrow) <i>AJ</i> (Coin Acceptor jammed) <i>LA</i> (low acceptance rate)
<i>CHUT</i>	<i>CS</i> (Chute Sensor always on)

CODE	ERROR DETAIL
<i>STS</i>	<i>DAXX</i> (column double assigned) <i>URXX</i> (column unassigned)
<i>BURL</i>	<i>BS</i> (Bill Validator Sensor) <i>BILL</i> (Bill Validator Motor) <i>BJ</i> (bill jammed) <i>BOPN</i> (open Bill Cash Box) <i>BFUL</i> (full Bill Cash Box) <i>BC</i> (Bill Validator communication)
<i>FRIG</i> (sensor)	<i>SENS</i> (Temperature Sensor) <i>COLD</i> (sensing temperature 3 degrees under Cut out) <i>CNPR</i> (not cooling—within 30 min. of Cut in) <i>ACLO</i> (less than 95 volts for more than 30 minutes)

Press **E** to return to *DIAGNOSE* display.

Press **C** to move to Motor Mode. *MOTOR* will be displayed.

MOTOR MODE

Motor mode is used to display the number of working motors or to configure the vendor to the currently working motors.

Press **B** to enter motors mode. *MOTORS* will be displayed.

NOTE:
 Press **A** or **C** to scroll through the Motor Mode sub-menu.
 MotorsMotor Count of working motors.
 Configure.....Configure vendor to working motors.

Press **B** again to display the number of working motors.

Press **E** to return to the *MOTORS* display.

Press **C** to enter configuration mode. *CONFIG* will be displayed.

Press **B** to automatically configure machine to the currently working motors.

After a short pause *CONFIGURED* will be displayed.

Press **E** to exit back to *CONFIG*.

Press **E** again to return to *MOTOR*.

From there press **C** to move to Account mode. *ACCOUNT* will display.

ACCOUNT MODE

Account Mode is used to display various types of cash and vend totals.

Press **B** to enter Account Mode *HIST SALES* will be displayed.

NOTE:

Press **A** or **C** to scroll through the Account Mode sub menu.

Historical Sales Total sales since initialization.

Historical Count Total vends since initialization.

Reset Sales Total sales since last reset.

Reset Count..... Total vends since last reset.

RDR Sales..... Card Reader Sales.

Set Range Defines a range for cash and vend counts.

Range Cash..... Total sales for defined range since last reset.

Range Vends..... Total vends for defined range since last reset.

Clear Clears all resettable counts above.

HISTORICAL SALES

Displays the total amount of sales (by dollar) since initialization of the control board.

Press **B** to display the amount of sales since initialization.

Press **E** to return to the *HIST SALES* display.

Press **C** to move to historical count. *HIST COUNT* will be displayed.

HISTORICAL COUNT

Displays the total number of vended products since initialization of the control board.

Press **B** to display vended products since initialization.

Press **E** to return to the *HIST COUNT* display.

Press **C** to move to Resettable Sales. *RES SALES* will be displayed.

RSETTABLE SALES

Displays the total sales (in dollars) since the last reset.

Press **B** to display the total sales.

Press **E** to return to the *RES SALES* display.

Press **C** to move to Resettable Count. *RES COUNT* will be displayed.

RESETTABLE VEND COUNT

Displays the total vends since the last reset.

Press **B** to display number of vended products.

Press **E** to return to the *RES COUNT* display.

Press **C** to move to Card Reader Sales. *RDR SALES* will be displayed.

RDR SALES

Displays the total card reader sales.

Press **B** to display the Card Reader Sales. (optional hardware required).

Press **E** to return to the *RDR SALES* display.

Press **C** to move to Set Range. *SET RANGE* will be displayed.

SET RANGE

The operator uses Set Range to define a specific range of selections to display total cash or vends since last reset. Use the Range Cash or Range Vends below to display totals. Ranges can only be defined by row and not by selections.

USD NOTE:

The **RSQF 2000 Vendor** can be used as a host for up to two (2) Universal Satellite Devices (USD). The address on the USD controllers must be set correctly in order for both units to function correctly and gain audit information. Refer to the following list:

40 **USD Mini-Snack** selections **A, B & C** audit data is available in selection **H, J, & L** respectively.

48 or 50 **USD Mini-Can**.
Address 48 audit data is available in selection **N**.
Address 50 audit data is available in selection **P**.

Only a USD Mini-Can can be connected as a third (3rd) satellite device. All others are not recommended since they may not function correctly and/or the audit information may not be valid. Audit information is readable via the **DEX** data download. Refer to **DEX/UCS** section on page 42.

Press **B** to display *SR/ER* and the current range. To change the range press the letter of the first selection to be specified and then the letter of the last selection to be specified. (For example: A – A for the top tray or A – C for the top three trays).

Press **D** to save range and return to the *SET RANGE* display.

Press **C** to move to Range Cash. *RANGE CASH* will be displayed.

RANGE CASH

Displays the total sales (by dollar) for the defined range.

Press **B** to display total sales of the defined range.

Press **E** to return to the *RANGE CASH* display.

Press **C** to move on to *RANGE VENDS*.

RANGE VENDS

Displays the number of vended products for the defined range.

Press **[B]** to display the number of vended products over the defined range.

Press **[E]** to return to the **RANGE VENDS** display.

Press **[C]** to move to Clear. **CLEAR** will display.

CLEAR

Clears all resettable values.

Press **[B]**. **CLEARED** will display.

Press **[E]** to return to the **CLEAR** display.

Press **[E]** to exit Account sub-menu. **ACCOUNT** will display.

Press **[C]** to move to Coin Mode. **COIN** will display.

COIN MODE

Coin mode is used to load or unload the coin mech coin tubes and to set Unconditional Acceptance and Exact Change values.

Press **[B]** to enter Coin mode. **CPO** (Coin Pay Out) will be displayed.

NOTE:

Press **[A]** or **[C]** to scroll through the Coin Mode sub-menu.

CPO Coin Tube Payout.

Tube Fill..... Displays current amount in coin tubes.

Unconditional Accept..... Sets the value for Unconditional Acceptance.

Exact Change Sets value for Exact Change.

CPO (COIN PAY OUT)

Pays out coins from the coin mech coin tubes.

Press **[B]** to display **DISPENSE**. Press the number **[1]** key to dispense least significant coin, **[2]** key for next significant coin, or the **[3]** key for the most significant coin. On some coin mechs there is a fourth tube (the dollar coin for example). Use the number **[4]** key for this tube. Press and hold **[1]**, **[2]**, **[3]**, or **[4]** to rapidly dispense coins.

Press **[E]** to exit dispense and return to the **CPO** display.

Press **[C]** to move to Tube Fill. **TUBE FILL** will display.

TUBE FILL

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

Press **[B]**. *FILL COINS* will be displayed briefly, followed by *00.00*. The display will change as coins are entered through the coin mech.

NOTE:

Manually ejecting coins will not subtract from the total. and exiting the Fill Coins mode will reset the counter back to 00.00.

Press **[E]** to return to the *TUBE FILL* display.

Press **[C]** to move to Unconditional Acceptance. *UNCON ACCP* will display.

UNCONDITIONAL ACCEPTANCE

Used to set the highest amount of currency in bills or coins that can be accepted without regard if the equivalent value in coins can be returned.

Press **[B]** to display the amount currently set for unconditional acceptance. Change amount using numerical keys.

Press **[D]** to save change and return to *UNCON ACCP* display.

Press **[C]** to move to Exact Change.

EXACT CHANGE

Sets the Exact Change value that controls the display of the INSERT EXACT CHANGE message.

Press **[B]** to display the amount currently set for exact change.

Change amount using numerical keys. Press **[D]** to save change and return to *EXACT CHANGE*.

Press **[E]** to exit Coin Mode sub-menu. *COIN* will display.

Press **[C]** to move to Test Vend Mode. *TEST VEND* will display.

