merchant
MEDIA

Quick Start Guide

3.5" Keypad

CRANE

Table of Contents

Compliance Requirements

- **LOCATION OF MANUFACTURER:**
  - All machines are built at the Crane Merchandising Systems manufacturing facility, located at 3330 Crane Way, Williston SC 29853, USA
- **DATE OF MANUFACTURE:**
  - Date of manufacture can be determined by viewing the Manufacturing Date on the Serial Number decal, located on the top left rear corner of the back of the machine cabinet.
- **PERMITTED & NON PERMITTED USES OF THIS MACHINE**
  - This machine is designed to dispense pre-packaged food, candy, beverage, snack and similar products. Use of unwrapped food products is not permitted.
  - It is not permitted to use this machine outdoors, or in an environment where flammable or explosive vapors are present.
  - This machine is not designed, nor should it be used to dispense flammable or explosive items, nor any other item that could not be safely dispensed by dropping it into the delivery bin.
  - This machine is not suitable for installation in an area where a water jet could be used.
  - The appliance is not to be used by persons (including children) with a reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction. Children must be supervised not to play with the appliance.

- **Nutritional Content Information**
  - Crane Merchandising Systems is providing the nutritional content information, based on information provided by the product manufacturers, and Crane MS is cannot accept responsibility for content created by others.

Compliance Requirements

All models are built to meet or exceed all applicable standards, including but not limited to:

- International (CE) Approvals to meet or exceed the below listed standards:
    - 83/23/EEC (93/68/EEC) Low Voltage Directive.
    - 89/336/EEC EMC Directive
    - EN 60335-1Safety of household and similar electrical appliances.
    - DIN VDE 0700 T224 Safety requirements for Automatic and coin-operated machines and control devices for commercial use.
    - EN 55022 Class B Limits and methods of measurements of Radio interference characteristics of information technology equipment.
    - IEC 801-1 Electromagnetic compatibility for industrial-processing measurement and control. Part 1: General.
    - IEC 801-2 Part 2; Electrostatic discharge requirements for industrial process measurement control equipment.
    - IEC 801-3 Part 3; Radiated electromagnetic field requirements.
    - IEC 801-4 Part 4; Electrically fast transient.
    - IEC 801-5 Draft; Surge immunity requirement.
    - IEC 801-6 Draft; Immunity to conducted disturbances induced by radio frequency.
    - EN 50082-1 Generic immunity requirements; Residential, Commercial, Light industry.
- Machines built for the US Market meet or exceed the requirements for UL751 for ambient machines, and UL541 for chilled machines, and have also been reviewed and passed the NAMA Construction Standard, and are permitted to bear the NAMA Mark.

- **NOISE LEVEL**
  - This machine operates at less than 70 db (A).
- **ACCEPTABLE AMBIENT OPERATING TEMPERATURE RANGE.**
  - This equipment was designed and tested to work properly in a temperature range of 10°C to 32°C (50°F to 90°F) in still air (45% Relative Humidity, non-condensing). Usage at ambient conditions outside the range of the testing may cause unacceptable appearance or performance.
- **STORAGE CONDITIONS**
  - The machine capable of being stored in a temperature range of -18°C to 68°C (0°F to 155°F). Storage temperatures below 0°C (32°F) require that the operator to take the required precautions to insure that any water is removed from the condensate system prior to storage.
- **INDOOR USE ONLY**
  - 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.

CRANE **MERCHANDISING SYSTEMS** *A Crane Co. Company*

Specifications
186 & 187 Ambient Snack

Specifications	Model 186 Domestic 4 wide Ambient	Model 186 Export 4 wide Ambient	Model 187 Domestic 6 wide Ambient	Model 187 Export 6 wide Ambient
Height	72 inches	183 cm	72 inches	183 cm
Width	32.8 inches	83.312 cm	43.75 inches	111.13 cm
Depth	38.5 inches	97.79 cm	38.5 inches	97.79 cm
Floor Space	8.8 Sq ft	.82 Sq Meter	11.7 Sq ft	1.09 Sq Meter
Container Size	52.8 Cu Ft.	1.50Cu Meter	70.2 Cu Ft.	1.99 Cu Meter
Shipping Weight	510 lbs	231 kg	610 lbs	276 kg
Voltage (AC)	120V	230V	120V	230V
Running Amperes	3A	1.5A	3A	1.5A
Refrigerant Charge	Not Applicable		Not Applicable	
Compressor size				
High Side Test Pressure				
Low Side Test Pressure				

Specifications
471 & 472 Combo

Specifications	Model 471 Domestic 4 wide Combo	Model 471 Export 4 wide combo	Model 472 Domestic 6 wide Ambient	Model 472 Export 6 wide Ambient
Height	72 inches	183 cm	72 inches	183 cm
Width	32.8 inches	83.312 cm	45.5 inches	115,57 cm
Depth	32.5 inches	82.55 cm	32.5 inches	82.55 cm
Floor Space	7.4 Sq ft	.69 Sq Meter	10.3 Sq ft	.96 Sq Meter
Container Size	44.4 Cu Ft.	1.26 Cu Meter	61.6 Cu Ft.	1.75 Cu Meter
Shipping Weight	629 lbs	285 kg	729 lbs	330 kg
Voltage (AC)	120V	230V	120V	230V
Running Amperes	8A	4A	8A	4A
Refrigerant Charge	7.5 oz	.213 kg	9.8 oz	.278 kg
Compressor size	1/3 hp	1/3 hp	Super 1/3	Super 1/3
High Side Test Pressure	250 psi	17.24 bar	250 psi	17.24 bar
Low Side Test Pressure	105 psi	7.24 bar	105 psi	7.24 bar

Cautions & Definitions

It is critical that all cautions and warnings be reviewed and complied with during the unpacking, installation, operation, and repair of this machine

	CAUTION: This machine is designed for indoor usage only. Any other usage will void the Manufacturer's Warranty
	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: Different countries may have unique plug arrangements. Ensure that the machine is properly grounded before operating. .
	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 in order to avoid a hazard.

