GFV-400

Programming, Operation, & Service Manual



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SAFETY INFORMATION

INNOVATIVE DISPLAYWORKS (IDW) COMMITMENT TO SAFETY

IDW is committed to safety with all our product designs. Please read this Programming/Operation/Service Manual in its entirety. We are committed to notifying the user of a possible danger involving the improper handling or maintenance of our Vendors. The servicing of any electrical or mechanical device involves **potential dangers**, both to those servicing the equipment and to the users of the equipment. These dangers may occur because of improper maintenance or usage. The purpose of this safety information is to alert everyone that services IDW equipment to potentially dangerous areas, and to provide **basic safety guidelines** for proper upkeep.

The Programming/Operation/Service Manual contains various **warnings** that should be carefully read to minimize the risk of personal injury. This manual also contains service information to ensure that proper methods are followed to avoid damaging the Vendor or making it unsafe. It is also important to understand that these **warnings** provide general guidance only. IDW could not possibly know, evaluate, or advise of all the conceivable ways in which service might be performed. Consequently, IDW cannot predict all the possible dangerous results. These outlined safety precautions are the basis for an effective safety program. Use these safety measures, along with the Technical Bulletins, helpful hints and product specification sheets, when installing or servicing IDW equipment.

We recommend that anyone servicing our equipment maintain the same commitment to safety. **Only properly trained personnel should have access to the interior of the Vendor.** This will minimize the potential dangers that are inherent in electrical and mechanical devices. IDW has no control over the Vendor once it leaves IDW premises. It is the owner or lessor's responsibility to maintain the Vendor in a safe condition. See the Instruction Manual located in your new Vendor for proper installation procedures and refer to the Programming/Operation/Service Manual for recommended maintenance procedures. If you have any questions, please contact the Technical Service Department toll-free at 1-877-307-2665 Ext 110. *(Outside North America, dial +1 909-447-8254 Ext 110.)*

SAFETY REGULATIONS

- Read the SAFETY INSTRUCTIONS before installation or service.
- Test for proper grounding before installing to reduce the risk of electrical shock and fire.
- Turn off or disconnect the power cord from the wall outlet before servicing unless specifically advised by manufacturer to have power applied for a specific process/repair/installation. Note: If for any reason this product requires service, we strongly recommend that a certified technician perform the service.
- Only factory-authorized service technicians should service the Vendor.
- Remove any product before moving a Vendor.
- Use appropriate equipment when moving a Vendor.
- Always wear eye protection, and protect your hands, face, and body when working near the refrigeration system.
- Use only authorized replacement OEM parts.
- Be aware of inherent dangers in rocking or tipping a Vendor.
- When moving the Vendor, care must be taken to prevent damage to the refrigerant tubing.

R290 (HC) REFRIGERANT SAFETY

The refrigerant gas contained in the cooling system is flammable. Failure to follow all warnings, cautions and instructions, both in this document, and as posted in the machine, may lead to fire or explosion. Service should be performed by only individuals trained in servicing cooling systems using flammable gas and properly equipped with the correct tools and leak detection devices designed for use with flammable gas coolants. Do not attempt to interchange electrical parts from older models into these new machines. New electrical parts designed specifically for use in machines with flammable refrigerants are used throughout this product. Failure to use the correct OEM parts from Innovative DisplayWorks increases the risk of fire or explosion. Please have the machine serial number, and if possible, the refrigeration unit S/N, along with your customer information available when you call.

Currently, no specialized training or certification is required for handling units with R290 gas, but specialized training is recommended.

PROPER R290 REFRIGERANT WORK PROCEDURES

If a complaint is received that a refrigerated unit containing R290 (Propane) is not chilling (drinks aren't cold, drinks don't get cold within X hours, etc.), any service work requires the proper precautionary steps in advance of approaching or servicing the machine.
These steps should be followed in the order in which they are provided here. No steps should be skipped.

1) Turn on an appropriate leak detection unit for use with flammable gases. The detection device should remain functional for the entire duration of the service event. If the service event requires removal of the refrigeration unit, the leak detector should remain operational until the refrigeration unit has been removed from the building.
2) As you approach the machine, sweep the lowest level of the floor, as propane is heavier than air, and will sink. Be aware of depressed pockets or spaces that might have collected residual gas after it has escaped.
3) If minimal refrigerant gas is detected, a brushless motor fan to circulate the air should be placed to provide ventilation or exchange of the air in the area around the machine, or bank of machines.
4) If no gas is detected, the leak detector must remain operational, while the machine and/or unit is subjected to the troubleshooting process.
5) A plainly visible placard advising "No Smoking or Open Flame" should be positioned to be readily seen and obeyed by any local foot or vehicle traffic, including forklifts.
6) Once the placard is displayed, open the doors on the machine, one at a time, while continuing to hold the leak detector close to the floor. If a leak has occurred in the evaporator portion of the refrigeration units, any gas that has escaped would be circulating in the chilled compartment. Exercise caution when opening the glass door as any gas will rapidly drop to the level of the floor.
7) Onsite repair, including evacuation of the unit, brazing, soldering or any other heat producing method, nor recharging should occur in a customer facility. These tasks should only occur in a properly equipped charging station specifically equipped to handle flammable refrigerant.

REFRIGERATION UNIT CAUTIONS AND DEFINITIONS



DANGER: Propane Gas (R290) is a flammable, odorless gas. While working on a machine, no smoking and no open flames should be permitted.



The hermetically sealed refrigeration unit in this machine does not contain any User Serviceable parts. In the event of any failure the entire refrigeration unit must be replaced.



CAUTION: Propane Gas (R290) is heavier than air, odorless, and can be considered an asphyxiant. It may displace oxygen and cause rapid suffocation. In the event of an accidental release, evacuate, then ventilate the area. Do not permit any ignition sources to approach until the area has been safely ventilated.



Use caution when handling, moving, and use of the Vendor to avoid either damaging the refrigerant tubing, or increasing the risk of a leak. Do Not Puncture Refrigerant Tubing or use any tools in the vicinity of the exposed tubing.

ELECTRICAL HAZARDS GENERAL ADVICE

Careless or improper handling of electrical circuits can result in injury or death. Anyone installing, repairing, loading, opening, or otherwise servicing a Vendor should be aware of this precaution. Apply all the normal precautions when handling electrical circuits, such as:

- Refrigeration service to be performed by qualified personnel only.
- Unplug the Vendor before servicing.
- Replace electrical cords if there is any evidence of fraying or other damage.
- Keep all protective covers and ground wires in place.
- Plug equipment into outlets that are properly grounded and polarized (where applicable) and protected with fuses or circuit breakers of the correct size.
- All electrical connections must be dry and free of moisture before applying power.

WARNING:

1. **ALWAYS TEST TO VERIFY PROPER GROUNDING PRIOR TO INSTALLATION IN ORDER TO REDUCE THE RISK OF ELECTRICAL SHOCK AND FIRE.**
   ELECTRICAL HAZARDS
   A. **Servicing with "Power Off"**
   For maximum safety, unplug the power cord from the wall outlet before opening the Vendor door. This will remove power from the equipment and avoid electrical hazards. Service personnel should remain aware of possible hazards from hot components although electrical power is off.

   B. **Servicing with "Power On"**
   Some service situations may require access with power on. Only factory-authorized service technicians should perform service with power on. Caution is required in servicing assemblies that combine electrical power and mechanical movement. Sudden movement (to escape mechanical action) can result in contact with live circuits and vice versa. It is therefore important to maintain maximum clearances from both moving parts and live circuits when servicing.

   WARNINGS:
2. **ONLY FACTORY-AUTHORIZED PERSONNEL SHOULD PERFORM SERVICING. SUCH SERVICE BY UNQUALIFIED INDIVIDUALS CAN BE DANGEROUS.**
3. **LIGHTING CIRCUITS CAN BE HAZARDOUS. ALWAYS DISCONNECT VENDOR FROM THE WALL OUTLET BEFORE REPLACING OR SERVICING THE VENDOR IN THAT AREA.**
4. **NEVER USE A HOSE, PRESSURE WASHER OR ANY CLEANING METHOD THAT COULD WET ELECTRICAL COMPONENTS. SEE THE CLEANING SECTION OF MANUAL FOR THE CLEANING METHODS SUGGESTED. IF WATER CONTAMINATION OF ELECTRICAL COMPONENTS IS SUSPECTED, USE QUALIFIED ELECTRICAL TESTING EQUIPMENT AND TEST METHODS TO ASSURE THAT THE VENDOR IS NOT A HAZARD BEFORE APPLYING POWER FOR ANY REASON.**



CAUTION: Any procedure marked with the symbol at left requires that the Machine have the power applied and a shock hazard exists. Only a trained and authorized person should attempt these repairs.



CAUTION: It is important that this Machine is hooked up to the proper voltage and polarity for your country. Use a Voltmeter to verify voltage and polarity. Should the reading be any different than a normal reading or if you are unsure of what the reading should be, contact an electrician.



CAUTION: The Power Cord for all Machines are of a type X attachment. If the Power Cord is damaged, it should be replaced by a trained service agent, or a similarly qualified person to avoid a hazard.

QUICK START INSTRUCTIONS

Remove the Binder Clips for the Y-Belts, the blue tape from the Delivery Cup, and the Glass Door Shipping Bracket.

- Save binder clips and put them on control board cover.

LEVEL THE MACHINE: **Use the built-in Bubble Level below the elevator as a rough guide. Fine tune it with a Carpenters Level. This ensures the following**:

- The cabinet is square and will allow proper clearance for the service door and glass door.
- The trays are not tilted forward or backward.
- Product will fall into the cup as designed and be delivered without issue.

CALIBRATE (ALL SELECTIONS): **This is an automated test that sequences all 50 selections. It ensures all 50 column locations can be identified, adjusts and reprograms their locations. When locations are located via the magnet this guarantees that the machine will find the correct location. After the test is completed a "Pass" is given on the Display when all selections are found. A "Fail" is given if any selections are not found. Those failed selections are then listed in the errors so they can be investigated. Calibration tests the following subsystems**:

- XY Movement - If any XY motors are malfunctioning the machine will not be able to complete the test.
- Identifies any obstruction that may be in the way of the XY movement.
- Locates Cup Home and XY Home Sensors.
- Calibrates proper alignment to all selections.
- To access: hold menu button on board until beep is heard –> test modes –> calibration –> enter 3456# password –> calibrate selection –> all –> press pound (#).

VEND TEST WITH PRODUCT: **Testing at least one column with product will ensure proper functionality of the remaining subsystems. This can be done as many times as the tech feels necessary. It is good practice to check one column per tray. Vend testing with product checks the following subsystems**:

- Cup Motor and Gear set.
- Cup sensor.
- Swipe location.
- Inner Delivery Door functionality.
- Port Sensor.
- Outer Port Door functionality.

DOOR LATCHES: **Ensure the T-Handle is easy to lock in place and the latches are properly aligned will ensure the Service Door is unable to be tampered with and the glass door is properly sealed.**

- There are 4 latches: 1 top left, 1 middle right, 2 at the bottom.
- Adjusting the latch strike brackets while the **Glass Door is open** and the **Machine is off** makes it easy to see if the latches hook on the latch strike brackets and will allow the Service Door to be opened and closed as many times as needed without overloading the elevator.

Section 1: GENERAL INFORMATION AND SETUP

GENERAL INFORMATION

INTRODUCTION

This Programming/Operation/Service Manual contains installation, operation, programming, and service instructions for the IDW GFV-400, by Innovative DisplayWorks, LLC. This manual also contains the electrical schematic for the IDW GFV-400.

The IDW GFV-400 is a microprocessor-controlled Glass-Front Vendor that permits pricing per Selection from $0.00 to $99.95. The IDW GFV-400 provides electronic Space to Sales programmability, and it will collect, store, and transfer MIS (Management Information System) data fields to a Hand-Held Computer (HHC) or on-line device through a DEX port.

UNPACKING THE VENDOR AND INSTALLING IT ON LOCATION

UNWRAP THE VENDOR

IMPORTANT: Upon receiving the Vendor, carefully unwrap it and remove the shipping packaging. Check for any signs of damage. If the Vendor is damaged, note it on the Bill of Lading and contact the carrier immediately. If concealed damage is found after delivery driver has left, contact the carrier immediately and report the concealed damage. They will instruct you on the procedure for filing a claim.

If the Vendor is being stored, remove the plastic stretch wrap, cardboard cover, and Styrofoam cushioning first. The plastic stretch wrap and Styrofoam cushioning can adhere to the exterior of the Vendor over an extended period of time, damaging the Vendor's finish.

T-HANDLE SPRING CLIP: The Vendor is shipped with a spring clip in the T-handle securing it in the locked position. Remove the spring clip by pulling it out of the T-handle.



SHIPPING SKID BOARDS: The Vendor will need to be safely lifted to remove the Leveling Legs that secure the Shipping Skid Boards. You can use a 7/16" socket on the top of the Leveling Leg to adjust or remove them. You can also use 1.5" socket on the bottom of the Leveling Leg to remove. Once Shipping Skid Boards are removed, put the Leveling Legs back on the Vendor using a 7/16" socket on the top of the Leveling Leg or a 1.5" socket or wrench on the bottom of the Leveling Leg to install/adjust the Leveling Legs to level the Vendor.

!!!IMPORTANT!!! REMOVE THE INTERIOR PACKING

Before plugging in the Vendor's power cord, remove the interior packing. Failure to remove this packing before plugging in the Vendor may result in damage to the vend mechanisms.



• Remove the binder clips that secure each of the XY assembly two belts, located approximately in the middle of the belts' runs. Keep these clips in the Vendor for use when servicing or moving Vendor.
• Also, remove the blue transparent tape that restricts the movement of the Delivery Cup on the XY Assembly.

INSTALLING VENDOR ON LOCATION

This machine is designed to be used in an Indoor Setting only. Indoor Setting is defined as inside a structure constructed with four walls and a roof and sufficiently protected from ambient conditions and not subjected to the effects of weathering. Any other usage is in direct violation of these instructions and will void the warranty of the machine and its components. When placing the Vendor on location, allow for a minimum of 4" (10 cm) of space at the back of the Vendor. This will ensure proper ventilation of the refrigeration system.

CAUTION: The Vendor is a heavy item. Ensure that sufficient personnel are available for moving and/or transporting the Vendor. Use proper lifting procedures and equipment to prevent injury or damage.

To level the Vendor, close and latch the Vendor's Glass and Service Doors. Using a carpenter's level, adjust the four leveling legs until the top of the Vendor is level left-to-right and front-to-back. Make sure all leveling legs are in contact with the floor.

VOLTAGE REQUIREMENTS AND VENDOR'S POWER CORD

Domestically the Vendor is designed to operate at a voltage of 115 Volts AC, 60 Hertz. It requires a minimum 15-amp breaker or fuse, and it should be on a dedicated circuit. The service outlet voltage must not exceed 129 VAC or fall below 103 VAC.
The Vendor has a three-wire grounding cord. The Vendor must be plugged in a grounded electrical outlet to protect customers from electrical shock. If the outlet is not equipped with a grounded socket, have one installed by a qualified electrician. Do not use an extension cord. Extension cords are not recommended and if used void Vendor warranty.
After plugging the Vendor's power cord into the AC voltage source, the following should be observed:

1. The lighting system will illuminate.
    a. Note the short Service area light is off when the Service Door is closed or the 3-pole Door Switch is pulled out.
2. The Refrigeration Compressor and Condenser Fan will start to run after approximately 5-7 minutes (with the Service Door closed or the 3-pole Door Switch pulled out).
3. The Evaporator Fan will run when the Service Door is closed, or the 3-pole Door Switch is pulled out.
4. The Liquid Crystal Display (LCD) will light.

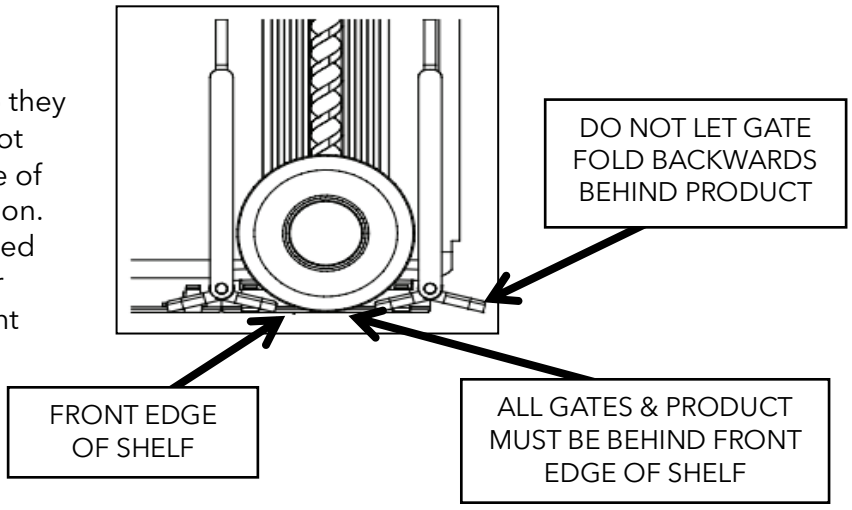
The Control Board is equipped with a battery back-up for use in the event of power loss. The battery is used to retain important programming information, such as Space to Sales, Prices, etc., so that it will not be erased if power is lost, GFCI is tripped, or if the Vendor is unplugged.

PROGRAMMING THE VENDOR

All programming of the Vendor is performed in Service Mode. To enter Service Mode, open the Vendor's Service Door, press the blue Service Mode Button located on the bottom right corner of the Control Board until you hear a beep. For programming instructions, see the section entitled "Vendor Programming," later in this manual.

LOADING THE VENDOR

All products should be loaded so they are in front of the pusher plate (not shown) but behind the front edge of the shelf, as shown in the illustration. The clear gate should not be folded backwards behind the product or protrude forward beyond the front edge of the shelf.



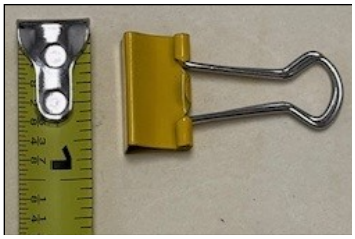
SPECIFICATIONS

IDW GFV-400				
HEIGHT	72" (1830.8 mm)		**Operating Voltage**	120 VAC / 60 Hz
WIDTH	47.125" (1196.98 mm)		**Amperage Rating**	8 Amp
DEPTH CABINET	33" (838.2 mm)		**Refrigerant**	R290
DEPTH with SERVICE DOOR	33.5" (850.9 mm)		**Refrigerant Charge**	4.5oz (130g)
BASE	3.5" (88.9 mm)		**# of Shelves**	5
GROSS SHIPPING WEIGHT	750 lbs. (340 kg)		**# of Cells (Columns)**	50
NET WEIGHT	683 lbs. (310 kg)		**# of 20oz PET Bottles per Cell**	8
Glass Door: 37.5" (952.5 mm) wide, 68.875" (1749.4 mm) high. 66 lbs. (30 KG) weight.				
Construction: Steel cabinet, plastic cells, glass front.				

IMPORTANT NOTE ON TRANSPORTING THE IDW GFV-400

Before transporting the IDW GFV-400, ***always ensure that the protective transport packaging is replaced,*** including:

- Binder clips to secure each belt, placed approximately in the middle of each belt's run to prevent XY movement during transportation.
- Secure Delivery Cup so it does not move during transport.
- Cardboard to protect the glass.



Improper packaging before shipping/moving may cause damage and voids Vendor warranty.

VENDOR IDENTIFICATION

VENDOR SERIAL PLATE – The Vendor's main serial label is located on the interior left side of the Vendor's refrigerated product area and has the following information:

- Vendor Item Code/Model Number.
- Vendor Serial Number.
- Vendor Asset Code/Equipment Number.

The Vendor's Item Code/Model Number (Example GFV-400) provides the machine type, such as GFV - Glass Front Vendor; the model number such as 400 representing the number of 20-ounce PET bottles the machine will hold to vend.

The Vendor Serial Number contains several important pieces of information as well. The serial number currently in use consists of the following:

- "S" for Serial number.
- The first 3 numbers represent the manufacturing product code. GFV-400 code is 637.

- The next 2 numbers represent the year the Vendor was produced.
- The next 2 numbers represent the month the Vendor was produced.
- The next 2 numbers represent the day the Vendor was produced.
- The next 4 numbers represent the number of a specific Vendor built within that week.

Vendor Serial Number Example: S6372505081234					
S	637	25	05	08	1234
Serial #	Product Code	Year	Month	Day	Specific Vendor # built on the date.

GLASS FRONT VENDOR INFORMATION LABEL ABOVE VENDOR SERIAL LABEL – this label provides important information that is used when operating and servicing the Vendor.

- Voltage/Frequency required by the Vendor.
- Rating Current - Amps required by the Vendor.
- Refrigerant used – R290.
- Charge - Unit charge amount of R290.
- Refrigeration design pressures – High Side & Low Side.
- Vendor Circuit Diagram.

The **Refrigeration Serial Plate** is in the compressor chamber, pasted on the front side of the compressor (the side facing the condenser fan), it looks like the Vendor Serial Plate with the exception that the model number specified is the Refrigeration Unit model. There is currently one model in use:

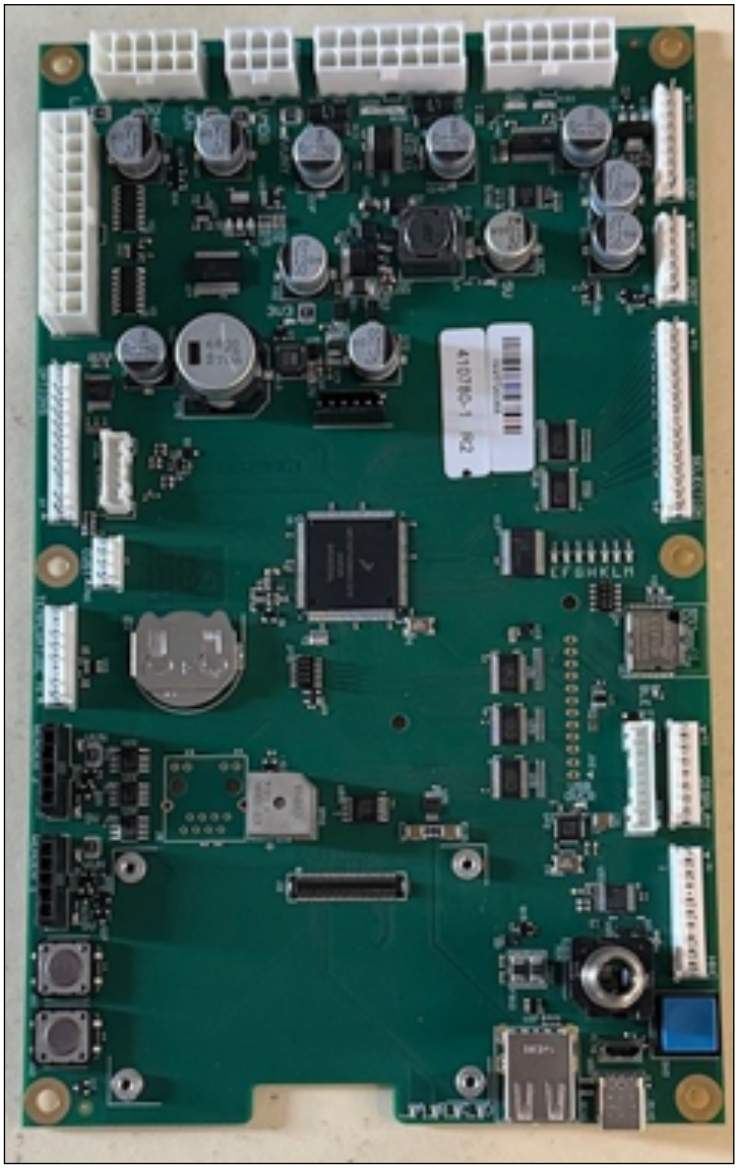
Model	**Compressor size**	**Usage**
NUS70NR R290	1/4 Horsepower	All Domestic IDW GFV-400

Section 2: VENDOR COMPONENT EXPLANATIONS

VENDOR MAIN CONTROL BOARD - VMC (including pinouts)

The Vending Machine Control Board (VMC) is responsible for most Vendor operations. The Control Board is protected by a cover. Removing this cover will expose the Control Board, along with all wiring connections to the Board.

OPERATION REQUIREMENTS: The VMC requires approximately 24- and 36-Volts DC from the Power Module Assembly. This will allow the VMC to function and to supply power to all the Vendor's components listed below.



OPERATION: Upon receiving the appropriate voltage from the Power Module Assembly, the VMC issues information to some components, receives information from some components, and communicates both ways with some components.

VENDOR MAIN CONTROL BOARD (IDW Part # VCHGFV4001)

PINOUTS: The IDW GFV-400 VMC has several electrical pinouts, a set-up mode button, and various other electronic components (all of which have designated position codes). The following section outlines all the VMC's pinouts.

WARNING: Unplug the Vendor before connecting or disconnecting harnesses to any component or another harness unless specifically advised by manufacturer to have power applied for a specific process, repair, or installation.

The word "key" refers to the small plastic insert plugged in a position of the connector. The purpose of the key is to prevent connecting the harnessing backward or upside down. The "keyed position" is a blank position within the pinout (no pin) in which a key is inserted. Some pinouts may have several blank positions with a key plugged into one or more of the positions. You can use the key to determine which end of the pinout is Pin 1.

DEX / UCS Connections (Position P1): The IDW GFV-400 is equipped with a DEX/UCS jack directly on the VMC at position J1. It also has pinouts for optional three wire harnesses leading to internal and external jacks. The Handheld Computer (HHC) plugs into these jacks to read information from the VMC. If the Vendor is equipped with these optional jacks and the HHC does not operate properly with them, check the harnesses for bad connections at the solder joints. Also check to ensure that the insulator at the jack is not cracked from over tightening or improper handling.

PIN #	WIRE COLOR	FUNCTION
1	RED	VMC RECEIVE / DEX TRANSMIT DATA (ring)
2	-	FUTURE USE
3	BROWN	VMC TRANSMIT / DEX RECEIVE DATA (tip)
4	-	KEY
5	BLACK	DEX COMMON / GROUND (sleeve)
6	-	FUTURE USE
7	-	KEY
8	RED	VMC RECEIVE / DEX TRANSMIT DATA (ring)
9	BROWN	VMC TRANSMIT / DEX RECEIVE DATA (tip)
10	BLACK	DEX COMMON / GROUND (sleeve)

SPI (Serial Peripheral Interface) Display (Position P2A): The harness connecting to this VMC pinout travels from the Vendor's LCD Display to the VMC. It allows the VMC to send power to and communicate with the LCD Display. If this harness is cut or disconnected, the LCD will go blank.

PIN #	WIRE COLOR	FUNCTION		PIN #	WIRE COLOR	FUNCTION
1	WHITE	DISPLAY 24 VDC		6	YELLOW	DISPLAY
2	RED	DISPLAY 5 VDC		7	BLUE	DISPLAY
3	GREY	DISPLAY		8	ORANGE	DISPLAY
4	GREEN	DISPLAY		9	BLACK	COMMON/GROUND
5	PURPLE	DISPLAY				

Selection (Position P3): The IDW GFV-400 uses a Touch Pad, which utilizes a matrix wiring system. Upon pressing a particular Select Button, a signal circuit is completed. Because each output wire carries a different signal, the Control Board will determine which key has been pressed based on which input wire receives the output signal.

PIN #	WIRE COLOR	FUNCTION		PIN #	WIRE COLOR	FUNCTION
1	BLACK	ROW 2		9	-	KEY
2	BROWN	ROW 3		10	ORANGE	COLUMN 1
3	RED	ROW 4		11	YELLOW	COLUMN 2
4	-	NC		12	GREEN	COLUMN 3
5	-	NC		13	BLUE	COLUMN 4
6	-	NC		14	-	NOT USED
7	-	NC		15	-	+5VDC
8	-	NC		16	-	COMMON/GROUND

Selection / Indicator (Position P4): These VMC port and pinouts may be available in the future, but at the time of this printing they are not used.

Power (Position P5): The harness connecting to this VMC pinout comes from the electronic power supply in Power Module Assembly. It is imperative that the correct harness be connected to this pinout. If this harness is not connected (or if power is lost to this connection), you will noticeably lose all Vendor functions, including power to the LCD (Display), the Coin Mechanism will not accept coins, and the Refrigeration System will not run.

PIN #	WIRE COLOR	FUNCTION
1	BLACK	GROUND 4" LIGHT
2	BLACK	GROUND/COMMON
3	BROWN	GROUND/COMMON
4	BROWN	GROUND/COMMON
5	BROWN	GROUND/COMMON
6	RED	24 VDC 4" LIGHT
7	RED	24 VDC
8	GREY	36 VDC
9	GREY	36 VDC
10	GREY	36 VDC

Energy Management (Position P6): The wiring harness connecting to this VMC pinout powers the relays for Refrigeration, Condenser Fan, Evaporator Fan, and lighting (including brightness).

PIN #	WIRE COLOR	FUNCTION		PIN #	WIRE COLOR	FUNCTION
1	RED	5 VDC		11	-	NOT USED
2	BLACK	COMMON/GROUND		12	-	NOT USED
3	GREY	RELAY BOARD		13	-	NOT USED
4	YELLOW	RELAY BOARD		14	-	NOT USED
5	GREEN	RELAY BOARD		15	-	NOT USED
6	BLUE	RELAY BOARD		16	-	NOT USED
7	BROWN	RELAY BOARD		17	GREY	LED ILLUMINATION
8	-	NOT USED		18	BLACK	LED ILLUMINATION
9	-	NOT USED		19	GREY	LED ILLUMINATION
10	-	NOT USED		20	BLACK	LED ILLUMINATION

Consumer Presence (Position P6C): This VMC port and pinouts may be available in the future, but at the time of this printing they are not used.

Options (Position P7): This VMC pinout connects to the Door Switch, an optional Electronic Door Lock, and optional Manual Override Switch.

PIN #	WIRE COLOR	FUNCTION		PIN #	WIRE COLOR	FUNCTION
1	-	ELECTRONIC LOCK INPUT		8	-	NOT USED
2	-	GROUND/COMMON		9	-	NOT USED
3	-	NOT USED		10	BLACK	5 VDC DOOR SWITCH
4	-	MANUAL OVERRIDE		11	-	NOT USED
5	-	GROUND MANUAL OVERRIDE		12	-	GROUND/COMMON
6	-	NOT USED		13	-	NOT USED
7	BROWN	GROUND DOOR SWITCH				

Temperature Sensors (Position P8): The wiring harnesses connecting to this VMC pinout travels from the Temperature Sensor and optional Health Sensor to the Control Board. The Temperature Sensor is mounted adjacent to the Evaporator Fan inlet. These harnesses are molded into the Temperature Sensor and Health Sensor, and they should never be cut, pinched, or spliced together if cut. If the harness is cut, pinched, or improperly grounded, the Sensor may give the Control Board false temperature readings. Refrigeration activity is based on the signal reported to the Control Board from these Sensors.

PIN #	WIRE COLOR	FUNCTION
1	RED	TEMP SENSOR +5 VDC
2	WHITE	TEMP SENSOR SIGNAL
3	-	KEY
4	BLACK	TEMP SENSOR GROUND/COMMON
5	RED	HEALTH SENSOR +5 VDC
6	WHITE	HEALTH SENSOR SIGNAL
7	-	KEY
8	BLACK	HEALTH SENSOR GROUND/COMMON

MDB (Position P9): The five-wire serial harness connecting to this VMC pinout provides power and communications to and from the Control Board for the Coin Mechanism, the optional 24 VDC Bill Validator, and/or the optional Card Reader. If this harness is cut, pinched, or disconnected, you will noticeably lose power to peripherals.

PIN #	WIRE COLOR	FUNCTION		PIN #	WIRE COLOR	FUNCTION
1	WHITE	24 VDC		4	BLACK	RECEIVE
2	BROWN	RETURN		5	RED	TRANSMIT
3	BLUE	NOT USED		6	GREEN	COMMON/GROUND

Cup (Position P10C): This harness connects from the VMC to the Delivery Cup Assembly Board.

PIN #	WIRE COLOR	FUNCTION		PIN #	WIRE COLOR	FUNCTION
1	BLACK	GROUND/COMMON		6	GREEN	Delivery Cup Board
2	BROWN	Delivery Cup Board		7	GREY	Delivery Cup Board
3	BLUE	Delivery Cup Board		8	RED	5 VDC
4	YELLOW	Delivery Cup Board		9	WHITE	24 VDC
5	PINK	Delivery Cup Board				

Port (Position P10P): The harness connecting to this VMC pinout should never be cut, pinched, or spliced if cut. This harness controls power and communication to the Port area of the Vendor's Service Door.

PIN #	WIRE COLOR	FUNCTION		PIN #	WIRE COLOR	FUNCTION
1	WHITE	+24 VDC		5	GREEN	Delivery Board Sensor
2	ORANGE	Delivery Board Sensor		6	BLACK	GROUND/COMMON
3	BLUE	Delivery Board Sensor		7	RED	+5 VDC
4	YELLOW	Delivery Board Sensor				

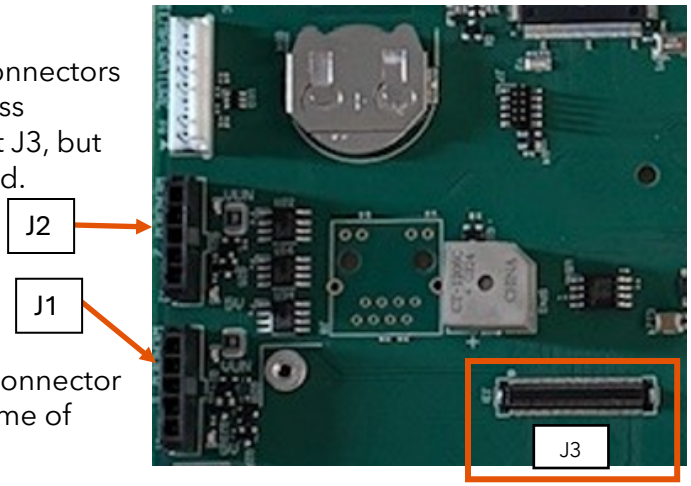
X-Motor (Position P10X): The X-Axis is the left and right movement of the product Elevator. This VMC pinout controls power and communication to the X-Axis Motor.

PIN #	WIRE COLOR	FUNCTION
1	BROWN	X-AXIS ENCODER GROUND/COMMON
2	YELLOW	X-AXIS ENCODER 5VDC
3	-	NOT USED
4	WHITE	X-AXIS ENCODER CHANNEL A
5	GREEN	X-AXIS ENCODER CHANNEL B
6	-	GROUND/COMMON
7	BROWN	X-AXIS PHASE B-
8	YELLOW	X-AXIS PHASE B+
9	-	NOT USED
10	-	NOT USED
11	GREEN	X-AXIS PHASE A-
12	WHITE	X-AXIS PHASE A+

Y-Motor (Position P10Y): The Y-Axis is the up and down movement of the product Elevator. This VMC pinout controls power and communication to the Y-Axis Motor.

PIN #	WIRE COLOR	FUNCTION
1	BLACK	Y-AXIS ENCODER GROUND/COMMON
2	RED	Y-AXIS ENCODER 5VDC
3	BLUE	Y-AXIS ENCODER CHANNEL B
4	ORANGE	Y-AXIS ENCODER CHANNEL A
5	-	NOT USED
6	-	NOT USED
7	-	+5 VDC
8	BLACK	Y-AXIS PHASE A-
9	-	NOT USED
10	GREEN	Y-AXIS PHASE A+
11	-	NOT USED
12	RED	Y-AXIS PHASE B-
13	-	NOT USED
14	BLUE	Y-AXIS PHASE B+

Card Readers (Position J1 / J2): These connectors interface with Card Readers when a cashless module is attached to the Control Board at J3, but at the time of this printing they are not used.



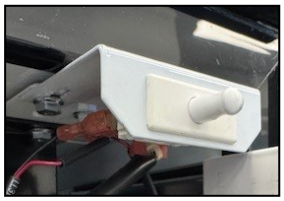
Cashless / Telemetry (Position J3): This connector may be available in the future, but at the time of this printing it is not used.

LIQUID CRYSTAL DISPLAY (LCD) (IDW Part # VTDGFV4009)

The 3.2" LCD is located above the Bill Validator/Card Reader. All information to the programmer and to the customer is conveyed on the LCD.



DOOR SWITCH (IDW Part # VAPGFV4001)



The Door Switch is mounted on the Vendor's chassis above the Vendor's slide-out Service Door. The Door Switch is actuated by the Service Door each time it is opened or closed. The following functions are performed each time the Vendor Service Door is closed:

1. All Sold-Out Selections are cleared.
2. The greeting (POS) message scrolls on the Display.
3. If the Door Switch Reset is enabled (On) in Programming, the resettable MIS Counters will be reset if at least one Selections data has been read.
4. A 5–7-minute delay begins after which the Refrigeration Unit will come on.
5. The Lighting System will turn on.

TOUCH PAD (IDW Part # VTDGFV4013)

The 12-button Touch Pad is located on the right side of the Service Door front below the Bill Validator/Card Reader area. The Touch Pad contains the numbers 0-9, plus the * key and the # key. All the programming and sales selections are performed by way of the Touch Pad.



XY DELIVERY CUP (IDW Part # VEAGFV4001)

The XY Delivery Cup receives a package from the Cell and delivers it to the Delivery Port. The Delivery Cup has an IR (infrared) Sensor that consists of two separate components which work in conjunction with one another. The Emitter which emits an infrared beam and the Receiver which receives the infrared beam. When a product enters the Delivery Cup, the infrared beam is broken, signaling that a package is entering the Delivery Cup. The Boards then drive the Delivery Cup auger a set number of rotations to drive the package into the Delivery Cup.



DELIVERY PORT – SERVICE DOOR (IDW Part # VTDGFV4006)



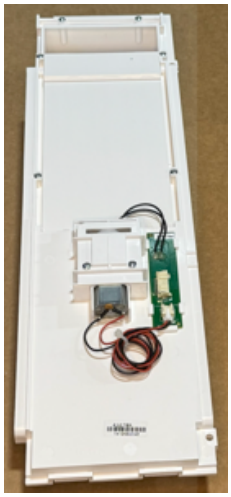
The Delivery Port on the Service Door receives a package from the Delivery Cup. The Delivery Port has a capacitive sensor in its base. This sensor is a circuit board with a digital circuit on it that detects when something is in the Delivery Cup. During a vend sequence once it senses something in the Delivery Port, the clear Delivery Door will open to allow consumer to remove package. Once the package is removed from the Port the sensor no longer detects the package and sends signal to close the clear delivery door.

CABINET DELIVERY DOOR (IDW Part # VAPGFV4012)

The Cabinet Delivery Door on the right side of the refrigerated compartment of the Vendor is opened by movement of the XY Delivery Cup and delivers a package to the Delivery Port. As the XY Delivery Cup moves away from the Cabinet Delivery Door the Door will close automatically via springs on each side of the Cabinet Delivery Door.



Refrigerated Side

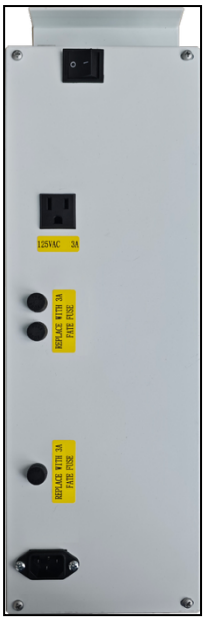


Service Door Side



Spring Shown

POWER MODULE ASSEMBLY (IDW Part # VAPGFV4009)



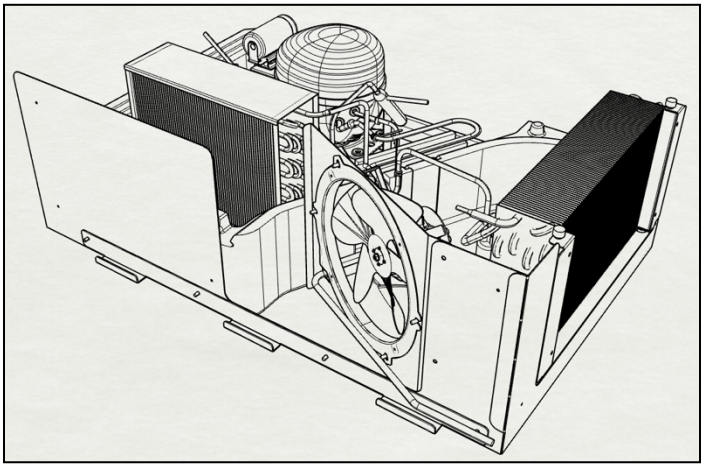
The IDW GFV-400 uses a Power Module Assembly which converts 115 volts AC (conventional voltage) to 24- and 36-Volts DC, to power the Vendor's Control Board. The Power Module Assembly is a major contributor to the Vendor's operation. Without it, the Control Board cannot function.

LOCATION OF ELECTRONIC POWER MODULE ASSEMBLY: The Power Module Assembly is in the bottom of the service compartment area of the Vendor behind the Service Door Assembly. It is contained in a metal box which also holds the master Power On/Off Switch and the Fusebox assembly. **WARNING**: Before removing this module, remove power from the Vendor by unplugging the Main Power Cord from the AC voltage source (wall outlet)!

The Power Module has 3 Fuses (3AMP/250V). To remove, push in and turn the Fuse Holder to the left to release and pull out the Fuse. To install, place a 3AMP/250V Fast Fuse in the Fuse Holder, place in Power Module, push in and turn the Fuse Holder to the right to secure in place.



REFRIGERATION SYSTEM (IDW Part # VRAGFV4001)



The Vendor's Refrigeration System is responsible for the cooling of the cabinet and the products loaded in the refrigerated compartment. The Refrigeration System comes as a completely sealed Unit and should never be cut or tapped into, or the warranty will be voided. The Refrigeration Unit EPP Cover is not shown.

Operation Requirements

Domestic Refrigeration System requires 115 Volts AC from the Main Wiring Harness for it to operate. The Main Wiring Harness gets its voltage for the Unit from the Refrigeration Relay in the Power Module.

Cooling Software Features

The IDW GFV-400 Control Board Software includes the following Refrigeration modes and features:

• Normal and Pull-Down Modes: During Pull Down mode, the Evaporator Fan is always at high speed during ON and OFF compressor cycles. In Normal Mode the Evaporator Fan is at high speed when compressor is ON, until cut-out temperature is reached; low speed when the compressor if OFF, until cut-in temperature is reached; high speed and compressor OFF for four-minutes delay after cut-in temperature is reached; then return to high speed with compressor ON. After a power failure or when the Service Door is closed, the system starts in Pull Down Mode, and a 60-minute timer starts. If Normal Mode compressor cut-out temperature is reached within 60 minutes, the system reverts to Normal Mode, if not it will stay in Pull Down Mode. When the Refrigeration System running in Pull Down Mode reaches the Pull-Down Mode compressor cut-out temperature, the system will continue to operate in Pull Down Mode for 50 compressor cycles, then revert to Normal Mode. Only the machine set point is adjustable by the customer. Normal and Pull-Down cut-in and cut-out settings are offsets from the set point and factory set.

• Defrost Mode: In Pull Down Mode, there is a one-time 15-minute defrost 14 hours after start of Pull-Down Mode. In Normal Mode, there is a four-minute delay for the compressor to start when Normal Mode cut-in temperature is reached. During this four-minute delay, the Evaporator Fan runs at high speed.

If the Unit is already in Defrost Mode when the Service Door is opened, the defrost function will continue after the Service Door is closed. Because of that, the compressor may not restart for as much as 30 minutes after the Service Door is closed.

• Door Switch Inactivation Mode: If the Door Switch does not activate, the Vendor lights will stay off and the Refrigeration Unit will not run until 30 minutes have passed. After 30 minutes, the Control Board will assume that the Door Switch may be defective and will then start the cooling process. In this mode, the Evaporator Fan will cycle with the Refrigeration Unit (like Normal Mode, but without the counter) and the Vendor lights will turn on.
• Compressor Motor Save Mode: If the Control Board calls for cooling continuously for 24 hours, the Vendor will go into a Defrost Mode for one hour. If the Refrigeration Unit still does not cycle after an additional eight hours, a No Pull-Down Error will be displayed**.**

Note: This No Pull-Down Error is not self-clearing; it must be cleared manually through the Service Menu or through DEX.

Refrigeration Components

The Refrigeration System is a hermetically sealed system. Described in this section are explanations of the Refrigeration System's major components.

Capillary Tube - The Capillary Tube is in the refrigerant line, between the Condenser and Evaporator Coils. This small diameter tube is used as a metering device to control the flow of liquid refrigerant to the Evaporator Coil. This creates low pressure causing the refrigerant to vaporize and absorb heat as it passes through the Evaporator Coil.

Compressor - The Compressor is a hermetically sealed 1/4 HP R290 unit located beneath (outside) the cooling compartment. The Compressor is a pump, driven by the Compressor Motor which draws low-pressure vapor (refrigerant) from the Evaporator Coil, compresses it, and forces it into the Condenser under high pressure. The Compressor Motor is started and controlled by the Refrigeration Relay.

Condenser - The Condenser is located beneath (outside) the cooling compartment next to the Compressor. The Condenser removes heat from the high-pressure vapor discharged from the Compressor and condenses it to a high-pressure liquid. The Condenser and Evaporator Coils have aluminum fins attached to effectively increase heat exchange surfaces.

Starting Relay - The Starting Relay is mounted on the side of the Compressor housing. The Compressor Motor has two windings (Start winding and Run winding). To give the Motor torque when it first starts, the Starting Relay switches in the additional Start winding. After the Motor gets up to speed, the Relay opens the Start winding and the Motor continues running using only the Run winding.