TEST VEND MODE

Test Vend cycles each selection or range of selections to assure that they are working properly - product will be vended in the process.

Press **[B]** to enter Test Vend Mode. *SELECTION* will be displayed.

NOTE:

Press **[A]** or **[C]** to scroll through the Test Vend Mode sub-menu.

Selection Test Vends one selection

Range..... Test Vends a set range of selections

SELECTION

Use this option to test vend one selection at a time.

Press **[B]** to display **SELECT** and -- --. Enter the desired selection (“B3” for example). The current price of the chosen selection will be displayed and the selection will vend. A triple beep indicates that the selection did not properly vend. After the test vend, the display will return to **SELECTION**.

Press **[B]** to repeat process or press **[C]** to move to Range.

RANGE

Use this option to test vend a range of selections by rows at a time. The range is settable by the operator.

Press **[B]** to display **SR/ER** (Start Range/End Range) and the current range of rows set to be automatically test vend. Change the range by entering the first row to be tested followed by the last row to be tested.

(For example: “A - A” or “B - D”)

Press **[D]** to begin test vend. At the end of the test, the display will return to **TEST VEND**.

Press **[C]** to move to MENU 2. **MENU 2** will be displayed.

MENU 2

Press **[B]** to enter MENU 2. **PRICE** will be displayed.

NOTE:

Press A or C to scroll through the Menu 2 sub-menu modes.

Price Mode Sets prices by selection, range or by combo.

Options Mode Sets vending options.

Promo Vend Mode..... Turn promo vend on or off and set range.

Configuration Mode Configures vendor to original defaults.

Menu 3 Enters Menu 3 Modes.

PRICE MODE

Price Mode is used to set the selection prices by selection, range of selections or combo prices.

Press **[B]** to display **SELECTION**.

NOTE:

Press **[A]** or **[C]** to scroll through the Price Mode sub-menu.

Selection..... Sets prices by Selection.

Range..... Sets prices by Range.

Combo..... Sets Combo prices.

SELECTION

Set prices by single selection.

Press **[B]**. **SELECT** will be displayed followed by **-- --**. Enter desired selection (B4 for example). The selection number and its current price will be displayed. Enter the desired price.

Press **[D]** to save change and return to **SELECTION** display.

Press **[B]** to repeat process for other selection changes.

Press **[C]** to move to Range. **RANGE** will be displayed.

RANGE

Sets the same price for a range (by row only) of selections.

Press **[B]** to **SR/ER** (Start Range/End Range) will be displayed followed by the current range of selections to be priced. Change the range by entering the first row to be priced followed by the last row to be priced. (**Range pricing must be by row rather than selection — Row D-Row E, not D3-E5**) Each row will be displayed along with its current price.

After the pricing is complete, press **[D]** to save changes or press **[E]** to return to the **RANGE** display without changes.

Press **[C]** to move to Combo, **COMBO** will be displayed.

COMBO VEND

Combo Vend is used to set up a combination of products to be purchased at a single combined price. A maximum of five products can be combined in a combo vend. Five Combo selections can be programmed into the vendor. (Example: a "combo" meal of a bag of chips plus a drink and a candy bar for one price).

NOTE:

A sign of some kind will have to be posted on the front of the vendor to indicate Combo packaged "meals" and the price of the combined selection.

CAUTION:

Be sure the vendor is configured to the currently working motors. See page 16. For combo vend use a selection number that is not in the vendor configuration, this is typically the even-numbered selections on a snack tray.

Press **[B]** to display **SELECT -- --**. Enter the selection number chosen for the combo vend (A4, for instance). Current price for the combined items will be displayed. Change the price as desired using the numerical keys.

NOTE:

You must use a selection number that is not included in the current motor configuration.

Press **D** to save changes and to display *COMBO1*. At this point use the **A** and **C** keys to choose which combo of 1 to 5 to assign selection A4.

Press **B**. The display will show *R61*. Up to 5 ranges of selections can be entered under each combo. (C1 to C6, for example.)

Press **B** again to display *R61* plus a *. Enter the 1st range to be included in the Combo selection of A4.

Press **D** to save range 1. The display will show *R62*.

Press **B** again to display *R62* plus a *. Enter the 2nd range to be included in the Combo selection of A4. (J4 to J6, for example. canned drinks only).

Press **D** to save range 2. The display will show *R63*.

Press **B** again to display *R63* plus a *. to enter the 3rd range. Repeat above to continue with ranges 4 & 5 or press **E** to move back out to *COMBO*.

Press **E** to move back to the *PRICE* display.

From there press **C** to move to Options. *OPTIONS* will be displayed.

OPTIONS MODE

Options Mode is used to set various options on the coin mech and the validator.

Press **B**. *BILL SCROW* will be displayed.

NOTE:

Press **A** or **C** to scroll through the Options Mode sub-menu.

Bill Escrow Turn Bill Escrow ON or OFF.

Force Vend Turn Force Vend ON or OFF.

Max Change Turn Max Change ON or OFF and set a value.

Multi Vend Turn Multi Vend ON or OFF.

Free Product Turn Free Product ON or OFF and set an interval.

BILL ESCROW

This Option can be turned ON or OFF. With Bill Escrow ON and bill is accepted that matches or exceeds maximum credit value, the bill will be held in "escrow", and not stacked, so that it will be available for return.

Press **[B]**. *ESCROW OFF* or *ON* will be displayed. Use the **[B]** key to toggle between OFF and ON.

Press **[D]** to save change and return to *BILL ESCROW* or

Press **[E]** to return to *BILL ESCROW* without changes.

Press **[C]** to go to Force Vend. *FORCE VEND* will be displayed.

FORCE VEND

This Option can be turned ON or OFF. With Force Vend ON, once credit is deposited a vend must take place, and change is only given after a vend. With Force Vend OFF the vendor can be used as change machine.

Press **[B]** to set Force Vend option. *F VND OFF* or *ON* will be displayed. Use the **[B]** key to toggle between OFF and ON.

Press **[D]** to save the change or press **[E]** to return to *FORCE VEND* display without making a change.

Press **[C]** to go to Max Change. *MAX CHANGE* will be displayed.

MAX CHANGE

This Option can be turned ON or OFF. With Max Change ON this feature allows the vendor operator to control the maximum amount of credit to be returned as change at the end of a vend.

Press **[B]** to display *OFF* or *ON*. Use the **[B]** key to toggle between OFF and ON or to change the value press **[C]** to display value.

Press **[D]** to save the change. *VALUE* will display.

Press **[B]**. Use the numerical keys to change the value.

Press **[D]** to save the change and return to *VALUE* display.

Press **[E]** to return to *MAX CHANGE* display without making a change.

Press **[C]** to go to Multi Vend. *MULTI VEND* will be displayed.

MULTI VEND

This Option can be turned ON or OFF. With Multi Vend ON instead of immediately returning the change after a vend, the credit will remain on the display for up to 25 seconds. This allows for a second vend on one line of credit. To receive change on an over-deposit, the coin return button must be pressed. If a coin return is not requested within 25 seconds the change will then be returned automatically.

Press **[B]** to display **OFF** or **ON**. Use the **[B]** key to toggle between OFF and ON.

Press **[D]** to save changes and return to **MULTI VEND** display, or press **[E]** to return to **MULTI VEND** without changes.

Press **[C]** to go to Free Product. **FREE PROD** will be displayed.

FREE PRODUCT

At a set interval of vends a single free vend will be dispensed upon making a selection, and payment will be returned. Set to 0 to turn off.

Press **[B]**. **FREE** will be displayed along with the current interval at which a Free Vend occurs. Enter new interval (**Must be between 2 and 255**).

Press **[D]** to save interval. **FREE PRODUCT** will be displayed.

Press **[E]** to move out to **OPTIONS**.

Press **[C]** to move to Promo Vend.