Cautions & Definitions

⚠	*CAUTION:* **The machine is a heavy item. Ensure that sufficient personnel are available for lifting and transporting the machine. Use proper lifting procedures and equipment.**
⚠	*CAUTION:* **This machine is designed to dispense pre-packaged food, candy, beverage, snack and similar products. Use of unwrapped food products is in direct contradiction to these cautions.**
⚠	*CAUTION*: **If this machine is used to dispense perishable food, and local health codes require that the machine monitor the cabinet temperature, and prevent vending when the temperature exceeds a defined limit for a period of time, then the Health Code function must be enabled for those affected selections – see Health Code Setup**
ESD SENSITIVE	*CAUTION:* **The electronic system components in this machine utilize static sensitive components. Precautions for handling sensitive devices should be observed when handling these items.**

Daily Cleaning

Before leaving the machine each visit, the machine should be inspected and cleaned as follows:

1. Glass – inside and out – use glass cleaner and disposable towels

2. Front of monetary panel – do not use ammonia based cleaners as it may cause premature crazing of the polycarbonate surface. We recommend the use of Novus #1 plastic cleaner & polish.

   For units equipped with a touch screen, never spray any cleaner directly on the touchscreen, nor permit liquids to flow onto the screen. Apply cleaner to a disposable towel and then apply to the pill or touchscreen. Treat the touchscreen as you would any sensitive electronic device and never use abrasive cleaning materials.

3. Delivery Bin – Inside and out – clean any spills or residue with a mild soap and water solution, and wipe dry.

Cashless Devices

- If your machine is equipped with a cashless device, whether it is a credit card reader, or a proprietary closed system pre-paid card, the magnetic head used to read the payment cards needs to be cleaned regularly to insure proper operation.

- The defined tool for cleaning a magnetic head is a pre-saturated cleaning card, which are commercially available from various sources.

- Based on credit card industry standards, the busier a machine is, the more frequently the magnetic head should be cleaned

- For cashless uses more than 100 times per day – clean it every day

- For cashless uses between 50 and 100 times per day – clean it every other day

- For cashless uses between 10 and 50 times per day – clean it one time per week.

- Actual conditions may vary, and be affected by site conditions, for example a machine located outdoors should be cleaned more frequently.

- Follow the instructions provided with the cleaning card, and slide it past the magnetic head as directed.

- Usage of the onboard swipe and other mag-stripe readers is currently only in use in the USA. Follow the Preventative Maintenance instructions provided by the manufacturer if you have a additional payment device.

SERVICE AT EACH INTERVAL LISTED X WEEKS OR VENDS WHICHEVER COMES FIRST	Weeks / Vends	1 / 500	2 / 1000	4 / 4000	13 / 15000	26 / 25000	52 / 50000
REFRIGERATION SYSTEM – Combo Only							
AIR INLET SCREEN – SEVERE CONDITIONS		CLEAN					
AIR INLET SCREEN & CONDENSOR COIL			INSPECT	CLEAN			
AIR OUTLET SCREEN				INSPECT		CLEAN	
EVAPORATOR DRAIN TUBE					INSPECT	CLEAN	SANITIZE
EVAPORATOR DRAIN PAN					INSPECT	CLEAN	SANITIZE
CONDENSER COIL				INSPECT		CLEAN	
PRODUCT DELIVERY SYSTEM							
DELIVERY BIN AREA		CLEAN					
DELIVERY BIN LINKAGES & HINGES				INSPECT		LUBRICATE	
MACHINE GLASS		CLEAN					
LAMP COVER		CLEAN					
TRAYS & SPIRALS		INSPECT				CLEAN	
MAIN DOOR SEALS				INSPECT			
MISCELLANEOUS							
CABINET DOORS		CLEAN					
DOOR HINGE						INSPECT	LUBRICATE
LOCK HANDLE					INSPECT		LUBRICATE
PAYMENT SYSTEMS		FOLLOW MANUFACTURER'S RECOMMENDATIONS					

THIS SCHEDULE SHOULD BE FOLLOWED IN ADDITION TO THE "EACH VISIT" CLEANING RECOMMENDED IN THE SERVICE SECTION OF THIS MANUAL.

CLEAN	CLEAN WITH APPROPRIATE CLEANER, DRY
INSPECT	INSPECT FOR WEAR, PRODUCT BUILT UP OR BROKEN PART. AFTER INSPECTION- CLEAN, REPAIR, Lubricate OR REPLACE, as required
LUBRICATE	SHOULD BE CLEANED, INSPECTED, AND REPAIRED BEFORE LUBRICATION. RECOMMENDED LUBRICATE IS A LIGHTWEIGHT FOOD GRADE GREASE.
SANITIZE	USE A DILUTED BLEACH SOLUTION TO SANITIZE COMPONENTS

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Inspection and Unpacking

The Merchant Media is assembled and packed so that a minimum amount of time is necessary for preparation to install it on location. The following steps are recommended to ensure correct unpacking.