Thermal Overload - The Thermal Overload is a heat sensitive device mounted on the side of the Compressor housing. If the Compressor Motor gets too hot or draws an excessive amount of current, the Thermal Overload will open, breaking the circuit to the Compressor. After the Compressor cools to a safe operating temperature, the Thermal Overload will close, allowing the Compressor and Condenser Fan Motors to restart.

Condenser Fan and Motor - The Condenser Fan and Motor, located beneath the cooling department, are a forced-air device using outside ambient air to cool the surface of the Condenser Coil. The Condenser Fan and Motor run while the Compressor operates.

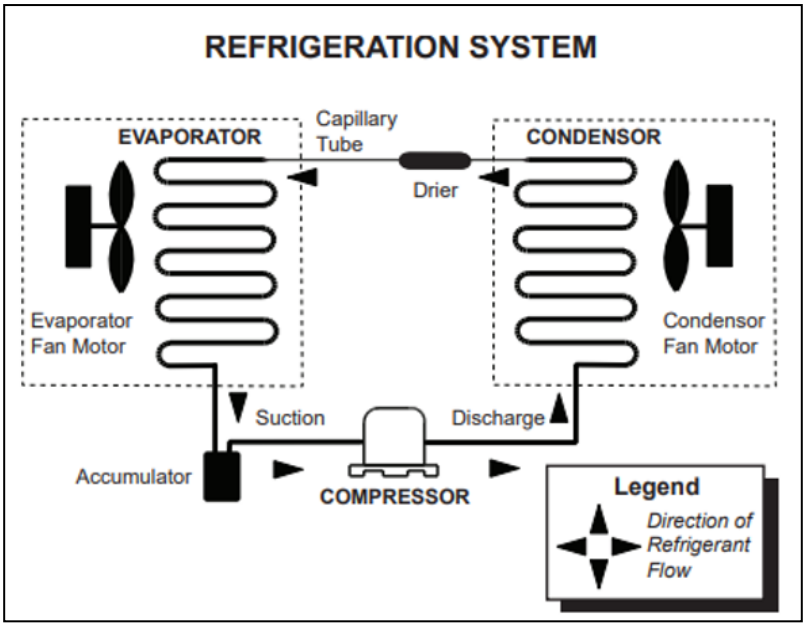
Evaporator Coil - The Evaporator Coil is in the cooling compartment. As low-pressure liquid passes through the Evaporator Coil, it absorbs and removes heat from the compartment as it changes to vapor. The Condenser and Evaporator Coil have aluminum fins attached to effectively increase their heat exchange surfaces.
Evaporator Fan and Motor - The Evaporator Fan and Motor are a forced-air device circulating air throughout the cooling compartment and over the heat exchange surface of the Evaporator Coil.

Drier/Filter - The Drier/Filter is in the refrigerant line between the Capillary Tube and Condenser. It traps and removes moisture from the Refrigeration System while allowing oil and refrigerant to pass through the system.

Refrigeration Control - The Refrigeration Temperature, Lighting, and Vending Mechanism are all controlled by a microprocessor-based electronic circuit board located on the Service Door. (Refer to *SECTION 3: Vendor Programming* for details on setting the Refrigeration Set Point.)

Refrigeration Cycle

1. The rising temperature in the cooling compartment is reported to the Control Board through the Temperature Sensor.
2. The Control Board registers the current temperature inside the Vendor's cabinet. When it rises equal to or above the pre-programmed cut-in temperature, the Control Board will complete the circuit to the Refrigeration Relay to energize its coil.
3. The Refrigeration Relay coil closes the contact between the common and normally open positions, allowing 115 volts to travel to the main wiring harness to start the Compressor.
4. The Compressor circulates refrigerant throughout the system by pulling low-pressure refrigerant vapor from the Evaporator Coil, compress it, and forcing it into the Condenser. The Condenser, aided by the Condenser Fan Motor, removes heat from the refrigerant as it flows through the Condenser and releases the heat to the outside environment. The dropping of the refrigerant temperature changes the vapor to liquid.
5. The Evaporator Coil allows the liquid refrigerant to absorb heat from the cooling compartment as it evaporates in the coil.
6. The falling temperature in the cooling compartment is caused by the continual circulation of refrigerant through the system, removing heat from the cooling compartment and transporting it



to the outside environment. When the temperature drops, the Temperature Sensor reports this to the Vendor's Control Board.
7. When the temperature drops below the preset cut-out temperature, the Control Board will disable the Refrigeration Relay, thus killing power to the Refrigeration Unit.

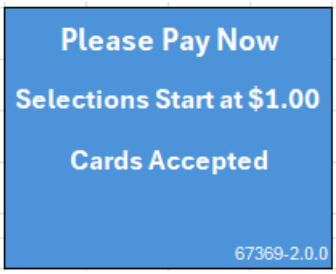
Credit Peripherals

There are three possible credit peripherals for the IDW GFV-400: the Coin Changer, Bill Acceptor/Validator, and Card Reader.

- The Coin Changer determines the validity and value of each coin that is inserted in the Vendor and sends the coin information to the Vendor Control Board. The Coin Changer also continuously informs the Vendor Control Board if coins are available in the change tubes to be used for change payout.
- The Bill Acceptor/Validator determines the validity and value of each bill that is inserted and sends that information to the Vendor Control Board.
- The Card Reader which may allow customers to purchase a product using a debit card, credit card, campus card, apple pay, and android pay.

Note: For detailed information on any of the credit peripherals, refer to the separate operation and service manual provided by the peripheral's manufacturer.
IMPORTANT NOTE: The nuts used to secure Bill Validator/Card Reader are metric M4 flange nuts and require a 7mm socket to remove/install.

Main Screen Messages



This is the blue screen that the consumer or user normally sees with the service door closed. If the machine is out of service, "**Out of Order**" will display with the error text in smaller print.
If you have both Out of Order errors and Machine Disabled errors, Out of Order has priority. If multiple errors are active, it picks one arbitrarily. It does not scroll through them. Open Service Door and enter the service menu to view all active errors.
Messages that may be displayed:
"**Machine Disabled**" displayed if Port Open, Vend in Progress, No Working Payment Options, Starting, Finishing Update, No Sales Available occur.
"**Out of Order**" /" **Out of Service**" displayed if Port Fault, Elevator Fault, Cup Fault, Configuration Damaged occur.
"**No Working Payment Options**" displayed if no payment system is recognized.
"**Vending**" means a vend is in progress.
"**No Sales Available**" all cells Sold Out, Sales Blocking on for all cells, No Vend override on.
"**Take Product**" means the clear Port Door is open.
"**Port Open**" means that somehow the cabinet inner delivery door and clear Port Door are both open or unlocked at the same time. It does not mean that the clear Port Door is open.
"Port Fault/Elevator Fault/Cup Fault" are all related to Vend Mechanism Errors. Refer to service menu for more specific information if these are displayed.
"**Configuration Damaged**" configuration data is stored in flash instead of battery-backed RAM' but it is still protected with checksums.
"**Starting**" displayed during Vendor start up.
"**Finishing Update**" displayed while cup or port firmware update after firmware update.

Section 3: Vendor Programming

PRECAUTIONS TO TAKE WHEN WORKING WITH CONTROL BOARDS

As with any printed circuit board, our electronics are very sensitive to Electrostatic Discharge (ESD). Simply walking across a tile or carpeted floor can generate a range of 30,000 to 50,000 volts of electricity. One ESD can be enough to seriously damage your Control Board or at least weaken it enough that erratic problems may occur in the future. Even a discharge surge under 100 to 200 volts is enough to create problems within the circuitry of the electronics. It is advised when storing the electronics that they be kept in anti-static bags, even if the electronics are thought to be defective. If a Control Board is thought to be defective and is not, it soon will be after being charged with ESD. **The ideal prevention against ESD is to use anti-static conductive wrist straps which ground you to the machine before touching the electronic boards.** If it is not possible to use these, at least ground yourself before handling the electronic boards by touching the metal framework of the Vendor. Whatever method you use, always handle the electronic boards by the edges. Be careful not to touch the components on the Control Board.

TOUCH PAD PROGRAMMING

It is very important that the IDW GFV-400 is programmed properly. All programming of the Vendor options is done in Service Mode. To enter Service Mode, open the Vendor Service Door, and press the blue Service Mode Button located on the bottom right corner of the Control Board until you hear a beep.



The Vendor's Touch Pad consists of 12 Buttons. Seven of these Buttons (see Figure 3.1) are used to program the Vendor and navigate through the Service routines as follows:

Select Button ↑ or **2**: Up	Select Button ← or **4**: Left
Select Button ↓ or **8**: Down	Select Button → or **6**: Right
Select Button **0**: Clear Errors	
Select Button *****: Exit, Cancel, Back, Delete, Save	
Select Button **#**: Enter, Change, Save, Select, Enable, Disable, Assign, Unassign	

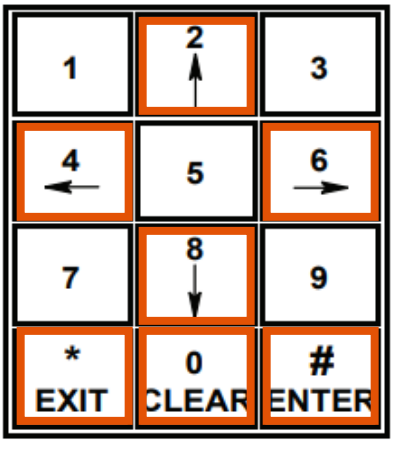


Figure 3.1
Touch Pad

The Control Board will automatically return to the Sales Mode if:

- No response from the Touch Pad has been received for approximately 5 minutes.
- The Service Mode Button is pressed a second time.
- The Service Door is closed.
- The three-way Door Switch is pulled out.

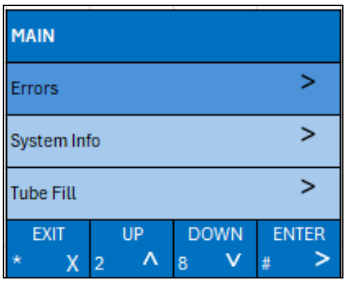
If credit exists, the credit amount will be displayed after returning to Sales Mode.

Internal (Service) Menu

To enter Service Mode, open the Vendor Service Door, and press the blue Service Mode Button located on the bottom right corner of the Control Board until you hear a beep.

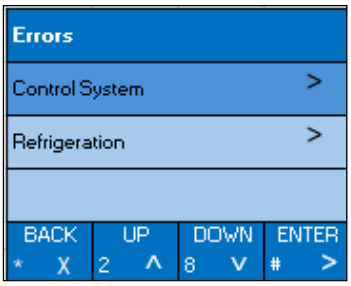


The first menu item, "**Errors"** will appear highlighted on the display.

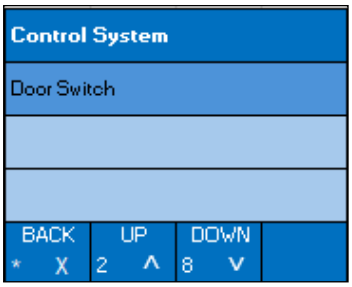


Errors

(**NOTE**: If no Errors have been recorded since the last reset, the menu item displayed here will be "No Errors".)
If **<# or ENTER>** is pressed at the "**Errors**" prompt, the Control Board will enter the Error display mode. If no errors have occurred since the last error reset, the Display will show "**No Errors**". If an error has been detected since the last error reset, the Display will show the first summary Error code that has occurred.



For example, "**Control System**", which would indicate a Control System error. Press **<↑ or 2>** or **<↓ or 8>** will allow you to cycle through all the summary Error Codes that are present. Press **<# or ENTER>** at the displayed summary Error Code will allow you to view the detailed Error Codes beneath the summary **Errors** heading (in the example shown **Door Switch**). At this point, you would need to troubleshoot the error listed and take appropriate corrective actions. Press **<↑ or 2>** or **<↓ or 8>** at this point will allow you to cycle through all the detailed Error Codes that are present beneath the summary Error Code. If the **<* or BACK>** button is pressed anytime during this operation, the Control Board will return to the "**Errors**" prompt. Press the **<↓ or 8>** button to proceed to the next prompt, "**System Info**".



If the **<0 or CLEAR>** button is pressed during the display of any detailed Error Code, that error will be cleared. If other errors exist that fall under the currently accessed detail type, the next error would be displayed. If no other errors of the current type exist, the next Error summary Code will be displayed, or "**No Errors**" will be displayed if no other errors exist.

The Error Summary Codes, and their corresponding detailed Error Codes are as follows:

• Control System - (Control System Summary Error Codes)
By press **<# or ENTER>** at the "**Control System**" prompt, the Control Board may display:
"**Door Switch**," indicating the Service Door Switch has been open for more than 1 hour.
"**System Scale Factor**," indicating one of the credit peripherals has introduced an incompatible scaling factor.
"**Inlet Sense**," not used on GFV-400.
"**Inlet Blocked**," not used on GFV-400.

After taking corrective action to manually fix the "**Control System**" errors, the errors may be cleared electronically via a Handheld Device or through the Service Mode using the **<0 or CLEAR>** button.

• Selection Switch – (Select Switch Summary Error Code)
By press **<# or ENTER>** at the "**Selection Switch**" prompt, the Control Board will display "**Selection Switch XX**," where "**XX**" indicates the first Selection Switch that has been determined to be closed for more than 15 seconds. If there is a Selection Switch/Button Error, navigation of the Service Menu will not be possible. This error can only be cleared by manually correcting or replacing the key Touch Pad.

• Changer – (Changer Summary Error Codes)
By press **<0 or ENTER>** at the "**Changer**" prompt, the Control Board may display:
"**Changer Communication**," indicating no changer communications for more than 2 seconds.
"**Tube Sense**," indicating a Tube Sensor Error.
"**Tube Jam XX**," indicating a Tube Jam Error for coin type **XX**.
"**Changer ROM**," indicating a changer ROM Checksum Error (failed Changer).
"**Excessive Escrow**" indicating more than 255 escrow attempts since the last coin was accepted.
"**Coin Jam**," indicating a coin jam.
"**Low Acceptance**," indicating a low acceptance rate (more than 20% of the last 255 coins were slugs).
"**Acceptor Disconnected**," indicating an unplugged acceptor.
"**Coin Routing Error**," indicating a coin had been improperly routed.
The "**Changer Comm**" Error will be cleared when proper communications are re-established. After taking corrective action to manually fix the other "**Changer**" problems, the Errors may be cleared electronically via a Handheld Device or through the Service Mode using the **<0 or CLEAR>** button.

• Bill Validator – (Bill Validator Summary Error Codes)
By press **<# or ENTER>** at the "**Bill Validator**" prompt, the Control Board may display:
"**Bill Validator Communication**," indicating no Bill Validator communications for more than 5 seconds.
"**Bill Stack Full**," indicating a full Bill Stacker.
"**Bill Stack Open**," indicating an open Bill Cash Box/Stacker.

"**Bill Motor Error**," indicating a defective Validator Motor.
"**Bill Jam**," indicating a Bill Jam Error.
"**Bill Validator ROM**," indicating a Bill Acceptor ROM Checksum Error (failed Bill Acceptor).
"**Bill Sensor Error**," indicating a Bill Sensor Error.

The "**Bill Val Comm**" Error will be cleared when proper communications are re-established. After taking corrective action to manually fix the other "**Bill Validator**" problems, the Errors may be cleared electronically via a Handheld Device or through the Service Mode using the **<0 or CLEAR>** button.

• Card Reader – (Card Reader Summary Error Codes)

By press **<# or ENTER>** at the "**Card Reader**" prompt, the Control Board may display:
"**Card Reader Communication**," indicating no Card Reader communications for more than 5 seconds.

The "**Card Reader Communication**" Error will be cleared when proper communications are re-established.

• Vend Mechanism – (Vend Mechanism Summary Error Codes)

By press **<# or ENTER>** at the "**Vend Mechanism**" prompt, the Control Board may display:
"**Cell # Failed to Vend (*)**", indicating a vend from cell listed failed to deliver.
"**Cell # Magnet (*)**", indicating cell listed cannot be located.
"**Cell # Helix (*)"**, indicating cup spent an impossibly long time (7+ seconds) turning a cell's screw with no result (no product delivered and it never jammed).
"**Elevator**", indicating there is an XY movement issue.
"**Cup Communication**", indicating there is no communication from the Cup.
"**Cup Sensor**," indicating that the Cup Sensor has malfunctioned.
"**Cup Motor**", indicating the Cup Motor has malfunctioned.
"**Home Sense**," indicating that the Home Sensor has malfunctioned.
"**Delivery Port Communication**", indicating there is no communication from the Port.
"**Delivery Port Inner Door**," indicating that the VMC is reporting an Inner Door Error.
"**Delivery Port Outer Door**," indicating that the VMC is reporting a Port Door Error.

After taking corrective action to manually fix the "**Vend Mechanism**" Errors, the Errors may be cleared electronically via a Handheld Device or through the Service Mode using the **<0 or CLEAR>** button.

• Space to Sales – (Space to Sales Summary Error Codes)

By press **<# or ENTER>** at the "**Space to Sales**" prompt, the Control Board may display "**Unassigned Cell XX**," indicating that Cell **XX** is unassigned. These Errors are cleared when new Space to Sales programming resolves the Errors or via Service Mode using the **<0 or CLEAR>** button. (**Note**: When an Unassigned Cell is selected in the Sales Mode, the Display will show "No Sales Available.")

• Refrigeration – (Refrigeration Summary Error Codes)

By press **<# or ENTER>** at the "**Refrigeration**" prompt, the Control Board may display:
"**Temperature Sensor Error**," indicating an unplugged or defective Temperature Sensor.

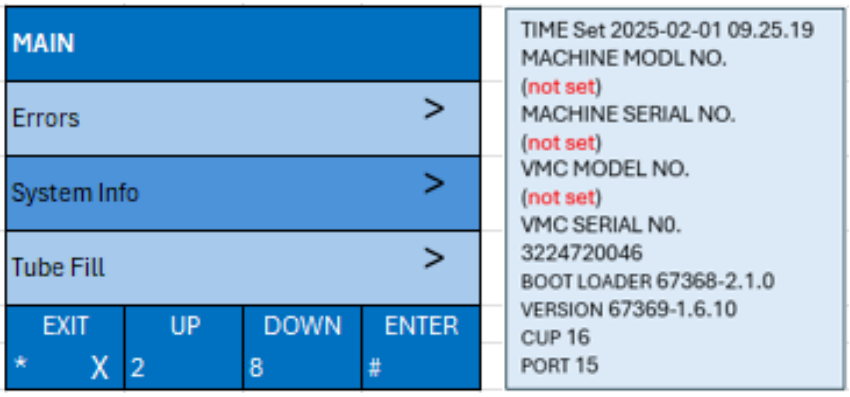
"**Temperature Too Cold**," indicating cabinet temperature is 3° F (1.5° C) below lower limit setting.
"**Temperature Too Hot**," indicating cabinet temperature is 3° F (1.5° C) above upper limit setting.
"**Not Cooling**," the compressor was run for a shorter time without the measured temperature changing indicating that the Compressor is not cooling at 1° F (0.5° C) per hour or better while on.
"**No Pulldown**," the compressor was run for a very long time without hitting the setpoint temperature, indicating an inability to reach the Set Point Temperature.
"**Short Cycling.**" frequent starting and stopping of the compressor within short intervals, disrupting normal operation and leading to inefficiencies and potential damage.
"**Health Safety Failed**," not applicable in GFV-400.
"**Not Heating**," not applicable in GFV-400.

The "**Temperature Sensor**" Error will be cleared if the Sensor is detected.
The "**Temperature Too Cold**" Error will be cleared when the temperature rises above the cut-out limit.
The "**Temperature Too Hot**" Error will be cleared when the temperature falls below the cut-in limit.
The "**Not Cooling**" Error will be cleared when the system cools at 1° F (0.5° C) per hour or better.
The "**Not Cooling and No Pulldown**" Errors must be manually cleared electronically via a Handheld Device or through the Service Mode using the **<0 or CLEAR>** button.
All other "Refrigeration" Errors can also be cleared via the Handheld Device or through Service Mode using the **<0 or CLEAR>** button.

System Info – (System Information Routine)

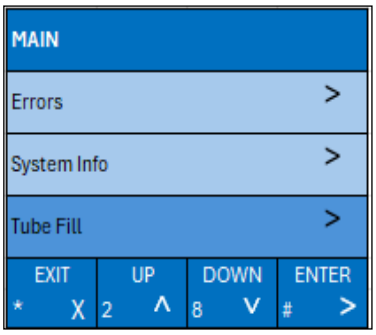
If **<# or ENTER>** is pressed at the "**System Info**" prompt, the current System Information will be displayed, as follows:

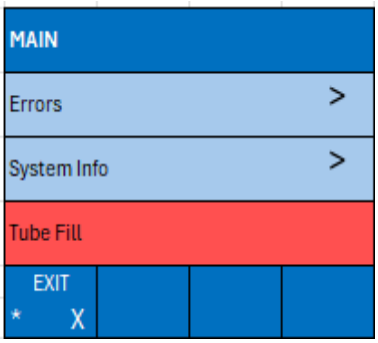
- Time (displays current day, date, and time)
- Machine Model No.
- Machine Serial No.
- VMC Model No.
- VMC Serial No.
- Boot Loader
- Version
- Cup
- Port



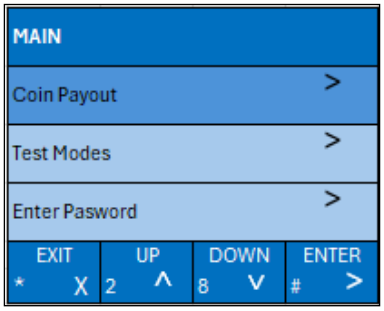
If the **<# or ENTER>** or **<* or EXIT>** buttons are pressed anytime during this operation, the Control Board will return to the "**System Info**" prompt. Press the **<↓ or 8>** button to proceed to the next prompt, "**Tube Fill**".

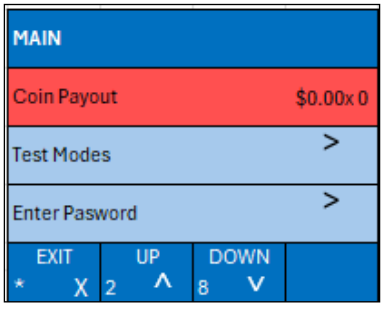
• Tube Fill" – (Tube Fill Routine)
If **<# or ENTER>** is pressed at the "**Tube Fill**" prompt, the Control Board will enter the Tube Fill Mode, and "**Tube Fill**" will be highlighted reddish orange. This mode allows you to count the coins loaded in the top (separator) of the Coin Mech that will be routed to an inventory tube, providing total accountability. The Tube Inventory Level for the deposited coin will be displayed after the coin is accepted. During Tube Fill if a Tube Full status is detected that coin will no longer be accepted. During this entire operation, MIS Tube Counts will be updated accordingly. If **<* or EXIT>** is pressed at any time, the Control Board will return to the unhighlighted "Tube Fill" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Coin Payout**".

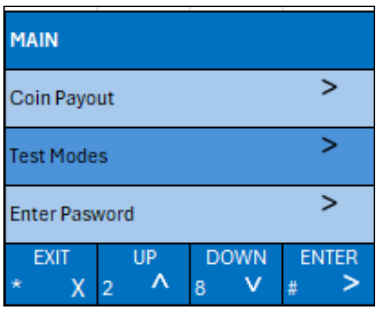




• Coin Payout" – (Coin Payout Routine)
If **<# or ENTER>** is pressed at the "**Coin Payout**" prompt, the Control Board will enter the Coin Payout routine. "**Coin Payout**" will be highlighted reddish orange, along with the lowest available Coin Tube Value. Press & hold **<# or ENTER>** when a particular Coin Value is displayed will pay out the displayed coin type at half-second intervals until the Button is released, and the Display will show the Coin Value followed by the quantity of times paid out. Press **<↑ or 2>** or **<↓ or 8>** will scroll to the next available Coin Tube Value. All coins dispensed in this mode are counted in the MIS Tube Counts and the manual dispensed Mode Counters. If **<* or EXIT>** is pressed at any time, the Control Board will return to the unhighlighted "Coin Payout" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Test Modes**".





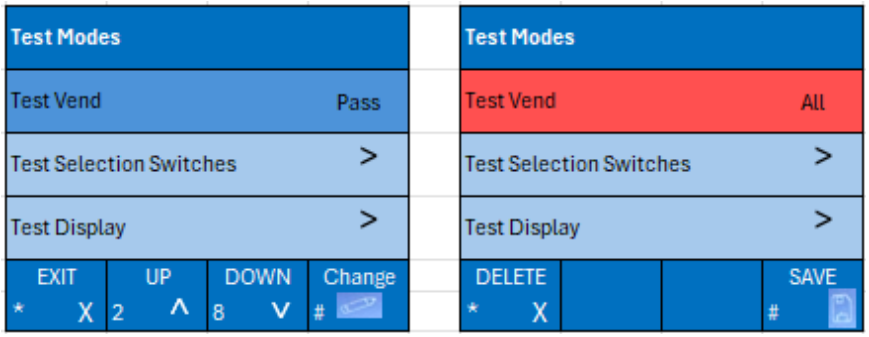


Test Modes – (Test Routine)

If **<# or ENTER>** is pressed at the "**Test Modes**" prompt, the Control Board will enter the Test Modes. Using **<↑ or 2>** or **<↓ or 8>** will allow you to cycle through the available tests (Test Vend, Test Selection Switch, Test Display, and Test Relays). If **<* or EXIT>** is pressed at any time, the Control Board will return to the "**Test Modes**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Enter Password**" (if the password has not already been entered) or "**Cash Counters**" (if the password has been entered).

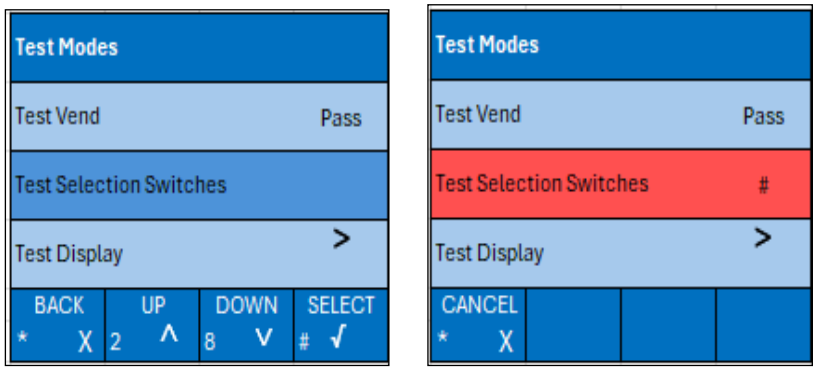
• Test Vend – (Test Vend Routine) Recommend installing product in columns/cells to be tested to prevent potential damage to Track Assy. gears.

If **<# or ENTER>** is pressed at the "**Test Vend**" prompt, the Control Board will enter the Test Vend routine. If **Pass** is shown, press **<# or Change>** to enter Test Vend. This routine will allow the operator to test the functionality of the Vending Mechanism and of the individual Cells. "**Test Vend**", followed by "**All**", will be highlighted reddish orange. To test a specific Selection, type in the desired Selection Number using the Vendor's key Touch Pad will replace **All**. Press **<# or SAVE>** at "**All**" will cause a sequential vend from the first cell (10) all the way to the last Cell (59) or press **<# or SAVE>** once a Selection Number is entered will cause a vend from that Cell/Row only. The list of results that can be shown when doing a test vend in the service menu include: **Pass, Running, Delayed, Delivery Failed, Fail, Sold Out, Cup Failed, Elevator Failed, Bus Fault** - the bus referred to is the cup/port bus, P10C/P10P, and **Bus Busy** (upgrading) - usually means the cup/port firmware is still being updated. Press **<* or EXIT>** to return to the unhighlighted "Test Vend" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Test Selection Switches**".

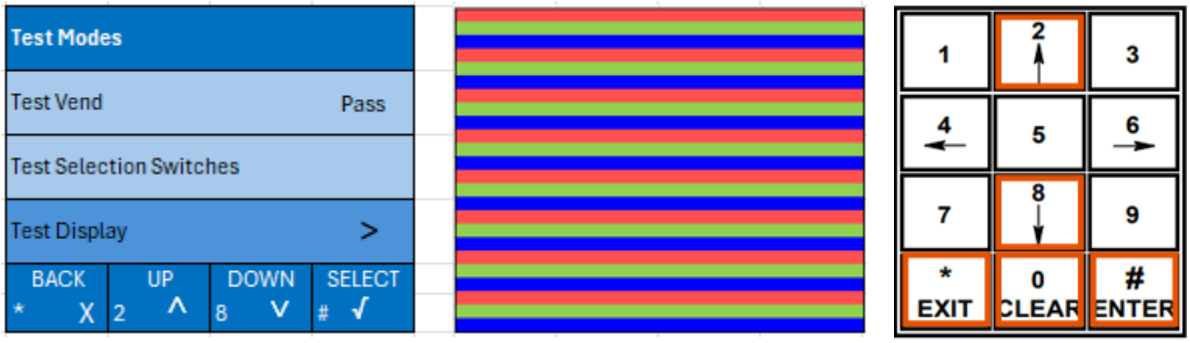


• Test Selection Switches – (Test Selection Switches Routine)

If **<# or ENTER>** is pressed at the "**Test Selection Switches**" prompt, the Control Board will enter the Selection Switch Test Mode. This Mode tests the functionality of the Touch Pad. The Display will be highlighted reddish orange, showing "**Test Selection Switches #**". With each subsequent press of a Touch Pad key, the Display will show that key Number on the Display. Keys labeled 1-9 are displayed as "1" to "0"; Key # is displayed when used to select Test Selection Switches. To exit the Selection Switch Test Mode, press the **<* or EXIT>** key. (Doing so will also test the functionality of the * key.) This will return the Control Board to the unhighlighted "Test Selection Switches" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Test Display**".

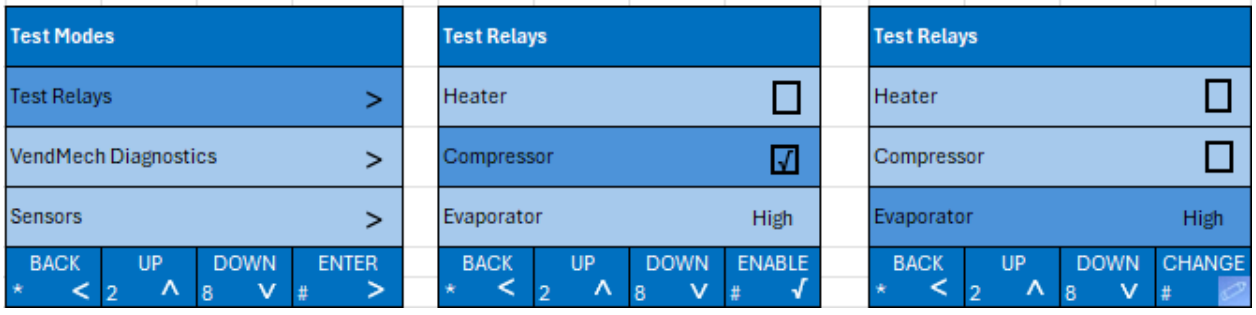


• Test Display – (Test Display Routine)
Press **<# or ENTER>** at the "**Test Display**" prompt will cause the Control Board to enter the Display Test Routine. This routine allows you to test the Display. Upon entry into this routine, the Display will light up in successive bands of Red, Green, and Blue. The test will continue indefinitely until **<* or EXIT>** key on Touch Pad is pressed, at which time the Control Board will return to the "**Test Display**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Test Relays**".

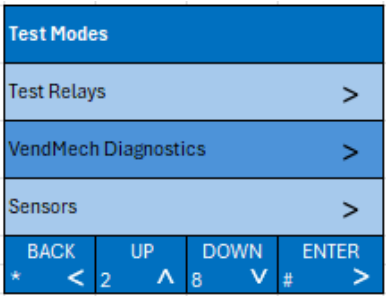


• Test Relays – (Test Relays Routine)
Press **<# or ENTER>** at the "**Test Relays**" prompt will cause the Control Board to enter the Relay Test Routine. This routine allows you to test the various Relays in the Vendor. Upon entry into this routine, the Display will show a series of available Relays to test, beginning with "**Heater**". The box to the right of the Relay name will contain a check mark when turned on; when not turned on, the box will be empty. Press **<↑ or 2>** or **<↓ or 8>** will cycle through the available Relays that can be tested. Press **<# or ENTER>** at the displayed Relay will toggle its state between On (check mark) or Off (empty box). **Note**: To prevent equipment malfunctions, Relay States should not be toggled more than once every 10 seconds. If **<* or BACK>** is pressed at any time, the Display will return to the "**Test Relays**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**VendMech Diagnostics**".
The Relays available for testing are:

- **Heater** – not applicable in GFV-400 Vendors.
- **Compressor** – controls the Compressor (Refrigeration Unit) Relay.
- **Evaporator** – controls the Evaporator Fan Motor Relay **<# or ENTER>**, highlight, says "Off" – press **<# or CHANGE>** to cycle to "**Low**" low fan speed, then press **<# or CHANGE>** to cycle again to "**High**" fan speed).

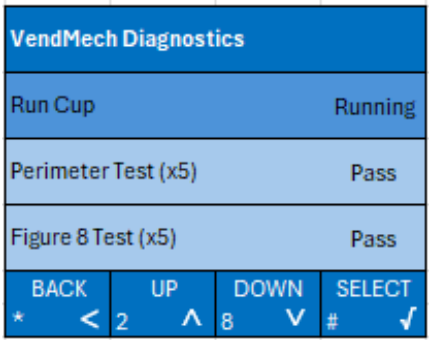


• **VendMech Diagnostics –**
(Vend Mech Diagnostics Routine)



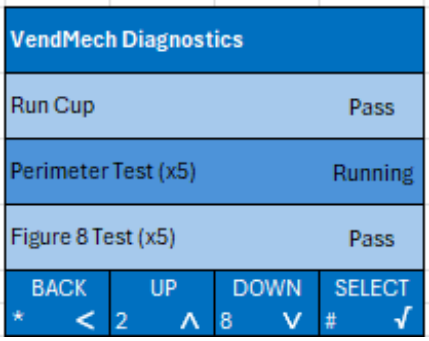
Press **<# or ENTER>** at the "**VendMech Diagnostics**" prompt will cause the Control Board to enter the Diagnostic Test Routine. The Display will show "**Run Cup**". Use **<↑ or 2>** or **<↓ or 8>** to cycle through the available Diagnostic Tests. **Note**: If no activity is noticed after 90 seconds, the Control Board will exit the Service Menu. The list of results that can be shown when running other tests in the service menu include **Running, Pass, Canceled, and Fail**.

○ **Run Cup (Running/Pass/Canceled/Fail)**



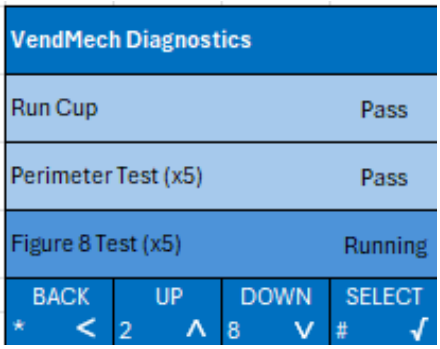
Press **<# or SELECT>** at "**Run Cup**" will cause the Vendor to actuate the Plunger in the Delivery Cup, during which the Plunger will cycle out and rotate for approximately 8 seconds. This allows service personnel to observe if there are any problems with the Cup Plunger that would inhibit vending. "**Running**" will be displayed while this test is carried out. When the Vendor has completed the test, "**Pass**" or "**Fail**" will be displayed as appropriate. Press **<* or BACK>** will terminate the test. Press **<↓ or 8>** to proceed to the next prompt, "**Perimeter Test**".

○ **Perimeter Test (x5) (Running/Pass/Canceled/Fail)**



Press **<# or SELECT>** at "**Perimeter Test**" will cause the Vendor to move the Delivery Cup around the perimeter of the vending area five times. This allows service personnel to observe if there are any obstructions around the perimeter of the Vendor that would inhibit vending. "**Running**" will be displayed while this test is carried out. When the Vendor has completed the test, "**Pass**" or "**Fail**" will be displayed as appropriate. Press **<* or BACK>** will terminate the test. Press **<↓ or 8>** to proceed to the next prompt, "**Figure-8 Test**".

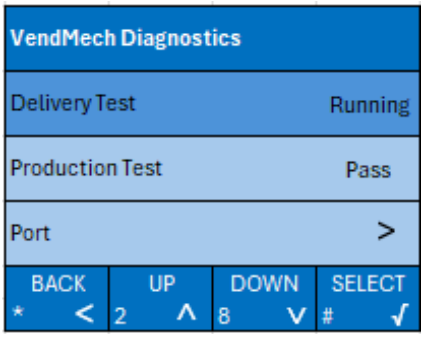
○ **Figure-8 Test (x5) (Running/Pass/Canceled/Fail)**



Press **<# or SELECT>** at "**Figure-8 Test**" will cause the Vendor to move the Delivery Cup in a figure-eight motion to each corner of the Vendor five times. This allows service personnel to observe if there are any obstructions that would prevent the free movement of the Cup. "**Running**" will be displayed while this test is carried out. When the Vendor has completed the test, "**Pass**" or "**Fail**" will be displayed as appropriate. Press **<* or BACK>** will terminate the test. Press **<↓ or 8>** to proceed to the next prompt, "**Delivery Test**".

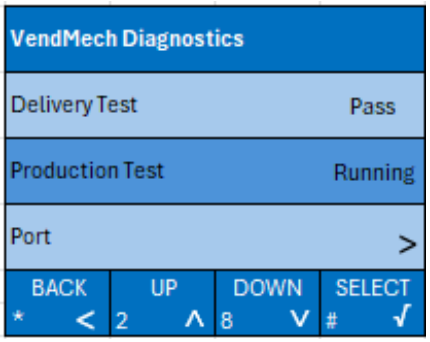
- **Delivery Test (Running/Pass/Canceled/Fail)**

Press **<# or SELECT>** at "**Delivery Test**" will cause the Delivery Cup to move to and open the Cabinet Delivery Door three times. This allows service personnel to observe if there are any malfunctions in the Cabinet Delivery Door or the Delivery Cup's ability to access the Cabinet Delivery Door. "**Running**" will be displayed while this test is carried out. When the Vendor has completed the test, "**Pass**" or "**Fail**" will be displayed as appropriate. Press **<* or BACK>** will terminate the test. Press **<↓ or 8>** to proceed to the next prompt, "**Production Test**".



- **Production Test (Running/Pass/Canceled/Fail) (<u>used by Manufacturing Only</u>)**

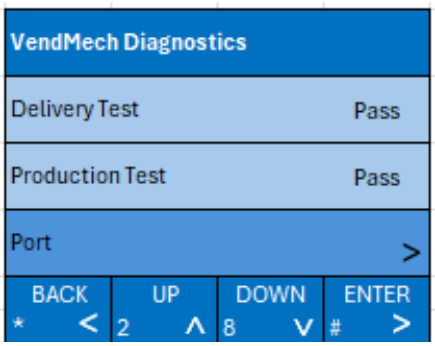
Press **<# or SELECT>** at "**Production Test**" will cause the Cup to perform a series of events: the Delivery Cup's Plunger will cycle out and rotate; the Home Magnet will be located; the Delivery Test will be performed three times; each Cell will be located; the Perimeter Test will be performed five times; the Figure-8 Test will be performed five times; a product will be vended from Cell X0, X5, and X9 on each Shelf; and the Delivery Cup will return to its home position. Production Test is a combination of other available tests. "**Running**" will be displayed while this Test is carried out. When the Vendor has completed the Test, "**Pass**" or "**Fail**" will be displayed as appropriate. If the vender passes the test, "**Pass**" will be displayed. Upon any failure in the test, the test will be terminated, and a failure reason will be displayed. This test only displays the last failure that caused the test to be terminated. A list of potential failures is shown below. Note: The production test can only be performed with the door **CLOSED**.



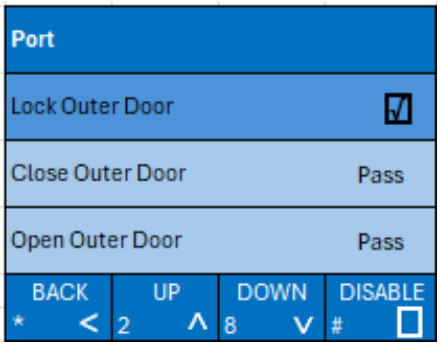
A. "**Failure X#**" indicates a failure in the X-axis.
B. "**Failure Y#**" indicates a failure in the Y-axis.
C. "**Magnet RC**" indicates a failure to find the magnet corresponding to the position for row "**R**" and cell "**C**." (Example: "**Magnet 25**" indicates an inability to find the magnet for cell 25.)
D. "**EOT RC**" indicates a failure to get to the end of travel of row "**R**" and cell "**C**."
E. "**SPEED**" indicates a failure to adjust motor speed.
F. "**SIDE S**" indicates a failure in the perimeter test to move alongside "**S**."
You cannot stop this test when in process unless you remove power to Vendor or toggle power off at the Power Module.

Port – Port Tests

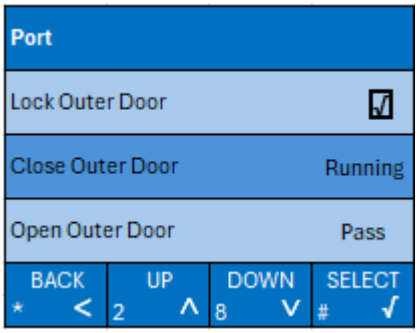
Press **<# or ENTER>** at the "**Port**" prompt will cause the Control Board to enter the Port functions Test routines: Lock Outer Door, Close Outer Door, Open Outer Door, Lock Inner Door, and Light. The Display will show "**Lock Outer Door**". Use **<↑ or 2>** or **<↓ or 8>** to cycle through the available Tests. Press **<* or BACK>** at any time will return to "**Port**".



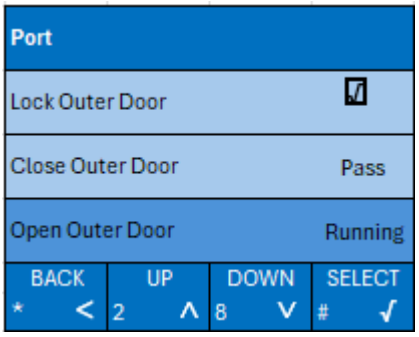
"**Lock Outer Door (check box)**"
Press **<# or ENTER>** will show current check box status. Press **<# or DISABLE>** at "**Lock Outer Door**", the check mark will be removed from the box, and the Outer Port Door should unlock. Press **<# or ENABLE>** will put a check mark in the box and should cause the Port Door to lock securely. From "**Lock Outer Door**", press **<↓ or 8>** to proceed to the next prompt, "**Close Outer Door**".



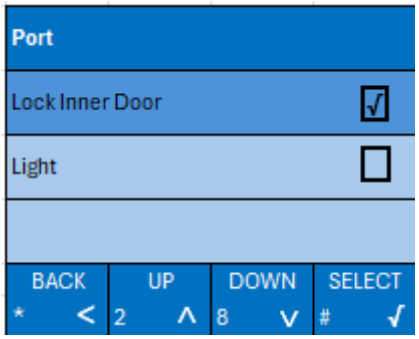
"**Close Outer Door (Running/Pass/Canceled/Fail)**"
If the Lock Outer Door box is not checked, press **<# or SELECT>** at the "**Close Outer Door**" prompt will cause the Control Board to enter the Outer Port Door lock test routine. Upon entering this routine "**Running**" will be displayed, the Outer clear Port Door should close and lock securely (if it is already open). Display will show "**Close Outer Door – Pass or Fail**". Press **<↓ or 8>** to proceed to the next prompt, "**Open Outer Door**".



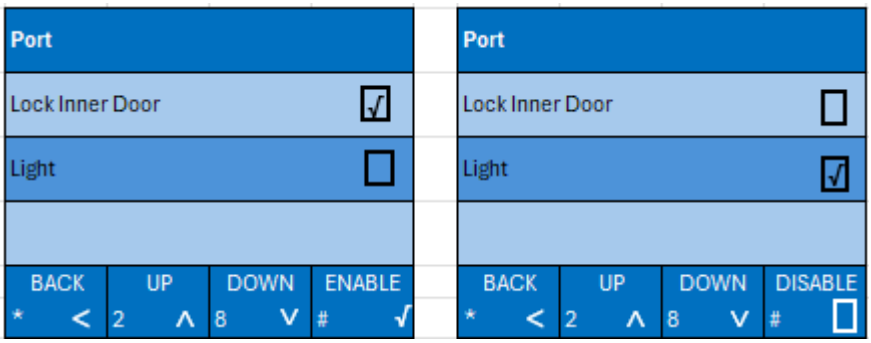
"**Open Outer Door (Running/Pass/Canceled/Fail)**"
If the Lock Outer Door box is checked, press **<# or SELECT>** at the "**Open Outer Door**" prompt will cause the Control Board to enter the Inner Port Door unlock test routine. Upon entering this routine "**Running**" will be displayed, the Outer clear Port Door should Open (if it is Closed). Display will show "**Open Outer Door – Pass or Fail**". Press **<↓ or 8>** to proceed to the next prompt, "**Lock Inner Door**".



"**Lock Inner Door (check box)**"
Press **<# or SELECT>** at the "**Lock Inner Door**" will enter the Cabinet Lock Inner Door test routine placing a check mark in the box and the Cabinet Lock Inner Door should lock securely. Press **<# or SELECT>** again will remove the check mark and the Cabinet Lock Inner Door will unlock. From "**Lock Inner Door**", press **<↓ or 8>** to proceed to "**Light**".