PROMO VEND MODE

This option allows the customer to receive an additional product “free” when purchasing another. A maximum of two (2) promotional items can be programmed into each vendor with a choice of which two rows to assign to the promo vend . The promotional or free item will always be dispensed from the #2 selection of a row. The primary product will be dispensed from the #1 selection of a row. 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. Individual vends from selection “2” can be obtained while in promo vend if these selections are depressed with adequate credit inserted.

Press **[B]**. **OFF** or **ON** will be displayed. Use the **[B]** key to toggle between OFF and ON.

Press **[D]** to save change and return to **OFF** or **ON**.

Press **[C]** to move to Range. **RANGE** will be displayed.

RANGE

Range is used to set which rows to operate as Promo Vends. Maximum of two rows can be set at a time.

Press **[B]** to select rows. *SR/ER* (Start Range/End Range) will be displayed followed by the current set rows. Change the rows by entering the first row letter followed by the second row letter.

Press **[D]** to save changes or press **[E]** to return to the *RANGE* display without changes.

Press **[E]** to move out to *PROMO VEND*.

Press **[C]** to move to Configuration. *CONFIG* will display or press **[A]** to move to Options Mode.

CONFIGURATION MODE

Configuration Mode is used to return the vendor to original factory settings under each of the following areas.

Press **[B]**. *DEFAULT* will be displayed.

NOTE:

Press **[A]** or **[C]** to scroll through the Configuration Mode sub-menu.

Default.....Configures factory default settings.

Messages.....Configures POS messages to default settings.

Options.....Configures options settings to default ON or OFF.

DEFAULT

This action configures the factory default settings.

Press **[B]**. *CONFIGURED* will be displayed.

Press **[E]** to return to the *DEFAULT* display.

Press **[C]** to go to Messages. *MESSAGES* will be displayed.

MESSAGES

This action configures POS Messages to the default settings (messages only).

Press **[B]**. *CONFIGURED* will be displayed.

Press **[E]** to return to the *MESSAGES* display.

Press **[C]** to go to Options. *OPTIONS* will be displayed.

OPTIONS

This action configures the Options to the ON or OFF default settings.

Press **B**. **CONFIGURED** will be displayed.

Press **E** to return to the **OPTIONS** display.

Press **C** to go to Default. **DEFAULT** will be displayed (the beginning of this sub menu listing).

Press **E** to move out this sub menu to Configuration Mode.

Press **C** to move to MENU 3. **MENU 3** will be displayed or press **A** to move to Promo Vend Mode the beginning of Menu 2.

MENU 3

Press **B** to enter the Menu 3 listing of procedures **POS/AUX** will be displayed.

NOTE:

Press **A** or **C** to scroll through the MENU 3 menu.

POS/AUX Mode Set the Point of Sale and Auxiliary scrolling messages. Set language of display.

Time/Date Mode..... Sets the time and date.

Shutdown Mode Sets periods of vending shutdown.

Temperature Mode..... Adjust temperature settings and Temp Sensors.

Discount Mode Turns Discount Mode OFF and ON and sets a range of selections for discount.

Autoreinstate Mode Auto.

Coupon/Token Mode..... Enables the vendor to accept coupons or tokens.

Can/Bottle Mode Sets the can/bottle columns for single or double.

POS/AUX MODE

Press **B** to set POS (Point-of-Sale Message). **POS** will be displayed.

NOTE:

Press **A** or **C** to scroll through the POS/AUX Mode sub-menu.

POS Enter a new Point-of-Sale message.

Language Set Display Language.

AUX Enter a Auxiliary Message.

POS (POINT-OF-SALE MESSAGE)

The scrolling Point of Sales message can be changed using this mode. Messages can include up to 105 characters including spaces. When entering a new message, all inputs will overwrite the previous message.

NOTE:

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

Press **[B]** again and **MESSAGE** will be displayed. *AT THIS POINT THE MESSAGE KEYPAD LAYOUT IS IN EFFECT* and a new message can be entered. See **Figure 10**. Enter each letter of the message according to the Keypad Format and the keypad overlay furnished with the vendor.

Press the Service Mode Button to save the new message.

NOTE:

To enter the lower letters or numbers on the keypad layout shown in figure 14, the SHIFT key or key **[H]** must be depressed first each time.

The keypad overlay can be found in the Service Packet that came with the vendor.

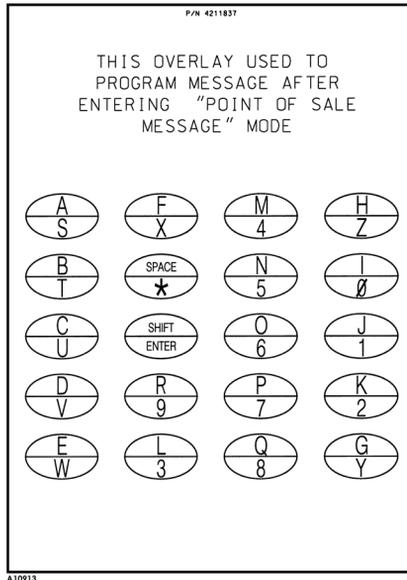


Figure 10. Keypad Overlay

LANGUAGE

Use *Language* to set the default display messages to read in one of seven languages (ITALIAN, DUTCH, SPANISH, DANISH, ENGLISH, FRENCH, and GERMAN. and AUXILIARY).

Press **B** to display the default Point-Of-Sale language (English).

Press **C** to toggle through the available languages.

Press **D** to set desired language and return to *LANGUAGE* display.

Press **C** to move to Auxiliary Message. *AUX* will be displayed.

AUXILIARY MESSAGES

During the normal operation of the vendor, default messages will be displayed, depending on the condition or function being performed. Use *Auxiliary Messages* sub-menu to set the eight auxiliary messages in any desired language.

NOTE:

Press **A** or **C** to scroll through the Auxiliary Messages sub-menu.

Message 1 PLEASE INSERT EXACT MONEY (Max 30 characters).

Message 2 PLEASE INSERT MORE MONEY (Max 30 characters).

Message 3 MAKE ALTERNATE SELECTION (Max 25 characters).

Message 4 PLEASE CALL SERVICE (Max 25 characters).

Message 5 VENDING OPERATION TO RESUME AT (Max 25 characters).

Message 6 MAKE SNACK SELECTION ONLY (Max 30 characters).

Message 7 THANK YOU (Max 10 characters).

Message 8 FREE ON US (Max 10 characters).

Press **B**. *MESSAGE 1* will be displayed.

Press **B** again to enter message mode and to begin setting Auxiliary Message 1.

NOTE:

At this point the message keypad layout is in effect. See **Figure 10**. Enter each letter of the message according to the Keypad Format and the keypad overlay furnished with the vendor.

Press the enter key twice to save message 1. *MESSAGE 2* will display.

Repeat above steps to set all eight messages.

At any message number. Press **E** to return the *AUX* display.

Press **E** to return to *AUX/POS* display.

Press **C** to move to Time/Date Mode.

TIME/DATE MODE

The *Time/Date Mode* is used to set the controller to the current time and date.

NOTE:

Press **A** or **C** to scroll through the Time/Date sub-menu.

TimeSets time of day in military time (24-hour format).

DateSets day of the month.

MonthSets month of the year.

DaySets day of the week.

YearSets the year.

Daylight Savings.....Sets daylight savings time and geographical location.

Press **B**. *TIME* will be displayed.

TIME

Press **B** again to display *TIME* and the current setting in military time (24-hour format). Change setting using the numeric keys.

NOTE:

The controller operates on a 24-hour format. Time displays as *TIME HH.MM* (i.e. 17.14 is 5:14 pm).

Press **D** to accept the new setting and return to *TIME* display.

Press **C** to move to Date. *DATE* will be displayed.

DATE

Press **B** again to display *DATE* and the current day of the month (1-31). Change setting using the numeric keys.