- **Shipping Damage**: Thoroughly inspect the exterior of the carton for damage which may have occurred during shipment. Report any damage to delivering carrier and follow their instructions.
- Remove the remainder of the packing material. On machines shipped with the lock in place, the keys are taped inside the coin return.
- Removal of shipping boards: There are 2 methods available for removal of the shipping boards on the bottom of the machine, and they are dependent upon the style of packaging used: 2 flat shipping boards (Style A), or 2 L shaped assemblies (Style B).
- **Style A**
    - **a) Using a motorized lifting device (i.e. a forklift) raise the machine to a comfortable working height and remove the leg levelers with the use of a socket or wrench (1 5/16"). Do this on one side at a time. After the front and rear leg levelers are removed, the shipping board can then be removed. Replace the leg levelers in the legs of the machine before lowering to the ground, OR**
    - **b) When using a pallet jack (non-motorized) insert a pry bar into the slit on the front and rear of the wooden boards, and twist the bar to force the boards to split apart, and remove from the machine. Screw the leg levelers all the way in before lowering the machine to the ground.**
- **Style B**
    - **a) Each of the 4 legs has a hex head screw securing the leg to the wooden pallet. Remove the screw from each leg, then using either a motorized lifting device, or a pallet jack, raise the machine sufficiently to slide the 2 assemblies out from under the machine and lower it to the floor.**
- **NOTE: On the machine, the weight concentration is toward the back of the cabinet. Trucking and lifting should be done from the back. CAUTION should be taken when trucking from side.**
- On machines with lock in place, first unlock and turn handle to open door. When no lock is furnished, remove clip and turn handle. Swing door to its full open position.
- Remove all additional packing material from the machine.

Attention!

To avoid damage to the ADA delivery bin mechanism, remove the SHIPPING BOLTS from the bin sides prior to operating the ADA delivery bin!!!

The Shipping Bolts must be installed any time the machine is moved or transported. Failure to do so could result in damage to the delivery bin

To tilt the bin down to access the shipping bolts, swing the small latches on the top corners of the bin to release the bin.

Make sure you latch the bin after removing the shipping bolts.

View of shipping bolt
(2 shipped per bin)

Shipping Location
(two bolts – back of bin sides on left and right)
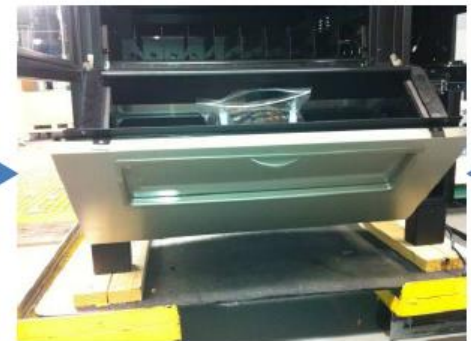
Bin pulled out to access bolts

Bin Latch Locations

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Moving the merchandiser through a narrow doorway

Note: If necessary, this Merchandiser can be moved through an opening as narrow as 30 inches (76.20cm) by removing the panels at the top and bottom of the cabinet.

Step 1- Remove the top Panel

1. Remove the screws that secure each end of the panel to the cabinet.
2. Pull the panel forward to remove it from the merchandiser.

Remove the top panel

Figure 1

CRANE | **MERCHANDISING SYSTEMS**
A Crane Co. Company
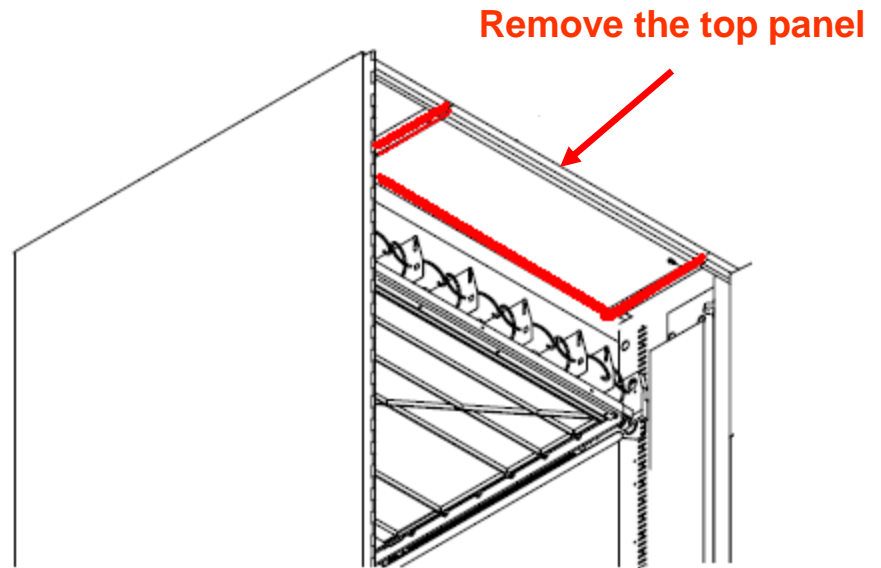
Moving the merchandiser through a narrow doorway

Step 2

REMOVING THE LOWER PANELAND DELIVERY BIN

(Refer to Figures 2 and 3 at right.)