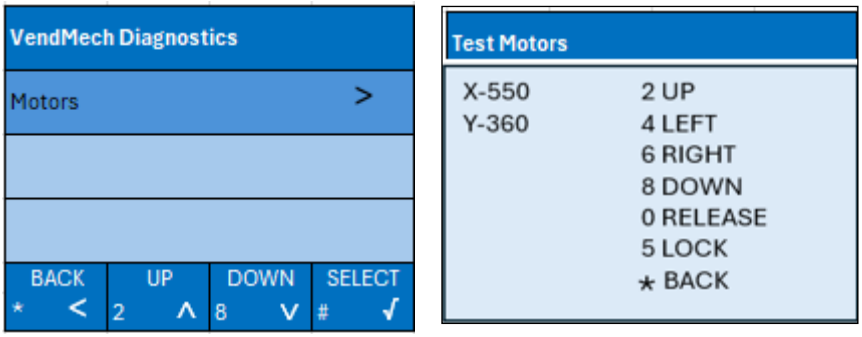


"**Light (check box)**"
Press **<# or ENABLE>** at the "**Light**" prompt, a check mark should appear in the box on the Display, and the Port Light should illuminate. Press **<# or DISABLE>** will remove the check mark and cause the Light to turn off. From "**Light**", press **<* or BACK>** to return to the "**Port**" prompt. Press **<↓ or 8>** to proceed to "**Motors**".



- **Motors**

Press **<# or SELECT>** at "**Motors**", the Display will show the current X and Y coordinates counts of the Delivery Cup. To test, note the current coordinate and then move the X right or Y up position, then return it back to its original position. If the coordinate is the same or 2 or less counts than original coordinate setting the motor is considered good. If the coordinate is 3 or more than the original coordinate setting the motor is considered bad and should be replaced. Press the following Touch Pad keys to perform the Motors Tests:

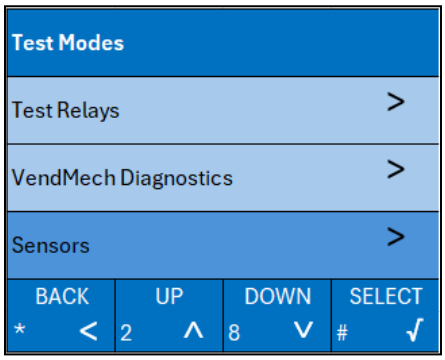


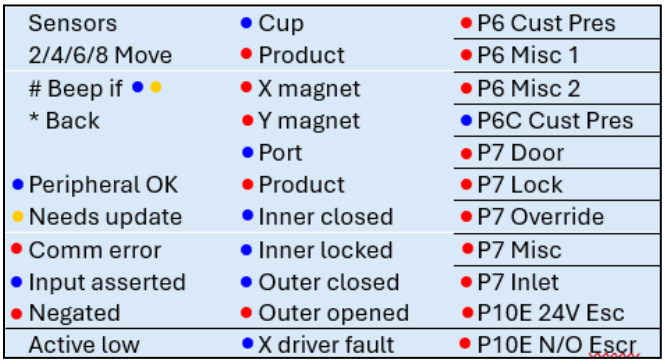
- Press **<2 - Up>** key to test the Y-axis Motor by moving the Delivery Cup upward. The Y coordinate on the Display should decrease by approximately 50 steps.
- Press **<8 - Down>** key should move the Delivery Cup downward, with the Y coordinate increasing by approximately 50 steps.
- Press **<6 - Right>** key to test the X-axis Motor by moving the Delivery Cup to the right. The X coordinate on the Display should decrease by approximately 50 steps.
- Press **<4 - Left>** key should move the Delivery Cup to the left, with the X coordinate increasing by approximately 50 steps.

• Press **<0 – Release>** key will return the Delivery Cup to home position. Recommend not using this feature.

• Press **<5 – Lock>** key will lock the Delivery Cup in position. Recommend not using this feature.
•Press **<* - BACK>** key on the Touch Pad will return the Display to the "**Motors**" prompt. Press **<* or BACK>** key again to return to "**Test Modes**", then press **<↓ or 8>** to proceed to "**Sensors**".

• Sensors (Sensor Test)
Press **<# or SELECT>** at "**Sensors**", the Display will show the status of listed Sensors in the Vendor with the Cup highlighted at the top of the center column. Press **<* or BACK>** key on the Touch Pad at any time will return the Display to the "**Sensors**" prompt.





Under the Left Column - **Sensors** – navigation keys and status reference information is provided:

- Press keys **2/4/6/8** to move cell highlight to the sensor name to test.
- Press **#** key to hear a Beep and the display will show a colored status circle.
    - The colored status circle in front of the listed Sensors indicates the following:
        - A blue circle = Peripheral OK
        - A yellow circle = Needs update
        - A reddish orange circle = Comm error
        - A blue circle = Input asserted
        - A reddish orange circle = Negated
- Press *** or Back** key to go back to previous step.
- Active low - information not available at time of release.

Under Center Column you can test the following.

- **Cup** is the Delivery Cup on the XY Assembly. At stand-by status circle should be blue. You can test the following:
    - **Product sensor** – at stand-by the status circle should be reddish orange. To test highlight **Product** then press the **#** key twice to turn on a constant beep, if you place an object or your hand in front of Delivery Cup IR Sensor the beep will stop. Also, the status circle will change from reddish orange to blue when the sensor is blocked.
    - **X magnet sensor** - at stand-by the status circle should be reddish orange. To test highlight **X magnet** then press the **#** key twice to turn on a constant beep,

if you slowly manually move the Delivery Cup to the right until the sensor in the bottom of the cup sees the center X home magnet, the beep will stop. Also, the status circle will change from reddish orange to blue when the sensor is aligned with the center X home magnet.

  - **Y magnet sensor** - at stand-by the status circle should be reddish orange. To test highlight **Y magnet** then press the **#** key twice to turn on a constant beep, if you slowly manually move the Delivery Cup all the way to the right, then move upward until the sensor sees the center Y home magnet, the beep will stop. Also, the status circle will change from reddish orange to blue when the sensor is aligned with the Y home magnet.

- **Port** is the Delivery Port on the Service Door. At stand-by status circle should be blue. You can test the following:
  - **Product sensor** – at stand-by the status circle should be reddish orange. To test highlight **Product** then press the **#** key twice to turn on a constant beep, if you place a product or your hand in the bottom of the Delivery Port the beep will stop. Also, the status circle will change from reddish orange to blue when the sensor no longer senses anything in the Port.
- **Inner closed** is the cabinet inner product door sensor. When the door is closed the blue status circle is displayed. If a reddish orange status circle is displayed the door is either open or the sensor thinks it is open.
- **Inner locked** is the cabinet inner product door locked sensor. When the door is closed and locked the blue status circle is displayed. If a reddish orange status circle is displayed the door is either open and unlocked or the sensor thinks it is unlocked.
- **Outer closed** is the clear Port Door closed sensor. When the door is closed the blue status circle is displayed. If a reddish orange status circle is displayed the door is either open or the sensor thinks it is open.
- **Outer opened** is the clear Port Door opened sensor. When the door is closed the reddish orange status circle is displayed. If a blue status circle is displayed the door is either open or the sensor thinks it is open.
  - Note: Port Door Outer closed, and Outer open status circle colors should never be the same color. When the Outer closed status circle is blue, Outer open status circle should be reddish orange.
- **X driver fault –** information not available at time of release.

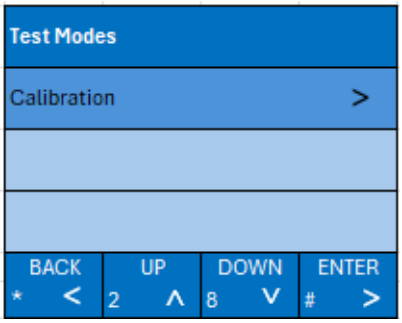
Under Right Column you can view the status of many of the peripherals and optional features if installed:

- **P6 Cust Pres (Presence)** - at stand-by the status circle should be reddish orange. This shows the status if the Customer Presence optional feature when a Customer Presence Sensor is installed. If a reddish orange circle is displayed the sensor does not recognize a customer near Vendor or if customer is near the Vendor sensor does not recognize they are nearby. If a blue circle is displayed sensor recognizes customer is nearby.
  - Note: If optional Customer Presence Sensor is not installed the status circle will be reddish orange.

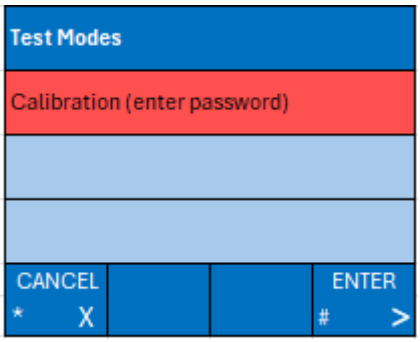
- **P6C Cust Pres (Presence)** –at stand-by the status circle should be blue. This shows the status if the Customer Presence optional feature when a Customer Presence Sensor is installed. If a reddish orange circle is displayed the sensor recognizes a customer near

  Vendor or if a customer is not near the Vendor sensor thinks someone is nearby. If a blue circle is displayed sensor does not recognize a customer is nearby.
  - Note: If a Customer Presence Sensor is not installed the status circle will be blue.
- **P6 Misc 1 –** Not used, for future development.
- **P6 Misc 2 –** Not used, for future development.
- **P7 Door** – shows status of the three-poll Service Door Switch. If a reddish orange status circle is displayed the Service Door is open and Door Switch is in center position. If a blue status circle is displayed the three-pole Door Switch is pressed in (Service Door Closed) or pulled out (with Service Door Open).
  - The Door Switch is a three-poll switch - Pushed in, Center, Pulled out. The Pulled-out state allows you to operate Vendor with the Service Door open when testing and troubleshooting Vendor.
- **P7 Lock** – shows status of Electronic Door Lock when installed. Not used, for future development.
  - With a mechanical lock installed the stand-by status circle should be reddish orange.
- **P7 Override** - shows status of Override Switch when installed. If a blue status circle is displayed the Override Switch is in the On position. If a reddish orange status circle is displayed the Override Switch is in the Off position.
  - If the mechanical override switch is not installed the stand-by status circle should be reddish orange.
- **P7 Misc -** Not used, for future development.
- **P7 Inlet -** Not used, for future development.
- **P10E 24V Esc -** Not used, for future development.
- **P10E N/O Escr -** Not used, for future development.

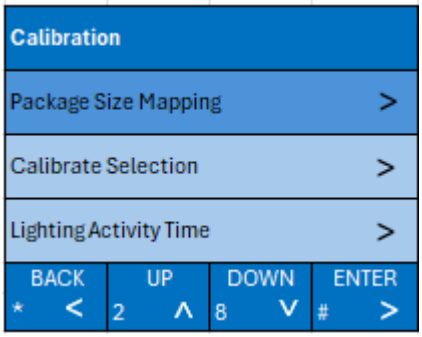
Press **<* or BACK>** key on the Touch Pad will return the Display to the "**Sensors**" prompt. Press **<* or BACK>** key again on the Touch Pad will return the Display to the "**Test Modes**" prompt. Press **<↓ or 8>** to proceed to "**Calibration**".



Calibration – Calibration Routine



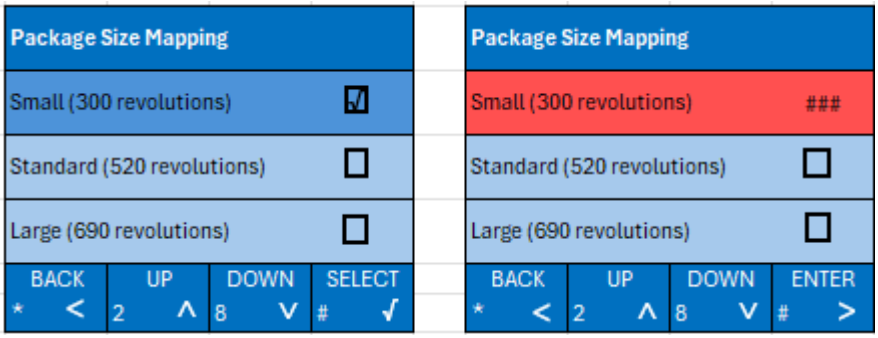
The Vend Mechanism Calibration routines allow the Control Board to automatically Calibrate Vending and Delivery positions. Press **<# or ENTER>**, "**Calibration**" will be highlighted a reddish orange, at which point a password must be entered. Key in the Calibration Password **(3456)**, followed by **<# or ENTER>**. After the correct entry, the Display will show the first routine, "**Package Size Mapping**".



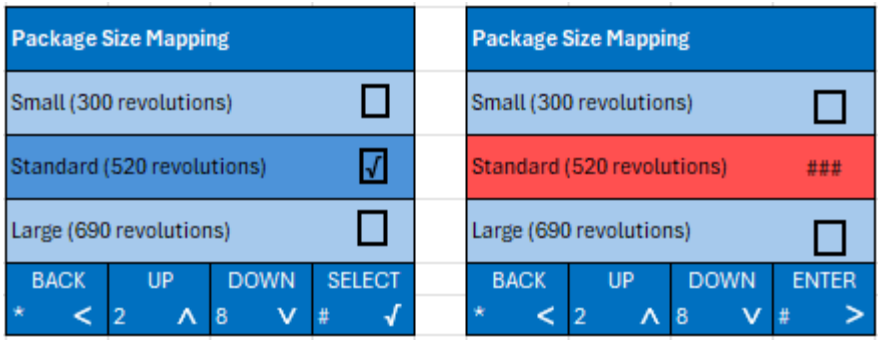
• Package Size Mapping (Package Size Mapping Routine)

This routine allows the operator to increase or decrease the number of Plunger Revolutions required to drive a product into the Delivery Cup. If **<# or ENTER>** is pressed, three package size options may be set: **Small**, **Standard**, or **Large**. From the factory all selections are set for Standard package size. The 3 default package size settings may be changed if needed. Factory default settings are, by number of revolutions, are:

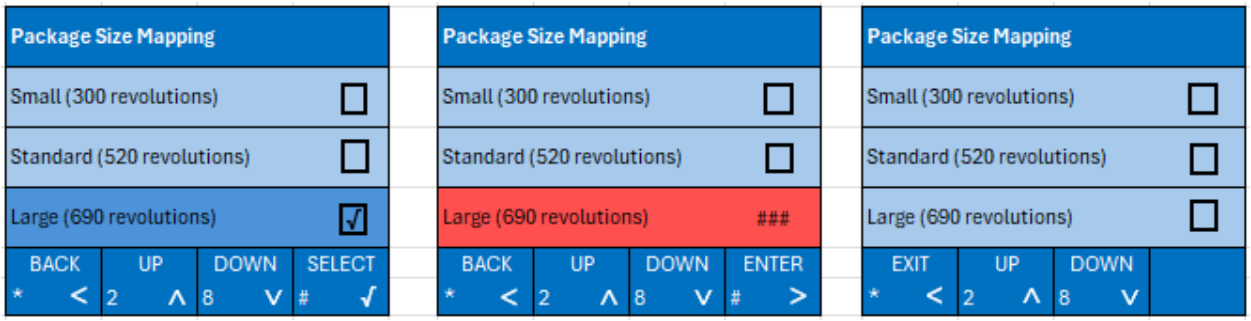
- **Small:** default 300 revolutions (Ex. – Narrow 8 oz Can). Important: Only used if small diameter packages fail to work with the standard package setting.



- **Standard**: default 520 revolutions (Ex. 20 oz PET Bottles). **This setting is used for most Domestic Packages in USA. Holds 8 per Cell/Column.**



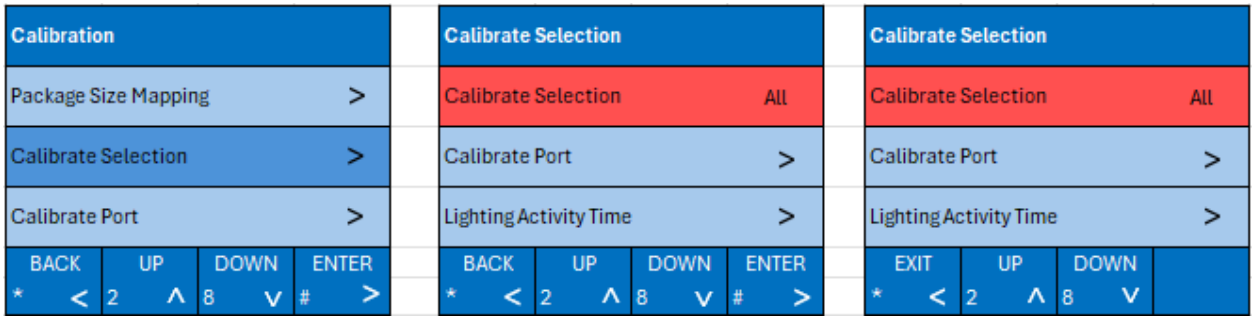
- **Large**: default 690 revolutions (Packages with greater diameter than 20 oz PET Bottles). This setting is used with specialty packages if the standard package setting will not work.



Press **<↑ or 2>** or **<↓ or 8>** to scroll through the available package mapping sizes. To change one of the Package Size settings, press **<# or ENTER>** to highlight the Package Size Option in reddish orange, then type in the desired number of revolutions using the key Touch Pad. Press **<# or ENTER>** to save the setting. Once each package size has been set, press **<* or EXIT>** to return to the "**Package Size Mapping**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Calibrate Selection**".

• Calibrate Selection (Calibrate Selection Routine)

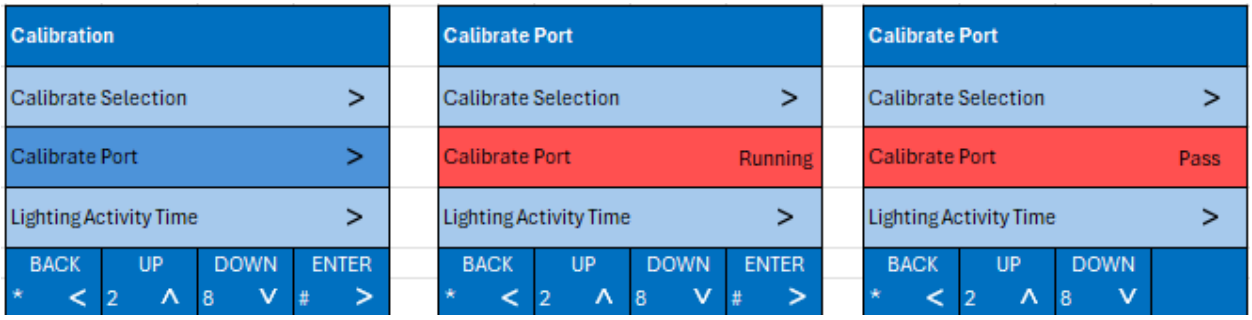
This routine allows automatic Calibration of Vending Positions by Selection. Press **<# or ENTER>**, "**Calibrate Selection**" will be highlighted reddish orange, along with "**ALL**". Press **<# or ENTER>** to Calibrate All Selections or use key Touch Pad to key in a Selection Number to Calibrate individually. Once Calibration has been performed, press **<* or EXIT>** to return to the "**Calibrate Selection**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Calibrate Port**".



• Calibrate Port (Calibrate Port Routine)

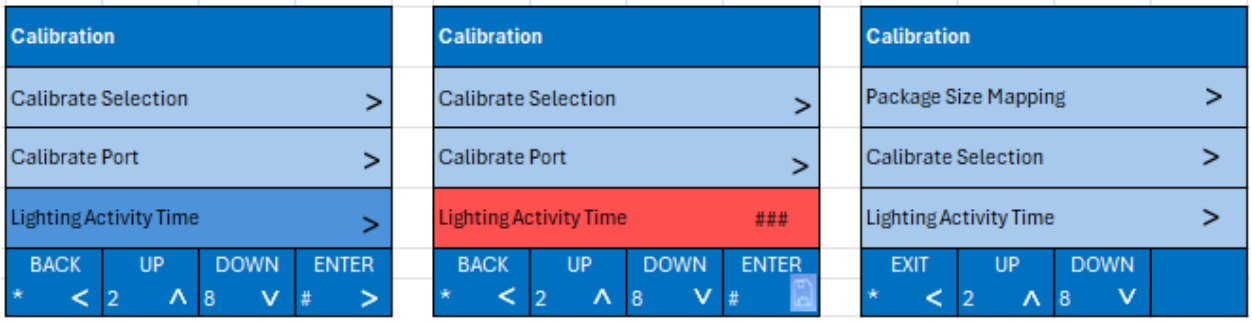
This routine allows Calibration of the Delivery Port Position. Press **<# or ENTER>**, "**Calibrate Port**" will be highlighted reddish orange. Press **<# or ENTER>** and the Product Delivery Cup will perform a Delivery Routine. Once this Routine is complete, the Display will show "**Pass**", if the Delivery Routine has been performed successfully, or "**Fail**", if the Product Delivery Cup was unable to complete the Delivery Routine properly. If Calibration of the Delivery Position

fails, an Error Code should be recorded. *(See the Error Display Mode, "Errors", at the beginning of the internal Service Menu for more information.* After correcting the Error, Calibrate Port again to get "**Pass**". Once this routine is complete, press **<↓ or 8>** to proceed to the next prompt, "**Lighting Activity Time**".



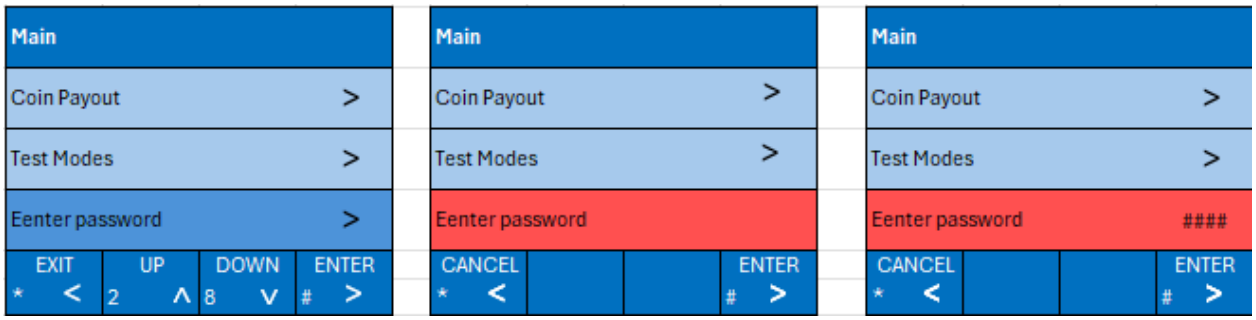
• Lighting Activity Time (Lighting Activity Time Routine)

This menu item allows the operator to determine the length of time the Vendor's Lighting System will remain at full brightness after activity, such as product vending. The Default Setting is 300 seconds (5 minutes). If **<# or ENTER>** is pressed, Lighting Activity Time and current setting will be highlighted reddish orange. To change the setting, type in the desired number of seconds that the Lights will remain at full brightness. Press **<# or ENTER>** to save the setting and return the Display to the unhighlighted state. Press **<* or BACK>** once to return to the "**Calibration**" prompt, or two times to return to the "**Test Modes**" prompt. From "**Test Modes**", press **<↓ or 8>** to proceed to the next prompt, "**Enter Password**".



*Enter Password (Enter Password Routine)

To enter the Password, touch the following keys in sequence: **<# or ENTER>** then **(4231)**, then **<# or ENTER>**. The VMC will allow up to 10 seconds to enter the Password. If the password is not correctly entered in 10 seconds, the Display will return to "**Enter Password**". If the correct Password is entered, the Display will show "**Cash Counters**".
Note: this password is not resettable.

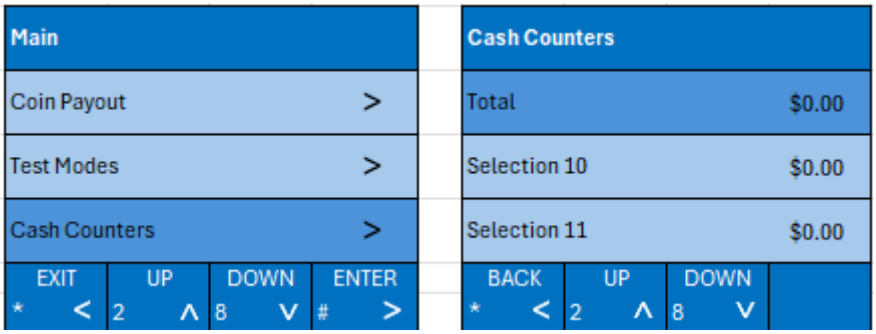


• *Cash Counters (Cash Counters Routine)

If **<# or ENTER>** is pressed at the "**Cash Counters**" prompt, the Control Board will enter the Cash Counters Display Mode. The Display will show "**Total**" at the top line and each Selection below that (as "**Selection NN**", where "**NN**" represents the appropriate Selection Number). To the right, the Currency amount will be displayed as follows:

"**Total**" is the Currency amount (value) taken in for all Paid Vends over the life of the Vendor's Control Board.

"**Selection NN**" is the Currency amount taken in for all Paid Vends for the given Selection Number since the last reset or over the life of the Vendor's Control Board. (*Refer to C5 in Configurations*.)



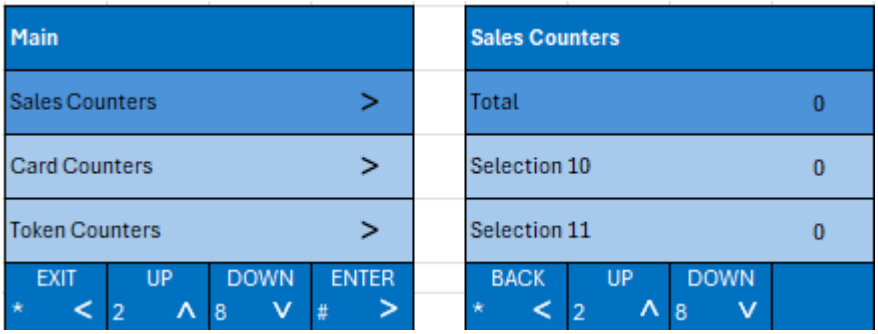
Using **<↑ or 2>** or **<↓ or 8>** will cycle through each Selection. If **<* or BACK>** is pressed anytime during this operation, the Control Board will return to the "**Cash Counters**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Sales Counters**."

• *Sales Counters (Sales Counters Routine)

If **<# or ENTER>** is pressed at the "**Sales Counters**" prompt, the Control Board will enter the Sales Counters Display Mode. The Display will show "**Total**" at the top line and each Selection below that (as "**Selection NN**", where "**NN**" represents the appropriate Selection Number). To the right, an amount will be shown, as follows:

"**Total**" is the quantity of all Products Vended over the life of the Vendor's Control Board.

"**Selection NN**" is the quantity of Products Vended by the given Selection Number since the last reset or over the life of the Vendor's Control Board. (*Refer to C5 in Configurations*.)



Using **<↑ or 2>** or **<↓ or 8>** will cycle through each Selection. If **<* or BACK>** is pressed anytime during this operation, the Control Board will return to the "**Sales Counters**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Card Counters**."

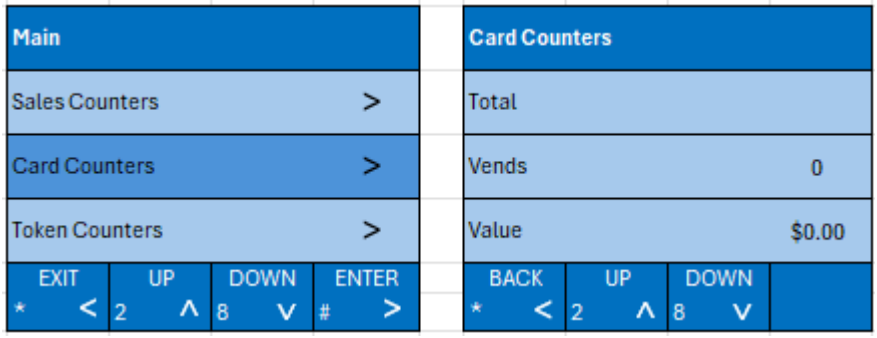
• *Card Counters (Card Counters Routine)

If **<# or ENTER>** is pressed at the "**Card Counters**" prompt, the Control Board will enter the Card Counter Display Mode by displaying three lines:

"**Total**" on the first line designates Total Card counters.

"**Vends XXXX**" on the second line, the **X**'s represent the number of all Card Vends over the life of the Vendor's Control Board.

"**Value YYYY.YY**" on the third line, the **Y**'s represent the value of all Card Sales over the life of the Vendor's Control Board.



Using **<↑ or 2>** or **<↓ or 8>** will cycle through each Selection by displaying "**Selection N**" on the first line, "**Vends XXXX**" on the second line for selection shown on line 1, and "**Value YYYY.YY**" on the third line for selection shown on line 1. The individual selection counts are resettable. If **<* or BACK>** is pressed anytime during this operation, the Control Board will return to the "**Card Counters**" prompt. Press **<↓ or 8>** to continue to the next prompt, "**Token Counters**".

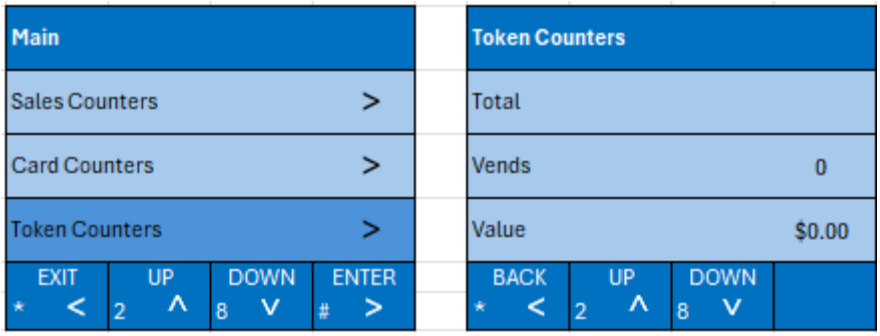
• *Token Counters (Token Counters Routine)

If **<# or ENTER>** is pressed at the "**Token Counters**" prompt, the Control Board will enter the Token Counter Display Mode by displaying three lines:

"**Total**" on the first line designates Total Token counters.

"**Vends XXXX**" on the second line, the **X**'s represent the number of all Token Vends over the life of the Vendor's Control Board.

"**Value YYYY.YY**" on the third line, the **Y**'s represent the value of all Token Sales over the life of the Vendor's Control Board.



"**Token Counters**" functions exactly as "**Card Counters**", except it counts Token Vends instead of Card Vends. (See above.) If **<* or BACK>** is pressed anytime during this operation, the Control Board will return to the "**Token Counters**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Discount Counters**".

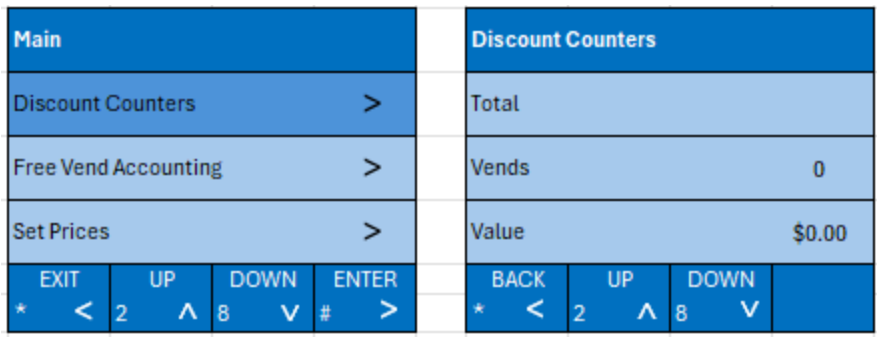
• *Discount Counters (Discount Counters Routine)

If **<# or ENTER>** is pressed at the "**Discount Counters**" prompt, the Control Board will enter the Discount Counter Display Mode by displaying three lines:

"**Total**" on the first line designates Total Discount counters.

"**Vends XXXX**" on the second line, the **X**'s represent the number of all Discount Vends over the life of the Vendor's Control Board.

"**Value YYYY.YY**" on the third line, the **Y**'s represent the value of all Discount Sales over the life of the Vendor's Control Board.



"**Discount Counters**" functions exactly as "**Card Counters**", except it counts Discounted Vends instead of Card Vends. (See above.) If **<* or EXIT>** is pressed anytime during this operation, the Control Board will return to the "**Discount Counters**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Free Vend Accounting**".

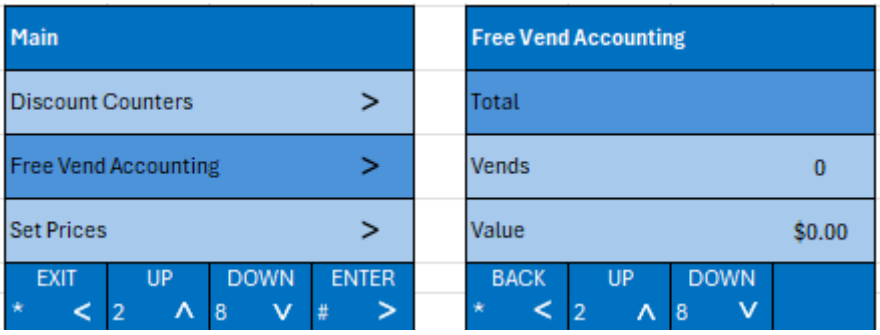
• *Free Vend Accounting (Free Vend Accounting Routine)

If **<# or ENTER>** is pressed at the "**Free Vend Accounting**" prompt, the Control Board will enter the Free Vend Counter Display Mode by displaying three lines:

"**Total**" on the first line designates Total Free Vend counters.

"**Vends XXXX**" on the second line, the **X**'s represent the number of all Free Vends over the life of the Vendor's Control Board.

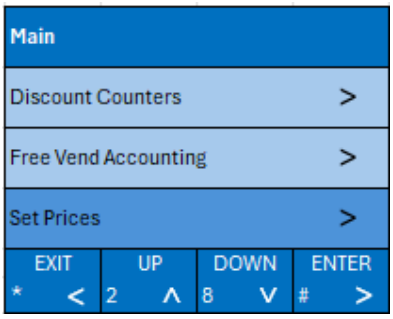
"**Value YYYY. YY**" on the third line, the **Y**'s represent the value of all Free Vends over the life of the Vendor's Control Board.



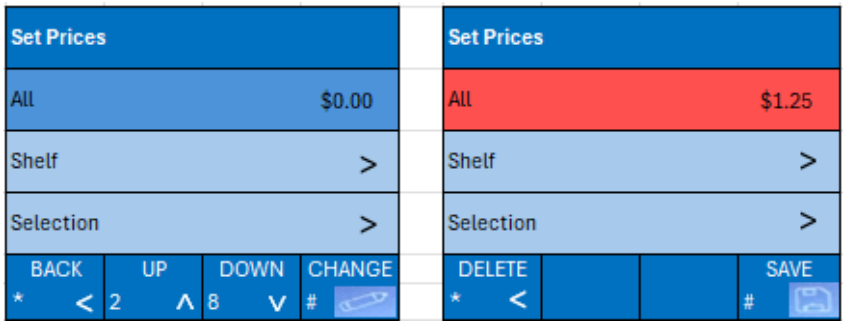
"**Free Vend Accounting**" functions exactly as "**Card Counters**", except it counts Free Vends instead of Card Vends. (See above.) If **<* or BACK>** is pressed anytime during this operation, the Control Board will return to the "**Free Vend Accounting**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Set Prices**".

• *Set Prices (Set Prices Routine) (default is $99.95)

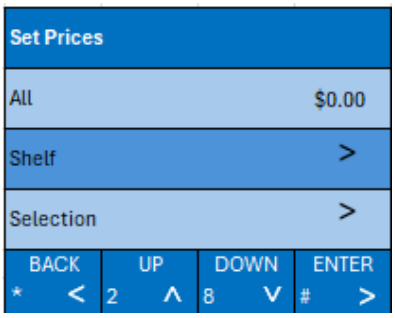
If **<# or ENTER>** is pressed at the "**Set Prices**" prompt, the Control Board will enter the Price Setting Mode. The Display will show "**All**", "**Shelf**", and "**Selection**". Press **<↑ or 2>** or **<↓ or 8>** to cycle through these options.

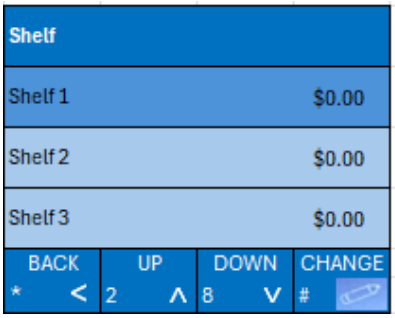


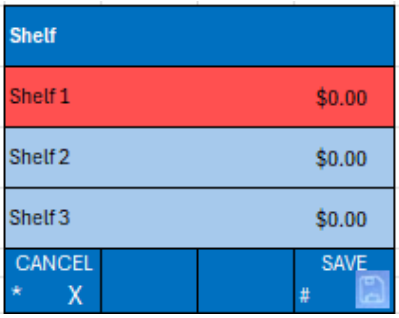
If **<# or CHANGE>** is pressed at "**All**", the current price for All Selections will be highlighted reddish orange. Press **<* or DELETE>** to remove All Selections current prices. To change this universal price, type in the desired Price using the key Touch Pad. Once the desired Price is shown, press **<# or SAVE>** and return the Display to the unhighlighted "**All**" state. Press **<* or BACK>** to return to the "**Set Prices**" prompt. Press **<↓ or 8>** to proceed to the next menu item, "**Shelf**".

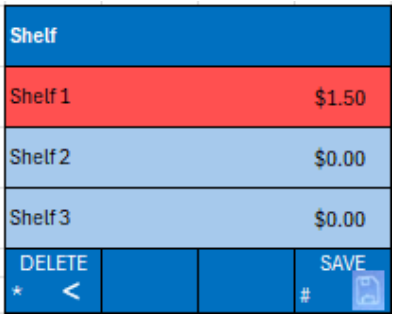


If **<# or ENTER>** is pressed at "**Shelf**", each Shelf Number will be displayed, followed by the current universal Price for the Shelf. Press **<↑ or 2>** or **<↓ or 8>** to cycle through each individual Shelf Number. If **<# or CHANGE>** is pressed at a particular Shelf Number, that Shelf and its current Price setting will be highlighted reddish orange. To change this Price, type in the desired Price using the key Touch Pad. Once the desired Price is shown, press **<# or SAVE>** to return the Display to the unhighlighted Shelf state. Once all Shelf Prices have been set, press **<* or BACK>** to return to the "**Set Prices**" prompt. Press **<↓ or 8>** to proceed to the next menu item, "**Selection**".



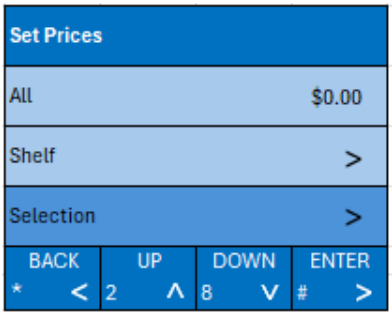


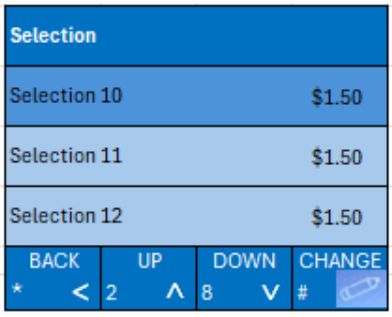


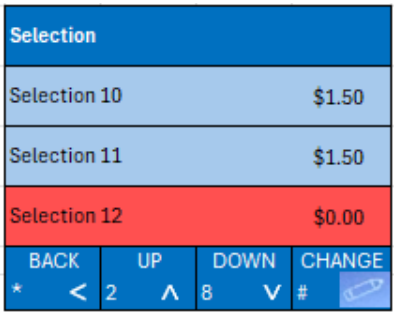


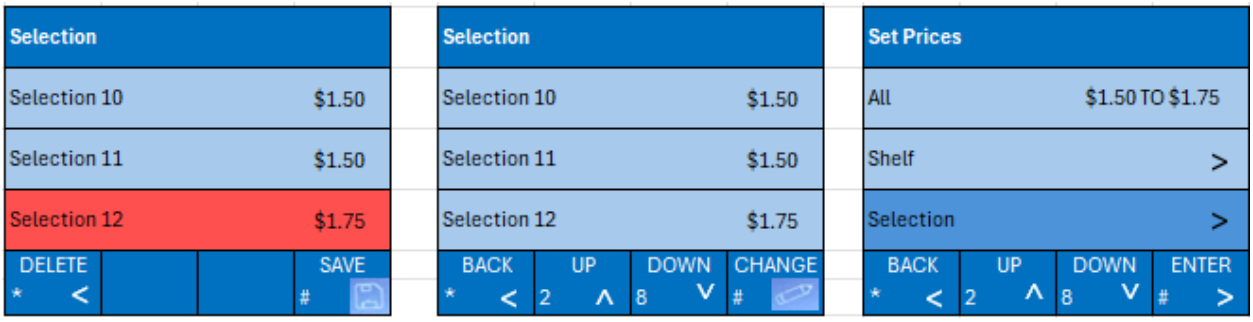
If **<# or ENTER>** is pressed at "**Selection**", each Selection Number will be displayed, followed by its current set Price. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each individual Selection Number. If **<# or CHANGE>** is pressed at a particular Selection Number, that Selection and its current Price setting will be highlighted reddish orange.

To change this Price, type in the desired price using the key Touch Pad. Once the desired Price is shown, press **<# or SAVE>** to return the Display to the unhighlighted "Selection Number" state. Scroll to the next Selection Number to set price or press **<* or BACK>** to return to the "**Set Prices**" prompt. Press **<* or BACK>** again to return to the "**Main**" prompt. Press **<↓ or 8>** to proceed to the next available prompt, "**Space to Sales**".

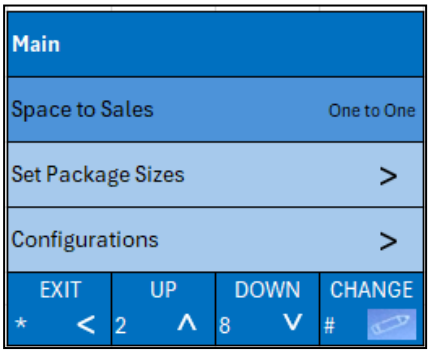








• *Space to Sales (Space to Sales Routine)

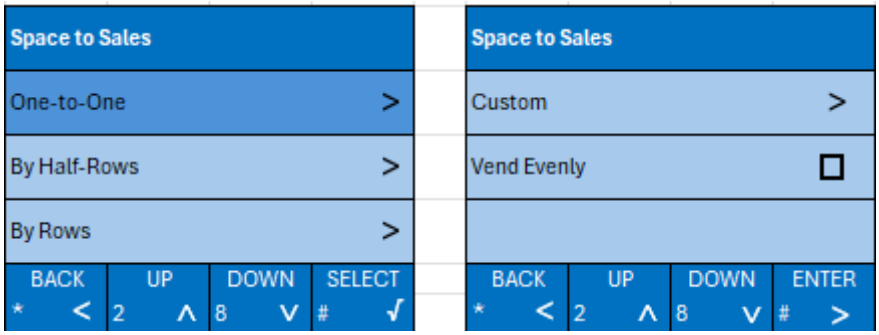


If **<# or CHANGE>** is pressed at the "**Space to Sales**" prompt, the Control Board will enter the Space to Sales programming mode. Use **<↑ or 2>** or **<↓ or 8>** to scroll between the various Space to Sales options. The following options are available with this menu:

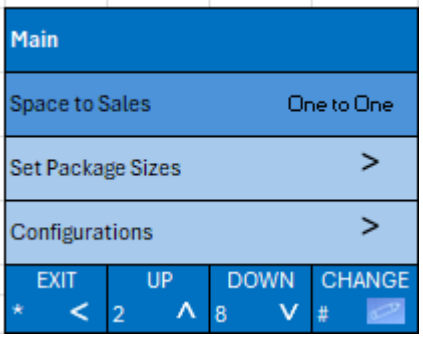
- One-to-One (default setting)
- By Half-Rows (Cells #0 to #4; #5 to #9)
- By Rows/Shelves (Rows 1 to 5)
- Custom
- Vend Evenly

Note: when you select an option it does not tell you it has been selected. You have to exit out of Space to Sales and enter again to confirm it saved.

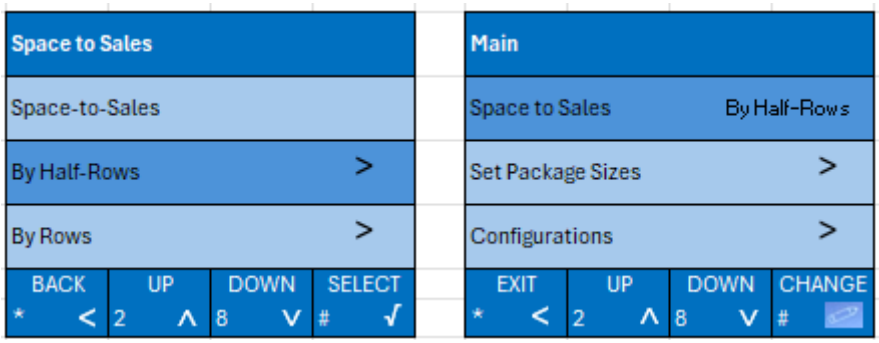
"**One-to-One, By Half-Rows, By Rows, Custom, and Vend Evenly**", use the **<↑ or 2>** or **<↓ or 8>** to scroll through the menu items. Once the desired option is reached, press **<# or SELECT>** to enter that option. Press **<* or BACK>** will return to the "**Space to Sales**" prompt.