Press **D** to save the new setting and return to *DATE* display.

Press **C** to move to Month. *MONTH* will be displayed.

MONTH

Press **B** and *MONTH* plus the current month setting will display. Change to current month (1-12) using the numeric keys.

Press **D** to save the new setting and return to *MONTH* display.

Press **C** to move to Day. *DAY* will be displayed.

DAY

Press **B**. *DAY* and the current *numerical* day of the week (1-7, Sunday being 1) will be displayed by number. Change day of week using the numeric keys.

Press **D** to save change and return to *DAY* display.

Press **C** to move to Year. **YEAR** will be displayed.

YEAR

Press **B**. **YEAR** and the current year setting will display (2 digit year).

Enter correct year using last two (2) digits, (00 for the year 2000).

Press **D** to save change and return to **YEAR** display.

Press **C** to move to Daylight. **DAYLIGHT** will be displayed.

DAYLIGHT-SAVINGS TIME

Turns Daylight-Savings time ON or OFF. And sets geographical location.

NOTE:

Press **A** or **C** to scroll through the Time/Date sub-menu.

North America..... North-American Daylight-Savings time

OFF Turns Daylight-Savings time OFF

Australia Australia Daylight-Savings time

European European Daylight-Savings time

Choosing a geographical location indicates that Daylight-Savings is ON.

Press **B** to set the geographical location or set to off.

Press **D** to save change and return to **DAYLIGHT** display.

Press **E** to move out to **TIME/DATE** display.

Press **C** to move to Shutdown Mode. **SHUTDOWN** will be displayed.

SHUTDOWN MODE

*This option shuts down the machine during specified intervals of the day. All vending functions of the machine will be disabled. Four programmable intervals per day are available. If set to on, during these time intervals the message **VENDING OPERATION TO RESUME AT HH:MM** displays. (i.e. **9.05** = 9:05 am, **15.34** = 3:34 pm). The controller must be set to the current time and date before specifying the intervals.*

NOTE:

Press **A** or **C** to scroll through the Shutdown mode sub-menu.

Time Sets shutdown interval times

Day Sets days of the week shutdown intervals are in effect

Range Sets the range of selections affected by shutdown intervals

If the ON state is selected, four intervals with a start and a stop time for each, must be programmed. If an interval is not used, program the start and stop times to zeros (00.00)

Press **B** to display **ON** or **OFF**.

Press **B** again to display **ON** or **OFF** with asterisk to right side of display.

Use the **[B]** button to toggle from one to the other.
Press **[D]** to save change and return to **ON** or **OFF**.
Press **[C]** to move to Time. **TIME** will be displayed.

TIME

Time is used to set Shutdown interval times. There are four (4) shutdown time periods that must be set (using military time, 24 hour clock).

Press **[B]**. **15TRT** will be displayed followed by the current shutdown start time. Set first interval start time using numerical keys.
Press **[D]** to save and move to **15TOP**. Set first interval stop time using numerical keys.
Press **[D]** to save and move to **25START** and so on. All four time periods must be set. Time periods not used should be set to 00.00.
Saving the 4th stop period will move back to **TIME** display.
Press **[C]** to move to Day of the week. **DAY** will be displayed.

DAY

Sets the day of the week the shutdown period is active within a four week period.

Press **[B]** to begin setting days for shut down procedure to be active. **15UN** followed by **OFF** or **ON** will be displayed. Use **[A]** or **[C]** to toggle through the four weeks available for setting starting with Sun of each week.
Press **[B]** at a desired Sunday (1,2,3, or 4). (**45UN**, for example). Now the entire 4th week is available for adjustment. At this point **[A]** or **[C]** cycles through the days of the week.
Press **[B]** at a desired day of the week. Then **[A]** or **[C]** will toggle ON or OFF for that day.
Press **[D]** to save changes. Use the **[A]** or **[C]** keys to move to other days of the week and repeat the change process.
Press **[D]** to save changes.
Press **[E]** two (2) times to move back to **DAY** display.
From there press **[C]** to move to RANGE.

RANGE

Sets the range of selections to be affected by the shutdown.

Press **[B]**. **SR/ER** will be displayed followed by the row range.
Enter the row changes. Press **[D]** to confirm changes and move back to **RANGE**. Press **[E]** again to move back to SHUTDOWN.
Press **[C]** to move on to Temperature.

TEMPERATURE MODE

Temperature Mode is used to set the operating parameters of the sensors and the refrigeration unit.

NOTE:

Press **A** or **C** to scroll through the Temperature Mode sub-menu.

Degree..... Sets the display to read in Fahrenheit or Celsius.

Temp Sensor 1 Located in the drink compartment and can be turned OFF or ON.

Temp Sensor 2 Located in the snack compartment and can be turned OFF or ON.

Defrost..... Set defrost parameters for refrigeration unit.

Press **B** to begin temperature control routines.

Press **B** again to display **DEGREE** will be displayed followed by **F** for Fahrenheit or **C** for Celsius plus an asterisk at the right side of the display. Toggle between the two using **B**.

Press **D** to confirm choice.

Press **C** to move to Sensor 1. **SENSOR 1** will be displayed.

SENSOR 1

Turns Temperature Sensor 1 ON or OFF. Sensor 1 is located in the canned drink compartment.

NOTE:

Press **A** or **C** to scroll through the Sensor 1 sub-menu.

Set Point..... Sets the set point of sensor 1.

Delta Sets the Delta of sensor 1.

Health Safety Sets H/S parameters for sensor 1.

Press **C**. **ON** or **OFF** will be displayed.

Press **B** again to display an asterisk to the right side of the display. Use **B** to toggle between the two.

Press **D** to confirm choice.

Press **C** to move on to Set Point. **SET POINT** will be displayed.

SET POINT

Used to set the Temperature Set Point of Sensor 1.

Press **B**. The current temperature setting will be displayed. Enter the desired temperature using the **A** and **C** keys.

Press **D** to save changes and return to **SET POINT**.

Press **C** to move on to Delta. **DELTA** will be displayed.

DELTA

Delta determines the temperature swing around the temperature set point. The cut-off value is equal to the set point minus half of this value. The cut-in temperature is equal to the set point plus half of this value.

Press **B**. The current delta setting will be displayed.

Enter the desired delta using the **A** and **C** keys.

Press **D** to confirm changes and return to **DELTA** display.

Press **C** to move to Health Safety. **H/S** will be displayed.

HEALTH SAFETY

This is a "Health Safety" feature that prevents the sale of perishable food items if the temperature inside the cabinet area exceeds 45°F (7.2°C). Due to the operating temperature range of this vendor this feature should be turned off at all times.

NOTE:

Press **A** or **C** to scroll through the Sensor 1 Health/Safety sub-menu.

Level.....Set H/S to none, frozen, slack or cold.

Range.....Sets a range of rows for H/S.

Press **B**. **LEVEL** will be displayed.

Press **B** again to display **NONE** plus an asterisk to the right side of the display.

Use **A** or **C** to toggle through the choices of Frozen, None, Slack or Cold.

Press **D** to confirm choice and return to **LEVEL** display.

Press **C** to move on to range. **RANGE** will be displayed.

Press **B**. **SR/ER** (start of range/end of range) will be displayed. Enter range of rows (A-B for example).

Press **D** to save choice and return to **RANGE**.

Press **E** to move to Sensor 2. **SENSOR2** will be displayed.

SENSOR 2

Turns Temperature Sensor 2 ON or OFF. Sensor 2 is located in the snack side of the cabinet.

NOTE:

Press **A** or **C** to scroll through the Sensor 2 sub-menu.

Set Point.....Sets the set point of sensor 2.

Delta.....Sets the Delta of sensor 2.

Health Safety.....Sets H/S parameters for sensor 2.

Press **C**. **ON** or **OFF** will be displayed.