1. Open the slide-out monetary and the glass door. Locate the silver tab of the delivery bin latch on the lower delivery bin side of the monetary wall.
2. Lift the latch up to allow the delivery bin assembly to hinge down.
3. Lift up the delivery bin slightly and lift up on the drop rods to allow the

   rods to clear the stop brackets.
4. Slide the delivery bin assembly to the right to clear the hinges. The delivery bin assembly will not be attached to the machine.
5. Unhook the SureVend™ harness at the SureVend™ board, noting the wire routing.
6. Remove the screws that secure the bottom panel to the cabinet.
7. Pull the panel forward to remove it from the cabinet.

NOTE

To fit the merchandiser through some of the most narrow doorways, you may have to remove the trays. If you do, follow the procedure a outlined on the following page.

OPEN GLASS DOOR THEN MONETARY TO ACCESS LEVER. LIFT LEVER TO TILT DELIVERY BIN

181p0033

Figure 2

CAUTION! DO NOT LET THE DELIVERY BIN FALL. SUPPORT THE DELIVERY BIN AS IT IS BEING TILTED DOWNWARD

181p0034

Figure 3

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company
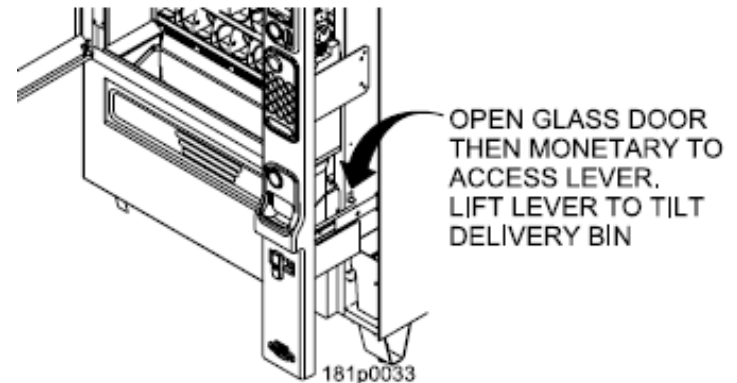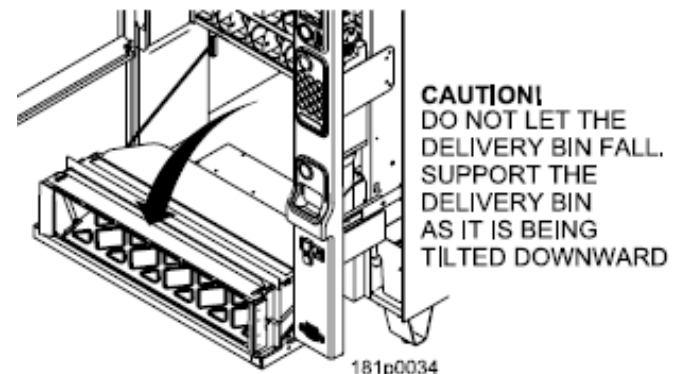
• **Leveling the Machine**

– Leveling the machine on location is important for the proper function of the machine. There are four leveling screws in the legs of the machine to make any necessary adjustments. After positioning the machine, level it from front to rear and right to left directions. After leveling, turn front right (lock side) leveling screw in about one-half turn to drop this corner slightly to make the door easier to close and lock.

Place level in position A, and adjust the bottom leg levelers, and repeat in positions B & C
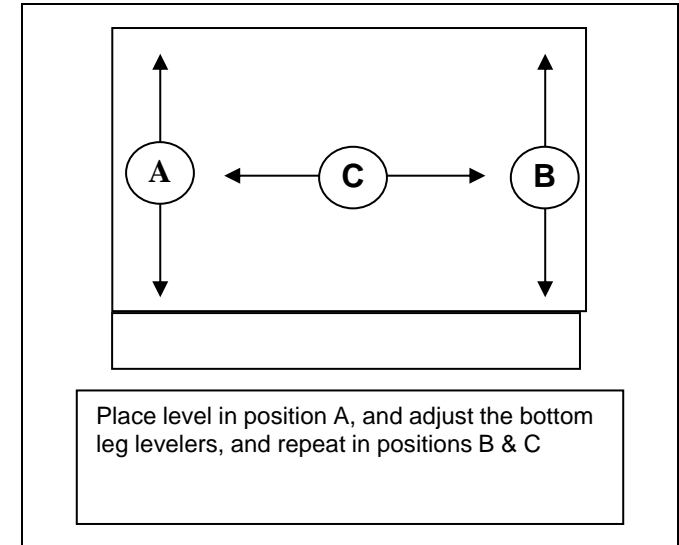
• **Clearance Requirements**

– It is necessary on all machines to have 25mm (1") clearance on the left side of the machine for the door to properly open to access the shelves.

– All chilled or refrigerated machines require 150mm (6")of clearance behind the machine for air circulation.

150mm

25mm
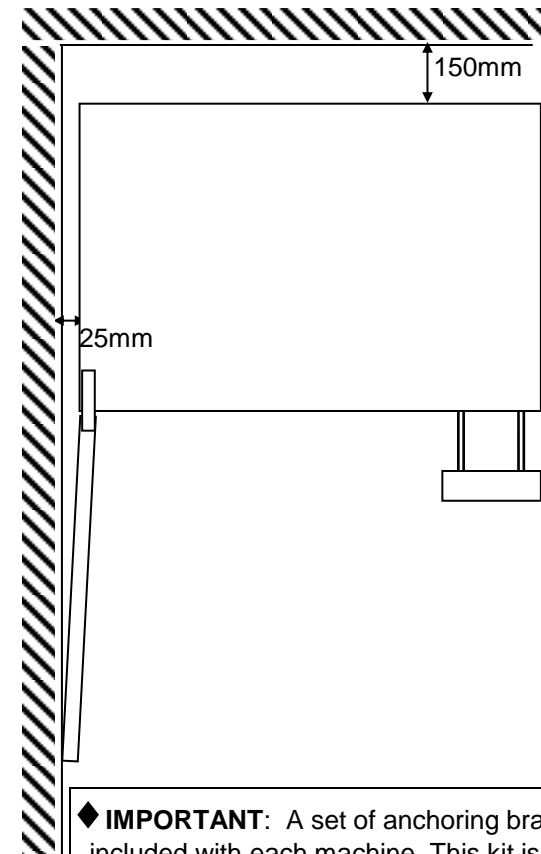
◆ **IMPORTANT**: A set of anchoring brackets is included with each machine. This kit is located in the bottom of the machine with complete instructions. It is recommended that this kit be installed during set-up to prevent shifting of the machine.