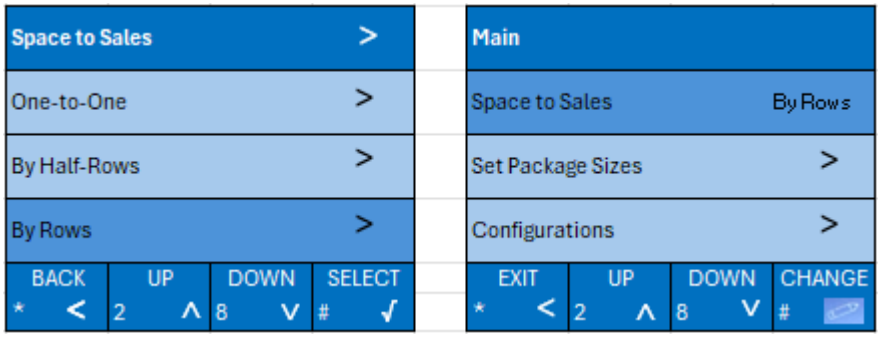
In "**One-to-One"** setting individual Rows/Cells are assigned to individual Selections with the same number. Example: Selection 10 will vend from Row/Cell 10.



In "**By Half-Rows**" setting Half Shelf Row/Cell numbers are assigned to the related Selection numbers as a group. Example: Selections 10 thru 14 will vend from Rows/Cells 10 thru 14 sequentially and Selections 15 thru 19 will vend from Rows/Cells 15 thru 19 sequentially on Shelf 1.



In "**By Rows**" setting full Shelf Rows/Cells are assigned to the related Selection numbers as a group. Example: Selections 10 thru 19 will vend from Rows/Cells 10 thru 19 sequentially on Shelf 1.



If **<# or ENTER>** is pressed at the "**Custom**" prompt, you will have the opportunity to program a Custom Space to Sales configuration. Upon entry into this routine, the Display will show "**Clear Selections**", "**Go to Selection**", and "**All Cells Assigned**" or "**Unassigned Cells**". Press **<* or BACK>** at this point will return the display to the "**Custom**" prompt with no changes being made.

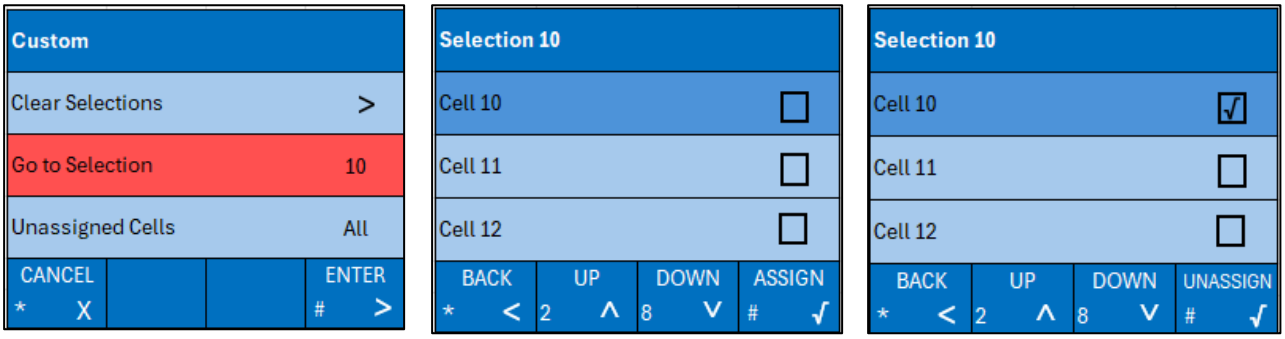
To clear the current Space to Sales assignments, press **<# or SELECT>** at the "**Clear Selections**" prompt, and the third row of text on the Display will show "**Unassigned Cells All**".

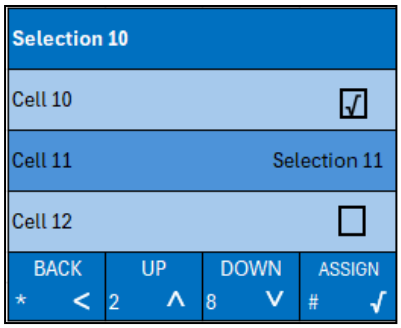


From "**Clear Selections**", press **<↓ or 8>** to scroll to "**Go to Selection**". At the "**Go to Selection**" prompt, press **<# or ENTER>**. "**Go to Selection**" will be highlighted reddish orange on the Display.



With the "**Go to Selection**" highlighted reddish orange on the Display key in a Selection Number using the key Touch Pad, then press **<# or ENTER>**. A list of all Cells within the Vendor will be shown with a check box beside each Cell/Row number. Press **<↑ or 2>** or **<↓ or 8>** to scroll through the list of Cells/Rows.

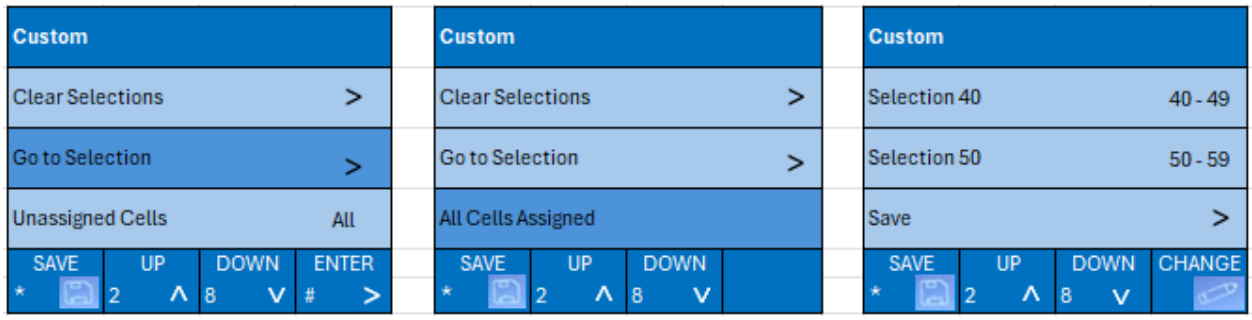




- If the Cell is currently assigned to the entered Selection Number (shown at the top of the Display), a checked box will follow the Cell/Row Number. To unassign this Cell/Row, press **<# or UNASSIGN>**, and the check box will be empty.
- If the Cell is currently assigned to another Selection, but not the entered Selection Number displayed at top of display, "**Selection ##**" will follow the Cell Number (where "**##**" is the number of the Selection assigned). To assign this Cell to the current Selection displayed at top, press **<# or ASSIGN>**.
- If the Cell is currently unassigned to any Selection, an unmarked check box will appear.

Press **<↑ or 2>** or **<↓ or 8>** will scroll the Display through each individual Cell Number. Once all desired Cells have been assigned to the entered Selection, press **<* or BACK>**. The Display will return to the highlighted "**Go to Selection**" prompt. Type in another Selection Number to enter. Repeat the steps above to assign Cells to the next Selection Number.

Once all Selections have been assigned as desired, press **<* or BACK>** until you get to "**Go to Selection**" prompt. Press **<# or SAVE>** to save the new settings and return the Display to the "**Custom**" prompt.

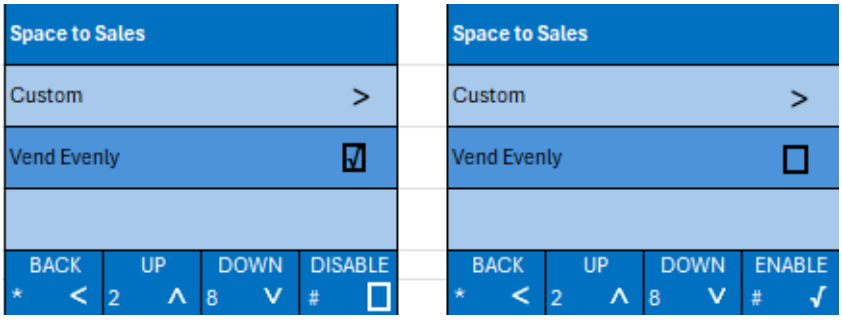


Note: Selection Pricing must be aligned with the Space to Sales assignments.

Press **<↓ or 8>** to proceed to the next prompt, "**Vend Evenly**".

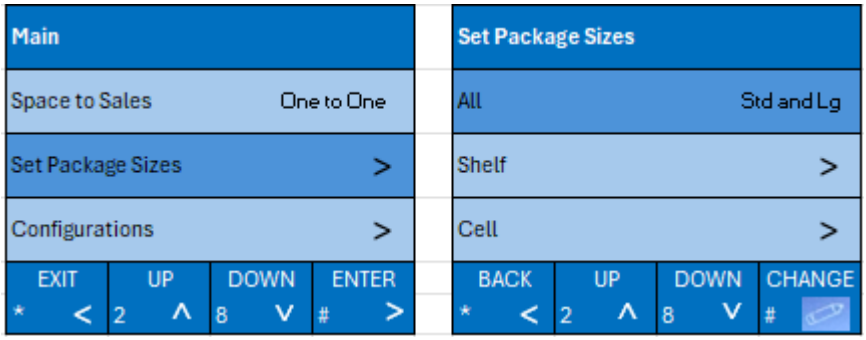
"**Vend Evenly**"

If **<# or ENABLE/DISABLE>** is pressed at "**Vend Evenly**", the check box will be toggled between checked (all Cells/Rows tied together in Space to Sales will alternate vending for even distribution) or unchecked (each Cell/Row will be vended until empty before product is dispensed from the next tied Cell/Row).



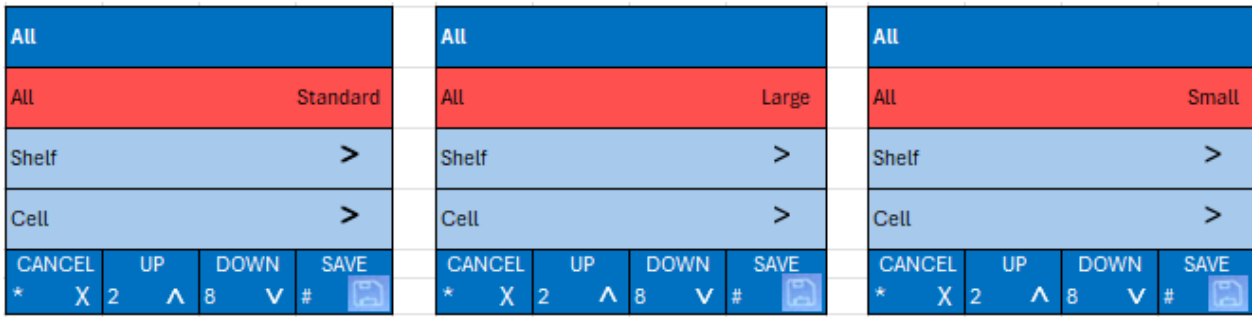
• *Set Package Sizes (Set Package Sizes Routine)

If **<# or ENTER>** is pressed at the "**Set Package Sizes**" prompt, the Control Board will enter the Package Setting Mode. This mode is used to adjust Selections to vend certain packages reliably. Using **<↑ or 2>** or **<↓ or 8>** will allow you to cycle through the various options for setting package size ("**All**", "**Shelf**", or "**Cell**"). For each option, three package size selections are available: **Small**, **Standard**, or **Large**.



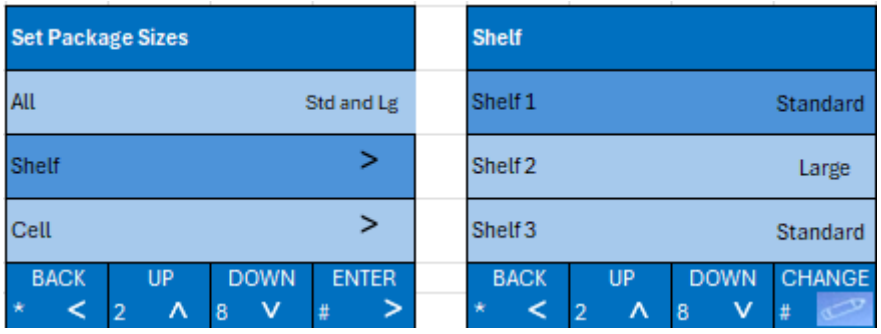
All

If **<# or ENTER>** is pressed at "**All**", this line will be highlighted reddish orange, and the Package Size (Standard, Large, Small) for all Cells can be set for all Cells/Rows. Press **<↑ or 2>** or **<↓ or 8>** to change the universal size for all Cells/Rows. Once the desired Package Size is shown, press **<# or SAVE>** and return the Display to the unhighlighted state. Use **<↓ or 8>** to proceed to the next option, "**Shelf**", or press **<* or EXIT>** to return to the "**Set Package Sizes**" prompt.



Shelf

If **<# or ENTER>** is pressed at "**Shelf**", each Shelf Number will be displayed, followed by the current universal Package Size for the Shelf.

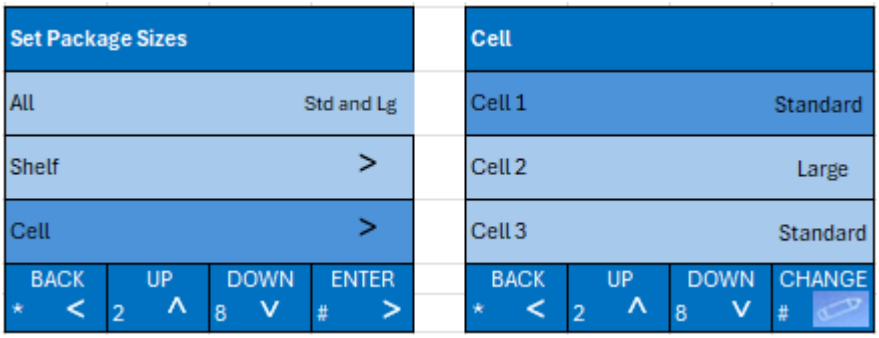


Press **<↑ or 2>** or **<↓ or 8>** to cycle through each individual Shelf Numbers. If **<# or CHANGE>** is pressed at a particular Shelf Number, that Shelf and its current Package Size setting will be highlighted reddish orange. Use **<↑ or 2>** or **<↓ or 8>** to change the package size (Standard, Large, Small). Once the desired Package Size is shown, press **<# or SAVE>** and return the Display to the unhighlighted state. Once all shelves Package Sizes have been set, press **<* or BACK>** to return to the "**Shelf**" prompt. Press **<↓ or 8>** to proceed to the next option, "**Cell**".

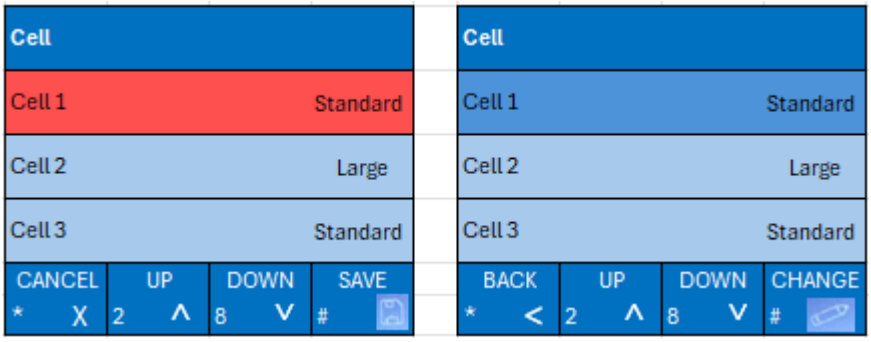


Cell (Selection)

If **<# or ENTER>** is pressed at "**Cell**", each Cell Number will be displayed, followed by its current Package Size setting.

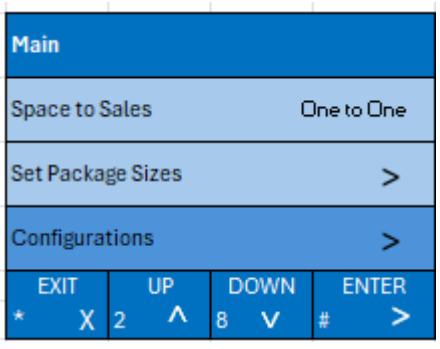


Press **<↑ or 2>** or **<↓ or 8>** to cycle through each individual Cell Numbers. If **<# or CHANGE>** is pressed at a particular Cell Number, that Cell and its current Package Size setting will be highlighted reddish orange. Use **<↑ or 2>** or **<↓ or 8>** to change this package size. Once the desired Package Size (Standard, Large, Small) is shown, press **<# or SAVE>** and return the Display to the unhighlighted state. Press **<* or BACK>** to return to the "**Cell**" prompt, then press **<* or BACK>** a second time to return to the "**Set Package Sizes**" prompt. Press **<↓ or 8>** to proceed to the next available prompt, "**Configurations**".

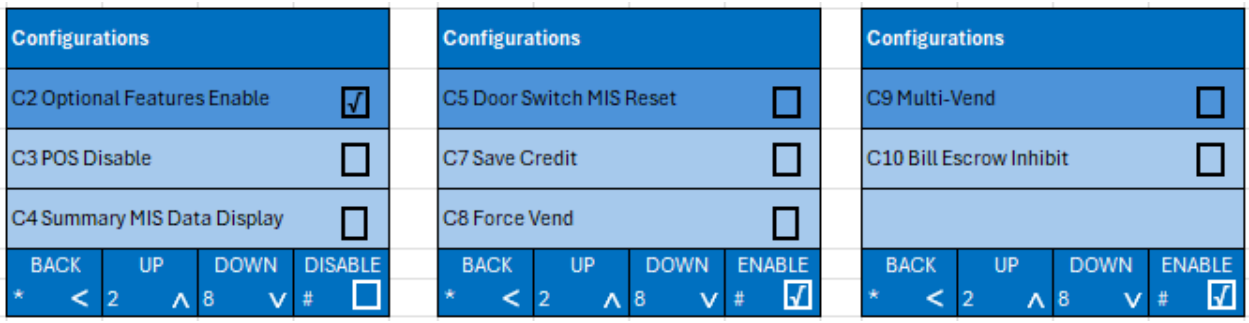


• *Configurations (Configurations Routines C2 to C11)

If **<# or ENTER>** is pressed at the "**Configurations**" prompt, the Control Board will enter the Machine Configuration Mode by displaying "**C# Configuration Name**", followed by a box (checked if enabled (On), empty if disabled [Off]). Using **<↑ or 2>** or **<↓ or 8>** will allow you to cycle through all available Configuration Options. If **<* or BACK>** is pressed anytime during this operation the Control Board will return to the "**Configurations**" prompt. From the "**Configurations**" prompt, use **<↓ or 8>** to proceed to the next prompt, "**Correct Change**".



At a selected Configuration if **<# or ENABLE/DISABLE>** is pressed the status will toggle between enabled (On) and disabled (Off). When the desired status is displayed, press **<↑ or 2>** or **<↓ or 8>** to scroll through the other Configurations. If **<* or BACK>** is pressed anytime during this operation the Control Board will return to the "**Configurations**" prompt.



• **C2 - Optional Features Enable (default – Box Unchecked - Off)**

This option is used to enable the Optional Features Menu, which contains several additional Mode Options other than the Standard Service Menu. If this configuration is unchecked, all Optional Features will be disabled (Off). When checked, all Optional Features will be enabled (On). Optional Features to be displayed when enabled (On) include: "Selection Block 1/2", "Selection Discount 1/2/3", and "Override Switch".

Box Unchecked: Optional Feature items will not appear (Off).

Box Checked: Optional Feature items will appear (On).

• **C3 - POS Message Disable (default – Box Unchecked - Off)**

This option is used to turn Off the Point of Sales Message display.

Box Unchecked: The Point of Sales greeting will appear as normal on the Display. Message Disable is turned Off.

Box Checked: The Point of Sales greeting will not appear on the Display. Message Disable is turned On.

• **C4 - Summary MIS Data Display (default – Box Unchecked - Off)**

This option is used to turn on the Display of the Total Machine Sales, Total Machine Cash Values, Error Codes or No Error Codes in the Open Door Mode.

Box Unchecked: Only recorded Error Codes are displayed when the Service Door is open (Off).

Box Checked: Sales and Cash Totals will be displayed, as well as recorded Error Codes when the Service Door is open (On).

• **C5 - Door Switch MIS Reset (default – Box Unchecked - Off)**

This option is used to allow Door Switch sensed open to reset all resettable MIS Data.

Box Unchecked: All resettable MIS registers are reset only when the "CF" command is received from a Handheld Computer (HHC) (Off).

Box Checked: All resettable MIS registers are reset when the Door Switch is sensed as open and at least one of the resettable MIS registers has been read (i.e., Cash and Sales Counts) (On).

• C7 - Save Credit (default – Box Unchecked - On)

This option is used to determine how long a Credit should remain on the Display and available to the customer. If the feature is turned Off, a five-minute timer is restarted each time Credit is added to the machine, or any valid consumer action occurs. After the timer expires the Credit is erased. If the feature is turned On, Credit is left available to the customer regardless of when it was deposited.

Box Unchecked: The five-minute timer is used (On).

Box Checked: Credit is left on the Display for use indefinitely (5 min. timer Off).

• C8 - Force Vend (default – Box Unchecked - Off)

This option is used to determine Escrow to Select or Escrow to Price. It prevents the machine from becoming a change maker. When this mode is enabled (On), Escrow of Coins is allowed until any of the following three events occur:

- Any Bill is inserted into the Bill Acceptor.
- Any "Cash Box" Coin is inserted into the Coin Mech.
- The maximum Vend Price is reached.

Once any of these conditions are met, any accumulated Credit must be used toward a vend attempt, and coins will not be dispensed for Credit in response to an escrow request. If a sold-out Selection, or if a valid Selection that becomes sold-out, is made, this option will be overridden, and an escrow will be honored.

Box Unchecked: Forced Vend attempt is disabled (Off), Escrow to Select.

Box Checked: Forced Vend attempt is enabled (On), Escrow to Price.

Note: Forced Vend attempts have no effect on the Card Reader. Once a Card is inserted, it can always be returned to the customer via the escrow lever on the Coin Mech or return button on the Card Reader.

• C9 – Multi Vend (default – Box Unchecked - Off)

This option will allow Multiple Purchases without re-entering coins. If checked (On), instead of immediately returning the change after a vend, the Credit will remain on the Display to be used for another Selection attempt. An escrow request will be honored at any time. This option will take precedence over the Force Vend option after the first vend has been completed.

Box Unchecked: Multi Vend is disabled (Off), returning change after a vend.

Box Checked: Multi Vend is enabled (On), remaining credit stays on Display for use towards next vend attempt.

• C10 - Bill Escrow Inhibit (default - Box Checked - On)

This option will inhibit escrowing of Bills. If box is checked, disabled (Off), and if the current Bill Value inserted takes the accumulated credit over the maximum price, the Bill will be held

in the escrow position. If the rule is unchecked, enabled (On), Bills will always go to the Cash Box (Stacker).

Box Unchecked: Bill Escrow is not allowed (Inhibit on, Bills go to Cash Box).

Box Checked: Bill Escrow is allowed (Inhibit off, allows Bill Escrow).

• C11 – Anti Pilfer (default - Box Unchecked - Off)

This option will allow the credit card charge to process once selection is made and before the product vends. If box is checked, enabled (On), once the selection is made the charge for the amount for the selection will be processed before the product vends. If the rule is unchecked, disabled (Off), the credit card charge will process after the product is delivered in the Port Assembly.

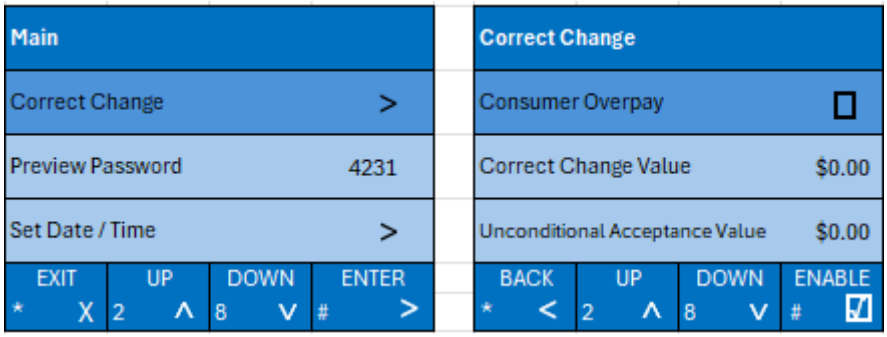
Box Unchecked: Credit Card charge is processed after product is delivered in the Port.

Box Checked: Credit Card charge is processed after selection is made and before the product vends.

If **<* or BACK>** is pressed anytime during this operation the Control Board will return to the "**Configurations**" prompt. Press **<↓ or 8>** to proceed to the next available prompt, "**Correct Change**".

• *Correct Change (Correct Change Routine)

If **<# or ENTER>** is pressed at the "**Correct Change**" prompt, the Display will show "**Consumer Overpay**". Using **<↑ or 2>** or **<↓ or 8>** will cycle through all available Correct Change options, Consumer Overpay, Correct Change Value, and Unconditional Acceptance Value. Press **<* or BACK>** at any point in this procedure will return to the "**Correct Change**" prompt without saving any changes. Use **<↓ or 8>** to proceed to the next prompt, "**Preview Password**".



"**Consumer Overpay**" **(Unchecked - Off)**

This sub mode is used to determine whether a vend should be allowed when an overpayment situation may result.

If **Unchecked (Off)**, the customer will not be allowed to overpay (not cheated).

The **Use Correct Change Only** message will continue to be displayed for up to one minute. If after 2 seconds but before one minute expires, the customer re-selects this same selection, the vend will continue and as much change as possible will be returned.

If **Checked (On)**, when a customer makes a product selection, and the Coin Mech change levels are low and the "**Use Correct Change Only**" message is:

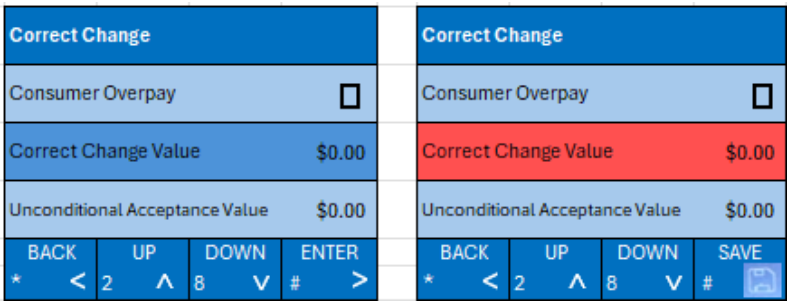
The **Use Correct Change Only** message will continue to be displayed for up to one minute. However, the vend will continue and as much change as possible will be returned. It allows the Vendor to vend with the risk of not being able to return the full amount of change, allowing consumers to overpay.

In either **Use Correct Change Only** case above, the remaining change due back to the customer will remain on the Display. The customer could add change to the remaining value on the Display to make another vend.

Note: If "**Consumer Overpay**" is checked, both "**Correct Change Value**" and "**Unconditional Acceptance Value**" will apply; if unchecked, only "**Correct Change Value**" will apply.

"**Correct Change Value**"

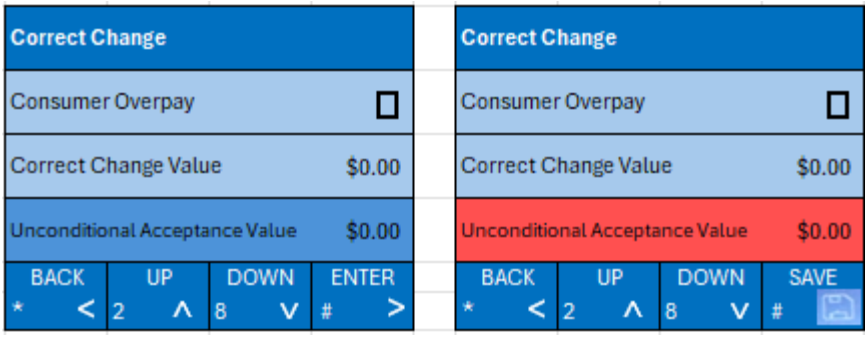
When **<# or ENTER>** is pressed at "**Correct Change Value**", the Current Value will be highlighted reddish orange. Enter in the desired Correct Change Value using the key Touch Pad. Once the desired Value is shown, press **<# or SAVE>** and return the Display to the unhighlighted Correct Change Value state. The Coin Mech must be able to pay back this value and all values below that (in increments of the Coin Mechs lowest tube value) for the Use Correct Change Only message to remain off. In other words, if "**Correct Change Value**" is set to 0.25, the changer must be able to pay back 0.25, 0.20, 0.15, 0.10, and 0.05 in any combination, or else the Use Correct Change Only message will be displayed. If "**Correct Change Value**" is set to 0.00, the "**Use Correct Change Only**" message will never be displayed.



Once Correct Change Value has been set and saved, press **<↓ or 8>** to proceed to the next option, "**Unconditional Acceptance Value**" prompt.

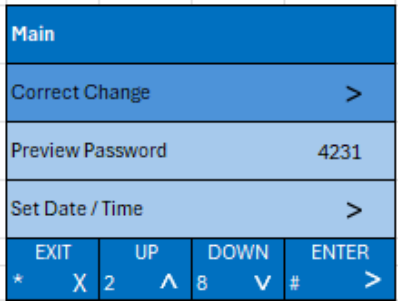
"**Unconditional Acceptance Value**"

When **<* or ENTER>** is pressed at "**Unconditional Acceptance Value**", the Current Value will be highlighted reddish orange. The Vendor should not accept any amount



of currency (Bill or Coin) larger than the value set in "**Unconditional Acceptance Value**" unless the Coin Mech can pay out the equivalent of that amount. Enter in the desired Unconditional Acceptance Value using the key Touch Pad. Once the desired Value is shown, press **<# or SAVE>** and return the Display to the unhighlighted Unconditional Acceptance Value state.

Once Unconditional Acceptance Value has been set and saved, press **<* or BACK>** will return to the "**Correct Change**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Preview Password**".



• *Preview Password

(Preview/Reset External Menus Password Routine)

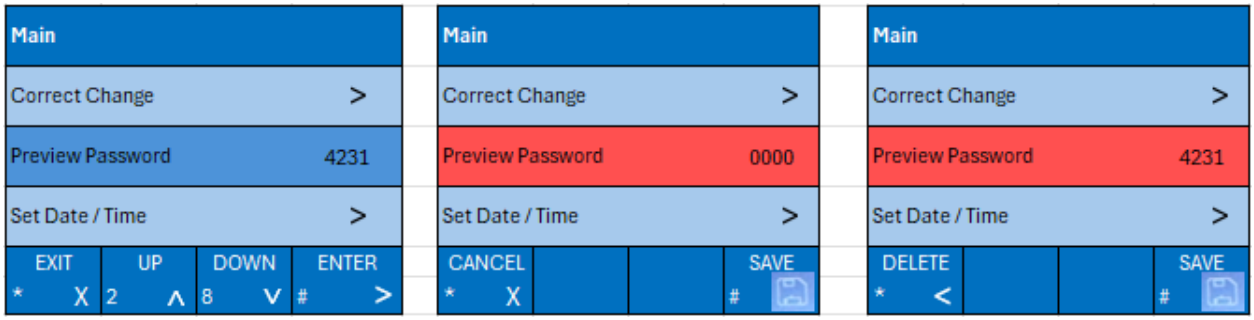
The Information available in this mode is obtainable with the door closed or open as long as the Vendor is in the normal mode, by entering the password, which is set to 4,2,3,1 from the factory.

Note: this password is resettable. If set to "0,0,0,0", the External Menus access is disabled.

At "**Preview Password**", the current four-digit Password for the external menu will be shown on the right-hand side of the Display. If **<# or ENTER>** is pressed, this menu item will be highlighted reddish orange, and the first digit of the Password will be flashing. Press **<↑ or 2>** or **<↓ or 8>** will adjust the current flashing digit up or down. Press **<# or ENTER>** will save the current flashing digit and cause the next digit of the Password to begin flashing. All four digits may be modified in this manner.

CAUTION - Press **<* or EXIT>** at any point in the procedure will save the currently displayed Password and return you to the "**Preview Password**" prompt. From the "**Preview Password**" prompt, use **<↓ or 8>** to proceed to the next prompt, "**Set Date / Time**".

Important: Be sure to remember/write down the new Password for future use.



External Menus available when Preview Password is entered with Door closed are:

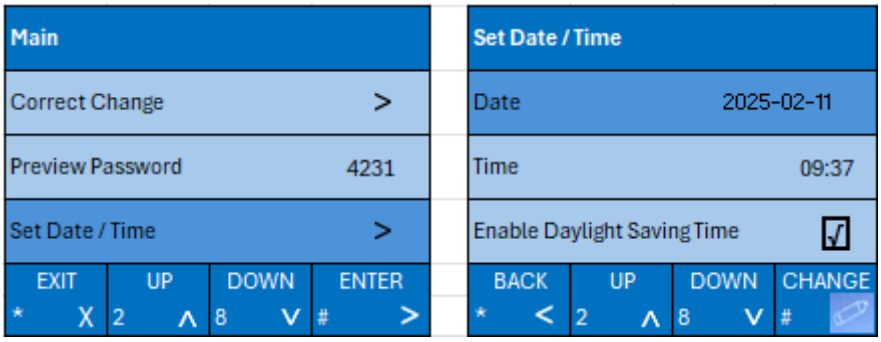
- Historical Cash Count.
- Re-settable Cash Count for each Selection.
- Historical Sale Count (total number of vends).

- Re-settable Vend Count for each Selection.
- Error Codes.
- Return to Sales.

• *Set Date / Time (Set Date & Time Routine)

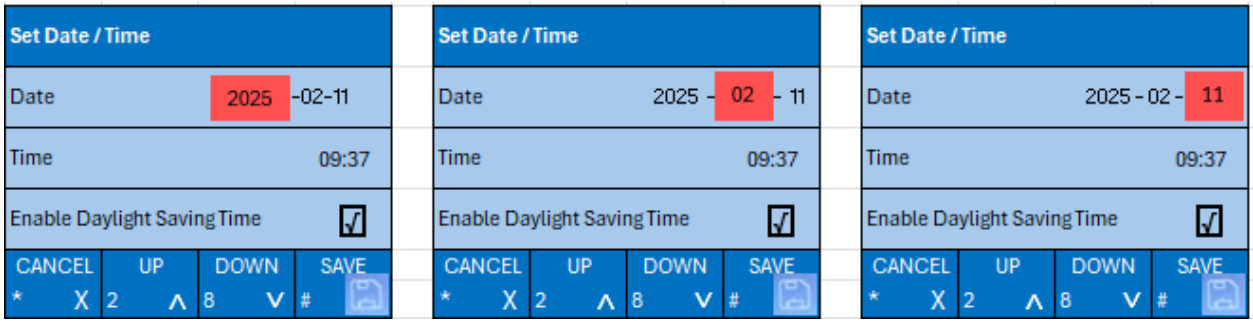
This function is used to set the year, month, date, and hour (military 24-hour clock).

If **<# or ENTER>** is pressed at the "**Set Date / Time**" prompt, the Control Board will enter the current time setting mode by displaying "**Date**". Using **<↑ or 2>** or **<↓ or 8>** will allow you to cycle through all available Date & Time setting options.



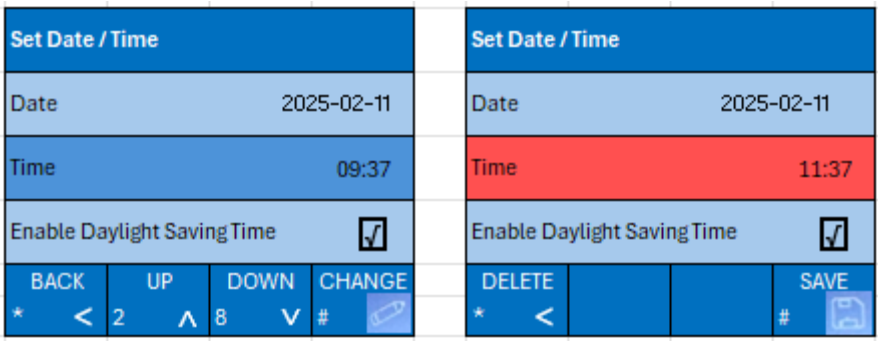
"**Date**" **(Set Date Routine)**

If **<# or ENTER>** is pressed at the "**Date**" prompt the current Date of the Year will be displayed in **YYYY-MM-DD** format. If **<# or CHANGE>** is pressed at the "**Date**" prompt, the year **YYYY** will be highlighted reddish orange. Press **<↑ or 2>** or **<↓ or 8>** at this point will increase or decrease the Year. If **<# or SAVE>** is pressed, the Year will be saved, and Month **MM** will be highlighted reddish orange. Press **<↑ or 2>** or **<↓ or 8>** at this point will increase or decrease the Month. Press **<# or SAVE>** again to save the Month and Day **DD** will be highlighted reddish orange. Press **<↑ or 2>** or **<↓ or 8>** to increase or decrease the Day. Note: press **<→ or 6>** and **<← or 4>** to move right and left between Year, Month, and Day setting. Finally, press **<# or SAVE>** again to save the Day and return to the unhighlighted state. Use **<↓ or 8>** to proceed to the next prompt, "**Time**".



"**Time**" **(Set Time Routine)**

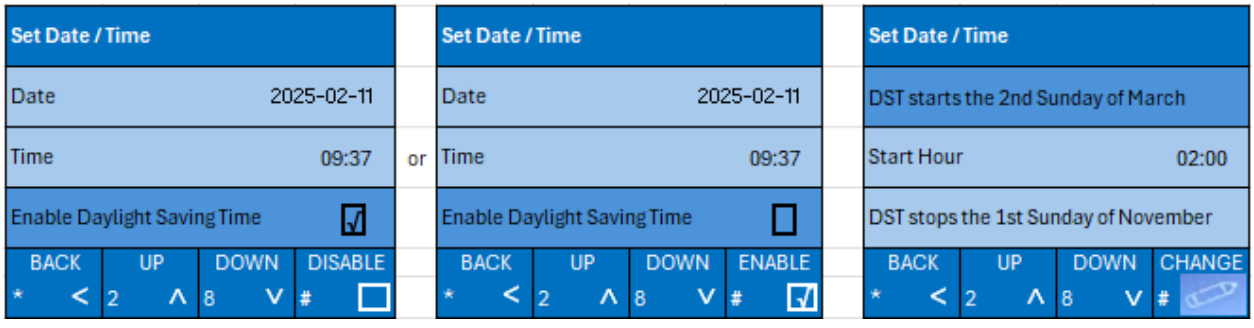
If **<# or CHANGE>** is pressed at the "**Time**" prompt, the current Time is displayed in a 24-hour format (Ex. 0937 = 9:37am) highlighted reddish orange. The two left digits of the Display show the current Hour setting; the right two digits show the current Minutes. Enter the current time in 24-hour format (Ex. 09:37am is entered as 0937) using the key Touch Pad. Press **<# or SAVE>** will save the displayed Hour and Minutes setting and return you to the "**Time**" prompt. Press **<* or DELETE>** while in editing mode will return you to the unhighlighted "**Time**" prompt without saving changes. Use **<↓ or 8>** to proceed to the next prompt, "**Enable Daylight-Saving Time**".



If **<* or EXIT>** is pressed anytime during this operation, the Control Board will return to the "**Set Date / Time**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Refrigeration**".

"**Enable Daylight Saving Time**" **(Enable Daylight-Saving Time Routine)**

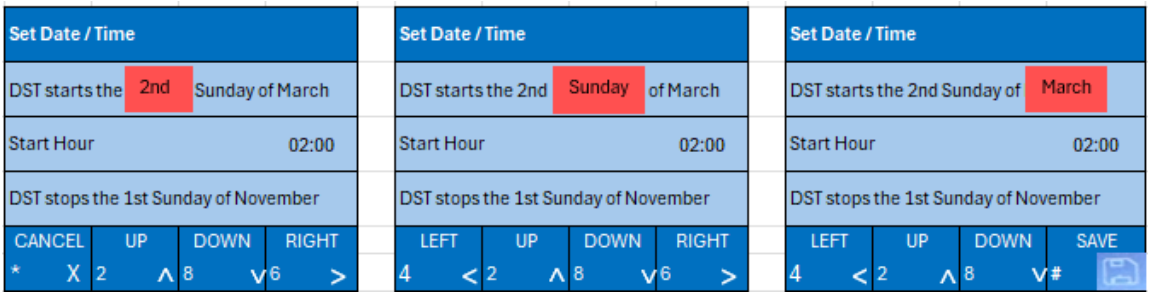
If **<# or ENABLE/DISABLE>** is pressed at the "**Enable Daylight-Saving Time**" prompt, the box will toggle between checked, Daylight-Saving Time Enable (On) or unchecked, Daylight-Saving Time Disable (Off). If **<* or BACK>** is pressed, the Control Board will return to the "**Enable Daylight-Saving Time**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**DST starts the NN Sunday of MMM**".



"**DST starts the NN DDD of MMM**" **(Set DST Start Day & Month Routine)**

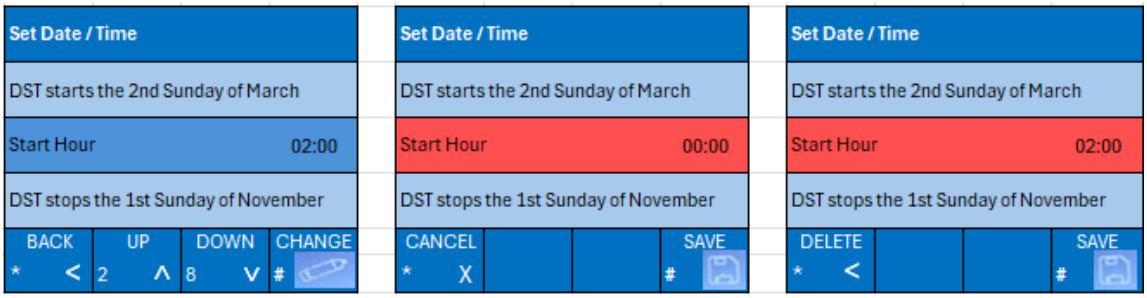
This menu item can be used to modify the Start Date for Daylight-Saving Time in the Control Board's internal clock. By default, this item is set to "**DST starts the 2nd Sunday of March**". If **<# or CHANGE>** is pressed, the current Day of Month (**NN – 1st, 2nd, 3rd, 4th)**) setting will be highlighted reddish orange. Use **<↑ or 2>** or **<↓ or 8>** to change the current Day of Month (**NN**). Once the desired Day of Month is shown, press **<→ or 6>**, and the Day of the Week (**DDD – Sunday, Saturday, etc.**) will be

highlighted reddish orange. Use **<↑ or 2>** or **<↓ or 8>** to change the Day of the Week. On the desired Day of the Week, press **<→ or 6>**, and the Month (**MMM**) will be highlighted reddish orange. After reaching the desired Month using **<↑ or 2>** or **<↓ or 8>**, press **<# or SAVE>** to save the setting and return to the "**DST starts the NN DDD of MMM**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Start Hour**".



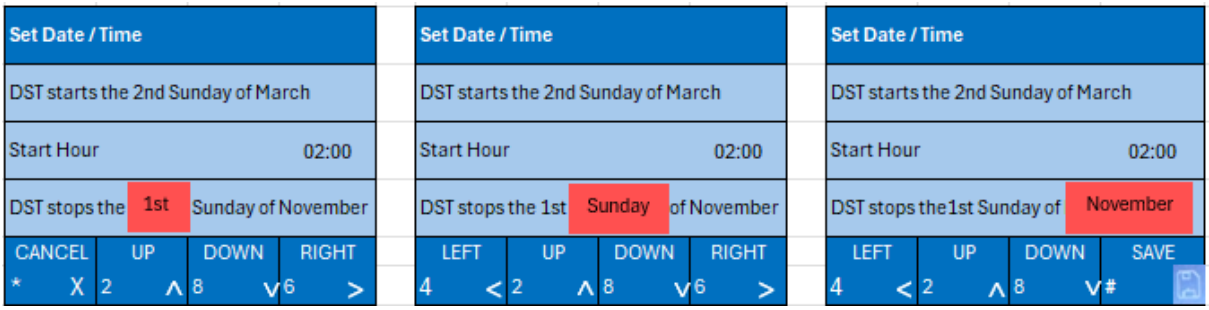
"**Start Hour**" **(Set DST Start Time in 24-hour format Routine)**

This menu item is used to set the Start Time for Daylight-Saving Time in the Control Board's internal clock. By default, this item is set to 02:00 (2:00am). If **<# or CHANGE>** is pressed, this menu item will be highlighted reddish orange, showing a time of 00:00. Use the key Touch Pad to manually enter the time at which Daylight-Saving Time will start, in four-digit notation. (For example, to set Daylight-Saving Time to begin at 2:00 a.m., key in "0200".) Once the desired Time is shown, press **<# or SAVE>** to save it. Press **<↓ or 8>** to proceed to the next prompt, "**DST stops the NN DDD of MMM**".



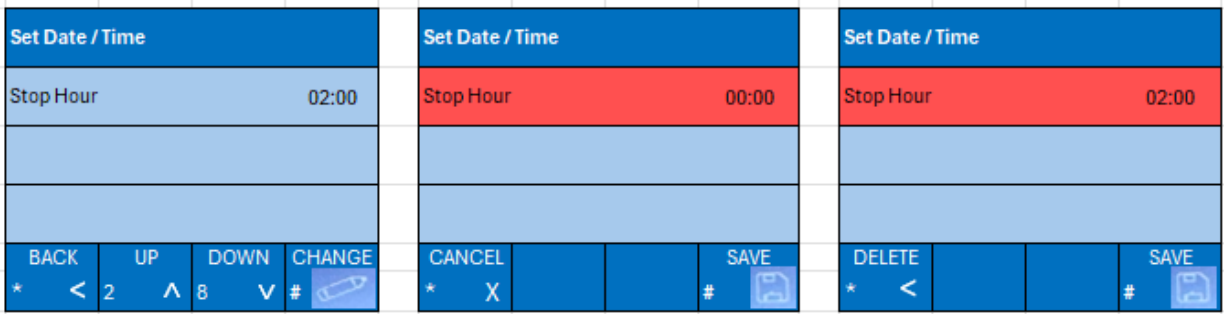
"**DST stops the NN DDD of MMM**" **(Set DST Stop Day & Month Routine)**

This menu item can be used to modify the End Date for Daylight-Saving Time in the Control Board's internal clock. By default, this item is set to "**DST stops the 1st Sunday of November**". If **<# or CHANGE>** is pressed, the current Day of Month (**NN – 1st, 2nd, 3rd, 4th**) will be highlighted reddish orange. Use **<↑ or 2>** or **<↓ or 8>** to change the current Day of Month. Once the desired Day of Month is shown, press **<→ or 6>**, and the Day of the Week (**DDD – Sunday, Saturday, etc.**) will be highlighted reddish orange. Use **<↑ or 2>** or **<↓ or 8>** to change the Day of the Week. On the desired Day of the Week, press **<→ or 6>**, and the Month (**MMM**) will be highlighted reddish orange. After reaching the desired Month using **<↑ or 2>** or **<↓ or 8>**, press **<# or SAVE>** to save the setting and return to the "**DST stops the NN DDD of MMM**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Stop Hour**".