Press **[B]** again to display an asterisk to the right side of the display. Use **[B]** to toggle between the two.
Press **[D]** to confirm choice.
Press **[C]** to move on to Set Point. *SET POINT* will be displayed.

SET POINT

Used to set the Temperature Set Point of Sensor 2.

Press **[B]**. The current temperature setting will be displayed. Enter the desired temperature using the **[A]** and **[C]** keys.
Press **[D]** to save changes and return to *SET POINT*.
Press **[C]** to move on to Delta. *DELTA* will be displayed.

DELTA

Delta determines the temperature swing around the temperature set point for sensor 2. The cut-off value is equal to the set point minus half of this value. The-cut in temperature is equal to the set point plus half of this value.

Press **[B]**. The current delta setting will be displayed.
Enter the desired delta using the **[A]** and **[C]** keys.
Press **[D]** to confirm changes and return to *DELTA* display.
Press **[C]** to move to Health Safety. *H/S* will be displayed.

HEALTH SAFETY

This is a "Health Safety" feature that prevents the sale of perishable food items if the temperature inside the cabinet area exceeds 45°F (7.2°C). Due to the operating temperature range of this vendor this feature should be turned off at all times.

NOTE:

Press **[A]** or **[C]** to scroll through the Sensor 2 Health/Safety sub-menu.
Level..... Set H/S to none, frozen, slack or cold.
Range..... Set a range of rows for H/S.

Press **[B]**. *LEVEL* will be displayed.
Press **[B]** again to display *NONE* plus an asterisk to the right side of the display.
Use **[A]** or **[C]** to toggle through the choices of Frozen, None, Slack or Cold.
Press **[D]** to confirm choice and return to *LEVEL* display.
Press **[C]** to move to range. *RANGE* will be displayed.
Press **[B]**. *SR/ER* (start of range/end of range) will be displayed. Enter range of rows (A-B for example).
Press **[D]** to save choice and return to *RANGE*.
Press **[E]** to move to Defrost. *DEFROST* will be displayed.

DEFROST

This feature controls the amount of time the system remains in a defrost cycle. The factory setting (default) is 15 minutes for duration. The maximum defrost time is 60 minutes and the minimum is 10 minutes. The factory setting (default) for the period.

Press **[B]**. *DURATION* will be displayed.

Press **[B]** again and the current duration of defrost in minutes (10 to 60) will be displayed. Use the A or C key to adjust the duration.

Press **[D]** to save changes and return to *DURATION* display.

Press **[C]** to move on to Period. *PERIOD* will displayed.

Press **[B]**. The display will show the current setting for the period.

Use **[A]** or **[C]** keys to adjust this time period in half hour increments from 1/2 hr to 24 hrs.

Press **[D]** to confirm changes and return to *PERIOD* display.

Press **[E]** to return to *DEFROST* display.

Press **[E]** again to move out to *TEMPERATURE* display.

Then press **[C]** to move to Discount Mode. *DISCOUNT* will be displayed.

DISCOUNT MODE

This procedure enables the machine to charge a different price for selections at different times or on different days—Sundays, for example.

NOTE:

Press **[A]** or **[C]** to scroll through the Discount Mode sub-menu.

ON or OFF Turns discount mode ON or OFF.

Time Sets time period of the day discount will be in effect.

Day Sets the day of the week discount will be in effect.

Range Sets the range of selection for the discount.

Value Sets the value to be discounted from the regular set price.

Press **[B]**. *ON* or *OFF* will be displayed.

Press **[B]** again to display an asterisk to the right side of the display. Toggle ON or OFF using the **[B]** key.

Press **[D]** to confirm any changes and return to *ON* or *OFF*.

Press **[C]** to move on to Time. *TIME* will be displayed.

TIME

Sets the time of day that the discount mode is in effect.

Press **[B]**. **STRT** will be displayed followed by the starting time for discount. Set the new time using number keys (military time—24-hour clock).

Press **[D]** to confirm change and move to **!STOP**. Repeat changing process.

Press **[D]** to confirm changes and return to **TIME**. Press **[C]** to move on to DAY.

DAY

Sets the day of the week that the discount mode will be in effect.

Press **[B]**. **SUN** will be displayed followed by **ON** or **OFF**. Use the **[A]** or **[C]** key to change day.

Press **[B]** to enter a day to turn ON or OFF.

Press **[A]** or **[C]** to toggle from OFF to ON.

Press **[D]** to save change. Use the **[A]** or **[C]** key to move to another day.

Repeat process as needed. When finished with all changes, press **[E]** to move back out to **DAY**.

Press **[C]** to move to Range. **RANGE** will be displayed.

RANGE

Sets the range of selections to be discounted.

Press **[B]**. The current range of selections for discount pricing will be displayed. Use alpha and numeric keys to change range.

Press **[D]** to confirm changes and return to **RANGE**.

Press **[E]** to exit without making changes.

Press **[C]** to move on to Value. **VALUE** will be displayed.

VALUE

Sets the amount to be discounted from the regular price – .25 for example.

Press **[B]**. The current discount value will be displayed. Set value using numeric keys.

Press **[D]** to save change and return to **VALUE** display.

Press **[E]** to move out to **DISCOUNT** display.

Press **[C]** to move to Auto-reinstatement Mode. **AUTOREINST** will be displayed.

AUTO-REINSTATEMENT MODE

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:

Press **A** or **C** to scroll through the Auto-reinstatement Mode sub-menu.
ON or OFFTurns Auto-reinstatement mode ON or OFF
Range.....Sets the range of selections (by row) to be effected by Auto-reinstatement

Press **B** to set the auto-reinstatement of empty/jammed selections. **OFF** or **ON** will be displayed.

Press **B** again to display an asterisk to the right of the display. Use the **B** key to toggle between ON and OFF.

Press **D** to save change.

Press **C** to move on to Range. **RANGE** will be displayed.

NOTE:

With Auto-reinstatement ON — Selections affected by this function will not be recorded as “SOLD OUT” even when empty. The customer will see a display of *MAKE ANOTHER SELECTION* instead. The advantage to Auto-reinstatement is in the fact that when refilling the item, the supplier will not have to “reset” the selection.

RANGE

Press **B**. **SR/VR** will be displayed followed by the range of rows covered by auto-reinstatement. Enter the rows desired.

Press **D** to save change and return to **RANGE** display.

Press **E** to back out to **AUTOREINST.**

Press **C** to move to Coupon/Token Mode. **COUPN/TOKN** will be displayed.

COUPON/TOKEN MODE

Enables the use of coupons or tokens—this option requires a Validator capable of accepting coupons or tokens.

NOTE:

Press **A** or **C** to scroll through the Coupon/Token Mode sub-menu.

Coupon Value..... Sets the value of coupons to be used with vendor.

Coupon Range..... Sets the range of coupons to be used with vendor.

Token Value Sets the value of tokens to be used with vendor.

Token Range Sets the range of tokens to be used with vendor.

Press **B**. *COUP VALUE* will be displayed.

COUPON VALUE

Sets the value of a coupon to be used with this vendor. Up to five different coupons can be used.

Press **B**. *CV1* will be displayed followed by the current coupon value. At this point press **A** or **C** to display each of 5 coupons (CV1-CV5).

Press **B** at any coupon display. Change value using numeric keys.

Press **D** to save changes. *COUP VALUE* will again be displayed. Repeat above process to set other coupons.

Press **E** to move back out to *COUP VALUE* display.

Press **C** to move to Coupon Range *COUP RANGE*. will be displayed.

COUPON RANGE

Sets a range of selections where the coupon is redeemable.

Press **B** to display *CR1* (Coupon1-Range1--representing the range of selections that will honor Coupon 1) and the current range.

Press **B** again. Enter or change range (C4-D6, for example).

Press **D** to save changes and move out to *COUP RANGE* display.

Press **C** to move to Token Value. *TOKEN VALUE* will be displayed.