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

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.

- ## Power Requirements

- The merchandiser is supplied with a service cord for the country of use, and is terminated in a grounding type. The wall receptacle used for this merchandiser must be properly polarized, grounded and of the correct voltage. Operating the merchandiser from a source of low voltage will void the warranty. Each machine should have it's own circuit, and that circuit should be protected with a circuit breaker of fuse to conform to local regulations.

  1. **Voltage Check** - Place the leads of the voltmeter across the Line and Neutral sockets of the wall receptacle. The voltmeter should indicate a stable voltage in a range of 110 to 130Vac for 120V 60Hz locations, or 220 to 240Vac for 230V 50Hz locations.

  2. **Polarity Check** - Place the leads of the voltmeter across the Line and Ground sockets of the wall receptacle. The voltmeter should indicate a stable voltage in a range of 110 to 130Vac for 120V 60Hz locations, or 220 to 240Vac for 230V 50Hz locations.

  3. **Noise Potential Check** - Place the leads of the voltmeter across the Neutral and Ground sockets of the wall receptacle. The voltmeter should indicate zero voltage. A measurement greater than 1.5V could result in operational issues for the merchandiser's electronics caused by electrical noise.

Note: Any deviation from these requirements could result in unreliable performance from your merchandiser.

CAUTION: This procedures requires the use of tools, and should only be completed by a trained technician or operator.

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

19

- After unpacking and installing the machine on location the Key steps to setting up the machine the first time are:
    1. Load a change fund into the coin mechanism.
    2. Set the selection prices in the machine.
    3. Test vend at least one selection on each shelf to verify:
        a. Pricing is correct, and coin mech, bill acceptor and credit card device are working correctly.
        b. Product and nutrition information are correct.
        c. Selection delivers products.
        d. Delivery bin delivers product to customer.

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Loading the Machine

1) Lift the front edge of the shelf and pull the shelf forward until it stops
2) Insert products into spirals
3) Once the shelf is loaded, push the shelf back into the machine until you feel front edge raise up over the ramp.

Note: If tall product hits the shelf above when restoring the shelf to the normal vend position, raise the upper shelf to provide clearance

LIFT TRAY, THEN PULL OUT

ON BOTTOM TRAY, USE THUMB HOLES ON EITHER SIDE TO LIFT TRAY BEFORE PULLING OUT

181p0012

181p0030

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company
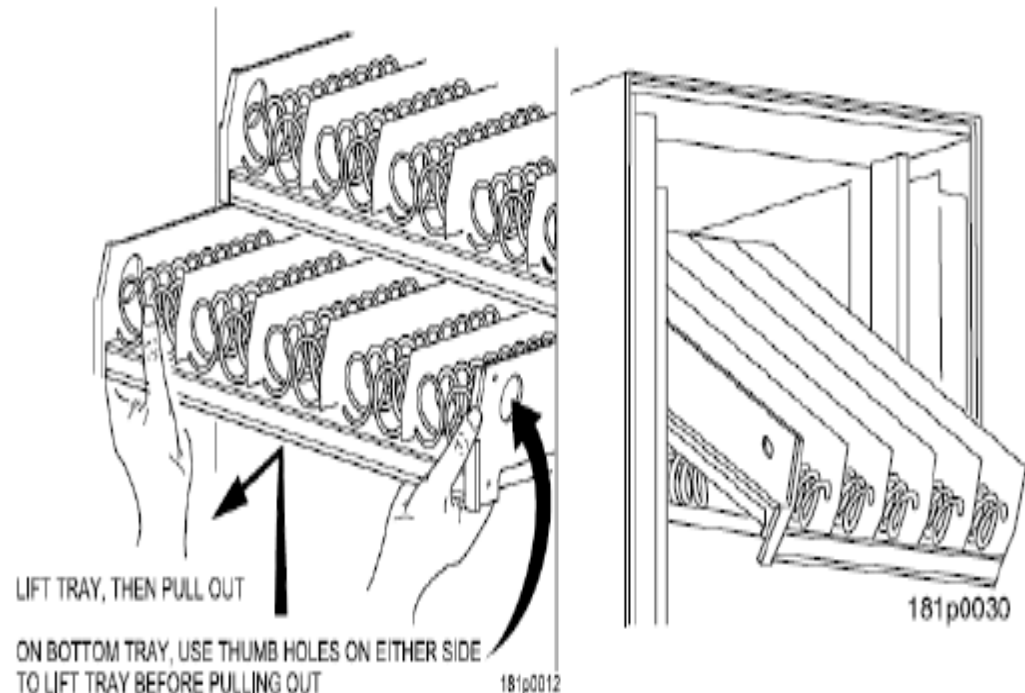
Payment Systems

- The Media Merchandisers are capable of accepting multiple forms of payment systems using a Multi Drop Buss or Executive (export only) interface.