"**Stop Hour**" **(Set DST Stop Time in 24-hour format Routine)**

This menu item is used to set the Stop Time for Daylight-Saving Time in the Control Board's internal clock. By default, this item is set to 02:00. If **<# or CHANGE>** is pressed, this menu item will be highlighted reddish orange, showing a Time of 00:00. Use the key Touch Pad to manually enter the Time at which Daylight-Saving Time will End, in four-digit notation. (For example, to set Daylight-Saving Time to end at 2:00 a.m., key in "0200".) Once the desired Time is shown, press **<# or SAVE>** to save it. Press **<* or BACK>** to return to "**Set Date / Time**". Press **<↓ or 8>** to proceed to next prompt, **Refrigeration**.

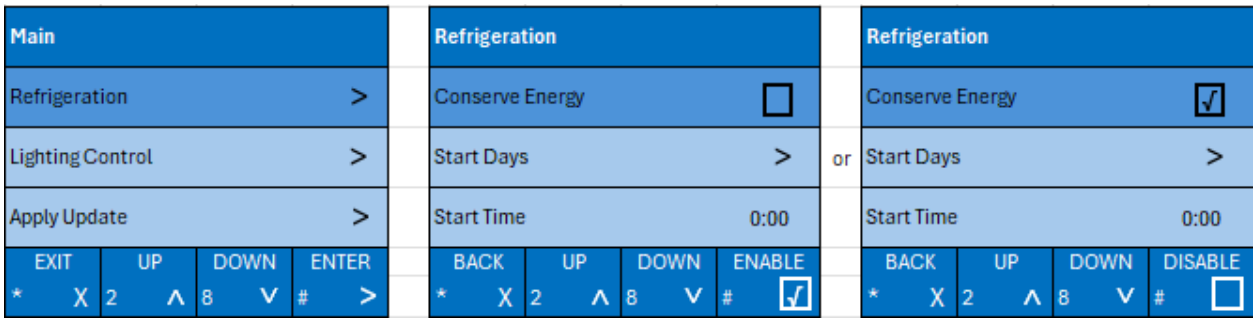


• *Refrigeration (Refrigeration Routine)

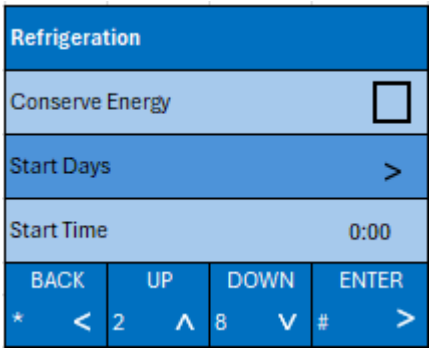
This function is used to electronically control the Refrigeration operations of the Vendor.

"**Conserve Energy**" **(Unchecked - Off)**

If **<# or ENTER>** is pressed at Refrigeration prompt, the Control Board will enter the Refrigeration Routine options. If **<# or ENABLE/DISABLE>** is pressed at the "**Conserve Energy**" prompt, the check box will toggle between checked, Energy Conservation Mode Enable (On) or unchecked, Energy Conservation Mode Disable (Off). If **<* or BACK>** is pressed, the Control Board will return to the "**Conserve Energy**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Start Days**".

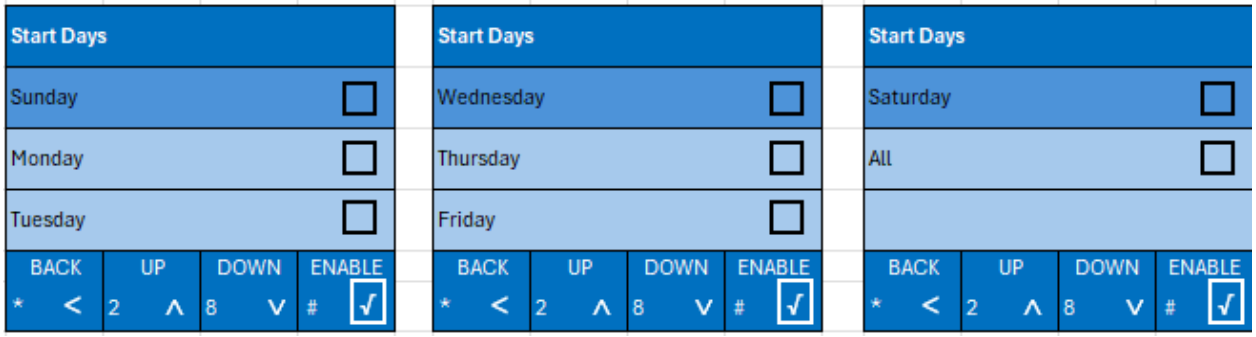


"**Start Days**" **(Set Conserve Energy Start Days Routine)**



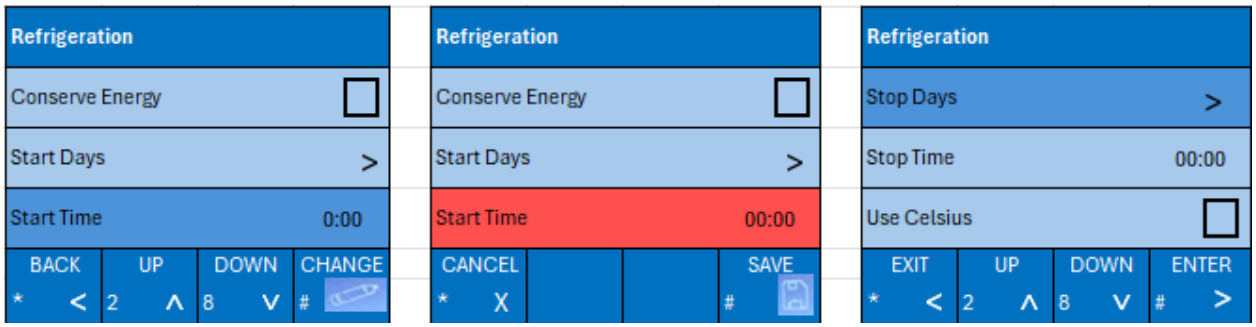
If **<# or ENTER>** is pressed at the "**Start Days**" prompt, the Control Board will enter the Start Refrigeration Energy Conservation Control Days setting routine. Press **<* or BACK>** at this point will return you to the "**Start Days**" prompt without saving any changes. Use **<↓ or 8>** to proceed to the next prompt, "**Start Time**".

If **<# or ENTER>** is pressed at the "**Start Days**" prompt, the Display will show Sunday, the first Day of the Week, followed by a check box. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**". If **<# or ENABLE/DISABLE>** is pressed at the Day of the Week prompt, the box will toggle between checked, Refrigeration Energy Conservation Control Timer Enable (On) for that Day or unchecked, Refrigeration Energy Conservation Control Timer Disable (Off) for that Day. Press **<* or BACK>** or using **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**" will save the displayed setting. If **<* or BACK>** is pressed, the Control Board will return to the **"Start Days"** prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Start Time**".



"**Start Time**" **(Set Conserve Energy Start Time Routine)**

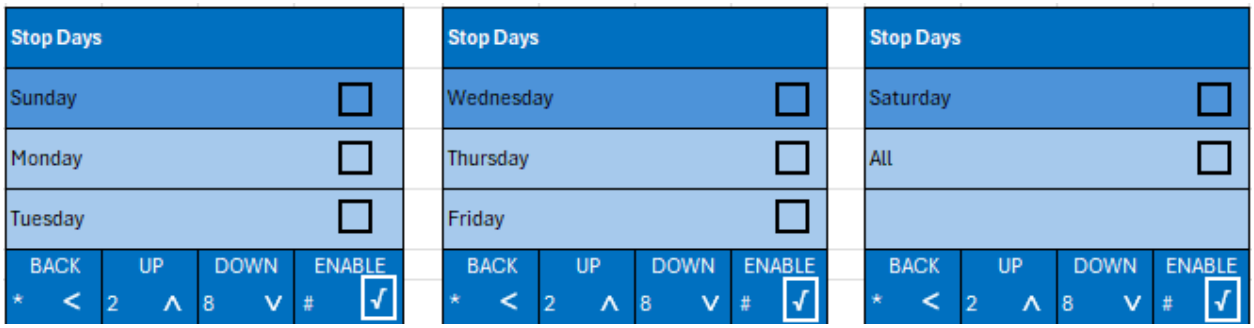
If **<# or CHANGE>** is pressed at the "**Start Time**" prompt, the Control Board will enter the Start Refrigeration Energy Conservation Control Time setting routine. This Time will be displayed in a 24-hour format highlighted reddish orange. The two left digits of the Display show the current Hour setting; the right two digits show the current Minutes. Enter the current time in 24-hour format (Ex. 11:37am is entered as 1137) using the key Touch Pad. Press **<* or CANCEL>** will return to the unhighlighted "**Start Time**" without saving changes. Press **<# or SAVE>** will save the new displayed Hour and Minutes setting and return you to the unhighlighted "**Start Time**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Stop Days**."



"**Stop Days**" **(Set Conserve Energy Stop Days Routine)**

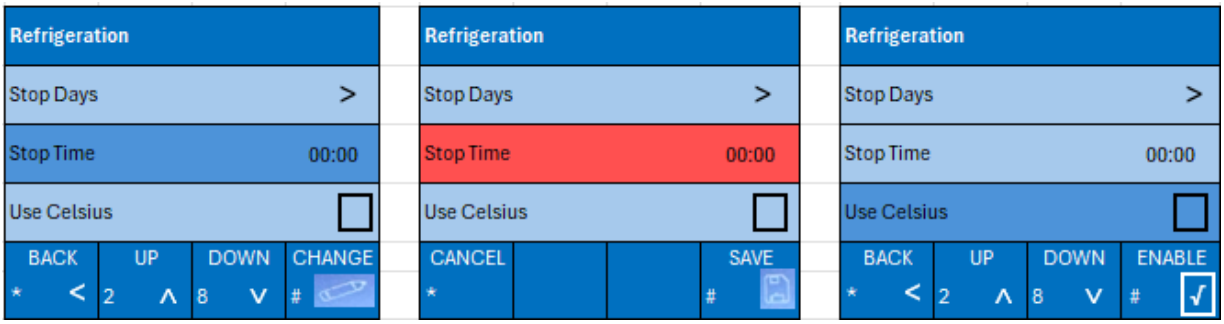
If **<# or ENTER>** is pressed at the "**Stop Days**" prompt, the Control Board will enter the Stop Refrigeration Energy Conservation Control Days setting routine. Press **<* or EXIT>** at this point will return you to the "**Stop Days**" prompt without saving any changes. Use **<↓ or 8>** to proceed to the next prompt, "**Stop Time**."

If **<# or ENTER>** is pressed at the "**Stop Days**" prompt, the Display will show Sunday, the first Day of the Week, followed by a check box. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**". If **<# or ENABLE/DISABLE>** is pressed at the Day of the Week, the box will toggle between checked, Refrigeration Energy Conservation Control Timer Enable (On) for that Day or unchecked, Refrigeration Energy Conservation Control Timer Disable (Off) for that Day. Press **<* or BACK>** or using **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**" will save the displayed setting. If **<* or BACK>** is pressed, the Control Board will return to the "**Stop Days**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Stop Time**".



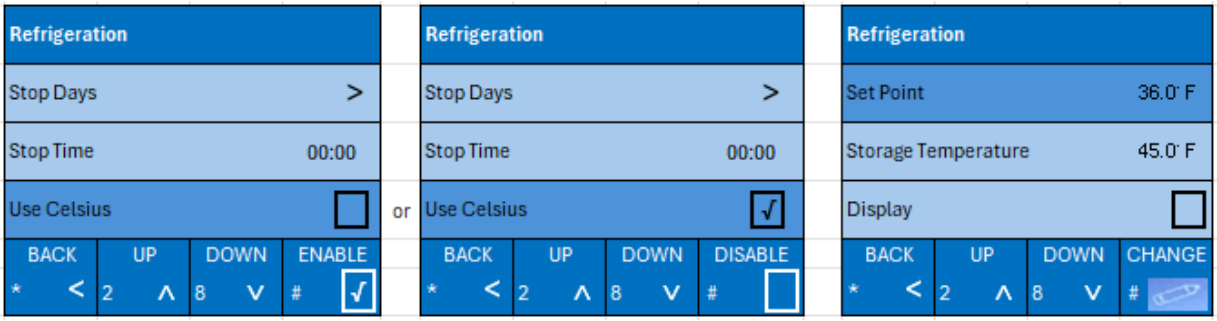
"**Stop Time**" **(Set Conserve Energy Stop Time Routine)**

If **<# or CHANGE>** is pressed at the "**Stop Time**" prompt, the Control Board will enter the Stop Refrigeration Energy Conservation Control Time setting routine. This Time will be displayed in a 24-hour format highlighted reddish orange. The left two digits of the Display show the current Hour setting; the right two Digits show the current Minutes. Enter the current time in 24-hour format (Ex. 11:37am is entered as 1137) using the key Touch Pad. Press **<* or CANCEL>** will return to the unhighlighted "**Stop Time**" without saving changes. Press **<# or SAVE>** will save the new displayed Hour and Minutes setting and return you to the unhighlighted "**Stop Time**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Use Celsius**".



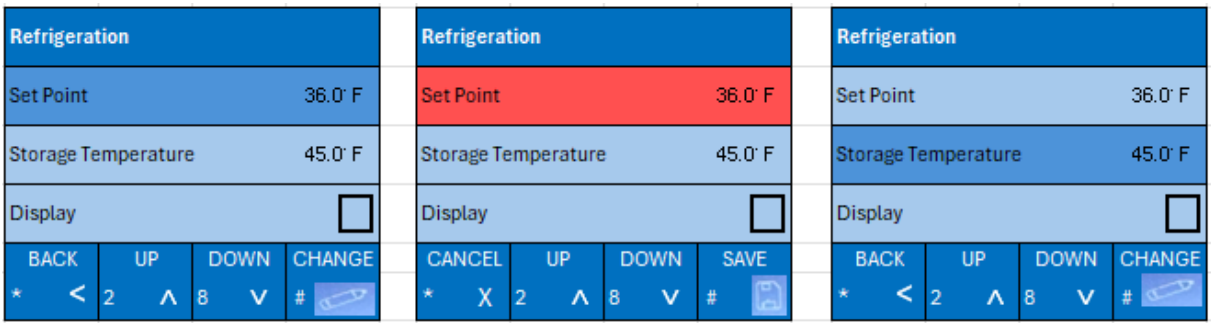
"**Use Celsius**" **(Set Celsius or Fahrenheit Temperature Reading to be Displayed)**

If **<# or ENABLE/DISABLE>** is pressed at the "**Use Celsius**" prompt, the check box will toggle between checked, to Display Temperatures in degrees Celsius Enable (On) or unchecked, Disable (Off) to Display Temperatures in degrees Fahrenheit. Press **<* or BACK>** at this point will save the desired Temperature Mode and return you to the "**Use Celsius**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Set Point**".



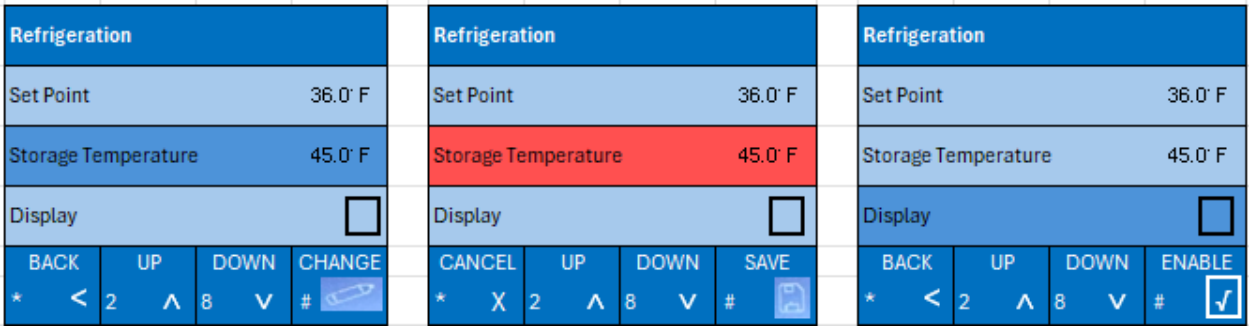
"**Set Point**" **(Set Point Setting Routine)**

The Set Point default is 36° F (2.0° C). Caution should be used in changing the Set Point which could freeze products or result in warm products. If **<# or CHANGE>** is pressed at the "**Set Point**" prompt, the Control Board will Display the current Set Point Temperature Setting "xx° F" or "xx.x° C," depending on the "**Use Celsius**" setting highlighted reddish orange. Using **<↑ or 2>** or **<↓ or 8>** will increase or decrease the number by 1° F (0.5° C). Press **<# or SAVE>** will save the Set Point and return you to the unhighlighted "**Set Point**" prompt. Press **<* or CANCEL>** will return to the unhighlighted "**Set Point**" prompt without saving changes. From "**Set Point**", press **<↓ or 8>** to proceed to the next prompt, "**Storage Temperature**".



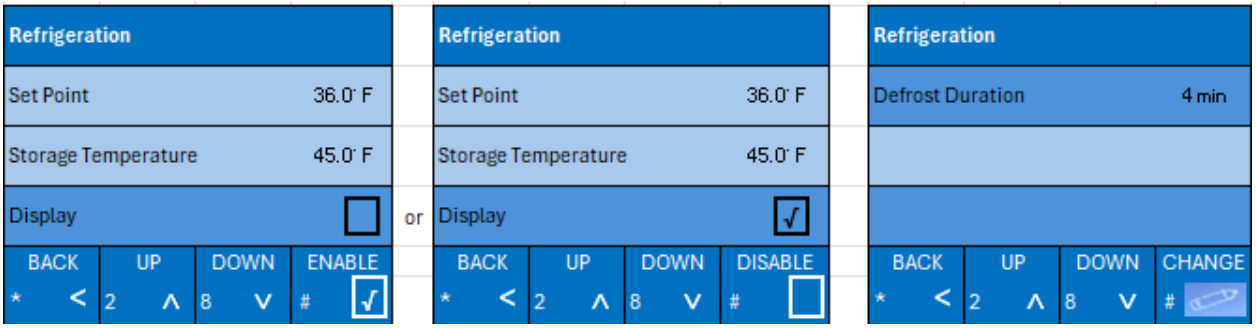
"**Storage Temperature**" **(Storage Temperature Routine)**

The Storage Temperature default is 45° F (7.0° C). If **<# or CHANGE>** is pressed at the "**Storage Temperature**" prompt, the Control Board will Display the current Storage Temperature setting "xx° F" or "xx.x° C," depending on the "**Use Celsius**" setting highlighted reddish orange. Using **<↑ or 2>** or **<↓ or 8>** will increase or decrease the number by 1° F (0.5° C), over the range of 32° F to 75° F (0° C to 24° C). Press **<# or SAVE>** will save the Storage Temperature and return you to the unhighlighted "**Storage Temperature**" prompt. Press **<* or CANCEL>** will return you to the unhighlighted "**Storage Temperature**" prompt without saving changes. From "**Storage Temperature**," press**<↓ or 8>** to proceed to the next prompt, "**Display**".



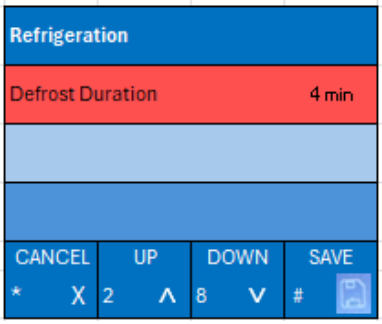
"**Display**" **(Set Display Temperature in Sales Mode Routine)**

If **<# or ENABLE/DISABLE>** is pressed at the "**Display**" prompt, the check box will toggle between checked to Display the Temperature in Sales Mode or unchecked to Not Display the Temperature in Sales Mode. Press **<* or BACK>** will save the currently displayed setting and return you to the "**Display**" prompt. From "**Display**", press **<↓ or 8>** to proceed to the next prompt, "**Defrost Duration**".



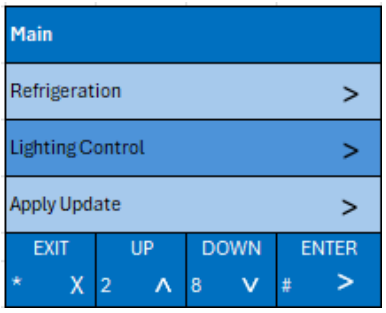
"**Defrost Duration**" **(Set Defrost Duration Routine)**

The Defrost Duration default setting is 4 minutes. This setting is used to determine how long the Vendor will remain in Defrost Mode, when activated. If **<# or CHANGE>** is pressed at the "**Defrost Duration**" prompt, the Control Board will Display the current Defrost Duration Setting highlighted reddish orange. Using **<↑ or 2>** or **<↓ or 8>** will increase or decrease the Defrost Duration Setting by one minute. Press **<# or**



SAVE> will save the currently displayed setting and return the user to the unhighlighted "Defrost Duration" prompt. Press **<* or CANCEL>** will return to the unhighlighted "Defrost Duration" prompt without saving changes. From "**Defrost Duration**", press **<↓ or 8>** to return to the "**Refrigeration**" prompt. Use **<↓ or 8>** to proceed to the next prompt "**Lighting Control**".

- ***Lighting Control (LED Lighting Control Routine)**



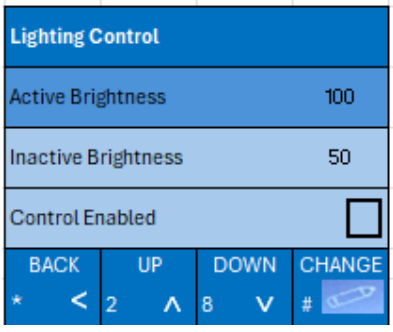
This function is used to turn the Vendor Lights Off and On during certain periods of the day.

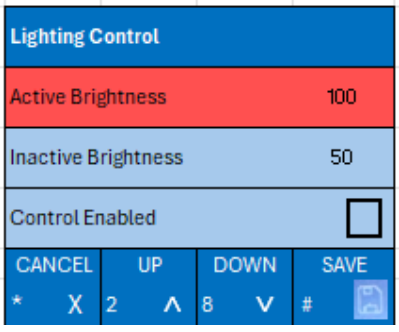
If **<# or ENTER>** is pressed at the "**Lighting Control**" prompt, the Control Board will enter the LED Lighting Control Mode. Using **<↑ or 2>** or **<↓ or 8>**, you can cycle through the various LED Lighting Control Settings. If **<* or EXIT>** is pressed, the Control Board will return to the "**Lighting Control**" prompt. From this prompt, press **<↓ or 8>** to proceed to the next prompt, "**Selection Block 1**".

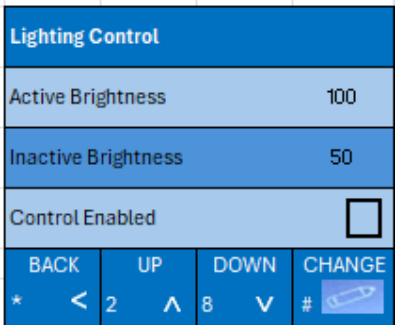
<u>Lighting Control Modes</u> are:

"**Active Brightness (100%)**" **(Set LED Lighting Brightness % when active)**

Upon first entry into "**Lighting Control**", the Control Board will Display "**Active Brightness**". This menu item is used to set the Active Brightness of the Vendor's LED illumination when the Vendor is in Active State. The default setting is 100 percent. If **<# or CHANGE>** is pressed at "**Active Brightness**", the prompt and the current setting (0 to 100 percent) will be highlighted reddish orange. Press**<↑ or 2>** or **<↓ or 8>** to change the Brightness % of the LED illumination in increments of 5%. Press **<# or SAVE>** will save the displayed setting and return you to the unhighlighted "**Active Brightness**" prompt. Press **<* or CANCEL>** will return to the unhighlighted "**Active Brightness**" prompt without saving changes. From the "**Active Brightness**" prompt, use **<↓ or 8>** to proceed to the next prompt, "**Inactive Brightness**".

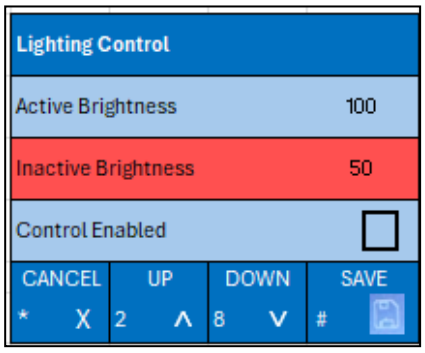






"**Inactive Brightness (50%)**" **(Set Lighting Brightness % when inactive)**

This menu item is used to set the Inactive Brightness of the Vendor's LED illumination when the Vendor is in an Inactive State. The default setting is 50 percent. If **<# or CHANGE>** is pressed at "**Inactive Brightness**", the prompt and the current setting (0 to 100 percent) will be highlighted reddish orange. Press **<↑ or 2>** or **<↓ or 8>** to change the Brightness % of the LED illumination in increments of 5% during Inactivity. Press **<# or SAVE>** will save the displayed setting and return you to the unhighlighted "**Inactive Brightness**" prompt. Press **<* or CANCEL>** will return to the unhighlighted "**Inactive Brightness**" prompt without saving changes. From the "**Inactive Brightness**" prompt, use **<↓ or 8>** to proceed to the next prompt, "**Control Enabled**".

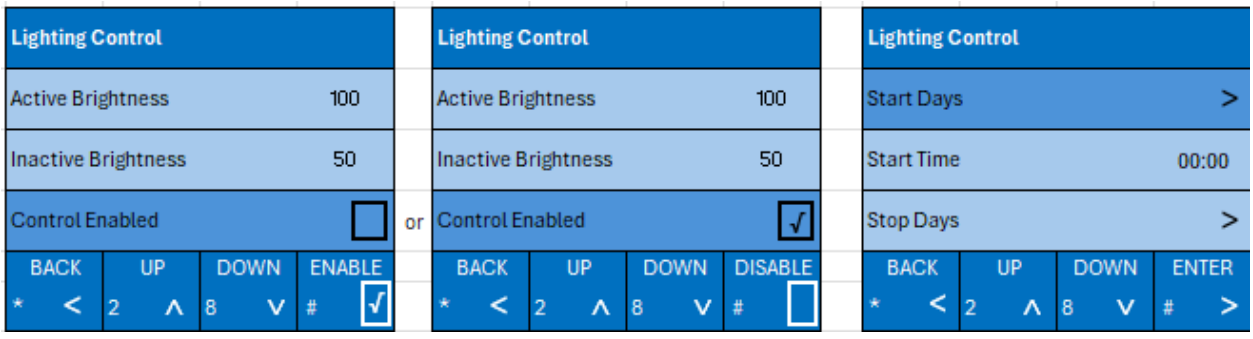


"**Control Enabled (checkbox)**" **(Set Light Control Time Blocks On/Off)**

If **<# or ENABLE/DISABLE>** is pressed at the "**Control Enabled**" prompt, the check box will toggle between checked, Control Enable (On) or unchecked, Control Disable (Off). If Enabled (On), this means that the Lighting Panels of the Vendor will be turned off during the Programmed Time Blocks. Press **<* or BACK>** will save the displayed setting and return you to the unhighlighted "Control Enabled" prompt. From the "**Control Enabled**" prompt, use **<↓ or 8>** to proceed to the next prompt, "**Start Days**".

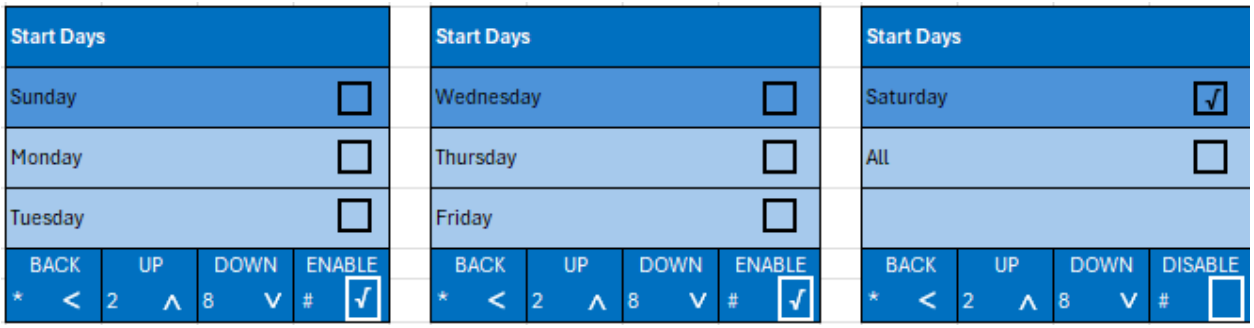
"**Start Days (checkboxes)**" **(Set Light Control Start Days)**

If **<# or ENTER>** is pressed at the "**Start Days**" prompt, the Control Board will enter the Start Lighting Control Days setting routine. Press **<* or BACK>** at this point will return you to the "**Start Days**" prompt without saving any changes. Use **<↓ or 8>** to proceed to the next prompt, "**Start Time**".



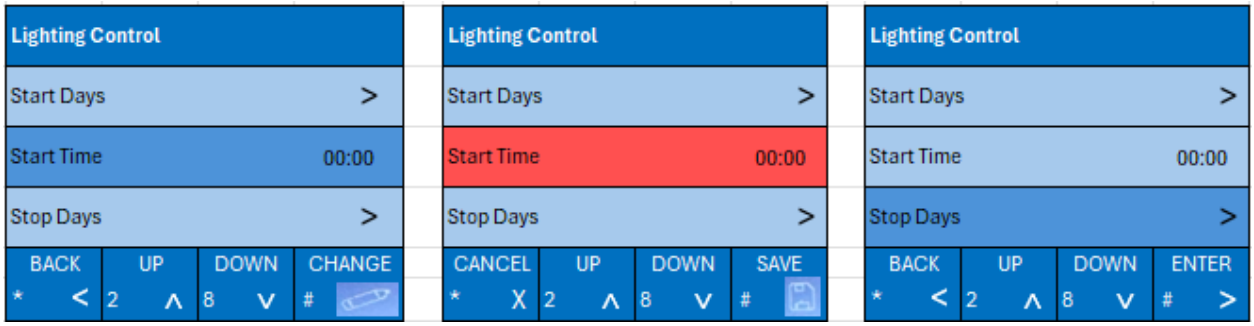
If **<# or ENTER>** is pressed at the "**Start Days**" prompt, the Display will show Sunday, the first Day of the Week, followed by a check box. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All Days**". If **<# or ENABLE/DISABLE>** is pressed at the Day of the Week, the box will be checked, Lighting Control Timer Enable (On) for that Day or unchecked, Lighting Control Timer Disable (Off) for that Day. Press **<* or BACK>** or using **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**"

will save the displayed setting. Press **<* or BACK>** will return the Control Board to the "**Start Days**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Start Time**".



"**Start Time**" **(Set Light Control Start Time)**

If **<# or CHANGE>** is pressed at the "**Start Time**" prompt, the Control Board will enter the Start Light Control Time setting routine. This Time will be displayed in a 24-hour format highlighted reddish orange. The left two digits of the Display show the current Hour setting; the right two Digits show the current Minutes. Enter the current time in 24-hour format (Ex. 11:37am is entered as 1137) using the key Touch Pad. Press **<* or CANCEL>** will return to the unhighlighted "**Start Time**" without saving changes. Press **<# or SAVE>** will save the new displayed Hour and Minutes setting and return you to the unhighlighted "**Start Time**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Stop Days**".

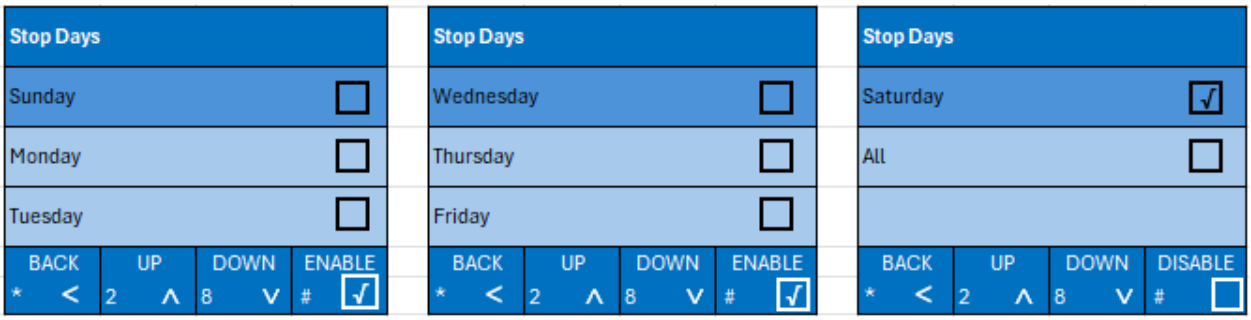


"**Stop Days (checkboxes)**" **(Set Light Control Stop Days)**

If **<# or ENTER>** is pressed at the "**Stop Days**" prompt, the Control Board will enter the Stop Lighting Control Days setting routine. Press **<* or BACK>** at this point will return you to the "**Stop Days**" prompt without saving any changes. Use **<↓ or 8>** to proceed to the next prompt, "**Stop Time**".

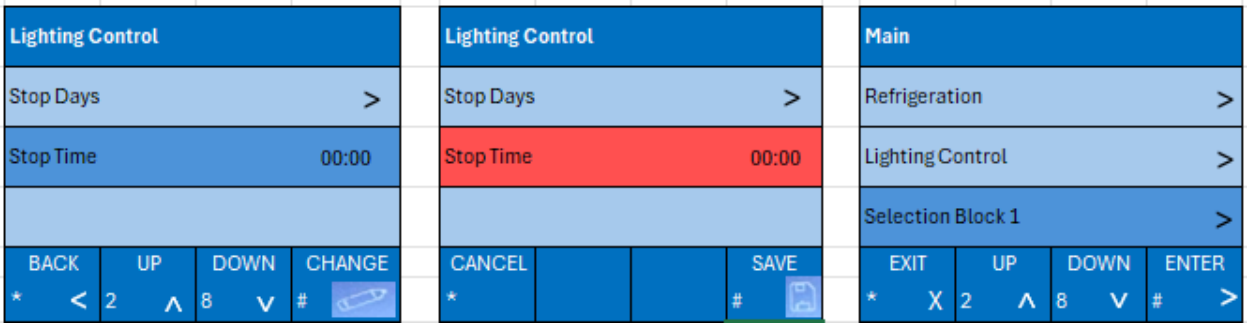
If **<# or ENTER>** is pressed at the "**Stop Days**" prompt, the Display will show Sunday, the first Day of the Week, followed by a check box. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**". If **<# or ENABLE/DISABLE>** is pressed at the Day of the Week, the box will be checked, Lighting Control Timer Enable (On) for that Day, or unchecked, Lighting Control Timer Disable (Off) for that Day. Press **<* or BACK>** or using **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**"

will save the displayed setting. Press **<* or BACK>** will return the Control Board to the "**Stop Days**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Stop Time**".



"**Stop Time**" **(Set Light Control Stop Time)**

If **<# or CHANGE>** is pressed at the "**Stop Time**" prompt, the Control Board will enter the Stop Lighting Control Time setting routine. This Time will be displayed in a 24-hour format and highlighted reddish orange The two left digits of the Display show the current Hour setting; the right two digits show the current Minutes. Enter the current time in 24-hour format (Ex. 11:37am is entered as 1137) using the key Touch Pad. Press **<* or CANCEL>** will return to the unhighlighted "**Stop Time**" without saving changes. Press **<# or SAVE>** will save the new displayed Hour and Minutes setting and return you to the unhighlighted "**Stop Time**" prompt. Press **<* or BACK>** again to return to "**Lighting Control**". Use **<↓ or 8>** to proceed to the next prompt (If Configuration 2 Optional Features is turned On), "**Selection Block 1**" if Configuration 2 Optional Features is Off the next prompt will be "**Apply Updates**".



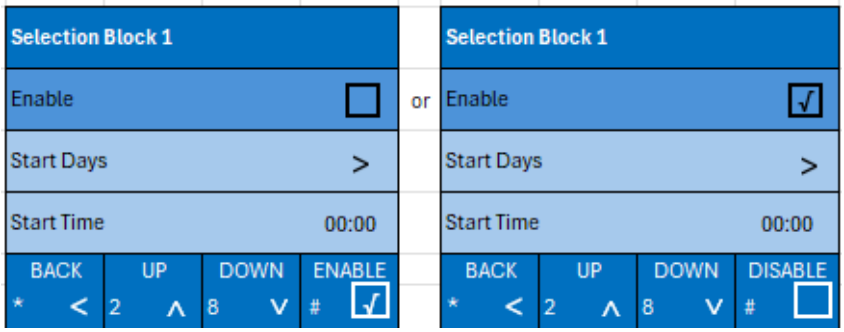
- ***Selection Block 1 (Set Selections to be blocked during set times) and**
- ***Selection Block 2 (Set Selections to be blocked during set times)**

This function is used to set Selections which will be blocked during certain periods of the day.

Configuration C2 must be turned On (enabled) to access Selection Blocking. If **<# or ENTER>** is pressed at the "**Selection Block 1**" prompt (1 or 2), the Control Board will enter the Selection Blocking Control Mode. Using **<↑ or 2>** or **<↓ or 8>**, you can cycle through the various Selection Blocking Control Settings (Enable, Start Days, Start Time, Stop Days, Stop Time, and Blocked Selections). If **<* or BACK>** is pressed, the Control Board will return to the "**Selection Block 1**" prompt. From this prompt, press **<↓ or 8>** to proceed to the next prompt, "**Selection Block 2**" prompt, press **<↓ or 8>** again to proceed to the next prompt, "**Selection Discount 1**".

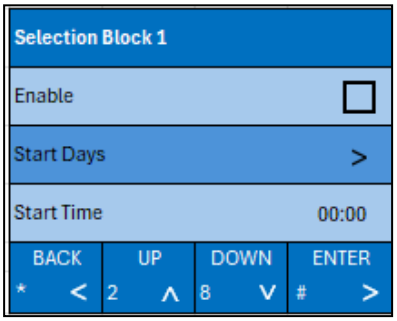
"**Enable**" **(Set Selection Blocking Settings On/Off)**

If **<# or ENABLE/DISABLE>** is pressed at the prompt, the check box will toggle between checked, Programmed Selections for Blocking Enable (On) or unchecked, Programmed Selections for Blocking Disable (Off). If enabled, this means that active Programmed Selections will not be allowed to vend during programmed Time Blocks and a "**No Sale Until hh:mm**" message will be displayed. Press **<* or BACK>** will save the displayed setting and return you to the unhighlighted "**Enable**" prompt. From the "**Enable**" prompt, use **<↓ or 8>** to proceed to the next prompt, "**Start Days**".

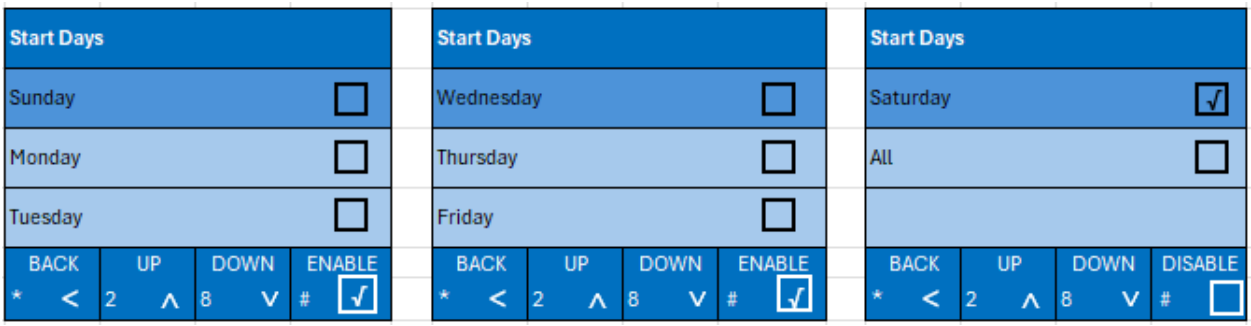


"**Start Days**" **(Set Start Days for Blocking Selections)**

If **<# or ENTER>** is pressed at the "**Start Days**" prompt, the Control Board will enter the Start Selection Blocking Control Days setting routine. Press **<* or BACK>** at this point will return you to the "**Start Days**" prompt without saving any changes. Use **<↓ or 8>** to proceed to the next prompt, "**Start Time**".

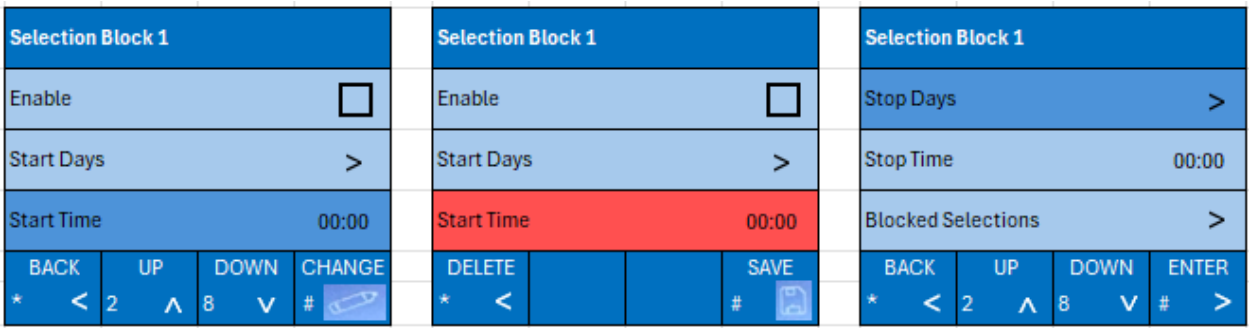


If **<# or ENTER>** is pressed at the "**Start Days**" prompt, the Display will show Sunday, the first Day of the Week, followed by a check box. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**". If **<# or ENABLE/DISABLE>** is pressed at the Day of the Week, the box will be checked, Selection Blocking Control Timer Enable (On) for that Day or unchecked, Selection Blocking Control Timer Disable (Off) for that Day. Press **<* or BACK>** or using **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**" will save the displayed setting. Press **<* or BACK>** will return the Control Board to the "**Start Days**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Start Time**".



"**Start Time**" **(Set Start Time for Blocking Selections)**

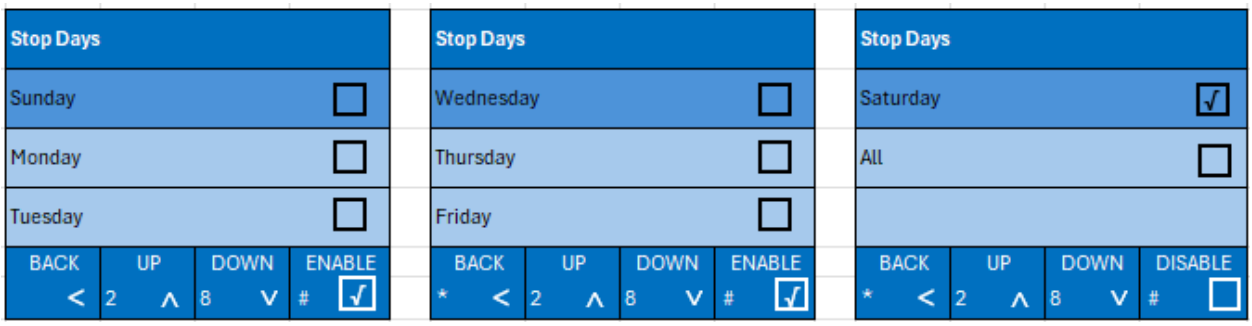
If **<# or CHANGE>** is pressed at the "**Start Time**" prompt, the Control Board will enter the Start Selection Blocking Control Time Setting routine. This Time will be displayed in a 24- hour format highlighted reddish orange. The two left digits of the Display show the current Hour setting; the right two digits show the current Minutes. Enter the current time in 24-hour format (Ex. 11:37am is entered as 1137) using the key Touch Pad. Press **<* or DELETE>** will return to the unhighlighted "**Start Time**" without saving changes. Press **<# or SAVE>** will save the new displayed Hour and Minutes setting and return you to the unhighlighted "**Start Time**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Stop Days**".