TOKEN VALUE

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

Press **[B]**. *TV1* (Token Value 1) will be displayed followed by the current value of Token 1. At this point pressing **[A]** or **[C]** will toggle through all 5 tokens (TV1-TV5)

Press **[B]** at any token display. Change value using numeric keys.

Press **[D]** to save changes, *TOKN VALUE* will be displayed. Repeat the process to change value of other tokens.

Press **[C]** to move to Token Range. *TOKN RANGE* will be displayed.

TOKEN RANGE

Sets the ranges of selections a Token can be used with.

Press **[B]** to display *T1R1* (Token1-Range1) and the current range.

Press **[B]** again. Enter or change range (C4-D6, for example).

Press **[D]** to save changes and move out to *TOKN RANGE*. Repeat the process to change range of other tokens.

Press **[E]** to move out to *COUPN/TOKN*.

Press **[C]** to move on to Can/Bottle Mode. *CAN/BOTTLE* will be displayed.

CAN/BOTTLE MODE

When Can/Bottle Mode is ON either bottles or cans may be vended for the range selected. With Can/Bottle Mode OFF the controller is configured for single depth and only bottles can be dispensed from the vendor.

NOTE:

Press **[A]** or **[C]** to scroll through the Can/Bottle Mode sub-menu.

OFF or ON.....Turns Can/Bottle mode ON or OFF.

Range.....Sets the range of selections on the can /bottle rack that are turned ON or OFF.

Depth.....Sets the depth of each selection on the can/bottle rack to single or double.

Press **[B]**. *ON* or *OFF* will be displayed. Use the **[B]** key to toggle between ON and OFF.

Press **[D]** to save choice and return to *ON* or *OFF*.

Press **[C]** to move on to Range. *RANGE* will be displayed.

RANGE

Sets the range of the can/bottle rack that is turned ON or OFF.

Press **[B]**. ***SR/ER*** (Start Range/End Range) will be displayed, followed by the current range of rows included. Enter desired row designations using the alpha keys.

Press **[D]** to save changes and return to ***RANGE*** display.

Press **[C]** to move to Depth. ***DEPTH*** will be displayed.

DEPTH

Sets the depth of each selection for single or double operation. Single is used for dispensing bottles and double is used for dispensing cans.

Press **[B]**. ***SELECT*** will be displayed followed by the current selection.

Press **[B]** again, ***DOUBLE*** or ***SINGLE*** will be displayed. Use **[B]** to toggle between the two choices.

Press **[D]** to save choice and move back to ***SELECT*** followed by current selection. Use the **[A]** or **[C]** key to move to another selection. Repeat process as needed. When finished with all changes, press **[E]** to move back out to ***DEPTH***.

Press **[E]** to move out to ***CAN/BOTTLE***.

CAUTION

When the selection is set at single depth — upon vending the motor continues to turn for a couple of seconds, positioning the next vend for faster delivery. However, if a product is double loaded in single-depth mode, double vending will result!

NOTE:

Press the Service Mode Button at any time during *Service Mode* to exit the *Service Mode*. Press **[D]** first to avoid losing any changes .

DEX/UCS

DEX/UCS Information (requires hand-held computer).

If the vendor operation will be tracked using a DEX/UCS capable hand-held computer (HHC), please note the following:

The picture to the right shows the control panel cover. Just below the instructional decal is the plug-in port for the connecting cable from the hand-held computer.

Plug in HHC and the vendor will enter DEX/UCS mode (machine does not have to be in **Service Mode**).

Plug the HHC into the vendor and the exchange of information will begin automatically.

The following is a list of DEX/UCS codes and their meanings.

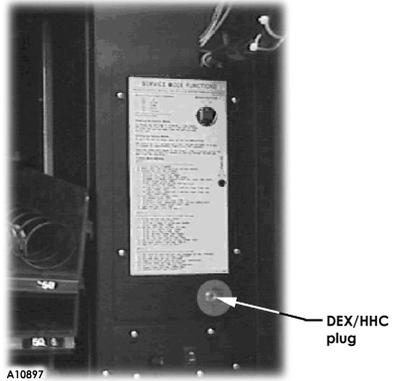


Figure 11. DEX/HHC Plug-in

Table 3. DEX Codes

DEX FIELD	DESCRIPTION	DEX FIELD	DESCRIPTION
ID101	Machine Serial Number	PA201	Number of products vended since initialization
ID102	Machine Model Number	PA203	Number of products vended since last reset
VA101	Value of all paid sales since initialization	PA204	Value of paid product since last reset
VA103	Value of all paid sales since last reset	EA201	Event Identification
CA302	Value of cash to coin box since last reset	EA202	Number of events since last reset
CA303	Value of cash to tubes since last reset	EA204	User defined field
CA304	Value of bills in since last reset	EA301	Number of reads since initialization
CA401	Value of cash dispensed since last reset	EA302	Date of this readout
CA801	Value of cash overpay since last reset	EA303	Time of this readout
CA1401	Bill value (\$1, 2, 5, 10, & 20)	EA304	This terminal/interrogator identification
CA1403	Number of bills to stacker since last reset	EA305	Date of last readout
TA203	Value of vend token sales since last reset	EA306	Time of last readout
TA204	Number of vend token vends since last reset	EA501	Date of price setting
PA101	Product Number	EA502	Time of price setting
PA102	Product Price		

REFRIGERATION

OPERATION

NOTE:

To prevent damage to the refrigeration unit when it is turned off or the power interrupted, the refrigeration unit will not restart for at least three minutes regardless of the temperature.

When the temperature is above the cut-in temperature programmed, the unit is turned on. When the refrigeration unit reaches the cut-out temperature, it is turned off.

If the refrigeration unit runs for more than two hours without reaching the cut-out temperature, the unit is turned off for the programmed ten (10) minute defrost time. It will then be turned on again automatically.

TROUBLESHOOTING

If the refrigeration unit is turned off or the power is interrupted, the refrigeration unit will not start for at least three minutes regardless of the temperature. This is done to prevent damage to the refrigeration unit.

CAUTION:

Breaking the refrigerant joints or seals on the system voids the unit warranty. Failure to keep the condenser coil clean and free of dirt and dust and other similar debris voids the unit warranty.

Know and understand how the unit operates. Units may vary, but the operation is basically the same. Never guess at the problem; find the symptom before attempting any repair.

NOTE:

Most refrigeration problems are electrical.

The sealed hermetic system should not be worked on outside the Factory Service Center. There are three things that can go wrong with a sealed system and should be repaired only at the Factory Service Center. These are:

1. Low Charge - usually caused by leaks; look for oil around seals and welds. Unit will not cool properly. The capillary tube is frosted before it enters the evaporator inlet tube.
2. Restriction in Systems (unit frosts, then melts) - not cooling properly.
3. Bad valves - unit does not cool properly-- noisy compressor.

COMPRESSOR WILL NOT START

Compressor has no power:

- Machine not plugged in.
- Tripped breaker or blown fuse.
- Faulty wall outlet.
- Short or open in power cord.
- Temperature sensor circuit is open. Check with a Multi-Meter.
- Improper wiring.
- Low voltage: 5% below. Check the power source with a Multi-Meter.
- Overload defective: Trips too fast. Check overload with the Multi-Meter.
- Start relay defective. Check start relay with the Multi-Meter.
- Compressor has open windings. Check compressor windings with a Multi-Meter.
- Defective refrigeration relay.
- Unplug power to the machine; remove the relay plate. Use an insulated jumper wire to short the wires on relay terminals 2 and 4 or 6 and 8-- then restore power to the machine. The compressor should start, indicating a problem in the control circuit.
- Check relay terminals 1 to 0 with a Multi-Meter. Should have 24VDC applied to them.
- No DC voltage (check control board output terminal for a loose connection)

COMPRESSOR TRIPS ON OVERLOAD

1. Improper voltage: 5-10% above, 5% below. Check power source with Multi-Meter.
2. Overload defective: Trips too fast. Check overload with Multi-Meter.
3. Relay defective: Won't open after starting. Check relay with Multi-Meter.
4. Compressor has shorted windings. Check compressor windings with Multi-Meter.
5. Short in other component: Isolate and eliminate each electrical component until short is found.
6. Compressor is too hot.
 - ◆ Dirty condenser.
 - ◆ Faulty condenser motor or blade.
 - ◆ Restricted airflow.