- All payment devices are mounted on the slide out assembly. The front of this slide out assembly is called a Pill. There are multiple configurations of the Pill available should you need to add or take away payment peripherals in the future.

- If your payment peripherals were installed at the factory they should already be enabled in the electronics. Currently we enable only $1 and $5 bills (notes) in manufacturing. Instructions from the manufacturer for all peripherals installed at the factory are included in the bag assembly in the machine. Please refer to these instructions for information on filling coin tubes, adding bills to recyclers or other pertinent information.

- If your payment peripherals were not installed in manufacturing please refer to the instructions that came with payment system for set up and installation.

- See the service modes section of this document for information on enabling or disabling different bills and/or additional peripherals.

- Turn on the power switch located on front of the power box accessible by pulling out the swing panel.

- The Media Merchandisers run on the Linux operating system, it is essentially a computer so it will take a little while to power up just like your computer at home.

Power Switch

Below is a list of Menus that should be set up or checked before operating the Machine.

1. When opening the service door on the machine you will be prompted for a PIN, enter 3333 on the keypad.

2. Set the Prices by selecting button 4 in the service mode.

3. Make sure the Shopping Cart Size (max 3) and Shopping Cart Max Value is set to 3 X the highest price in Product Configuration. Press button 5 in the service mode and choose Shopping Cart Setup.

4. If you have added, moved or removed any motors go to Product Configuration, Press button 5 in the service mode, choose 1 Selection Configuration, then 1 for Auto Configuration and 1 again to start Auto Configuration.

5. If any motors are being coupled on the candy tray go to Product Configuration, button 5 in the service mode and choose Couple Motors.

6. Verify your Coin Mechanism, Bill Validator and Card Reader are enabled in the Monetary Menu, button 7.

7. Verify the bills (notes) you want to accept are enabled in the Monetary Menu, button 7.

8. Set the Time and Date in the System Setting Menu, button 8.

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Continued ⟶

If your machine contains a refrigeration unit you must also set the following;

1. Verify or set the Configuration Version, go to System Settings (button 8). Press the lower half of the OK button to scroll down and verify the Configuration Version is set correctly.

2. To change the Configuration Version press 6, your options are Refrigerated, European Control, Non-perishable and Chilled. Do not choose European Control in the United States or Refrigerated outside the United States.

3. Press OK to save your choice.

4. Next select Refrigeration Settings (button 7), this menu does not appear if the machine is set to Ambient.

5. Choose 1 to adjust Temperature if desired.

6. If set to Refrigerated or European Control choose button 3 to assign the selections to work with Health Control. The health control menu will not appear if you machine is set to anything other than Refrigerated or European Control.

Keypad and Screen

- The Merchant Media platform uses a 3½" LCD screen to provide instructions and information required by the customer to purchase items in conjunction with a 14 button keypad integrated into the cladding on the monetary panel of the machine.

- This Keypad also provides access to all Service Mode menus.
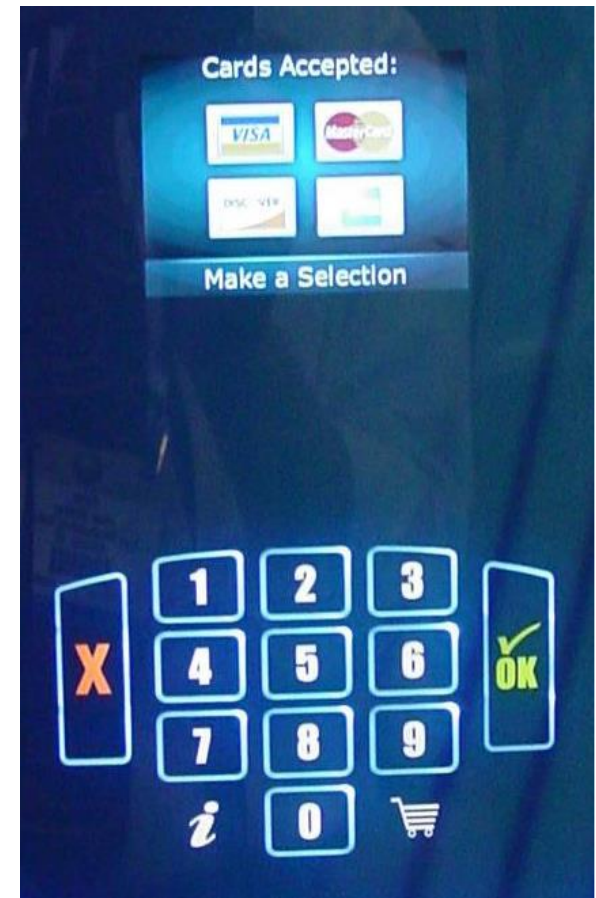
Accessing the Service Modes

- When the monetary compartment is opened, the display will prompt the operator to enter a PIN number on the keypad to gain access to the service modes.
    - The default PIN for the Driver access is 1111 (limited access).
    - The default PIN for programming access is 3333.

ENTER PIN

Route Access

1 1 1 1

ENTER PIN

Programming Access

3 3 3 3

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

If Errors Exist, an error list will be shown on the display that includes the time and date of the errors.