"**Stop Days**" **(Set Stop Days for Blocking Selections)**

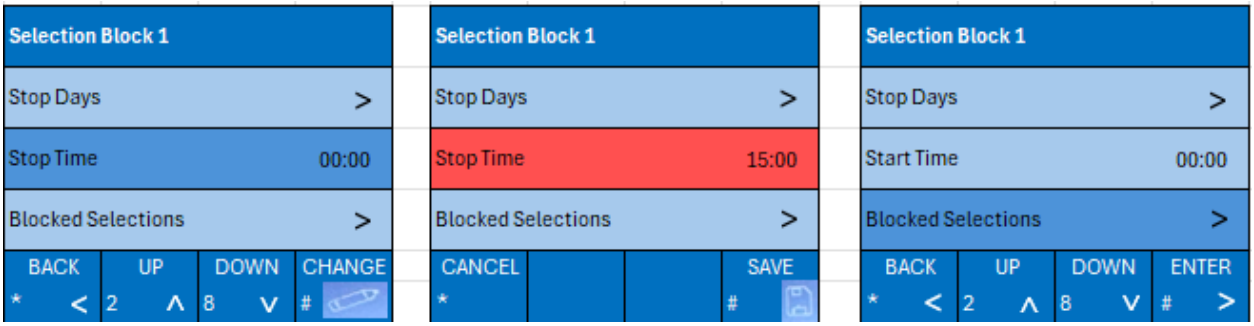
If **<# or ENTER>** is pressed at the "**Stop Days**" prompt, the Control Board will enter the Stop Selection Blocking Control Days Setting routine. Press **<* or BACK>** at this point will return you to the "**Stop Days**" prompt without saving any changes. Use **<↓ or 8>** to proceed to the next prompt, "**Stop Time**."

If **<# or ENTER>** is pressed at the "**Stop Days**" prompt, the Display will show Sunday, the first Day of the Week, followed by a check box. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**". If **<# or ENABLE/DISABLE>** is pressed at the Day of the Week, the box will be checked, Selection Blocking Control Timer Enable (On) for that Day or unchecked, Selection Blocking Control Timer Disable (Off) for that Day. Press **<* or BACK>** or using **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**" will save the displayed setting. Press **<* or BACK>** will return the Control Board to the "**Stop Days**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Stop Time**".



"**Stop Time**" **(Set Stop Time for Blocking Selections)**

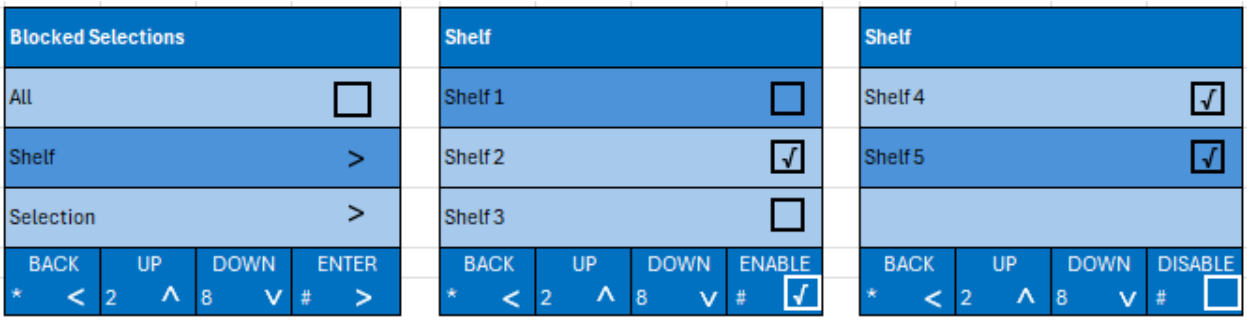
If **<# or CHANGE>** is pressed at the "**Stop Time**" prompt, the Control Board will enter the Stop Selection Blocking Control Time Setting routine. This Time will be displayed in a 24- hour format highlighted reddish orange. The two left digits of the Display show the current Hour setting; the right two digits show the current Minutes. Enter the current time in 24-hour format (Ex. 11:37am is entered as 1137) using the key Touch Pad. Press **<* or CANCEL>** will return to the unhighlighted "**Stop Time**" without saving changes. Press **<# or SAVE>** will save the new displayed Hour and Minutes setting and return you to the unhighlighted "**Stop Time**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Blocked Selections**".



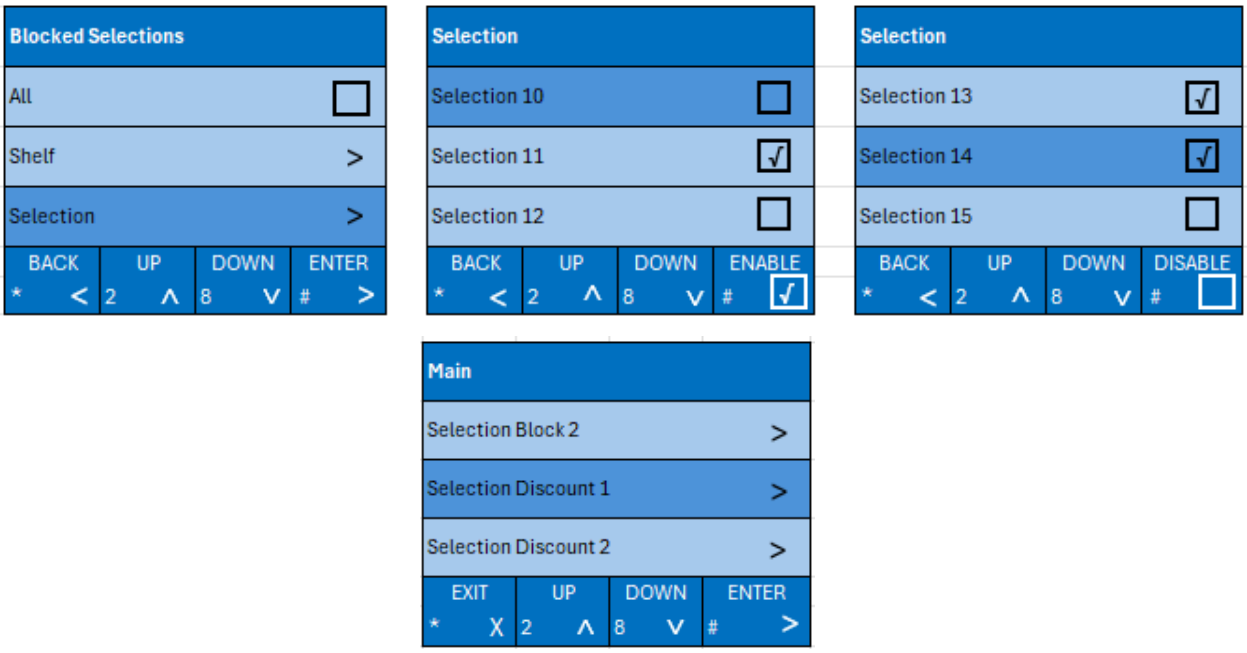
"**Blocked Selections**" **(Set Selections to be Blocked for use During set Times)**

If **<# or ENTER>** is pressed at the "**Blocked Selections**" prompt, the Display will show "**All**", followed by a check box. If **<# or ENABLE/DISABLE>** is pressed at "**All**", the box will toggle between checked, to Block All Selections at once or unchecked, to Block Only Certain Selections. Press **<# or ENTER>** to save the status and return to the unhighlighted "**All**" display. Press **<↓ or 8>** to proceed to the next menu item, "**Shelf**".

If **<# or ENTER>** is pressed at "**Shelf**", all the available Shelf Numbers will be displayed, followed by a check box. If **<# or ENABLE/DISABLE>** is pressed at a desired Shelf Number, the box for that Shelf will toggle between checked, to Block All Selections on that Shelf or unchecked, to Block Only Certain Selections on that Shelf or None. Press **<* or BACK>** will save the status and return the Display to the unhighlighted "**Shelf Number**". Press **<↑ or 2>** or **<↓ or 8>** to scroll through each available Shelf Number. Press **<* or BACK>** to return to the "**Shelf**" prompt within "**Blocked Selections**". Press **<↓ or 8>** to proceed to the next menu item, "**Selection**".

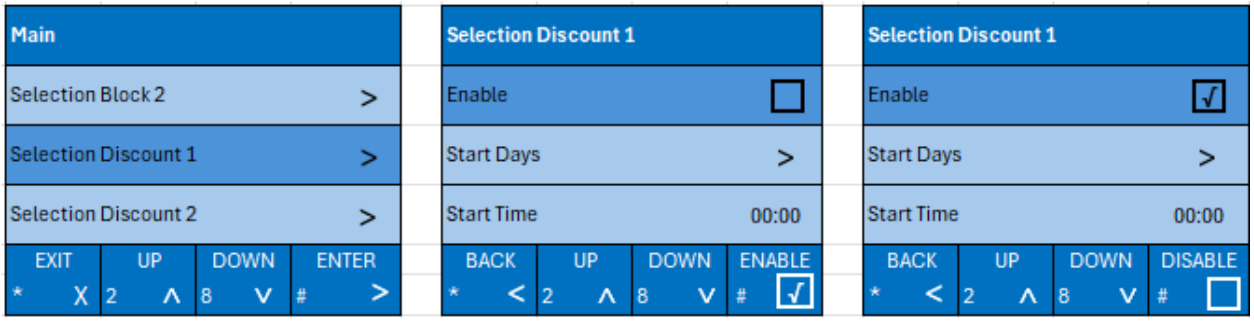


If **<# or ENTER>** is pressed at "**Selection**", all the available Selection Numbers will be displayed, followed by a check box. If **<# or ENABLE/DISABLE>** is pressed at a desired highlighted Selection Number, the box for that selection will toggle between checked, to Block that Selection or unchecked, to not Block that Selection, always leaving it available for Sales. Press **<* or BACK>** will save the status and return the Display to the unhighlighted "Selection Number". Press **<↑ or 2>** or **<↓ or 8>** to scroll through each available Selection Number. Press **<* or BACK>** to return to the "**Selection**" prompt within "**Blocked Selections**". From this prompt, press **<↓ or 8>** to proceed to the next prompt, "**Selection Block 2**" prompt, press **<↓ or 8>** again to proceed to the next prompt, "**Selection Discount 1**".



- ***Selection Discount 1 (Set Selections to be discounted during set times) or**
- ***Selection Discount 2 (Set Selections to be discounted during set times) or**
- ***Selection Discount 3 (Set Selections to be discounted during set times)**

Configuration C2 must be turned On (enabled) to access Selection Discounting. If **<# or ENTER>** is pressed at the "**Selection Discount 1**" prompt (1, 2, or 3), the Control Board will enter the Discount Control Mode. Using **<↑ or 2>** or **<↓ or 8>**, the user can cycle through the various Discount Control Settings (Enable, Start Days, Start Time, Stop Days, Stop Days, Stop Time, Discount Selections, Less Amount). If **<* or EXIT>** is pressed, the Control Board will return to the "**Selection Discount 1**" prompt. Use **<↓ or 8>** to proceed to the next prompt,



"**Override Switch**".

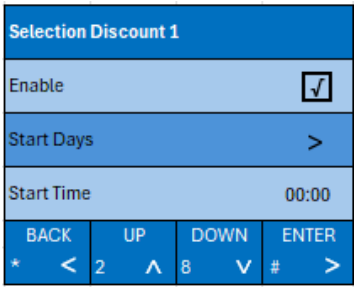
"**Enable**" **(Set Selection Discount Settings On/Off)**

Upon first entry into "**Selection Discount 1**", if **<# or ENABLE/DISABLE>** is pressed at the prompt, the check box will toggle between checked, Discount Sales Enable (On) or unchecked, Discount Sales Disable (Off). If enabled, this means that Active Selections will be discounted by the programmed Discount amount during the programmed Time blocks. Press **<↓ or 8>** to scroll to "**Start Days**" or press **<* or BACK>** will save the displayed Setting and return you to the unhighlighted Press **<* or BACK>** will save the displayed setting and return you to the unhighlighted "**Enable**" prompt. From the "**Enable**" prompt, use **<↓ or 8>**to proceed to the next prompt, "**Start Days**".

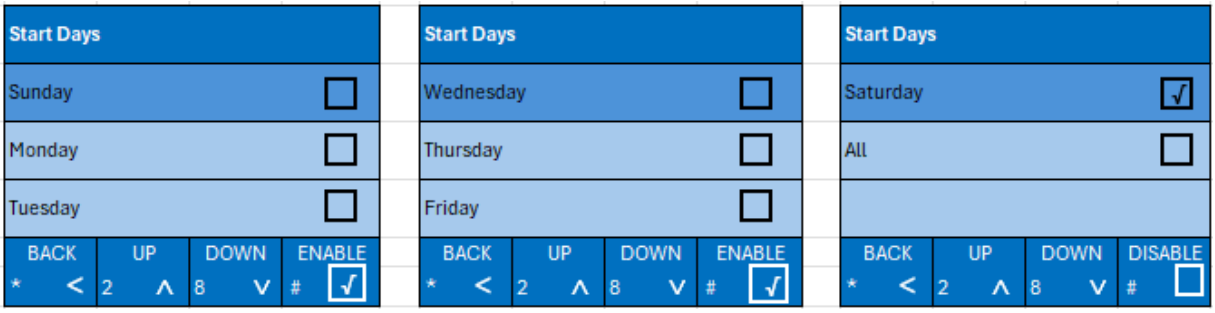
"**Start Days**"

(Set start days for Discounting Selections)

If **<# or ENTER>** is pressed at the "**Start Days**" prompt, the Control Board will enter the Start Discounting Control Days Setting routine. Press **<* or BACK>** at this point will return you to the "**Start Days**" prompt without saving any changes. Use **<↓ or 8>** to proceed to the next prompt, "**Start Time**".



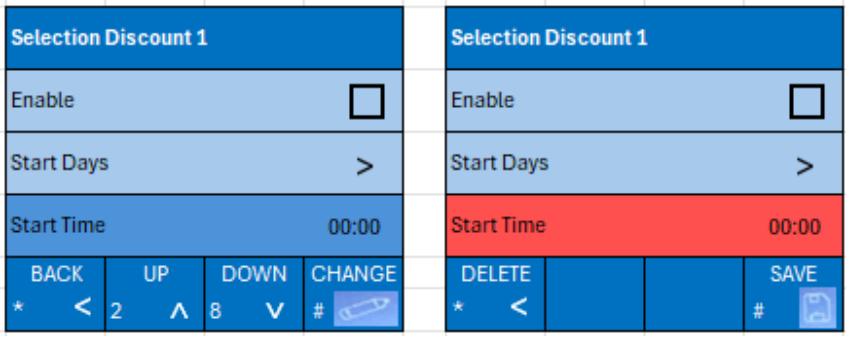
If **<# or ENTER>** is pressed at the "**Start Days**" prompt, the Display will show Sunday, the first Day of the Week, followed by a check box. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**". If **<# or ENABLE/DISABLE>** is pressed at the Day of the Week, the box will be checked, Discounting Control Timer Enable (On) for that Day or unchecked, Discounting Control Timer Disable (Off) for that Day. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or press **<* or BACK>** will save the displayed Setting and return you to the unhighlighted "**Day**" name. Press **<* or BACK>** will return the Control Board to the "**Start Days**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Start Time**".



"**Start Time**" **(Set start time for Discounting Selections)**

If **<# or CHANGE>** is pressed at the "**Start Time**" prompt, the Control Board will enter the Start Discounting Control Time Setting routine. This time will be displayed in a 24-hour format highlighted reddish orange. The two left digits of the Display show the current Hour setting; the right two digits show the current Minutes. Enter the current

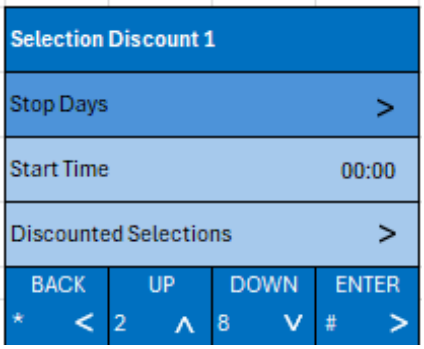
time in 24-hour format (Ex: 11:37am is entered as 1137) using the key Touch Pad. Press **<* or DELETE>** will return to the unhighlighted "**Start Time**" without saving changes. Press **<# or SAVE>** will save the new displayed Hour and Minutes setting and return you to the unhighlighted "**Start Time**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Stop Days**".



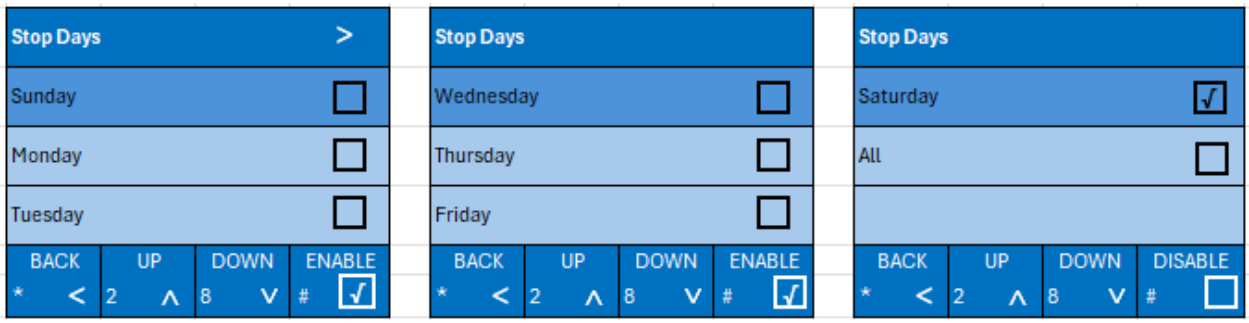
"**Stop Days**"

(Set Stop Days for Discounting Selections)

If **<# or ENTER>** is pressed at the "**Stop Days**" prompt, the Control Board will enter the Stop Discounting Control Days Setting routine. Press **<* or BACK>** at this point will return you to the "**Stop Days**" prompt without saving any changes. Use **<↓ or 8>** to proceed to the next prompt, "**Stop Time**".

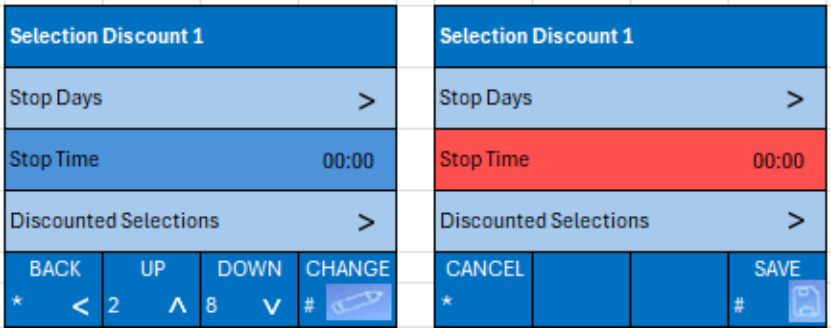


If **<# or ENTER>** is pressed at the "**Stop Days**" prompt, the Display will show Sunday, the first Day of the Week, followed by a check box. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or "**All**". If **<# or ENABLE/DISABLE>** is pressed at the Day of the Week, the check box will be checked, Discounting Control Timer Enable (On) for that day or unchecked, Discounting Control Timer Disable (Off) for that day. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each Day of the Week or press **<* or BACK>** will save the displayed Setting and return you to the unhighlighted Day name. Press **<* or BACK>** will return the Control Board to the "**Stop Days**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Stop Time**".



"Stop Time" (Set Stop Time for Discounting Selections)

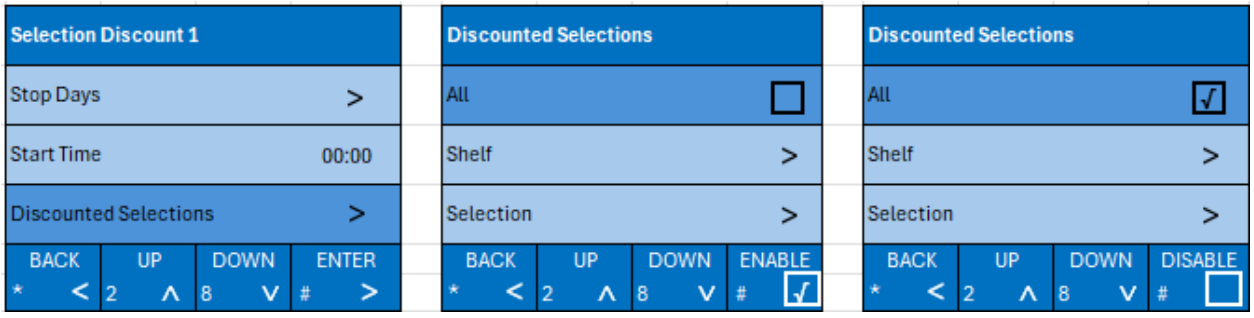
If **<# or CHANGE>** is pressed at the "**Stop Time**" prompt, the Control Board will enter the Start Discounting Control Time Setting routine. This Time will be displayed in a 24-hour format highlighted reddish orange. The two left digits of the Display show the current Hour setting; the right two digits show the current Minutes. Enter the current time in 24-hour format (Ex. 11:37am is entered as 1137) using the key Touch Pad. Press **<* or CANCEL>** will return to the unhighlighted "**Stop Time**" without saving changes. Press **<# or SAVE>** will save the new displayed Hour and Minutes setting and return you to the unhighlighted "**Stop Time**" prompt. Use **<↓ or 8>** to proceed to the next prompt, "**Discounted Selections**".



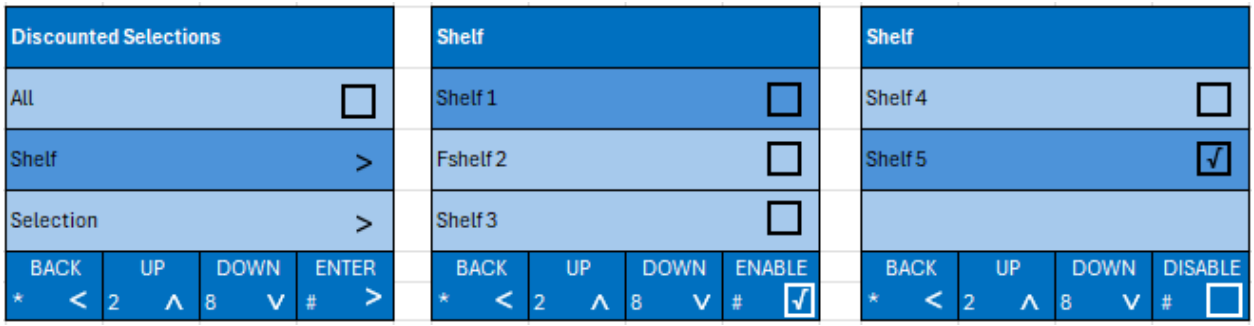
"**Discounted Selections**"

(Set Selections to be Discounted for use during set times)

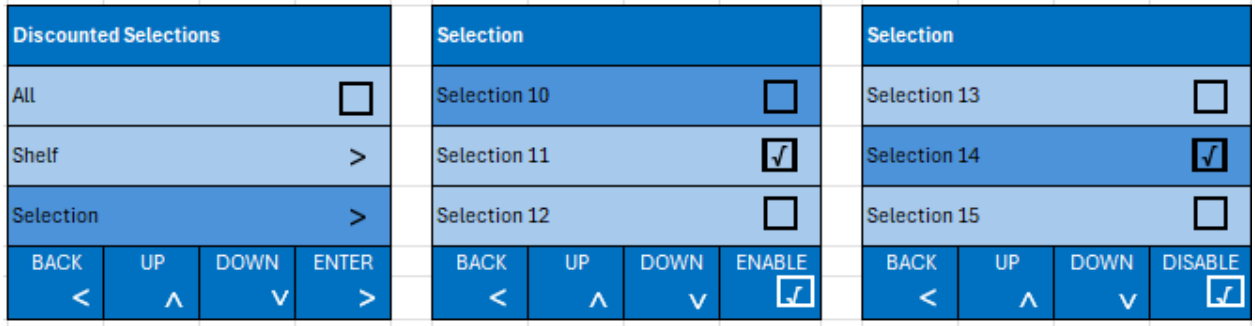
If **<# or ENTER>** is pressed at the "**Discounted Selections**" prompt, the Display will show "**All**", followed by a check box. If **<# or ENTER>** is pressed at "**All**", the box will toggle between checked, to Discount All Selections at once or unchecked, to Discount Only Certain Selections. Press **<↓ or 8>** to scroll through Shelf and Selection prompts or press **<* or BACK>** to save the status and return to the unhighlighted "All" prompt. Press **<↓ or 8>** to proceed to the next menu item, "**Shelf**".



If **<# or ENTER>** is pressed at "**Shelf**", all the available Shelf Numbers will be displayed, followed by a check box. If **<# or ENABLE/DISABLE>** is pressed at a desired Shelf Number, the box for that shelf will toggle between checked, to Discount All Selections on that Shelf or unchecked, to Discount Only Certain Selections on that Shelf or None. Press **<# or ENTER>** will save the status and return the Display to the unhighlighted Shelf Number. Press **<↑ or 2>** or **<↓ or 8>** to scroll through each available Shelf Number. Press **<* or BACK>** to return to the "**Shelf**" prompt within "**Discounted Selections**". Press **<↓ or 8>** to proceed to the next menu item, "**Selection**".

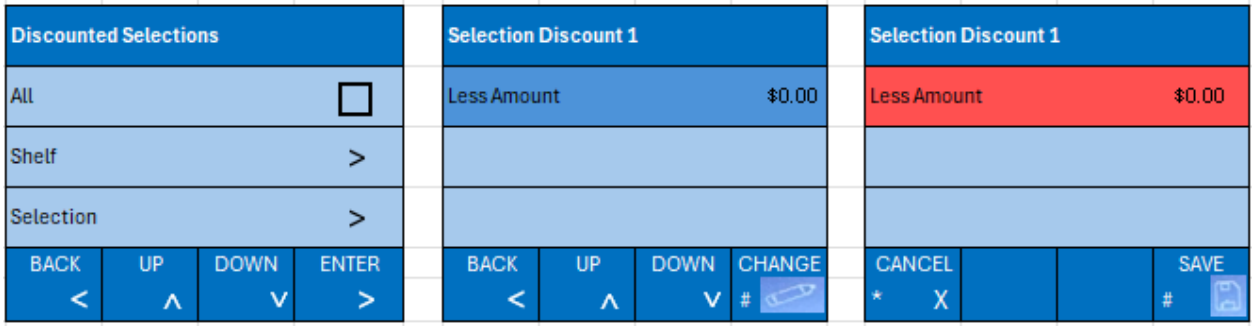


If **<# or ENTER>** is pressed at "**Selection**", all the available Selection Numbers will be displayed, followed by a check box. If **<# or ENABLE/DISABLE>** is pressed at a desired Selection Number, the box for that Selection will toggle between checked, to Discount that Selection or unchecked, to Not Discount that Selection, always leaving it at full price. Press **<↑ or 2>** or **<↓ or 8>** or **<* or BACK>** will save the status and return the Display to "**Selection**". Press **<↑ or 2>** or **<↓ or 8>** to scroll through each available Selection Number. Press **<* or BACK>** to return to the "**Selection**" prompt within "**Discounted Selections**". Press **<↓ or 8>** to proceed to the next prompt, "**Less Amount**".



"**Less Amount**" (**Set the Discount Amount (price) for Selection(s) during set times)**

If **<# or CHANGE>** is pressed at the "**Less Amount**" prompt, the current four-digit Discount Amount (00.00 – 99.95) will be highlighted reddish orange. To enter type in the discount amount using the key Touch Pad. Once the desired discount amount is displayed, press **<# or SAVE>** will save the setting and return to the unhighlighted "**Less Amount**" prompt. Press **<* or CANCEL>** will return you to the "**Less Amount**" prompt without saving any changes. From the "**Less Amount**" prompt, press **<* or BACK>** to return to the "**Selection Discount 1**" prompt. (**Note**: If the Discount Amount is greater than the Sale Price for a given Selection, the Selection will Free Vend.) From this prompt, press **<↓ or 8>** to proceed to the next prompt, "**Selection Discount 2**" prompt, press **<↓ or 8>** again to proceed to the next prompt, "**Selection Discount 3**", press **<↓ or 8>** again to proceed to the next prompt. "**Override Switch".**

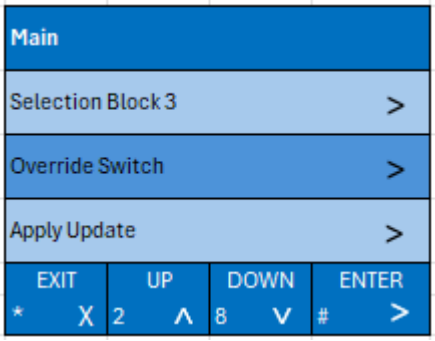


• *Override Switch – NOT AVAILABLE IN GFV-400

(Set a Mechanical Switch to Override Settings scheduled in programming)

Configuration C2 must be turned On (enabled) to access Override Switch. If the Control Board is equipped to operate with a Mechanical Key Switch option, the Override Switch setting can be used to Override some of the settings stored for normal operation of the Vendor. The Mechanical Key Switch can be programmed to Override one or several Features simultaneously. If a Feature is enabled in this Menu, that Feature will Override normal machine operation when the Manual Switch is activated (On).

If **<# or ENTER>** is pressed at the "**Override Switch**" prompt the Control Board will enter the Override Configuration Setting Mode by displaying "**Free Vend**", followed by a check box. Using **<↑ or 2>** or **<↓ or 8>** will allow you to cycle through all available Override Configuration Options (Free Vend, No Vend, Blocking Disable, Lighting Control Disable, and Refrigeration Disable). If **<* or BACK>** is pressed at any time during this operation, the Control Board will return to the "**Override Switch**" prompt. From the "**Override Switch**" prompt, press **<↓ or 8>** to proceed to the next prompt, "**Apply Update**".



The following options can be selected for "**Override Switch**" control:

"**Free Vend**" **(Set Selections to Free Vend during set times)**

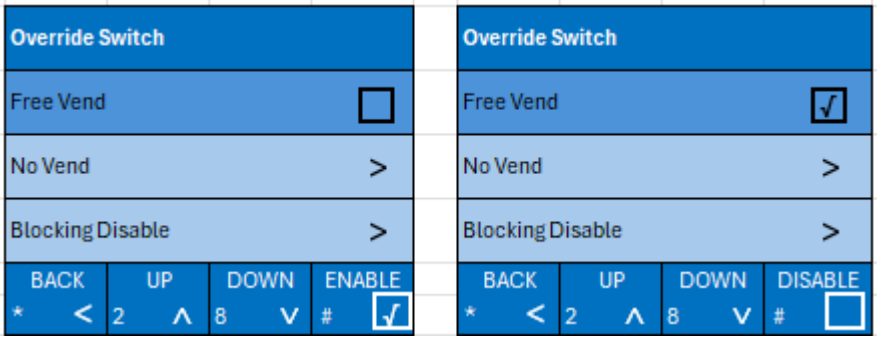
If **<# or ENABLE/DISABLE>** is pressed at the "**Free Vend**" prompt, the check box will toggle between checked or unchecked. When the desired status is displayed, press **<↓ or 8>** to scroll through other Override Switch control options and save status or press **<* or BACK>** will save status and return you to the unhighlighted "**Free Vend**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**No Vend**".

Note: when "**Free Vend**" is enabled, all Selections will be allowed to vend for free and a "**Free**" message will be displayed immediately after the POS message on the Display.

Unchecked: Free Vend will be Off when the Key Switch is not activated. Only paid vends are allowed.

Checked: Free Vend will be On when the Key Switch is activated allowing all Selections to vend for free.

Note: All Free Vends will increase Free Vend MIS Counters (VA3).



"**No Vend**"

(Set Selections to not be allowed to vend and a "No Sale" message displayed)

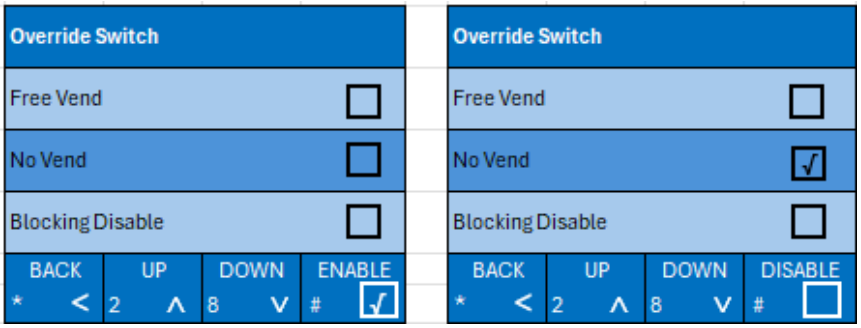
If **<# or ENABLE/DISABLE>** is pressed at the "**No Vend**" prompt, the check box will toggle between checked or unchecked. When the desired status is displayed, press **<↓ or 8>** to scroll through other Override Switch control options and save status or press **<* or BACK>** will save status and return you to the unhighlighted "**No Vend**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Blocking Disable**".

Note: when "**No Vend**" is enabled, no Selections will be allowed to vend and a "**No Sale**" message will be displayed.

Unchecked: No Vend will be Off when the Key Switch is not activated. Normal vending is allowed.

Checked: No Vend will be On when the Key Switch is activated (All Selections Blocked for Sales).

Note: If both "**Free Vend**" and "**No Vend**" are enabled, "**No Vend**" will be given priority (No Vending will be Allowed).



"**Blocking Disable**" **(Set to Override "Selection Block 1/2" if being used)**

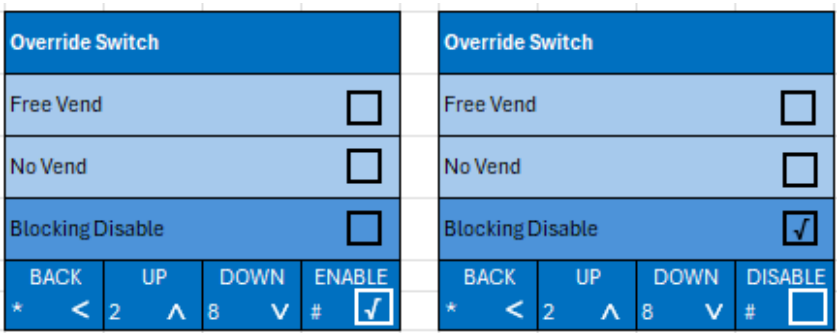
If **<# or ENABLE/DISABLE>** is pressed at the "**Blocking Disable**" prompt, the check box will toggle between checked or unchecked. When the desired status is displayed, press **<↓ or 8>** to scroll through other Override Switch control options and save status or press **<* or BACK>** will save that status and return you to the unhighlighted "**Blocking Disable**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Discount Disable**".

Note: when "**Blocking Disable**" is enabled, All Programmed Time Blocks will be overridden by the Key Switch, Always Allowing Sales.

Unchecked: Selection Blocking Disable will be Off when the Key Switch is not activated allowing scheduled Selection Blocking.

Checked: Selection Blocking Disable will be On when the Key Switch is activated (Always Allowing Sales/Vending).

Note: "**Blocking Disable**" is used in conjunction with "**Selection Block 1/2**" programming menus.



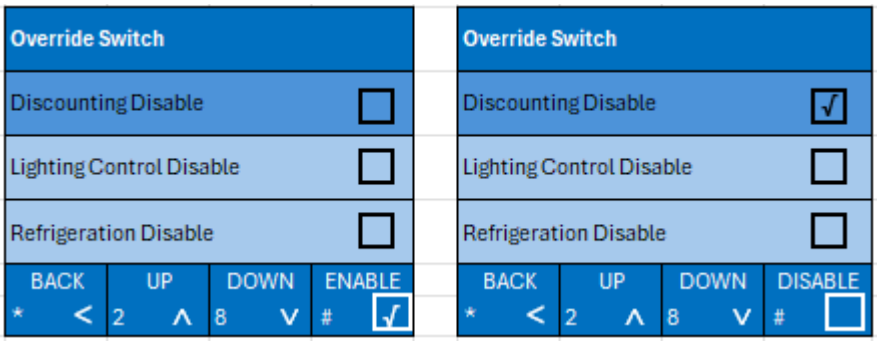
"**Discounting Disable**" **(Set to Override "Discounted Selections" if being used)**

If **<# or ENABLE/DISABLE>** is pressed at the "**Discounting Disable**" prompt, the check box will toggle between checked or unchecked. When the desired status is displayed, press **<↓ or 8>** to scroll through other Override Switch control options and save status or press **<* or BACK>** will save that status and return you to the unhighlighted "**Discounting Disable**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Lighting Control Disable**".

Note: when "**Discounting Disable**" is enabled, All Programmed Discount Sales Timers will be overridden by the Key Switch, ensuring Selections will Always Sale at Full Price.

Unchecked: Discounting Disable will be Off when the Key Switch is not activated (Allowing Discounting).

Checked: Discounting Disable will be On when the Key Switch is activated (normal function - Selections will Always Sale at Full Price, Discounting will not be allowed).



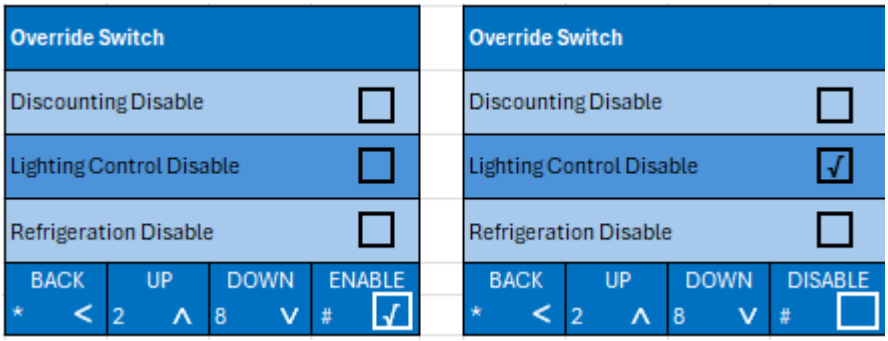
"**Lighting Control Disable**" **(Set to Override "Lighting Control" if being used)**

If **<# or ENABLE/DISABLE>** is pressed at the "**Lighting Control Disable**" prompt, the check box will toggle between checked or unchecked. When the desired status is displayed, press **<↓ or 8>** to scroll through other Override Switch control options and save status or press **<* or BACK>** will save that status and return you to the unhighlighted "**Lighting Control Disable**" prompt. Display. Press **<↓ or 8>** to proceed to the next prompt, "**Refrigeration Disable**".

Note: when "**Lighting Control Disable**" is enabled, All Programmed Lighting Control Timers will be overridden by the Key Switch, always ensuring illumination.

Unchecked: Lighting Control Disable will be Off when the Key Switch is not activated (settings programmed in Lighting Control allowed).

Checked: Lighting Control Disable will be On when the Key Switch is activated (Always Ensuring Illumination, Lighting Control settings programmed not allowed).



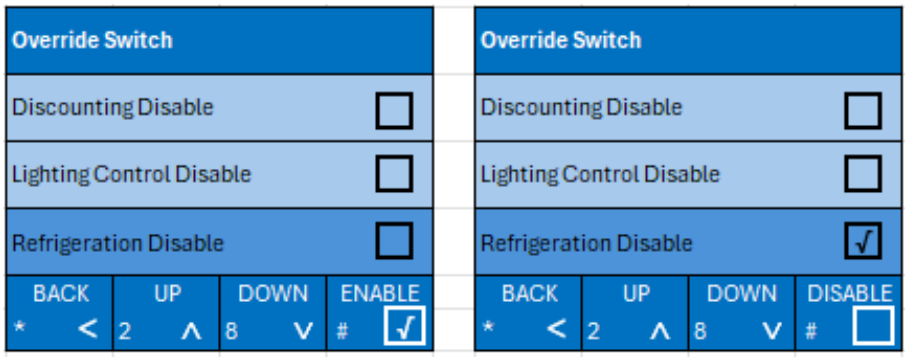
"**Refrigeration Disable**" **(Set to Override "Refrigeration" options if being used)**

If **<# or ENABLE/DISABLE>** is pressed at the "**Refrigeration Disable**" prompt, the check box will toggle between checked or unchecked. When the desired status is displayed, press **<↑ or 2>** to scroll through other Override Switch control options and save status or press **<* or BACK>** will save that status and return you to the unhighlighted "**Refrigeration Disable**" prompt. Press **<* or BACK>** to proceed to the "**Override Switch**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Apply Update**".

Note: when "**Refrigeration Disable**" is enabled, All Programmed Refrigeration Conserve Energy Timers will be overridden by the Key Switch, always ensuring normal refrigeration operation.

Unchecked: Refrigeration Disable will be Off when the Key Switch is not activated allowing Refrigeration energy conservation settings.

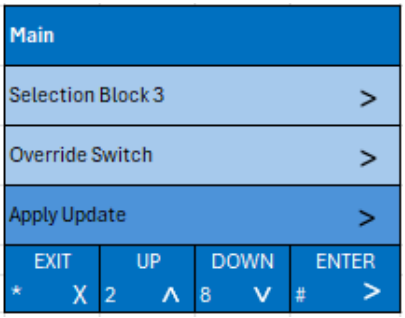
Checked: Refrigeration Disable will be On when the Key Switch is activated (Always Allowing Normal Refrigeration Operation).



- ***Apply Update**

(Used to Update/Change Software Revisions when USB device is recognized)

If **<# or ENTER>** is pressed at the "**Apply Update**" prompt, the Control Board will search for a USB-Connected Software Update Device.



Insert USB-A FAT 32 format device with New Software Revision in VMC USB port located on bottom right of Control Board. If **<# or ENTER>** is pressed at the "**Apply Update**" prompt the Control Board will auto-update the New Software Revision. Display will change to new software version once upgrade is complete and Display will return to standby.

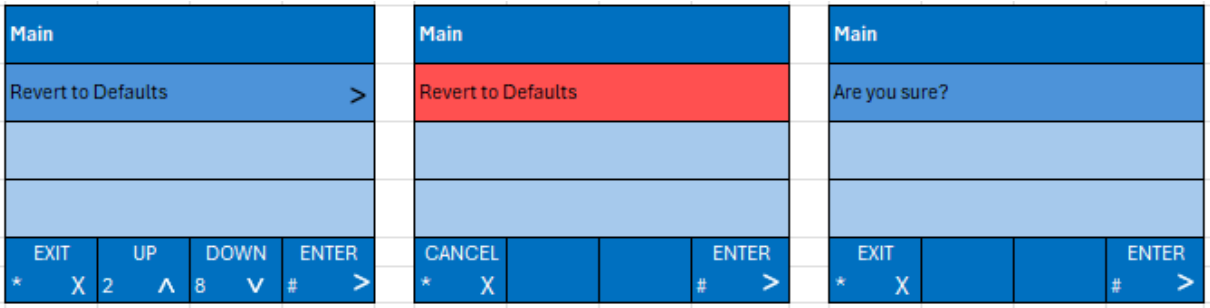


Note: you may also update the New Software Version after you press and release the blue Service Mode Button located on the bottom right corner of the Control Board. Insert USB-A Fatboy 32 format device with New Software Revision in VMC USB port located on bottom right of Control Board and the New Software Version will automatically load. Display will change to new software version once upgrade is complete and Display will return to standby.

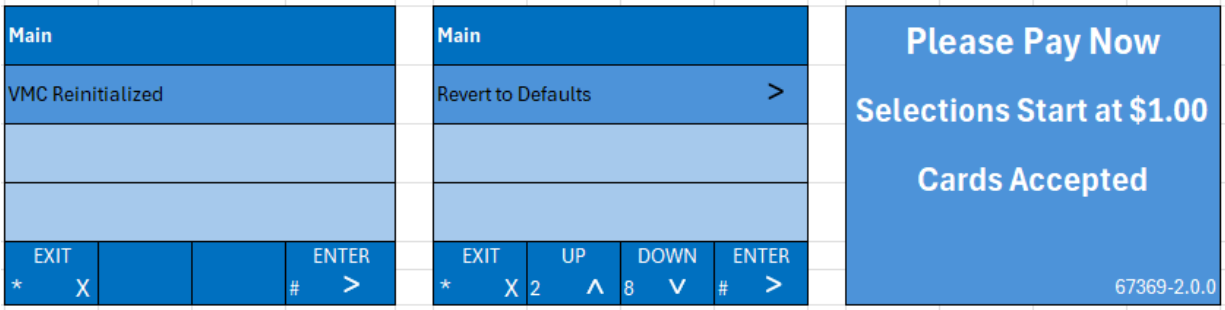
Press **<* or EXIT>** to proceed to "**Apply Update**" prompt. Press **<↓ or 8>** to proceed to the next prompt, "**Revert to Defaults**".

- ***Revert to Defaults (Will Restore Settings to Factory Defaults)**

If **<# or ENTER>** is pressed at the "**Revert to Defaults**" prompt, the prompt will be highlighted reddish orange, and the bottom of the Display will advise the available options ("*** or CANCEL**" or "**# or ENTER**"). Press **<# or ENTER>** and "**Are you sure?**" will be displayed. If **<* or CANCEL>** is pressed at this prompt, no settings will be cleared, and the Display will return to the "**Revert to Defaults**" prompt.



If **<# or ENTER>** is pressed, All System Configurations will be returned to their default values (Factory Default Settings), and the Display will show "**VMC Reinitialized**" for approximately three seconds. The Display will then return to the "**Revert to Defaults**" prompt. Prices, Configurations, and Time-Assigned Features will all be reset to defaults. DEX Accounting Fields, Real Time Clock Settings, and Error Conditions will not be reset. Use **<↑ or 2>** to return to the first menu prompt, "**Errors**" or press **<* or EXIT>** to return to stand by ready to vend and the POS Message will be on display.