CAUTION:

Condenser must be kept clean of dirt and debris to allow for proper air circulation.

NOISY OR VIBRATING UNIT

1. Components rubbing or touching each other.
 - ◆ Check fan blades and motor.
 - ◆ Loose shrouds and harness.
 - ◆ Copper tubing.
 - ◆ Loose or unsecured parts.
 - ◆ Dirty condenser fan blades.
2. Worn or aged compressor grommets
3. Compressor.
 - ◆ Bad valves.
 - ◆ Slugging.
 - ◆ Bad windings (See Schematic on page 47).
 - ◆ Low voltage.

UNIT SHORT CYCLES

- Temperature sensor defective or not mounted in the return air duct
- Defective control board
- Temperature setting set too warm (see “Refrigeration Settings” section of this manual)

UNIT OPERATES LONG OR CONTINUOUSLY

1. Temperature sensor defective or not mounted in the return air duct.
2. Refrigeration relay shorted.
3. Airflow restricted.
 - ◆ Faulty evaporator motor or blades causing coils to ice.
 - ◆ Loose connections on evaporator motor (1 motor not running.)
 - ◆ Airflow blocked by product in front of evaporator or air duct openings.
 - ◆ Exhaust area blocked (machine too close to wall).
4. Gasket leak around door.
5. Excessive load: After loading, unit runs longer to pull out excessive heat from product.

6. Shortage of refrigerant or restriction
7. Bad controller
8. Ambient air temperature and relative humidity exceed manufacturer's operational standards

REFRIGERATED SPACE TOO COLD

1. Temperature sensor defective. Check with Multi-Meter.
2. Refrigeration control setting too cold. See **Temperature Mode** section on page 33 of this manual.
3. Refrigeration relay bad (check with Multi-Meter).
4. Faulty control board.

REFRIGERATED SPACE TOO WARM

1. Temperature sensor defective. Check with Multi-Meter.
2. Refrigeration control setting too warm. See **Temperature Mode** section on page 33 of this manual.
3. Refrigeration relay bad.
4. Faulty control board.
5. Restricted evaporator space.
 - ◆ Evaporator motor or blades faulty, causing the coils to ice over the evaporator.
 - ◆ Condenser airflow restricted.
 - ◆ Plugged or dirty condenser.
 - ◆ Condenser motor or blades bad.
 - ◆ Blade stuck.
 - ◆ Condensing space restricted.
 - ◆ Unit placed too close to a wall.
 - ◆ Compressor - bad valves.
 - ◆ Capillary tube will start frosting 8 to 10 inches (20-25 cm) past evaporator connection tube.
 - ◆ Check for oil around brazed connections.

TROUBLESHOOTING CIRCUITS WITH MULTI-METER

- To check the power source, use the voltage section of the Multi-Meter. Should measure within 5-10% above, 5% below.
- Check overload.

CAUTION

Power must be off and fan circuit open.

Using the resistance section of the Multi-Meter, check terminals 1 and 3 for continuity. If no continuity is measured (infinity), overload may be tripped. Wait 10 minutes and try again. If still no continuity, overload is defective.

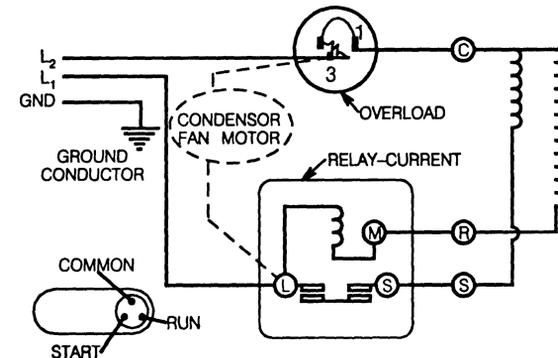
1. Check relay (See **Figure 12.**) Unscrew lead terminals and remove relay from compressor. (**NOTE:** keep relay upright).
2. Check terminals 1 and S, or L and S with the Multi-Meter. Replace relay if continuity exists.
3. Check Temperature sensor with a Multi-Meter.
4. Check compressor windings as shown in **Figure 12.**
5. Check winding resistance with a Multi-Meter. If readings are not within 2 Ohms, the compressor is faulty. Use RX1 scale.

WARNING:

Wiring diagrams must be followed as shown. Any mis-wiring can cause serious electrical hazard and potential damage or rupture component electrical parts.

Table 4. Winding Resistance

APPROX. RESISTANCE ACROSS TERMINALS	
COMMON to START:	12 Ohms
COMMON to RUN:	2 Ohms
RUN to START:	14 Ohms
COMMON to SHELL:	No Continuity



A10115

Figure 12. Compressor Schematic

PREVENTIVE MAINTENANCE

CAUTION:

Always disconnect power source BEFORE cleaning or servicing.

ONCE A MONTH

CLEAN CABINET INTERIOR

Wash with a mild detergent and water, rinse and dry thoroughly. Odors may be eliminated by including baking soda or ammonia in the cleaning solution. Plastic parts may be cleaned with a quality plastic cleaner. Remove and clean Condensate Drain Hose to eliminate any deposits that may restrict condensate water flow.

The vend mechanisms must be kept clean. Any build-up can cause the mechanisms to malfunction.

Do not get the cleaning solution on electrical components.

To insure proper vending keep delivery slide area free of dirt and sticky substances.

CLEAN CABINET EXTERIOR

Wash with a mild detergent and water, rinse and dry thoroughly. Clean occasionally with a quality car wax. Plastic exterior parts may be cleaned with a quality plastic cleaner.

EVERY 60-DAYS

CLEAN REFRIGERATION INTAKE SCREEN

Remove screen and clean dust and debris from screen using a soft bristle brush or a vacuum cleaner.

EVERY 6-MONTHS

CLEAN CONDENSER COIL & REAR EXHAUST SCREEN

Remove the Cover Assembly and clean the condenser coil of refrigeration unit using a soft bristle brush and/or vacuum cleaner.

Pull the refrigeration unit and clean the rear exhaust screen of dirt and debris.

Do not block the evaporator or any area of the airflow with product or supplies.

PARTS ORDERING PROCEDURE

When ordering parts, include the following:

1. The model and serial numbers of the machine for which the parts are needed.
2. Shipping address.
3. Address where the invoice should be sent.
4. The number of parts required.
5. Always refer to the pertinent parts and/or part manual for the correct part number and description of a specific part.

NOTE:

When RIGHT or LEFT is used with the name of a part, it is means the person is facing the machine with the door closed.

6. Any special shipping instructions.
7. Carrier desired: air or air special, truck, parcel post or rail.
8. Signature and date.
9. Purchase order number, if used.

Mail your order to:

**Westomatic Vending Services Ltd
Shaldon Road, Newton Abbot
Devon, TQ12 4TZ
England**

All orders are carefully packed and inspected prior to shipment. Damage incurred during shipment should be reported at once and a claim filed with the terminating carrier.

If you do not have the right parts manual: contact VendNet™.

If you have any questions, check out our Website www.vendnetusa.com or call VendNet™. Ask for the Parts Department. We will be happy to assist you. Email: Vendnet@vendnetusa.com

BEFORE CALLING FOR SERVICE

Please check the following:

- Does your machine have at least 6-inches of clear air space behind it?
- If the power is turned on at the fuse box, is the machine the only thing that doesn't work?
- Is the machine plugged directly into the outlet?