To escape to the home screen press the highlighted red X.
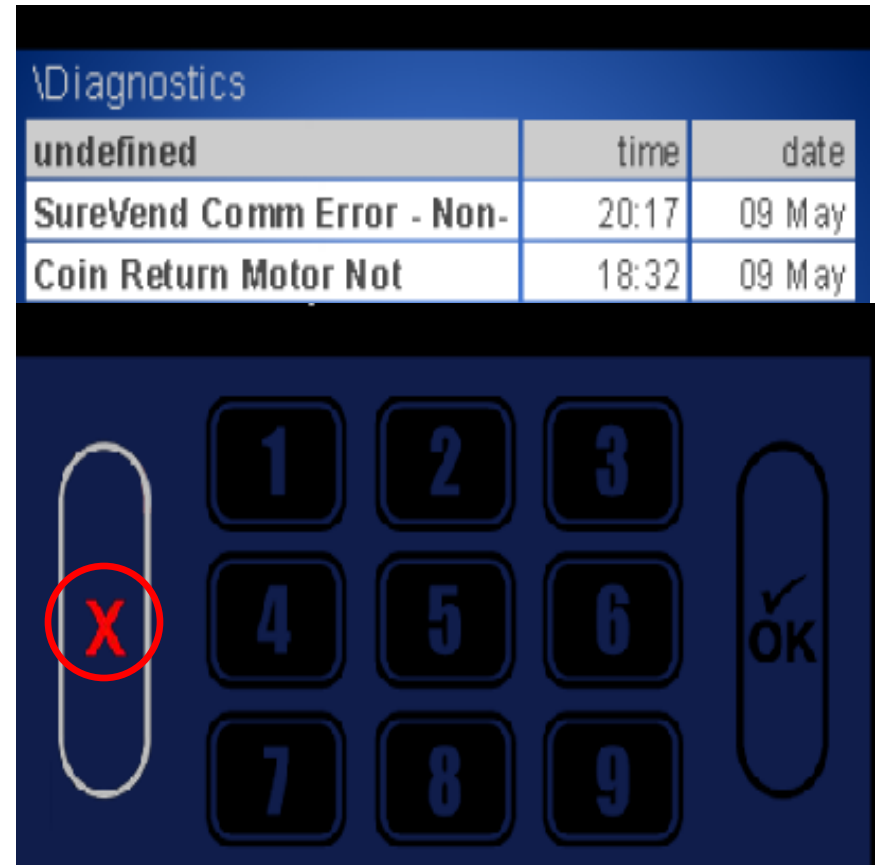
How Do I Access the Service Modes?

If PIN 1111 was entered and No Errors Exist, the home screen for the Driver menu will appear. This menu allows limited access to the service modes. Pressing the corresponding number on the keypad will provide access to that menu

Driver Access allows you to:
1. View Resettable and Non Resettable sales data.
2. Send a wireless DEX read.
3. Manage the existing Planogram.
4. Home all Un-homed Motors.

For access to all other service modes use PIN # 3333

How Do I Access the Service Modes?

- If PIN 3333 was entered and No Errors Exist, the home screen for the programming menu will appear allowing access to the service modes.

- Pressing the corresponding key on the keypad will provide access to that menu.

- Each of these icons represents a tiered menu that provides access to each of the menu items.

How do I use the keypad?

The backlit keypad includes:

A. An OK (enter or save) key.

B. The numeric keys 0 through 9.

C. An X or cancel, or Escape key.

D. An Information button.

E. A Shopping Cart Button.

F. Home – Although not backlit or identified on the keypad, if you press the area below the X and to the left of the information button (indicated by the red circle) the display will return to the home screen.

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company
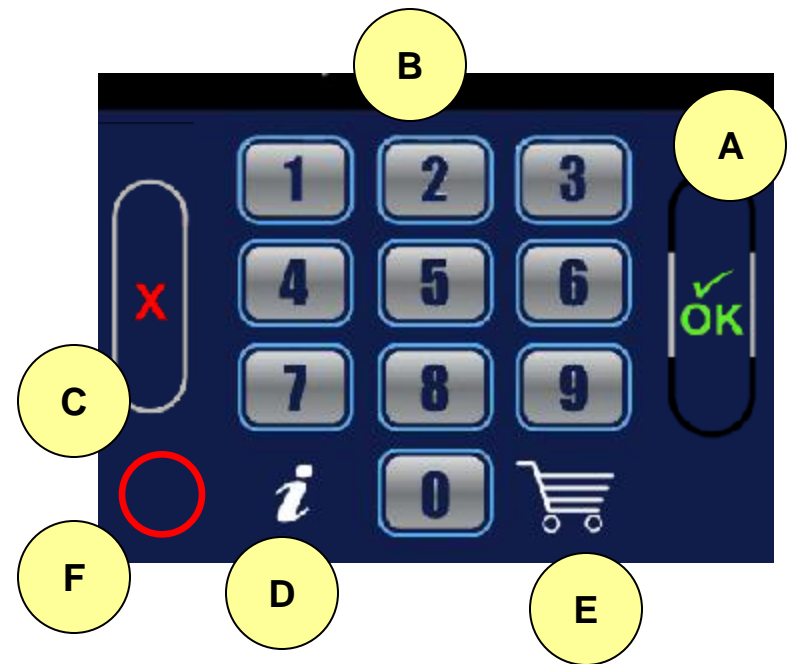
- A unique feature of the backlit keypad is the ability to illuminate only the specific buttons applicable to that process.
  - This is especially important during the service modes as certain functions will only permit the use of defined (lit) buttons, all others are disabled
- The X and OK keys have the ability to provide a scrolling feature in certain service modes by pressing the top or bottom of the long rounded buttons, when illuminated.