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Select Button ↑ or **2**: Up

Select Button ↓ or **8**: Down

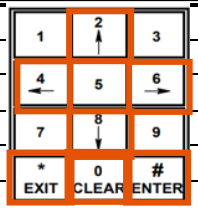
Select Button **0**: Clear Errors

Select Buton *: Exit, Cancel, Back, Delete, Save

Select Button **#**: Enter, Change, Save, Select, Enable, Disable, Assign, Unassign

Select Button ← or **4**: Left

Select Button → or **6**: Right

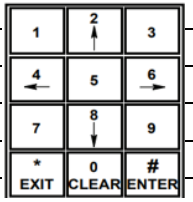


No Errors	No errors registered since last reset.	
Errors	**· Control System**	Door Switch
		RAM Checksum
		DC Under Voltage
		DC Over Voltage
		System Scale Factor
		Inlet Sense
		Inlet Blocked
	· Select Switch	Select Switch ##
	· Changer	Changer Comm
		Tube Sense
		Changer Inlet
		Tube Jam XX
		Changer ROM
		Excessive Escrow
		Coin Jam
		Low Acceptance
		Disconnected Acceptor
		Misrouted Coin
	· Bill Validator	Bill Val Comm
		Bill Stacker Full
		Bill Motor
		Bill Val ROM
		Open Cash Box
		Bill Sensor
	· Card Reader	Card Reader Comm
		Card Reader Error XY
	· Vend Mechanism	Delivery System
		Cup Sensor
		Home Sensor
		Critical Mech
		Delivery Port Sensor
		Delivery Port Door
	· Space to Sales	Unassigned ##

Errors Continued	**· Refrigeration**	Temp Sensor
		Temp Too Cold
		Temp Too Hot
		Compressor
		Heater
		Not Cooling
		Health Safety Failed
	System Info	Time setting, Machine Model & Serial #, VMC Model & Serial #, Boot Loader #, etc.
	Tube Fill	5¢ #, 10¢ #, etc. — $0.00 X 0
	Coin Payout	5¢, 10¢, 25¢, etc.
	Test Modes	**· Test Vend** — All/Individual Selection
		· Test Sel Switch — 1-9, 0=10
		· Test Display — <exit> to end test
		· Test Relays — Heater Relay
		Compressor Relay
		Evap Fan Relay
	Vend Mech Diagnostics (Is under Test Modes and follows Test Relays)	**· Run Cup** — Pass/Fail
		· Perimeter Test — (x5) (Pass/Fail)
		· Figure-8 Test — (x5) (Pass/Fail)
		· Delivery Test — Pass/Fail
		· Production Test — Pass/Fail
		· Port — Lock Outer Door
		Close Outer Door
		Open Outer Door
		Lock Inner Door
		Light (check box)
		· Motors X-546 — Up/down to test Y axis
		Y-363 — Left/right to test X axis
	· Sensors	Shows Sensors Information & Status
	Calibration (Is under Test Modes and Follows Sensors)	**#3456#**
		· Package Size Mapping
		Small – 300 revolutions
		Standard = 520 revs.
		Large = 690 revs.

Calibration (continued)	**· Calibrate Selection**	
	· Calibrate Port	
	· Light Activity Time (default 300 sec)	
***Enter Password #4231#**	***Cash Counters**	Total $ all paid vends
		Select # $ all paid vends
	***Sales Counters**	Total products vended
		Select # total products vended
	***Card Counters**	Total or by Selection
		Vends ####
		Value $$$$.$$
	***Token Counters**	Same as Card Counters
	***Discount Counters**	Same as Card Counters
	***Free Vend Counter**	Same as Card Counters
	***Set Prices**	All
		Shelf
		Selection
	***Space to Sales**	1 to 1
		By Half Rows
		By Rows
		Custom
		Vend Evenly
	***Set Package Sizes**	All
		Shelf
		Cell
	***Configurations**	C2- Optional Features
		C3 – POS Message
		C4 – Auto View Counts
		C5 – Dr Switch Reset
		C7 – Save Credit
		C8 – Force Vend
		C9 – Multi-vend
		C10 – Bill Escrow
		C11 – Anti Pilfer
	***Correct Change**	Consumer Overpay
		Correct Change Value
		Uncond. Accept. Value
	***Preview Password (External Menu)**	View current PW
		Change PW
	***Set Date/Time**	Date YYYY-MM-DD
		Time 24-hour format
		Daylight Savings Time

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Select Button ↑ or **2**: Up			Select Button ← or **4**: Left					
Select Button ↓ or **8**: Down			Select Button → or **6**: Right					
Select Button **0**: Clear Errors								
Select Buton ***: Exit, Cancel, Back, Delete, Save								
Select Button **#**: Enter, Change, Save, Select, Enable, Disable, Assign, Unassign								
***Enter Password #4231# Continued**	***Refrigeration**	Conserve Energy	***Enter Password #4231# Continued**	***Apply Update**				
		Start Days		***Revert to Defaults**				
		Start Time						
		Stop Days						
		Stop Time						
		Use Celsius						
		Set Point						
		Storage Temp						
		Display						
		Defrost Duration						
	***Lighting Control**	Active Brightness						
		Inactive Brightness						
		Control Enable						
		Start Days						
		Start Time						
		Stop Days						
		Stop Time						
	***Select Block 1/2**	Enable						
		Start Days						
		Start Time						
		Stop Days						
		Stop Time						
		Blocked Selections						
	***Select Discount 1/2/3**	Enable						
		Start Days						
		Start Time						
		Stop Days						
		Stop Time						
		Discount Selections						
		Less Amount						
	***Override Switch**	Free Vend						
		No Vend						
		Blocking Disable						
		Discount Disable						
		Light Control Disable						
		Refrigeration Disable						

Section 4: Vendor Maintenance and Cleaning

Vendor Maintenance

The most important facets of proper care and maintenance of your machine are the electrical power supplied to it, leveling, and cleanliness of the machine.

Preventive Maintenance

Vendor Leveling:

Make sure that the Vendor is level when placed on site. If the Vendor is not properly leveled it can begin to accumulate standing water, which over time may begin to freeze and will eventually freeze the Evaporator. Another problem that may occur from an unleveled Vendor will be improper vending, which would include but not be limited to product not vending from Cell, product vending slowly from Cell, product not being delivered to the Delivery Bin, or product jamming.

Power

Domestically the machine must be connected to a dedicated 120 VAC, 15 Amp circuit (U.S. and Canada). Refer to the cabinet serial number plate to determine the correct voltage and frequency for the machine.

Power Supply Cord

Periodically inspect the Power Supply Cord for damage. If the cord or plug is worn or damaged, it must be replaced with a new Power Supply Cord of the same type, size and specification as originally provided with the machine. **DO NOT USE THE VENDING MACHINE UNTIL THE WORN OR DAMAGED POWER SUPPLY CORD IS REPLACED.**

Ground Fault Circuit Interrupter (GFCI)

The Ground Fault Circuit Interrupter (GFCI) must be tested frequently and before each use in accordance with the instructions provided on the GFCI device. **IF THE GFCI DOES NOT PASS THE TEST, DO NOT USE THE MACHINE.** Unplug the Power Supply Cord from the receptacle and call the Innovative DisplayWorks Technical Support Group for assistance at 1-909-447-8254.

What to Clean

***CAUTION**: Electrical and electronic components should **NEVER** be subjected to water.*
NEVER USE A HOSE, PRESSURE WASHER OR ANY CLEANING METHOD THAT COULD WET ELECTRICAL COMPONENTS.
Remove power to the Power Module Assembly before cleaning or when any electrical components are connected / disconnected for testing or replacement unless specifically advised by manufacturer to have power applied for a specific process, repair, or installation.

Glass Door:

The display glass should be cleaned inside and out with paper towels and glass or non-abrasive all-purpose cleaner. The gasket around the product door should be wiped down using warm water, any mild general purpose, non-abrasive cleaner and a soft towel. Never lubricate the gasket and always check for cracking or deformities which may cause leaks. Replace it if necessary.

Belts:

The belts should always be kept clean and free of debris to ensure efficient operation, as well as to extend the life of the belts.

Cabinet:

Wash the cabinet with a good detergent or soap mixed in warm water. Wax the Vendor often with a good grade of automobile wax. Any corrosion inside the Vendor should be removed with fine steel wool and the area should be painted with white paint. Repair any scratches on painted surfaces to prevent corrosion.

Cells/Track Assemblies:

Make sure the Cells are free of dirt, syrup, and debris. Build-up of foreign material, especially syrup from broken or leaking packages, can cause the Cell to stick and adversely affect the Cell's performance. Remove the Track Assembly from the Vendor and use warm soapy water or other food grade cleaning agents to maintain a clean smooth surface. Also make sure that the Cells are level and seated properly in the tracks that they slide into. **DO NOT USE SOLVENTS OR ABRASIVE MATERIALS TO CLEAN ANY PORTION OF THE CELLS.**

Refrigeration Condenser and Evaporator Coils:

For efficient operation, the Condenser and Evaporator Coils must be kept clear of any dirt or foreign materials. The Refrigeration Cassette will need to be removed from Vendor to clean dirt and debris from the Condenser and Evaporator Coils with a small light-bristled brush, vacuum cleaner, or compressed air. This will help to ensure an extended Refrigeration Unit life.

Drain Pan and Soakers:

To prevent mold and mildew growth, and to avoid personal injury or property damage, the Drain Pan and Soakers must be periodically inspected for the presence of dirt, debris, mold, and mildew. Clean as needed and replace soakers as needed.

VMC (Vending Machine Control Board):

The Vendor's Control Board (VMC) should always be enclosed by its cover to protect it. Routine cleaning is not necessary but, if desired, **remove power from Vendor** and the Board area may be blown out with compressed air.

Delivery Port Service Door:

Make sure that the Delivery Port remains clean and free of any debris or other objects that may cause the Port Sensor to stop product delivery. Bottles tend to lose their labels, which may be left in the Delivery Port. If objects are left in the Port and seen by the Sensor, the Board will assume there is a package in the Port and will not deliver product to the Port.

Cabinet Inner Delivery Door: Periodically clean the Inner Delivery Door tracks with a dry cotton swab or soft brush to remove any dirt, syrup, or debris which may cause door open or close issues. Avoid using any type of silicone or lubricant, as they tend to collect dirt and will adversely affect performance.

Elevator Arm and Cup Tracks:

The Elevator Arm and Cup assemblies travel on aluminum tracks that guide these components. Make sure that these tracks are kept clean and free from foreign material such as dirt, syrup, or other debris. Use a wet cloth to wipe these tracks clean. Avoid using any type of silicone or lubricant, as they tend to collect dirt and will adversely affect performance.

Elevator X Cover: The Elevator X Cover should be kept clean and free of syrup, dirt, and debris. Use warm soapy water on a cloth or other food grade cleaning agents to maintain a clean smooth surface. **DO NOT USE SOLVENTS OR ABRASIVE MATERIALS TO CLEAN ANY PORTION OF THE DELIVERY CUP OR X COVER.**

XY Delivery Cup: The Product Delivery Cup Floor should be kept clean and free of syrup, dirt, and debris. Use warm soapy water on a cloth or other food grade cleaning agents to maintain a clean smooth surface. Periodically apply Armor All or a Food Grade Silicone to the Delivery Cup Floor to enhance Package delivery into the Cup. **DO NOT USE SOLVENTS OR ABRASIVE MATERIALS TO CLEAN ANY PORTION OF THE DELIVERY CUP.**

Peripherals (Coin Mech, Bill Acceptor, Card Reader)

Follow the Peripheral Manufacturer's instructions for maintenance and cleaning.

Lubrication Not Required

Refrigeration Unit:

The Refrigeration Unit is a sealed system that does not require any lubrication.

Condenser Fan Motor and Evaporator Fan Motor:

The Condenser Fan Motor and Evaporator Fan Motor are sealed and do not require any lubrication.

Section 5: Troubleshooting

Troubleshooting

The IDW GFV-400 is equipped with a self-diagnostic feature to aid in the repair and maintenance of the Vendor. When servicing the Vendor, pay close attention to the Display. When the Vendor Service Door is opened, the Display will begin showing Error Codes that are stored in memory. If there are no errors, the Display will show "**No Errors**."

To enter the Service Mode, press the blue Service Mode Button located on the bottom right side of the VMC Board until you hear a beep. The Display will show "**Errors Were Detected**" if there are recorded errors. If **<# or ENTER>** is pressed at the "**Errors Were Detected**" prompt, the Control Board will enter the Error Display Mode. The Display will show the first error summary code that has occurred.

If **<# or ENTER>** is pressed, the Control Board will display the detailed Error for the summary code. The **<↑ or 2>** and **<↓ or 8>** buttons will cycle through any remaining Error Detail Codes. If **<* or EXIT>** is pressed while displaying any detailed code, the Control Board will return to the summary code. If **<* or EXIT>** is pressed while displaying any summary code, the Control Board will return to the code level ("**No Errors**" or "**Errors Were Detected**").

If the **<0 or CLEAR>** button is pressed during the display of any detailed Error Code, that error will be cleared.

***NOTE**: When troubleshooting Errors with Peripherals, the appropriate Peripheral Service Manual(s) should also be consulted for further tests and corrective actions.*

IDW BASIC REFRIGERATION TROUBLESHOOTING SUGGESTIONS

Refrigeration Not Cooling/Too Warm (Cabinet or Product Temperature)

- Temp Sensor ..... pages 90 & 91
- Evaporator ..... page 92
- Compressor ..... page 93
- Evaporator Fan ..... page 94
- Condenser ..... page 95
- Filter/Drier ..... page 95
- Condenser Fan ..... page 96

Refrigeration Freezing/Too Cold (Cabinet or Product Temperature)

- Freezing or Too Cold ..... page 97

Door

- Glass Door Condensation ..... page 98
  (Between the Glass Panes, On the Inside Glass Pane, On the Outside Glass Pane)

Safety First

HC (Hydrocarbon) refrigerant systems must always be serviced and repaired by qualified refrigeration technicians familiar with applicable safety precautions including the use of proper parts to minimize the risk of possible ignition due to incorrect parts or improper service.

"DANGER - Risk of Fire or Explosion. Flammable Refrigerant Used. To Be Repaired Only by Trained Service Personnel. Do Not Puncture Refrigerant Tubing."
"CAUTION - Risk of Fire or Explosion. Dispose of Properly in Accordance with Federal or Local Regulations. Flammable Refrigerant Used."
"CAUTION - Risk of Fire or Explosion. Flammable Refrigerant Used. Consult Programming/Operation/Service Manual Before Attempting to Service Product. All Safety Precautions Must be Followed."

Technicians and equipment manufacturers should wear appropriate personal protective equipment, including chemical goggles and protective gloves when handling refrigerants. Special care should be taken to avoid contact with the skin since refrigerants can cause freeze burns on the skin.

Technicians should use only spark-proof tools when working on air conditioning equipment with flammable refrigerant. Any recovery equipment used should be designed for flammable refrigerant. Any refrigerant releases should be in a well-ventilated area, such as outside of a building.

Only technicians specifically trained in handling flammable refrigerants should service refrigeration equipment containing these refrigerants. Technicians should gain an understanding of minimizing the risk of fire and the steps to use flammable refrigerants safely.

Room occupants should evacuate the space immediately following the accidental release of a flammable refrigerant.

Refrigeration
Not Cooling/Too Warm Issues
(Cabinet or Product Temperature)

Temp Sensor

Was Machine recently loaded with product or serviced?

Yes → Recheck Temperature in 1 hour and confirm it is getting colder.

No →

Machine is plugged in to a dedicated 120V AC outlet?

No → Plug in Machine to required outlet.

Machine has power.

No → Ensure Circuit breaker/fuse is good and not tripped.

Voltage supply from wall outlet is 110V to 120V AC.

No → Contact electrician for repair.

Machine power cord is plugged directly to wall outlet.

No → Plug in Machine directly to required outlet. **Do Not Use Extension Cord.**

Back of Machine is 4" from wall or more.

No → Move Machine out 4" or more from wall.

Machine is in an indoor climate-controlled environment out of Direct Sunlight & away from any heat source?

No → Move Machine to an indoor climate-controlled environment out of Direct Sunlight and away from any heat source.

Machine is in environment with relative humidity ≤65%.

No → Move Machine to environment with relative humidity ≤65%.

Glass Door is tight to Cabinet when Door closes.

No →

Inspect Machine is level, adjust as needed.
Close Glass Door tight to Cabinet.
Check Glass Door is not hitting objects preventing it from closing. Adjust or remove obstruction.
Inspect Glass Door Gasket, repair/replace as needed.
Adjust Glass Door Hinge as needed.

Compressor has power and is not running.

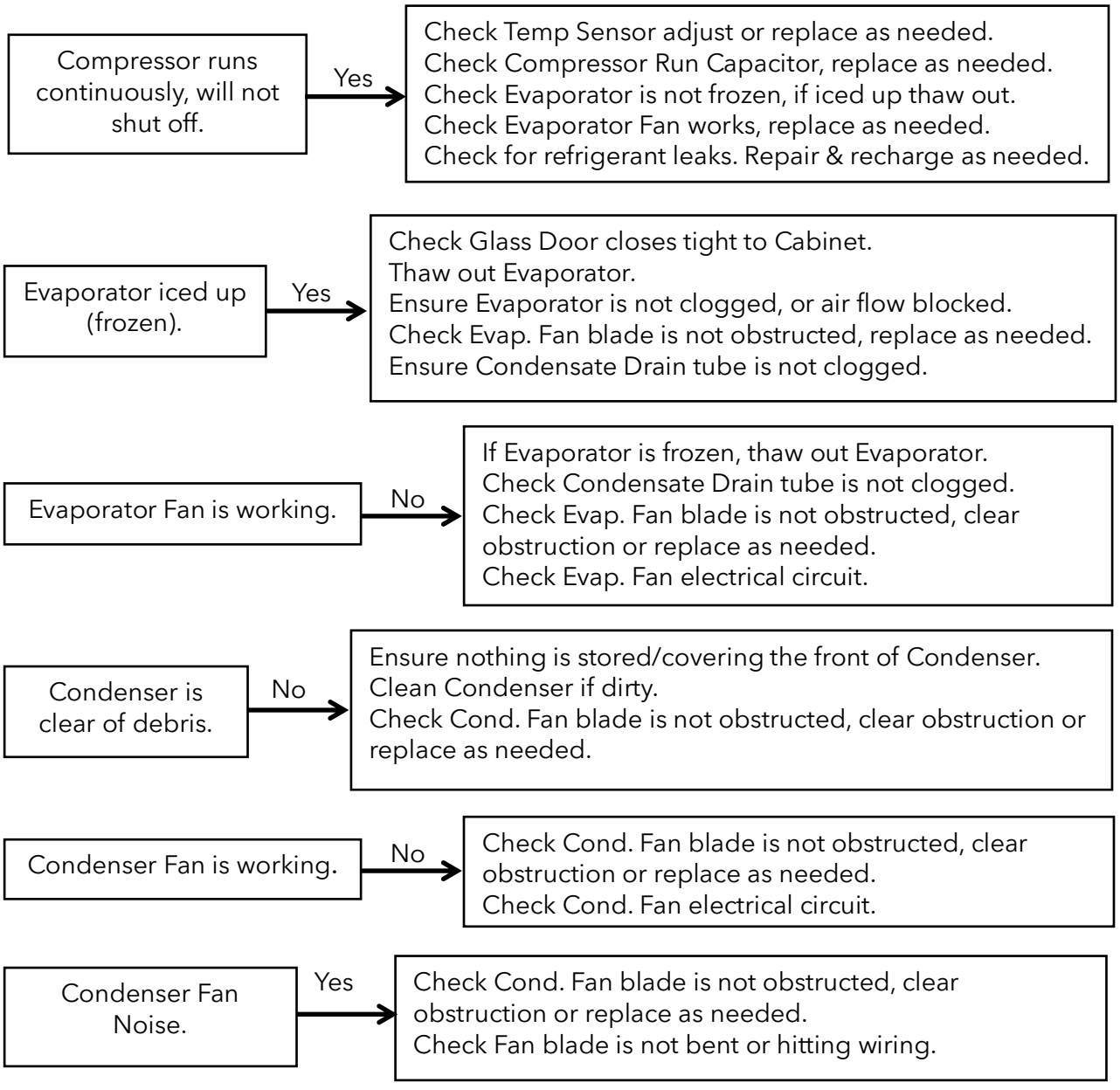
Yes →

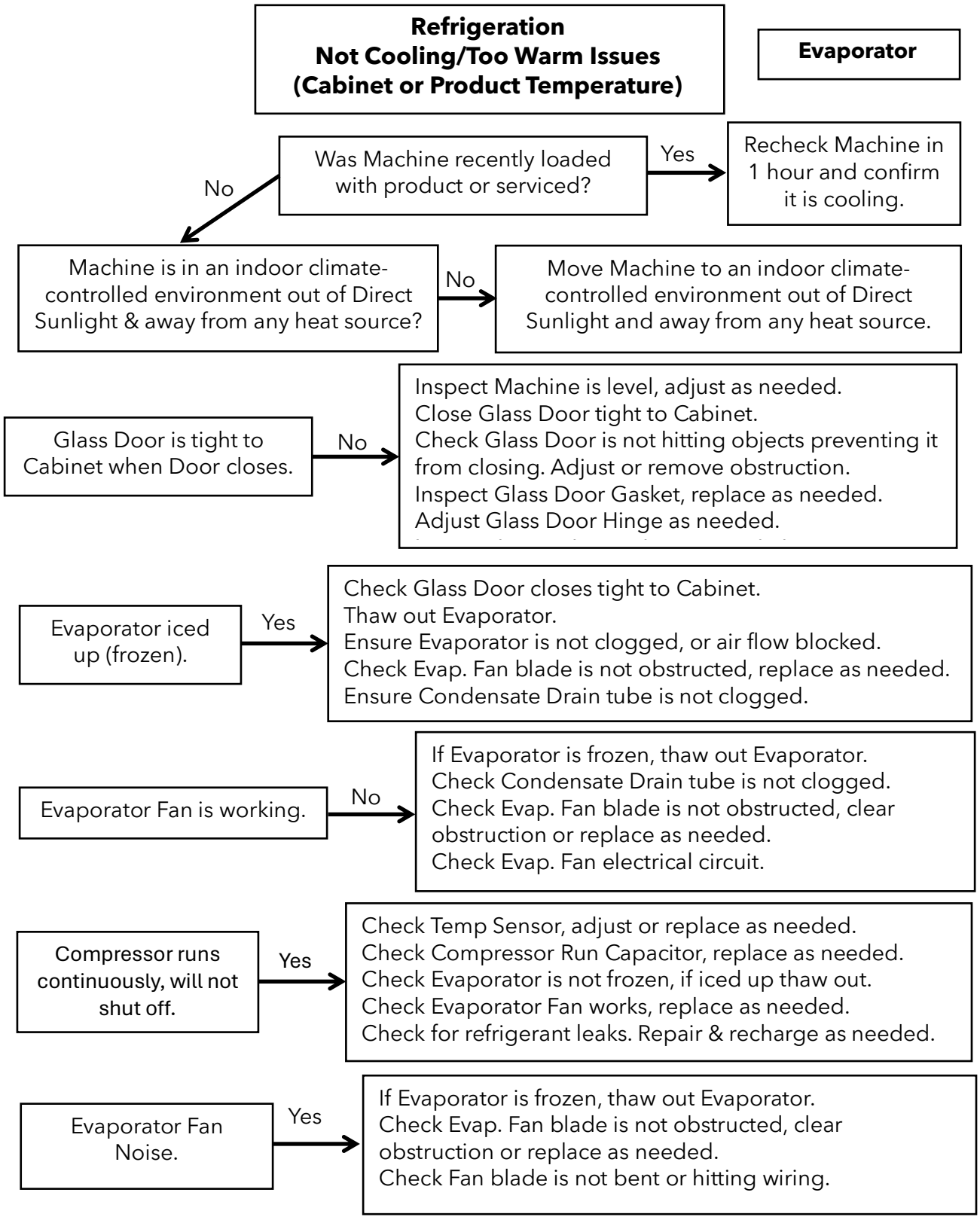
Check outlet for low voltage.
! Warning: For Testing Purposes Only!
Use extension cord and plug Compressor directly in wall outlet. If it runs and starts cooling Compressor is good. If not replace Compressor.
Check Temp Sensor, adjust or replace as needed.
Check Run Capacitor, Start Relay, & Overload, replace as needed.

Continued

Refrigeration
Not Cooling/Too Warm Issues
(Cabinet or Product Temperature)
- Continued -

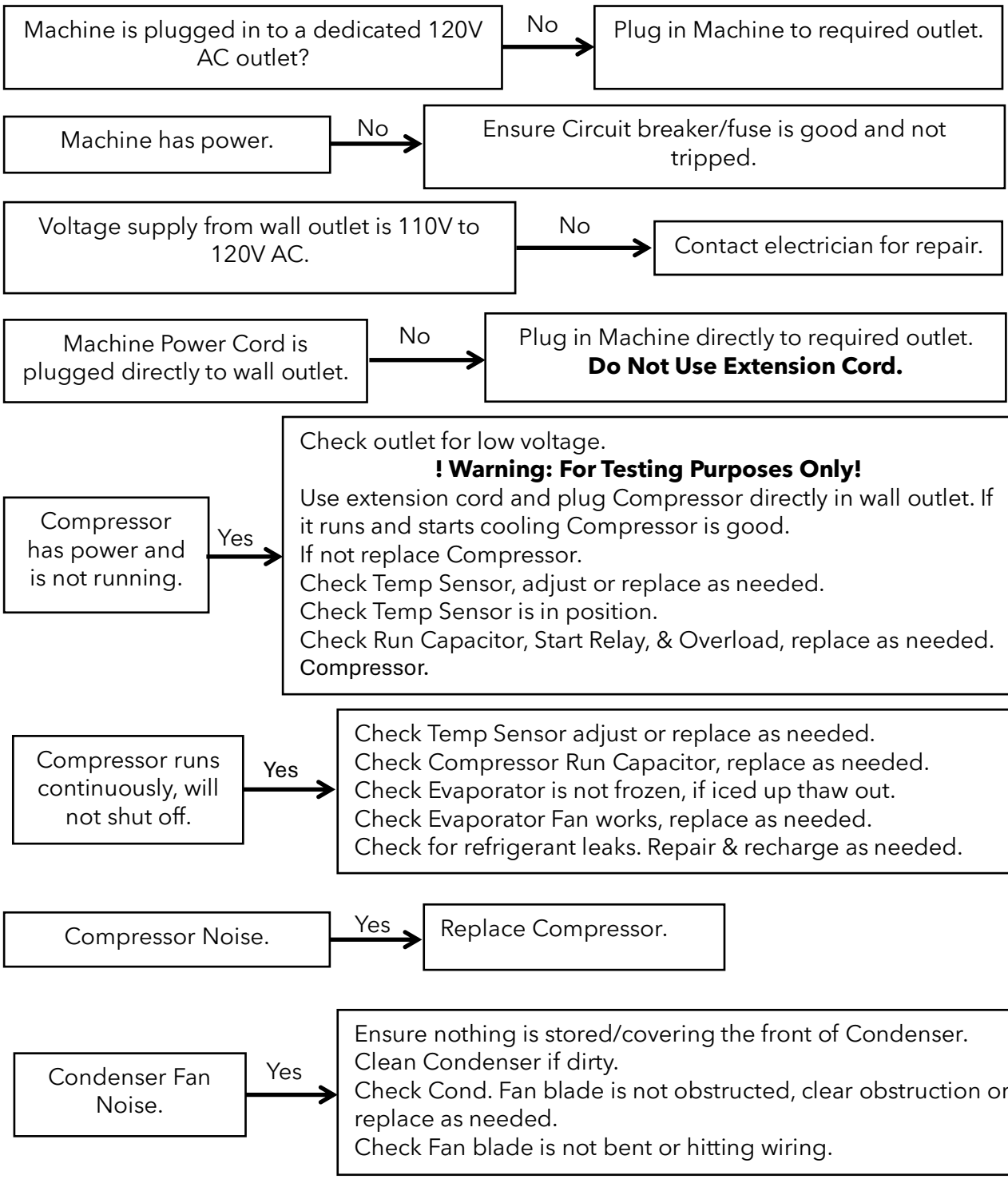
Temp Sensor




Refrigeration
Not Cooling/Too Warm Issues
(Cabinet or Product Temperature)
Evaporator
Was Machine recently loaded with product or serviced?
Yes
Recheck Machine in 1 hour and confirm it is cooling.
No
Machine is in an indoor climate-controlled environment out of Direct Sunlight & away from any heat source?
No
Move Machine to an indoor climate-controlled environment out of Direct Sunlight and away from any heat source.
Glass Door is tight to Cabinet when Door closes.
No
Inspect Machine is level, adjust as needed.
Close Glass Door tight to Cabinet.
Check Glass Door is not hitting objects preventing it from closing. Adjust or remove obstruction.
Inspect Glass Door Gasket, replace as needed.
Adjust Glass Door Hinge as needed.
Evaporator iced up (frozen).
Yes
Check Glass Door closes tight to Cabinet.
Thaw out Evaporator.
Ensure Evaporator is not clogged, or air flow blocked.
Check Evap. Fan blade is not obstructed, replace as needed.
Ensure Condensate Drain tube is not clogged.
Evaporator Fan is working.
No
If Evaporator is frozen, thaw out Evaporator.
Check Condensate Drain tube is not clogged.
Check Evap. Fan blade is not obstructed, clear obstruction or replace as needed.
Check Evap. Fan electrical circuit.
Compressor runs continuously, will not shut off.
Yes
Check Temp Sensor, adjust or replace as needed.
Check Compressor Run Capacitor, replace as needed.
Check Evaporator is not frozen, if iced up thaw out.
Check Evaporator Fan works, replace as needed.
Check for refrigerant leaks. Repair & recharge as needed.
Evaporator Fan Noise.
Yes
If Evaporator is frozen, thaw out Evaporator.
Check Evap. Fan blade is not obstructed, clear obstruction or replace as needed.
Check Fan blade is not bent or hitting wiring.

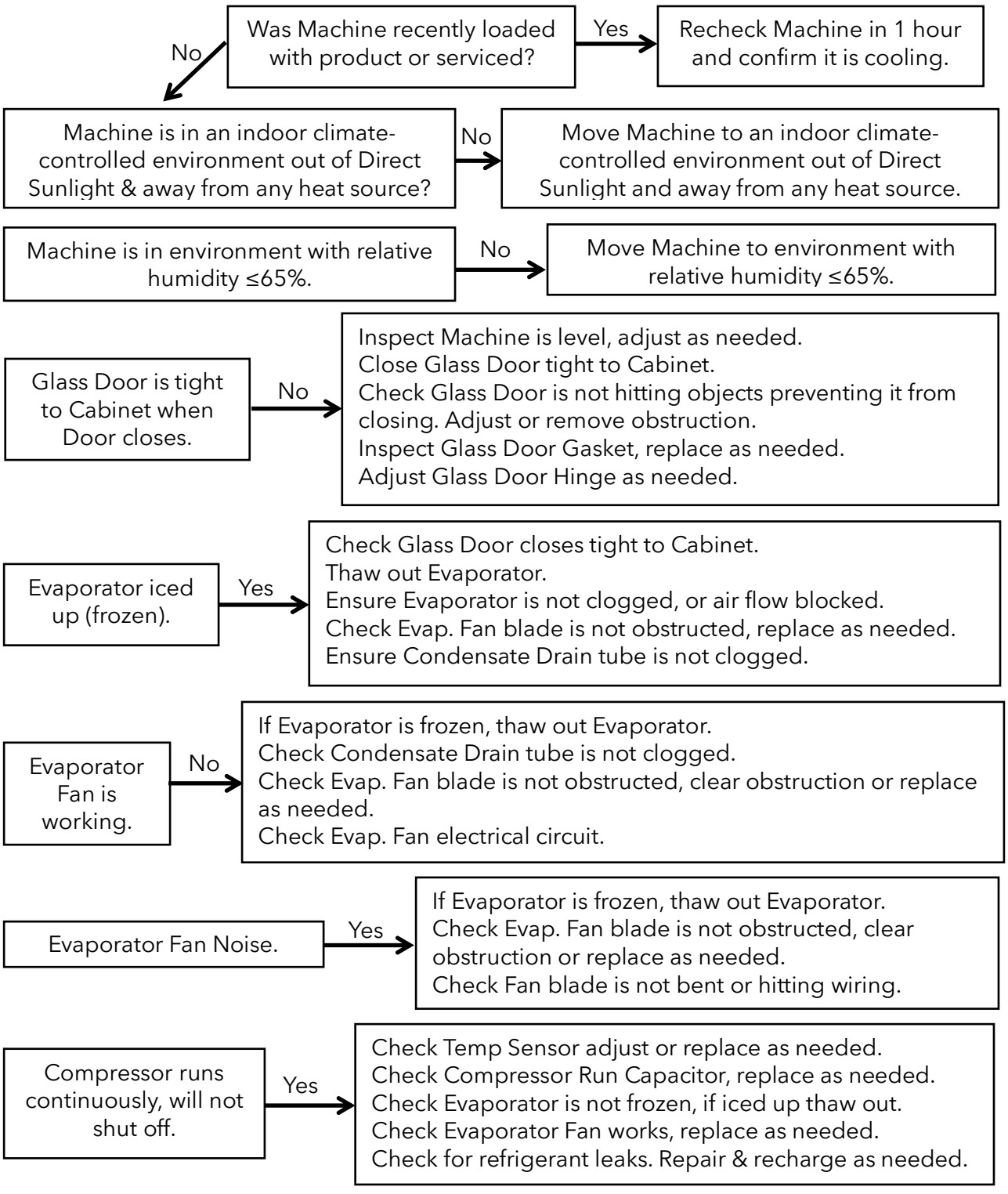
Refrigeration
Not Cooling/Too Warm Issues
(Cabinet or Product Temperature)

Compressor



Refrigeration
Not Cooling/Too Warm Issues
(Cabinet or Product Temperature)

Evaporator Fan



Refrigeration Not Cooling/Too Warm Issues (Cabinet or Product Temperature)

Condenser

Was Machine recently loaded with product or serviced?

Yes → Recheck Machine in 1 hour and confirm it is cooling.

No →

Condenser is clear of debris.

No → Ensure nothing is stored/covering the front of Condenser.
Clean Condenser if dirty.
Check Cond. Fan blade is not obstructed, clear obstruction or replace as needed.

Condenser Fan is working.

No → Check Cond Fan blade is not obstructed, clear obstruction or replace as needed.
Check Cond. Fan electrical circuit.

Condenser Fan Noise.

Yes → Ensure nothing is stored/covering the front of condenser.
Clean condenser if dirty.
Check Cond Fan blade is not obstructed, clear obstruction or replace as needed.
Check Fan blade is not bent or hitting wiring.

Refrigeration Not Cooling/Too Warm Issues (Cabinet or Product Temperature)

Filter/Drier

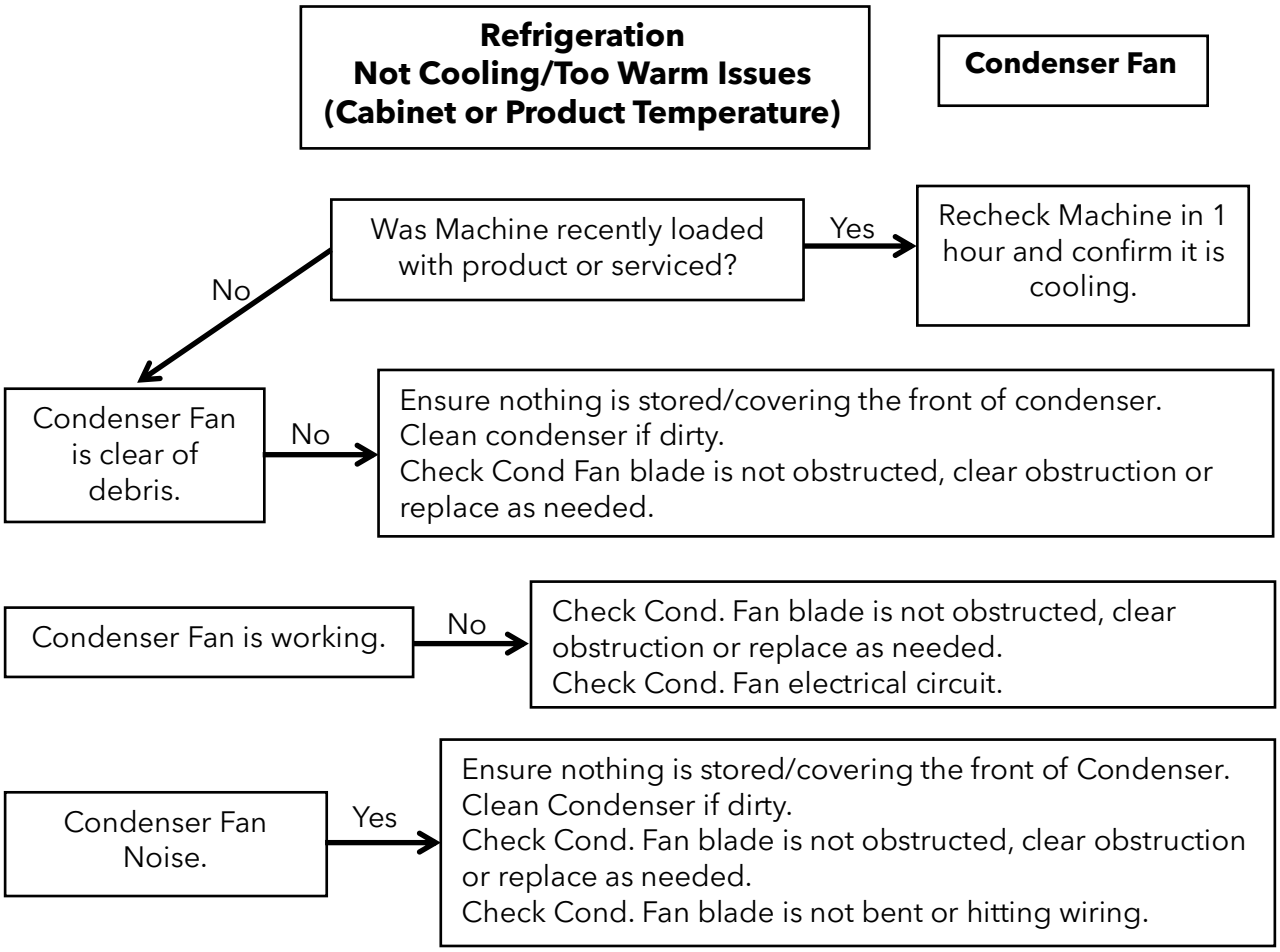
Symptoms of a restricted liquid line include:

- A higher-than-normal discharge temperature.
- High superheats.
- Low Evaporator pressures.
- Low Condensing pressures.
- Normal to slightly high Condenser subcooling.
- Low Condenser splits.
- In some cases, a local cool spot or frost after the restriction.
- A low amp draw.
- Short cycling on the low-pressure control.

Yes →

Causes of restricted components include:

- Restricted Filter Drier from moisture, dirt, oil, or sludge.
- Restricted TXV (Temp Sensoric expansion valve) screen or orifice.
- Kinked liquid line.
- Kinked U-bend in liquid line.
- Restricted liquid line solder joint.
- Receiver outlet valve (King Valve) partially closed off or sledged.
- Restricted Solenoid Valve.


Refrigeration
Not Cooling/Too Warm Issues
(Cabinet or Product Temperature)
Condenser Fan
Was Machine recently loaded with product or serviced?
Yes
Recheck Machine in 1 hour and confirm it is cooling.
No
Condenser Fan is clear of debris.
No
Ensure nothing is stored/covering the front of condenser.
Clean condenser if dirty.
Check Cond Fan blade is not obstructed, clear obstruction or replace as needed.
Condenser Fan is working.
No
Check Cond. Fan blade is not obstructed, clear obstruction or replace as needed.
Check Cond. Fan electrical circuit.
Condenser Fan Noise.
Yes
Ensure nothing is stored/covering the front of Condenser.
Clean Condenser if dirty.
Check Cond. Fan blade is not obstructed, clear obstruction or replace as needed.
Check Cond. Fan blade is not bent or hitting wiring.

Refrigeration
Freezing/Too Cold Issues
(Cabinet or Product Temperature)

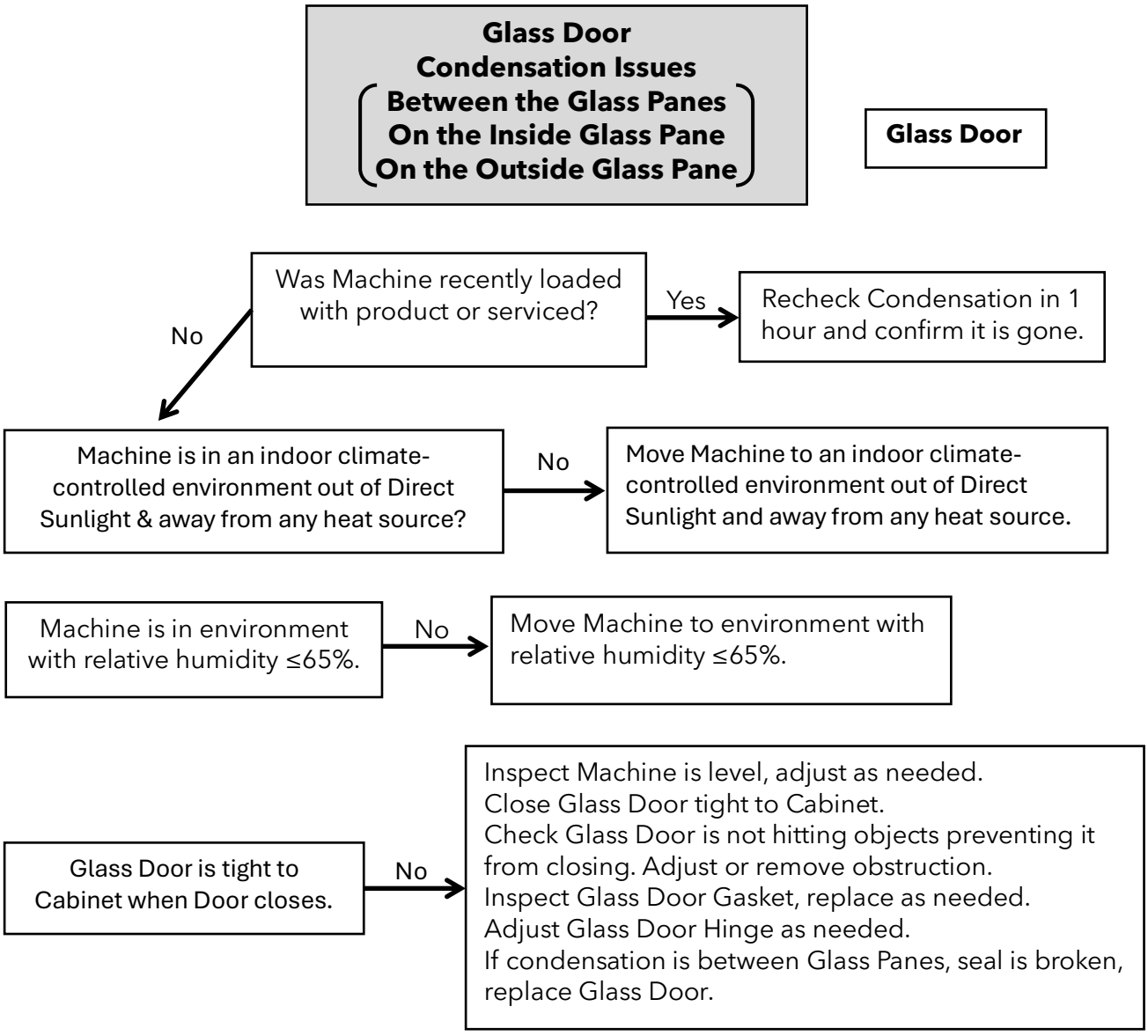
Freezing / Too Cold

Compressor runs continuously, will not shut off. → Yes →
Check Temp Sensor adjust or replace as needed.
Check Compressor Run Capacitor, replace as needed.
Check Evaporator is not frozen, if iced up thaw out.
Check Evaporator Fan works, replace as needed.
Check for refrigerant leaks. Repair & recharge as needed.

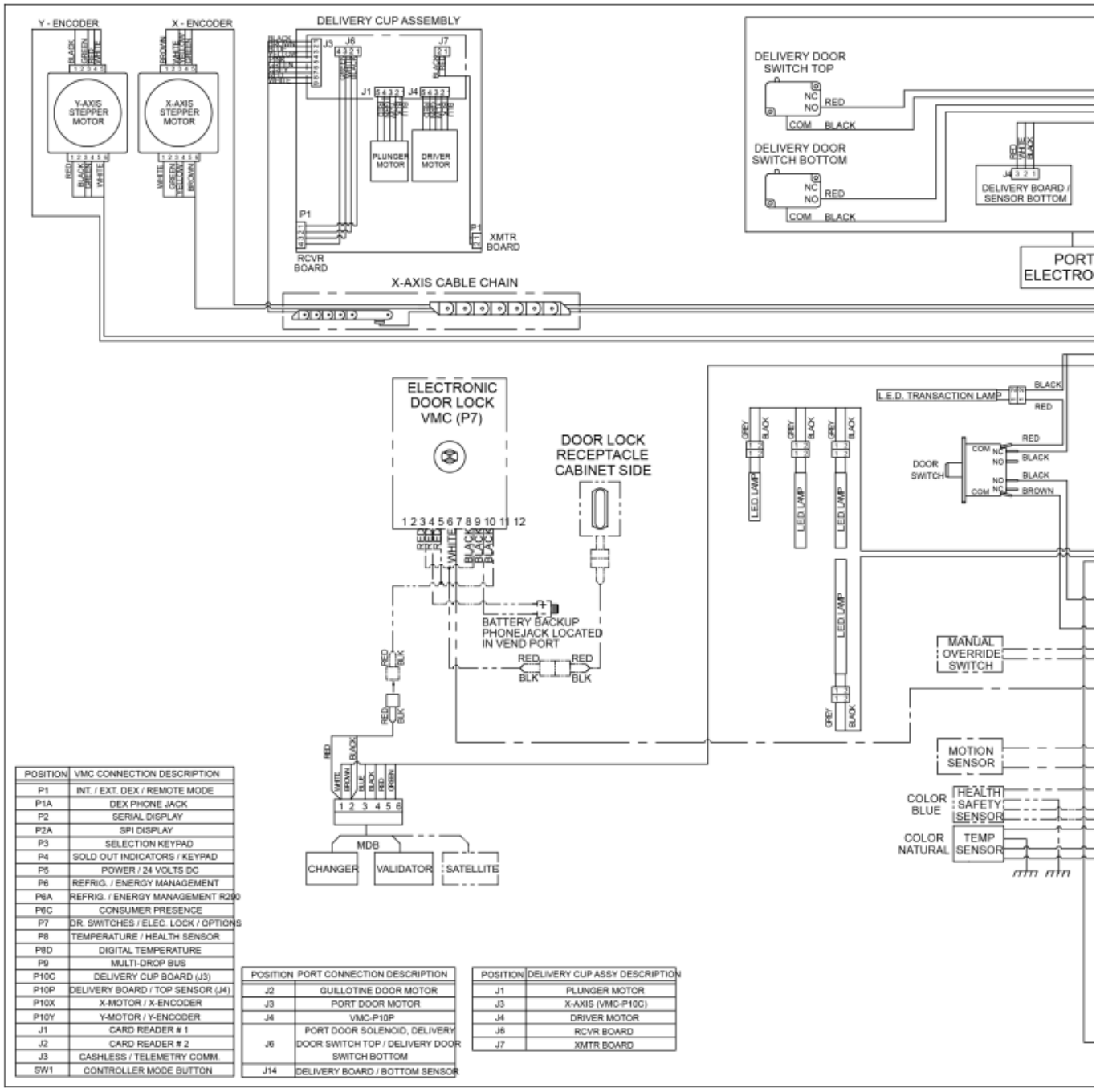
Evaporator iced up (frozen). → Yes →
Check Glass Door closes tight to Cabinet.
Thaw out Evaporator.
Ensure Evaporator is not clogged, or air flow blocked.
Check Evap. Fan blade is not obstructed, replace as needed.
Ensure Condensate Drain tube is not clogged.