WARNING:

Extension cords can cause problems.

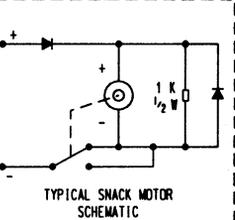
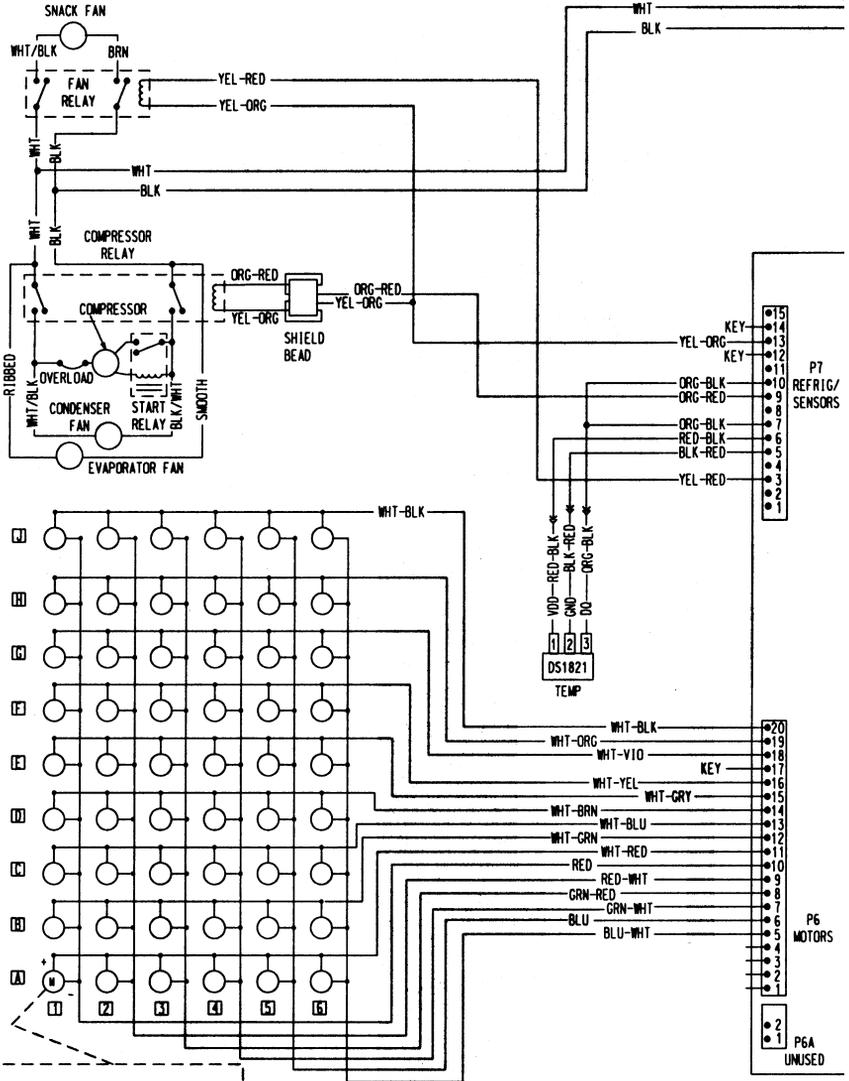
DO NOT USE EXTENSION CORDS.

- Is the evaporator coil free of dust and dirt?
- Is the condenser coil free of dust and dirt?
- Is the compressor free of dust? (A blanket of dust can prevent the compressor from cooling in between workouts).
- Is the circuit breaker at the fuse box reset?
- Are evaporator fans running? To check if fans are running take a small piece of paper in front of the evaporator coil and see if the evaporator fans will blow the paper away.
- Is the condenser fan running? Fold a sheet of 8 1/2" x 11" paper in half. Place the paper in front of the condenser coils and see if it draws the paper to it.
- Is the shelf in front of the evaporator coil clear? (No tools, product, or other air-restricting items).
- Is the cold control set as specified?

NOTE:

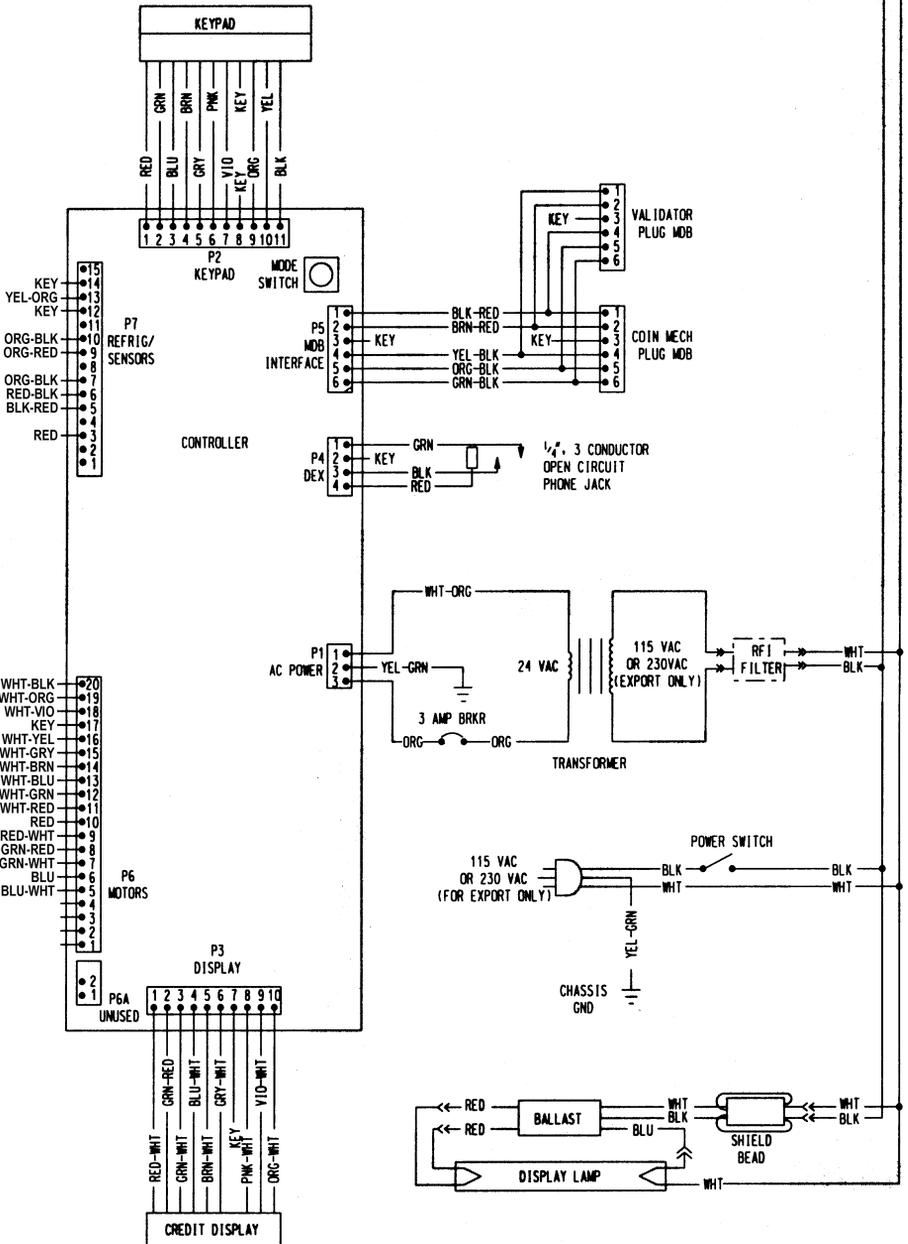
Setting the temperature colder does not accelerate cooling of product but may cause the product to freeze.

SCHEMATIC



RFS SCHEMATIC
P/N 4212307
REV. A

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