Evaporator Fan is working. → No →
If Evaporator is frozen, thaw out Evaporator.
Check Condensate Drain tube is not clogged.
Check Evap. Fan blade is not obstructed, clear obstruction or replace as needed.
Check Evap. Fan electrical circuit.

Glass Door is tight to Cabinet when Door closes. → No →
Inspect Machine is level, adjust as needed.
Close Glass Door tight to Cabinet.
Check Glass Door is not hitting objects preventing it from closing. Adjust or remove obstruction.
Inspect Glass Door Gasket, replace as needed.
Adjust Glass Door Hinge as needed.


Glass Door
Condensation Issues
Between the Glass Panes
On the Inside Glass Pane
On the Outside Glass Pane
Glass Door
Was Machine recently loaded with product or serviced?
Yes
Recheck Condensation in 1 hour and confirm it is gone.
No
Machine is in an indoor climate-controlled environment out of Direct Sunlight & away from any heat source?
No
Move Machine to an indoor climate-controlled environment out of Direct Sunlight and away from any heat source.
Machine is in environment with relative humidity ≤65%.
No
Move Machine to environment with relative humidity ≤65%.
Glass Door is tight to Cabinet when Door closes.
No
Inspect Machine is level, adjust as needed.
Close Glass Door tight to Cabinet.
Check Glass Door is not hitting objects preventing it from closing. Adjust or remove obstruction.
Inspect Glass Door Gasket, replace as needed.
Adjust Glass Door Hinge as needed.
If condensation is between Glass Panes, seal is broken, replace Glass Door.

Section 6: Electrical Wiring Diagrams



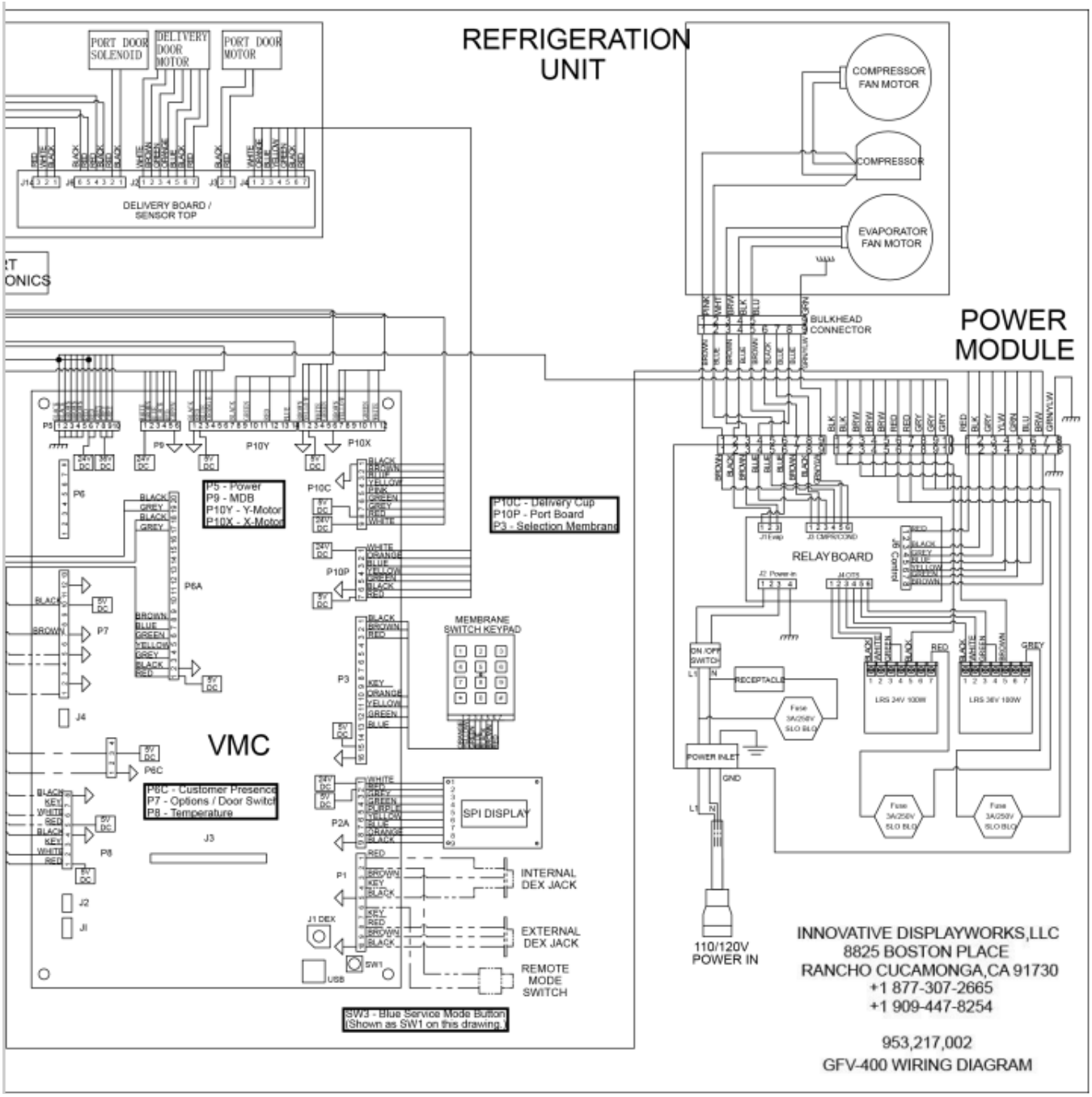
POSITION	VMC CONNECTION DESCRIPTION
P1	INT. / EXT. DEX / REMOTE MODE
P1A	DEX PHONE JACK
P2	SERIAL DISPLAY
P2A	SPI DISPLAY
P3	SELECTION KEYPAD
P4	SOLD OUT INDICATORS / KEYPAD
P5	POWER / 24 VOLTS DC
P6	REFRIG. / ENERGY MANAGEMENT
P6A	REFRIG. / ENERGY MANAGEMENT R290
P6C	CONSUMER PRESENCE
P7	DR. SWITCHES / ELEC. LOCK / OPTIONS
P8	TEMPERATURE / HEALTH SENSOR
P8D	DIGITAL TEMPERATURE
P9	MULTI-DROP BUS
P10C	DELIVERY CUP BOARD (J3)
P10P	DELIVERY BOARD / TOP SENSOR (J4)
P10X	X-MOTOR / X-ENCODER
P10Y	Y-MOTOR / Y-ENCODER
J1	CARD READER # 1
J2	CARD READER # 2
J3	CASHLESS / TELEMETRY COMM.
SW1	CONTROLLER MODE BUTTON

POSITION	PORT CONNECTION DESCRIPTION
J2	GUILLOTINE DOOR MOTOR
J3	PORT DOOR MOTOR
J4	VMC-P10P
J6	PORT DOOR SOLENOID, DELIVERY DOOR SWITCH TOP / DELIVERY DOOR SWITCH BOTTOM
J14	DELIVERY BOARD / BOTTOM SENSOR

POSITION	DELIVERY CUP ASSY DESCRIPTION
J1	PLUNGER MOTOR
J3	X-AXIS (VMC-P10C)
J4	DRIVER MOTOR
J6	RCVR BOARD
J7	XMTR BOARD

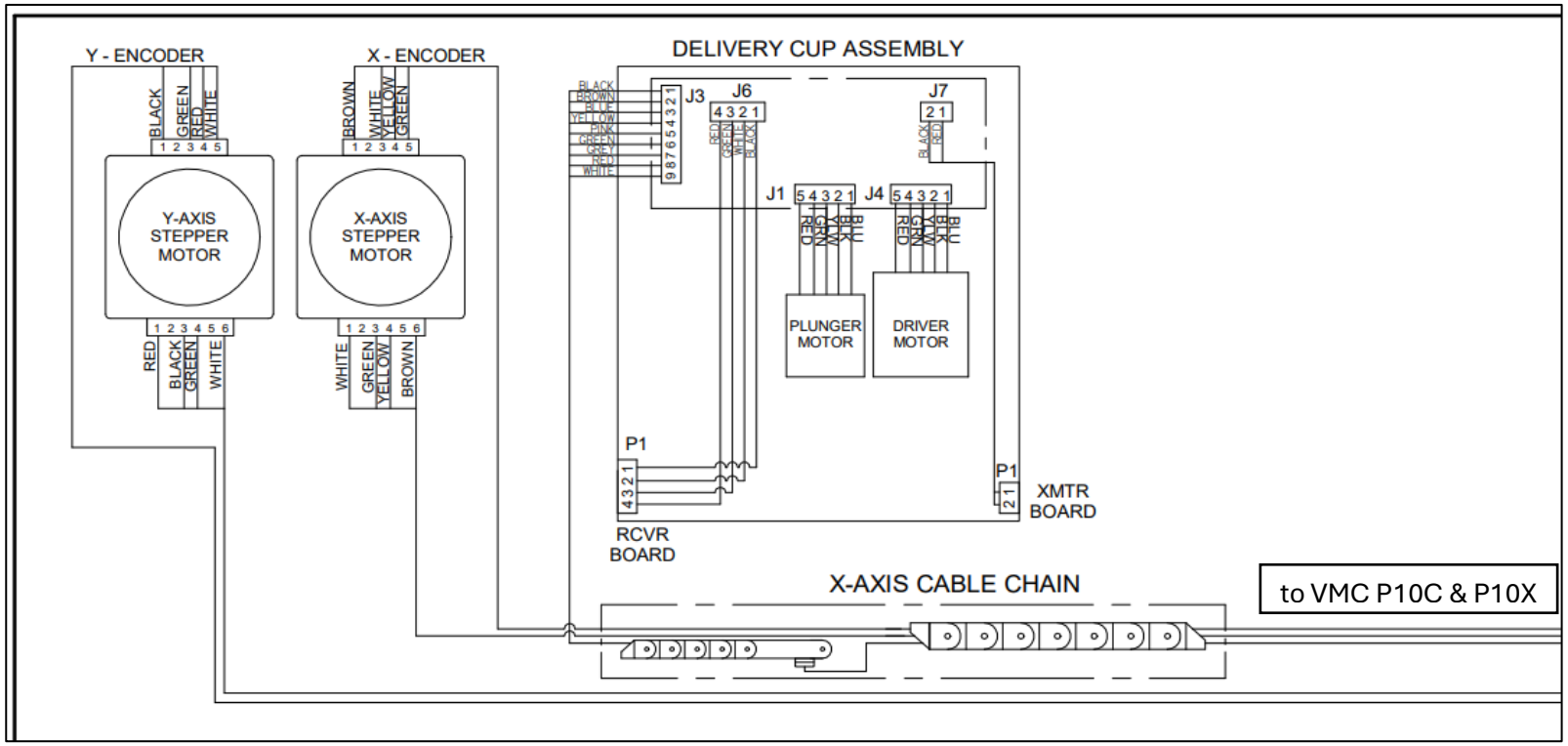
continued

Electrical Wiring Diagrams - continued



DELIVERY CUP ASSEMBLY

Section of Wiring Diagram

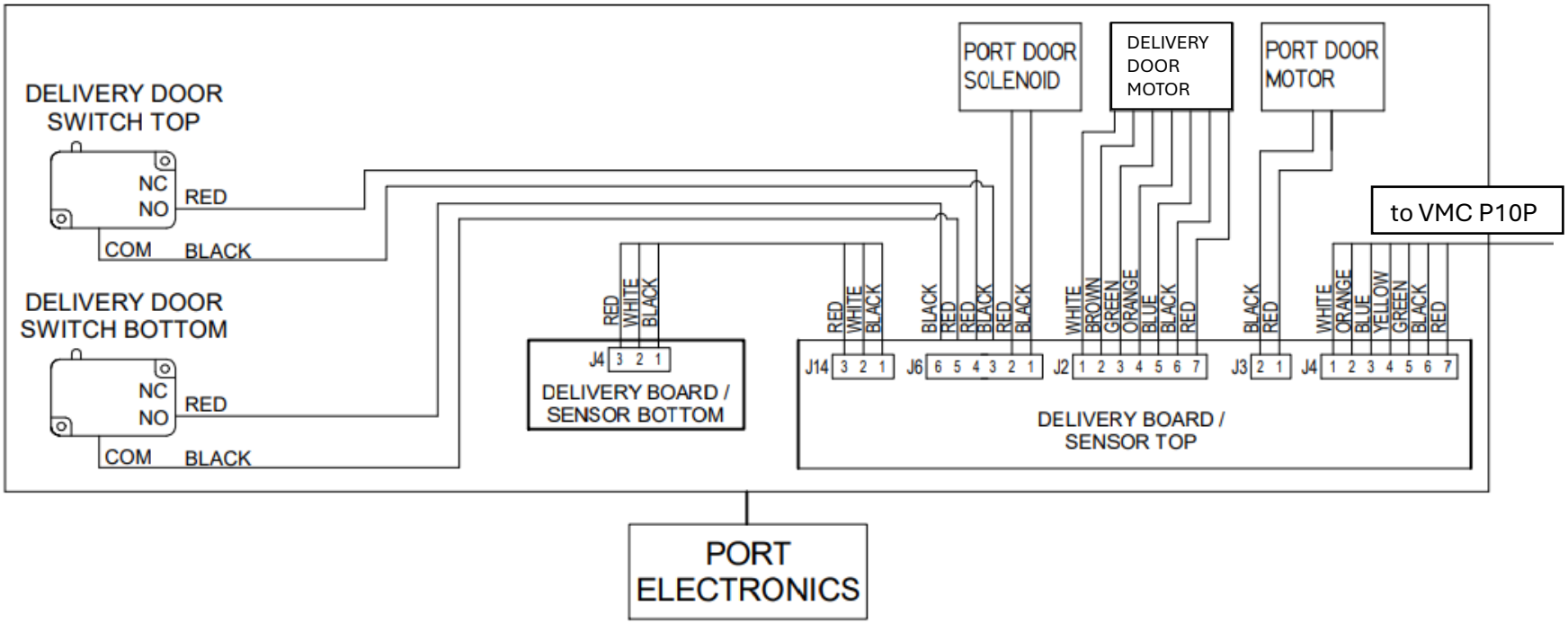


POSITION	DELIVERY CUP ASSEMBLY		POSITION	DELIVERY CUP BOARD
-----	Delivery Cup Plunger Motor		J1	Plunger Motor (5 pin)
P10C	VMC (9 pin)		J3	X-Axis (VMC P10C (9 pin)
-----	Delivery Cup Driver Motor		J4	Driver Motor (5 pin)
P1	RCVR Board (4 pin)	TO	J6	RCVR Board (4 pin)
P1	XMTR Board (2 pin)		J7	XMTR Board (2 pin)
-----	X-Axis Stepper Motor (6 pin)		P10Y	VMC Board (14 pin)
-----	X-Stepper Motor Encoder (5 pin)		P10Y	VMC Board (14 pin)
-----	Y-Axis Stepper Motor (6 pin)		P10Y	VMC Board (14 pin)
-----	Y-Axis Stepper Motor (6 pin)		P10Y	VMC Board (14 pin)

White Wire = 24VDC, Red Wire = 5VDC, Black Wire Ground/Common.

DELIVERY PORT ELECTRONICS

Section of Wiring Diagram

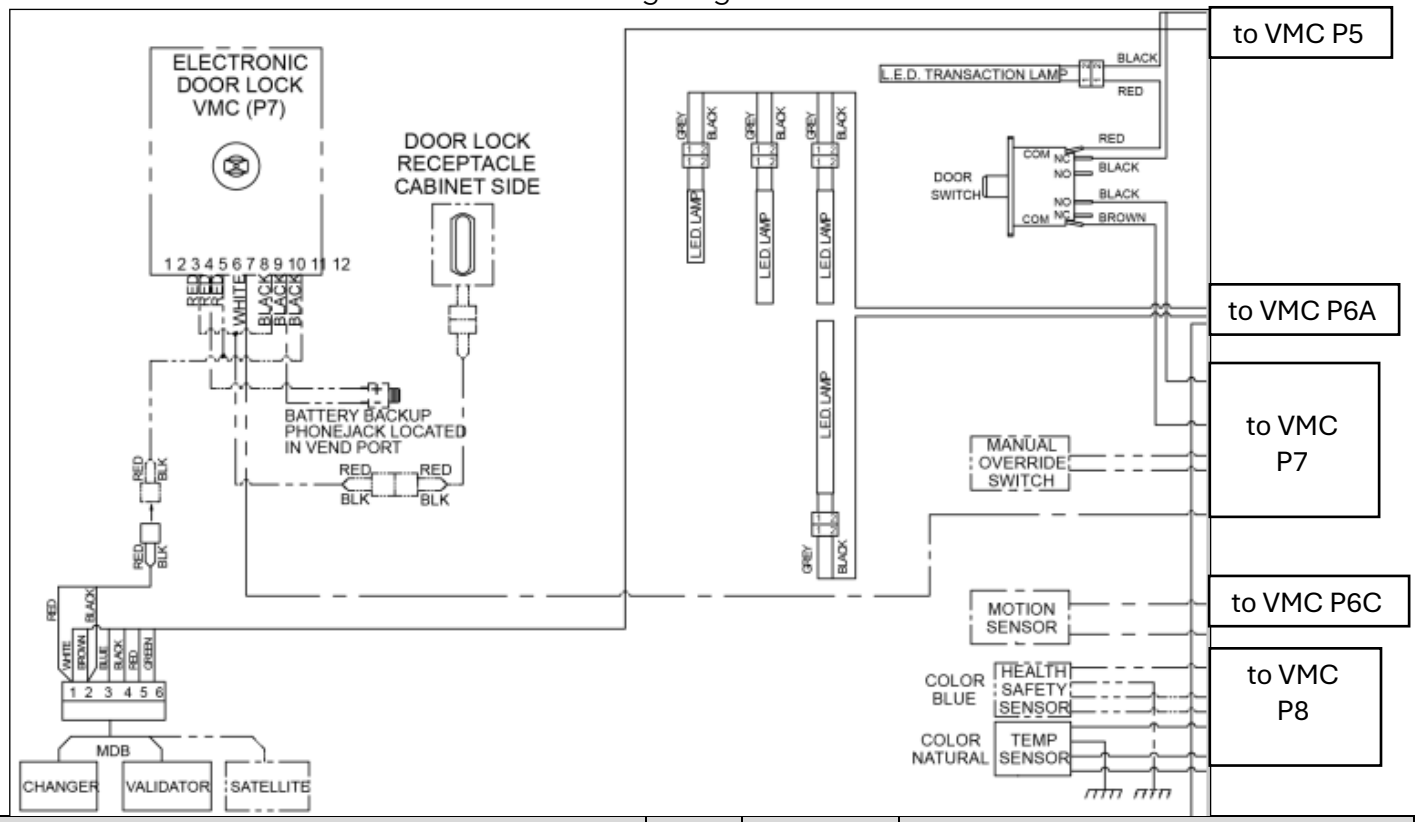


POSITION	PORT ELECTRONICS		POSITION	DELIVERY BOARD SENSOR TOP / BOTTOM
-----	Delivery Door Switch Top		J6	Delivery Board / Sensor Top (6 pin)
-----	Delivery Door Switch Bottom		J6	Delivery Board / Sensor Top (6 pin)
-----	Port Door Solenoid		J6	Delivery Board / Sensor Top (6 pin)
-----	Inner Delivery Door Motor	TO	J2	Delivery Board / Sensor Top (7 pin)
-----	Port Door Motor		J3	Delivery Board / Sensor Top (2 pin)
J4	Delivery Board / Sensor Bottom (3 pin)		J14	Delivery Board / Sensor Top (3 pin)
J4	Delivery Board / Sensor Top (7 pin)		P10P	VMC (7 pin)

White Wire = 24VDC, Red Wire = 5VDC, Black Wire Ground/Common.

PERIPHERALS, LIGHTS, OPTIONAL PARTS ELECTRONICS

Section of Wiring Diagram

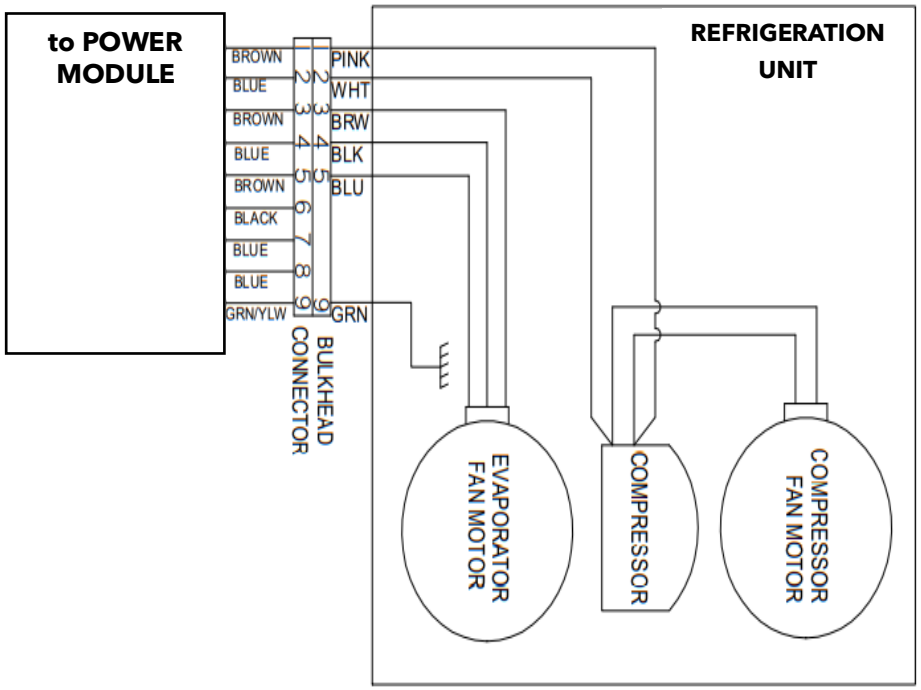


POSITION	PERIPHERALS/LIGHTS/OPTIONAL		POSITION	VMC /
-----	Changer/Validator/Satellite (6 pin MDB)		P5	VMC (10 pin)
-----	Electronic Door Lock Board (12 pin)		P7	VMC (13 pin)
-----	Door Lock Receptacle Cabinet		-----	Electronic Door Lock Board (12 pin)
-----	Door Lock Battery Back Up Port		-----	Electronic Door Lock Board (12 pin)
-----	LED Lamps	TO	P6	VMC (20 pin)
-----	LED Sold Out Lamp/Door Switch		P5	VMC (10 pin)
-----	Manual Override Switch/Door Switch		P7	VMC (13 pin)
-----	Motion Sensor		P6C	VMC (4 pin)
-----	Health Safety Sensor/Temperature Sensor		P8	VMC (8 pin)

White Wire = 24VDC, Red Wire = 5VDC, Grey Wire = 36VDC, Black Wire = Ground/Common.

REFRIGERATION ELECTRONICS

Section of Wiring Diagram

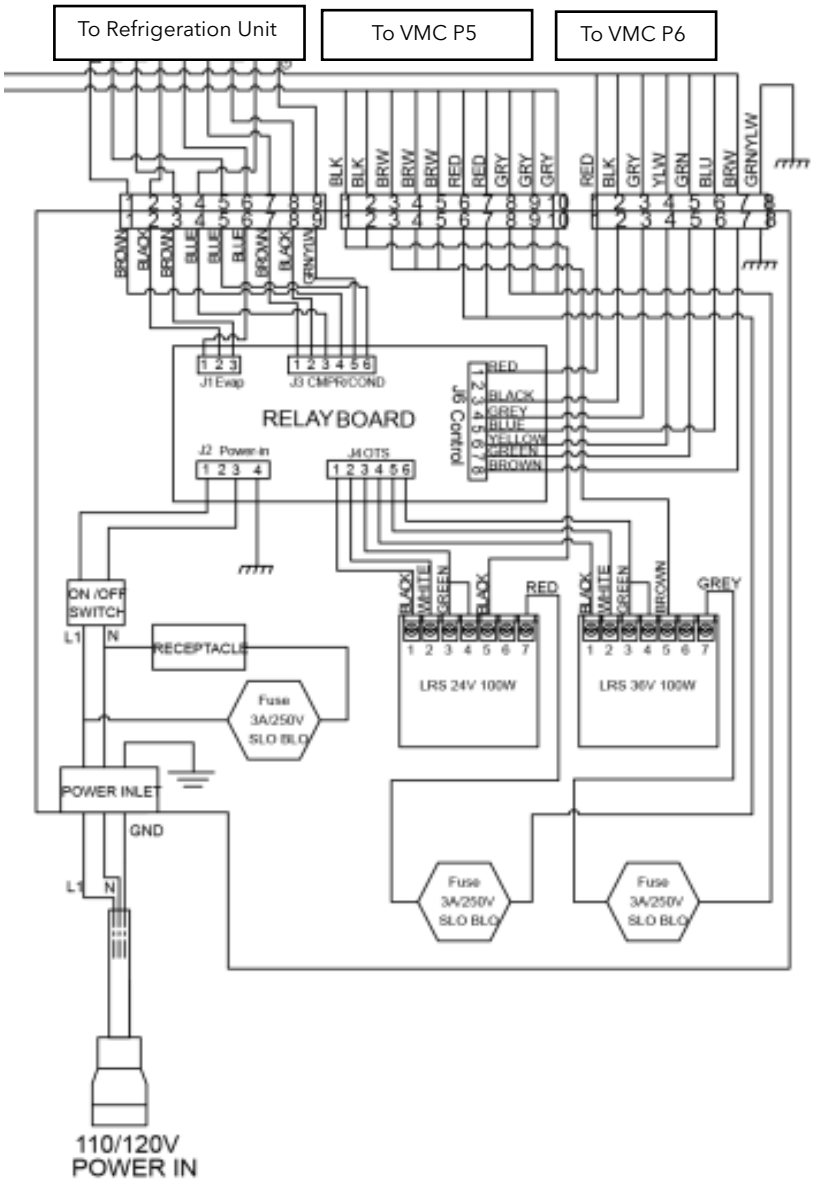


POSITION	REFRIGERATION UNIT 9 PIN CONNECTOR		POSITION	POWER MODULE 9 PIN CONNECTOR
-----	Evap Fan Motor (9 pin) pin 4 Black wire 115VAC		J1	Evap (3 pin) pin 2 Black wire 115VAC
-----	Evap Fan Motor (9 pin) pin 3 Brown Wire Ground		J1	Evap (3 pin) pin 3 Brown wire Ground
-----	Evap Fan Motor (9 pin) pin 5 Blue wire		J1	Evap (3 pin) pin 1 Blue wire Communication
-----	Compressor Fan Motor (9 pin) pin 1 Pink wire		J3	Comp/Cond (6 pin) pin 4 Brown wire Ground
-----	Compressor Fan Motor (9 pin) pin 2 White wire	TO	J3	Comp/Cond (6 pin) pin 6 Blue wire 115VAC
-----	Compressor (9 pin) pin 1 Pink wire		J3	Comp/Cond (6 pin) pin 4 Brown wire Ground
-----	Compressor (9 pin) pin 2 White wire		J3	Comp/Cond (6 pin) pin 6 Blue wire 115VAC
-----	Refrig. Unit Chassis Ground pin 9 Green wire		J3	Comp/Cond (6 pin) pin 5 Green/Yellow wire
	Pins 6, 7, 8 Empty not used			

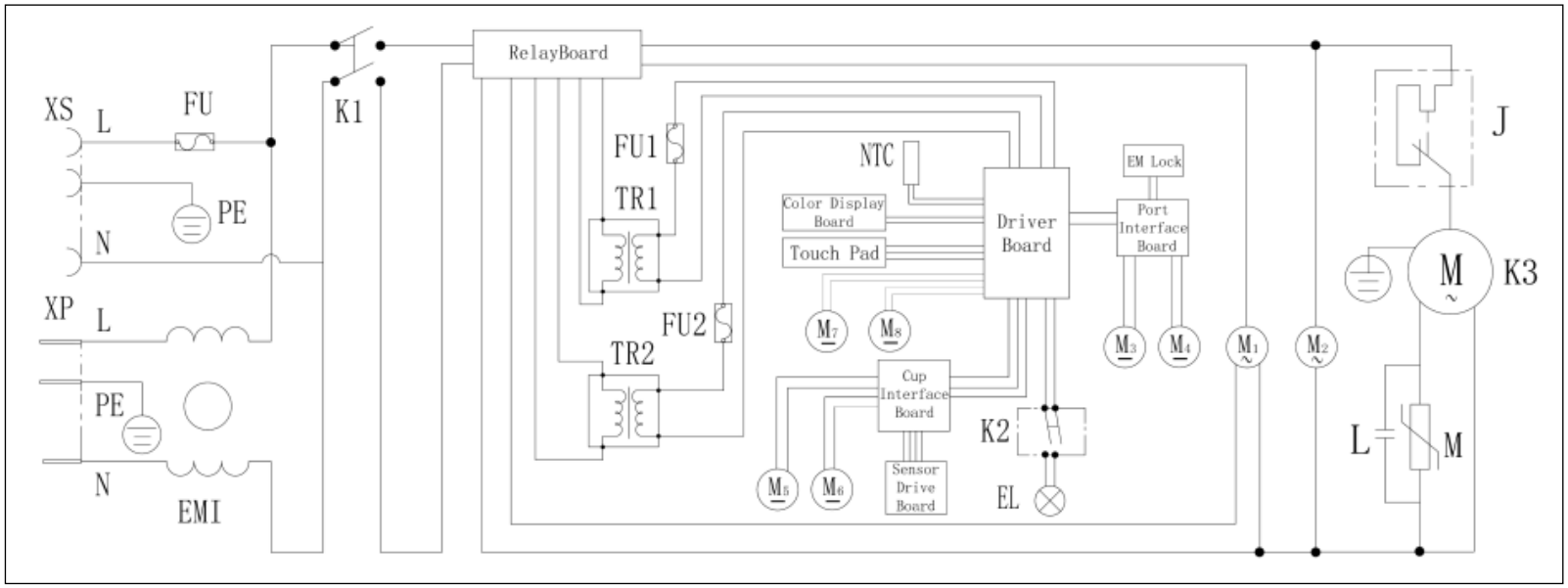
Black Wire = 115VAC, White Wire = Neutral, Red Wire = 24VDC, Grey Wire = 36VDC, Green/Yellow Chassis Ground, Green = Chassis Ground.

POWER MODULE ELECTRONICS

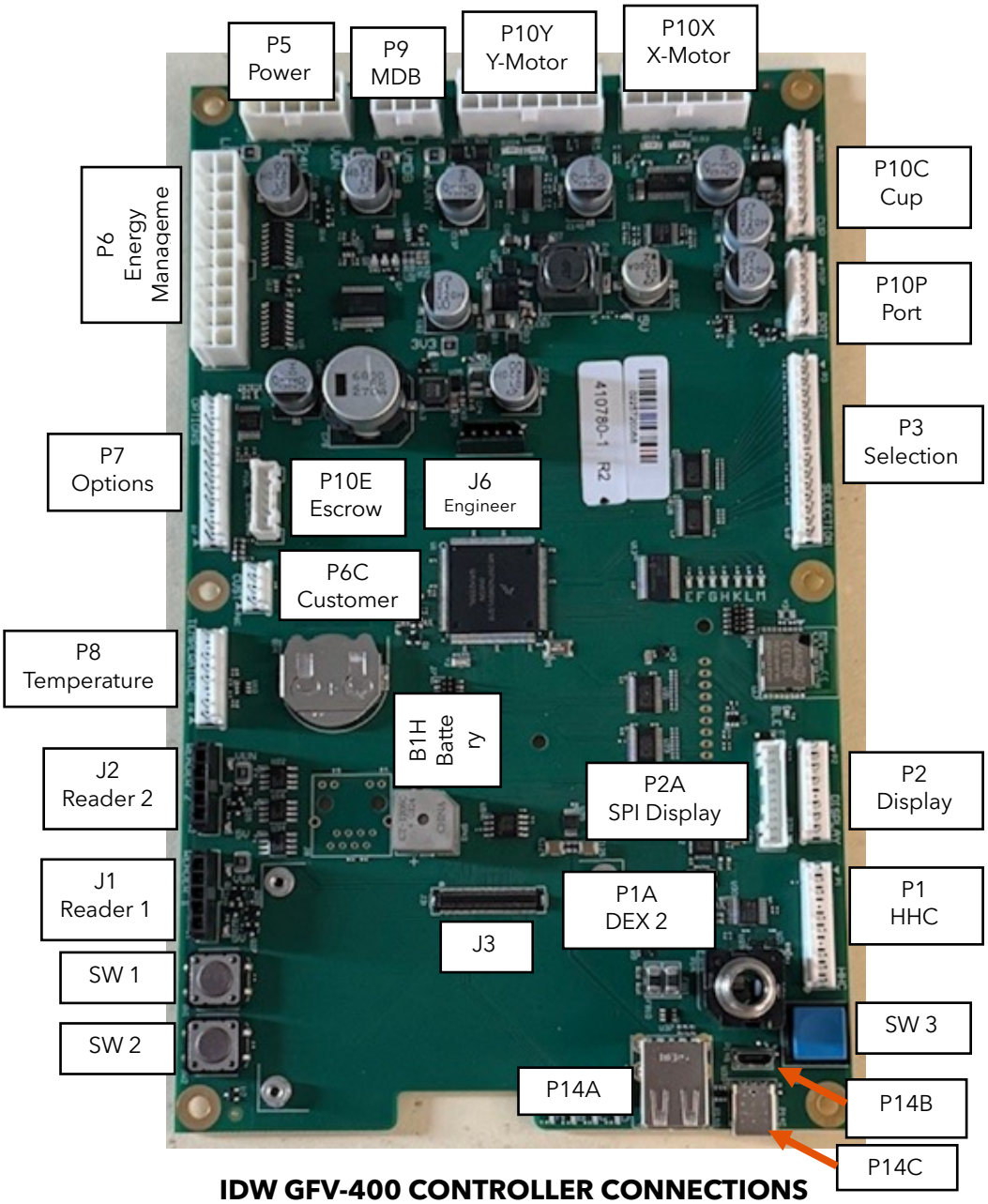
Section of Wiring Diagram



Electrical Wiring Diagram
Circuit Diagram



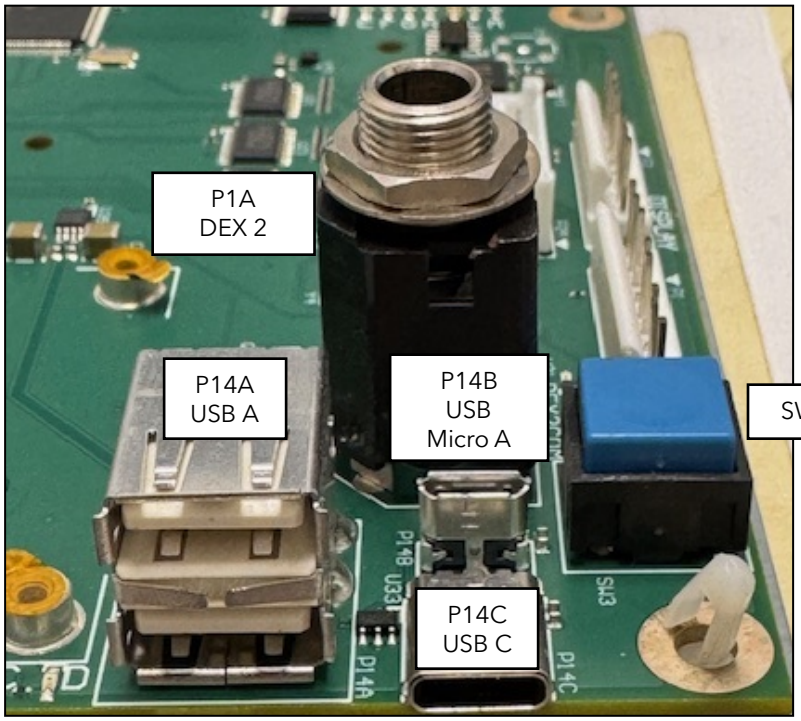
XP – Power	**J** – Overload Protector	**M5** – Cup Rotary Motor
XS – Outlet	**FU1** – 36V Fuse	**M6** – Cup Telescopic Motor
EMI – EMI Filter	**FU2** – 24V Fuse	**M7** – Elevator Y Motor
TR1 – 36V Power Supply	**FU** – Fuse	**M8** – Traverse X Motor
TR2 – 24V Power Supply	**M1** – Evaporator Fan	**M** - Compressor PTC
L – Compressor Running Capacitor	**M2** - Condenser Fan	**K** – Compressor
K1 – Power Switch	**M3** – Port Door Motor	**NTC** – Temperature Sensor
K – Door Switch	**M4** – Port Pickup Motor	**EL** - Light



IDW GFV-400 CONTROLLER CONNECTIONS

CONNECTION	DESCRIPTION	CONNECTION	DESCRIPTION
P1	HHC (Handheld Computer)	P10P	Port
P1A	DEX / UCS Jack	P10E	Escrow
P2	Display	P14A	USB A (2) (used to load firmware updates only)
P2A (not used)	SPI (Serial Peripheral Interface) Display	P14B	USB Micro A (not used)
P3	Selection	P14C	USB C (not used)
P5	Power	J1	Reader 1
P6	Energy Management	J2	Reader 2
P6C	Consumer Presence	J3	Cashless Module when populated (Card Readers)
P7	Options	J6	Engineer Use Only
P8	Temperature	SW1	Future Use
P9	MDB	SW2	Future Use
P10X	X-Motor	SW3	Service Mode Button (Blue)
P10Y	Y-Motor	B1H	Battery – CR2032 3V
P10C	Delivery Cup Board		

IDW GFV-400 Controller
Bottom Right Corner
P14A, P14B, & P14C



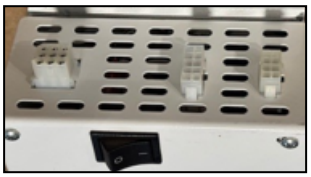
P14A – USB A (2)
P14B – USB Micro A (not used)
P14C – USB C (not used)
SW3 – Service Mode Button (Blue)
P1A – DEX / UCS Jack

Tips & Notes:

1. Please visit Innovative DisplayWorks You Tube Channel Link to view available how to programming and part replacement videos - https://www.youtube.com/@InnovativeDisplayWorks .
2. Bill Validator/Card Reader Installation – **IMPORTANT NOTE**: the nuts used to secure Bill Validator/Card Reader are metric M4 flange nuts and require a 7mm socket to remove/install on all GFV-400's manufactured prior to March 2026.
    a. All GFV-400's starting March 1, 2026 the hex nuts used to secure Bill Validator/Card Reader are standard 8-32 hex nuts & require a 11/32" standard socket.
3. Cabinet Delivery Door Assy. Lock
    a. You can disable the Cabinet Delivery Door Assy. Lock, and the Vendor will still operate.
        i. To bypass the Cabinet Delivery Door Lock manually put the lock in the unlocked position.
        ii. Unplug the 7-pin power connector to the side of the Cabinet Delivery Door Board.
        iii. Now after a vend, the Port clear door will stay open for 30 seconds after product is removed from the port and the Cabinet Delivery Door will close.
4. Cabinet Delivery Door Assy. replacement.
    a. If an issue requires the Cabinet Delivery Door Assy. to be replaced.
        i. Do not remove the entire Delivery Door Assy. Just remove the part of the assembly with the motor and board held in place by 7 screws.
            1. The 7 screws are on the same side as the motor and board.



5. Casters are not recommended on the GFV-400.
6. Power Module Assy. Relay Board.
    a. This Relay Board controls the LED's and the Refrigeration Unit.
7. Power Module Assy. Connectors.
    a. 9 Pin Connector goes to Compressor, Evap Fan, & Condenser Fan.
    b. 10 Pin Connector goes to VMC.
        i. 3 pins – Brown Wires 36VDC.
        ii. 3 pins – Grey Wires 36VDC.
        iii. 2 pins – Black Wires 24VDC.
        iv. 2 pins – Red wires 24VDC.



    c. 8 Pin Connector from Power Module Relay Board to VMC.
    d. 3 Pin Receptacle above the top fuse has 115 VAC power all the time as long as power is provided to the Power Module Assy..
    e. 3 Pin Receptacle at the bottom of the Power Module Assembly provides 120 VAC to the Power Module Assy.



8. Power Module Fuses
    a. Top or Left Fuse protects LED's, Display, Keypad, Compressor, Evap Fan, & Condenser Fan.
    b. Middle or Right Fuse protects Peripherals and X & Y Stepper Motors.
    c. Bottom Fuse (on Modules with 3 fuses) protects the 115VAC Receptacle on the Power Module Box.
9. X Motor Encoder 5VDC Brown/Yellow Wires.
10. Y Motor Encoder 5VDC Red/Black Wires.

Tips & Notes continued:

11. Magnet replacement in the track assemblies, bottom, and right-side magnet holders.
    a. Hold the new magnet in front of an existing magnet installed in a holder and it should push away. That identifies the side that you want facing towards you when you insert the magnet in a holder.
    b. Turn the magnet 180 degrees and insert it in the holder.
12. Refrigeration Cassette
    a. Dimensions

GFV-400	Weight	Height	Width	Depth
Refrig. Cassette	52 lbs. (23.59 kg)	10.55" (268mm)	21.02" (534mm)	30.75" (781mm)
Refrig. Cassette Packaged to Ship	53 lbs. (24.04 kg)	11.81" (300mm)	22.44" (570mm)	32.68" (830mm)

13. Glass Door: 66 lbs. (30 KG) weight.
    37.5" (952.5 mm) wide, 68.875" (1749.4 mm) high.
14. Recommended Tools when working on IDW GFV-400
    a. Recommended Tools when working on IDW GFV-400 that you may not currently have.
    b. Multi Stubby Screwdriver (Philips #1, #2 bits)
    c. Metric Allen Set
    d. Metric Sockets 7mm, 8mm, 10mm Deep Well for top hinge carriage bolt nuts
    e. 7/16" ratcheting box wrench to adjust leveling leg from the top
    f. Small Magnetic Level to check Cabinet Level
15. The 5 LED's at the top of the VMC Board are voltage hardware diagnostic lights.
    a. LED24 – LED Lights up to let you know the board is seeing 24V LED voltage.
    b. LED12 – 24V Lights up to let you know the board is seeing 24V voltage.
    c. LED18 – VUN Lights up to let you know the board is seeing Voltage for X Motor.
    d. LED9 – VMDB Lights up to let you know the board is seeing MDB Voltage.
    e. LED10 – VUNY Lights up to let you know the board is seeing Voltage for Y Motor.
16. The 7 LED's in the middle of the VMC Board indicate:
    a. LED8 - E – Not Used
    b. LED7 - F - Not Used
    c. LED6 - G - Not Used
    d. LED5 - H - Not Used
    e. LED4 - K - Not Used
    f. LED2 - L - Not Used
    g. LED1 - M - used as a heartbeat indicator; it flashes every time we kick the hardware watchdog timer.
17. Troubleshooting tip – Machine Disabled on display – check peripherals by down powering Vendor. Unplug MDB peripheral cable to VMC. Power on and test Vendor with peripherals unplugged.
18. Recommended tools list:
    a. Metric socket sizes and applications:
        i. 5.5mm for control board
        ii. Payment systems socket sizes – refer to Tip #2
        iii. 7mm for slides/door switch bracket/ Y motor bracket
        iv. 8mm for power supply/ door lock brackets
        v. 10mm for cassette/door hinge

b. Standard wrenches (ie. for legs) 7/16" top of legs
c. Phillips screwdriver with extensions #1 and #2 Phillips nibs are used
d. Screw gun
e. Needle nose pliers
f. Wire cutter
g. Box cutter
h. Bar level
i. Zip ties
j. Metric allen/hex keys and applications:
    i. 2.5mm hex key for top rod.
    ii. 3mm hex key for X motor cog/ Y motor coupler.
    iii. 4.5mm hex key for tensioner at bottom of Y rails.
    iv. #2 hex key for Pulley Wheel on Delivery Cup.

19. When test vending IDW recommends installing product in columns/cells to be tested to prevent potential damage to Track Assy. gears.
20.