Service Mode Menu Chart
Menus 1 to 6

1 Data Recall	**2 Diagnostics** ⚠	**3 Test**
Non Resettable Sales Data	Shows Errors w Time Date	Test Vend
Resettable Sales Data		Coin Return Motor
Events		Surround Lighting Test
Identification Number		Screen Test
SureVend ™ Corrected		Refrigeration System
		MagTeck Head Test
		Cashless System Test
		Health Control Test
		SureVend Calibration
		Motor Test Summary
		Detailed Motor Test
		Lighting Relay
		Keypad Test

1 Data Recall	**2** Diagnostics	**3** Test
4 Price	**5** Product Configuration	**6** Special Vend Modes
7 Money	**8** System Settings	**9** Security Codes
i Timed Events	**0** Telemetry	**L** Firmware Information

4 Price	**5 Product Configuration**	**6 Special Vend Modes**
Individual Selections	Selection Configuration	Free Vend
Entire Machine	FIFO Set Up	Winner Vend
Price Tray 1	Universal Product Code	Combo Vend
Price Tray 2	Shopping Cart Setup	Token Enabled
Duplicates for all trays	View Planogram	Rapid Vend
	Couple Motors	MultiVend Discount
	SureVend	

Menu Chart

7 Money	8 System Settings	9 Security Codes
Coins In/Out	Machine Information	Enter Pin
Bill Validator	Time & Date	Change Route Pin
Coin Mechanism	Language	Change Operator Pin
Card Reader	DTS	
Onboard Cashless	Software Updates	
Bill Acceptance	Backup/Restore	
Declining Balance	Clone Configuration	
Force Vend	Screen Brightness	
Accept On Low Change	Led Color	
Low Change Message	Idol Timeout	
Credit For Failed Vend	Advertisements	
Card Revalue	Custom Messages	
Cash Discount	Nightly Reboot Setting	
	Configuration Version	
	Refrigeration Settings	
	Cab Lights When OOS	

Timed Events	Telemetry	Firmware Information
Time of Day Events	Send DEX	
Backup Events	Ping Server	
Power Saving Events	Load Network Config	

11:17 AM 17 Dec 2014

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

34

- This Programming Guide is based on software version 10.8.X or higher

- The software version is shown on the bottom right of the display anytime you are in the Service mode. The software version can also be displayed by pressing the Firmware Information icon in the service mode and reading the LE board information.

- Earlier or later versions of software may not contain all the same menus and/or options. Some Menu items may also be in different places within the menus & program differently.

- This programming guide is specific about what button numbers to push within the Modes. When certain Menu items are enabled and disabled additional menu items may appear or disappear. Most of the time this guide will be correct but rely on the display for the correct buttons to push.

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Price Menu

Provides Access to Price setting options.

- Press number 4 on the keypad to access Price.

There are three options for setting prices:

- By Tray
- Entire Machine
- Individual Prices

Setting Prices by Tray

- Choose the tray you want to price
- Enter the price for that tray and press OK.
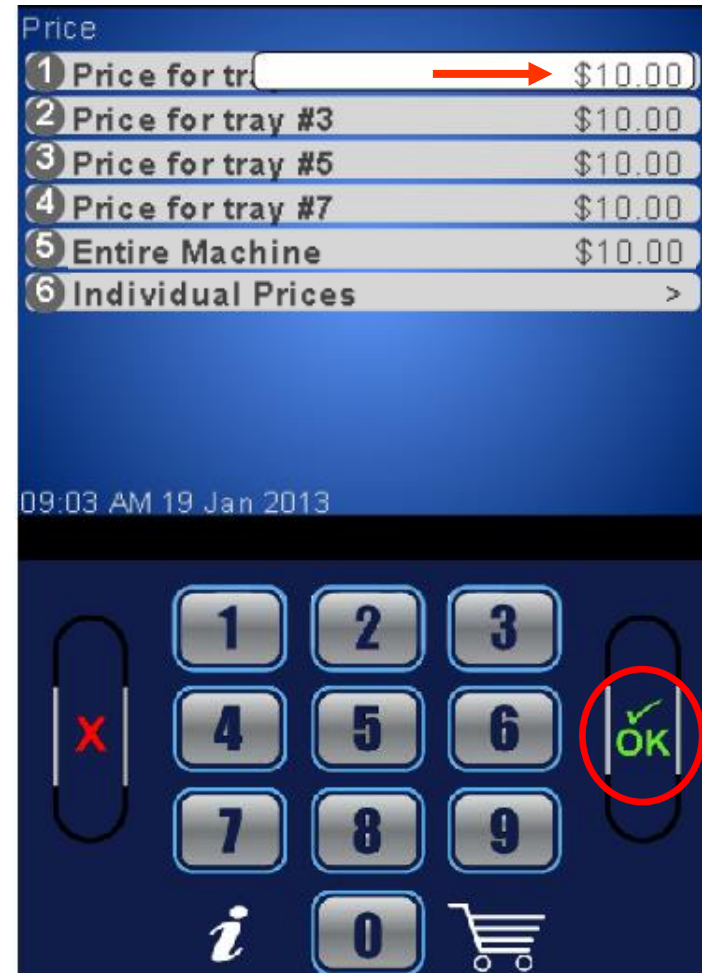
Entire Machine Pricing

- Press 5 to set the Entire Machine to one price.
- Enter the price desired and press OK.
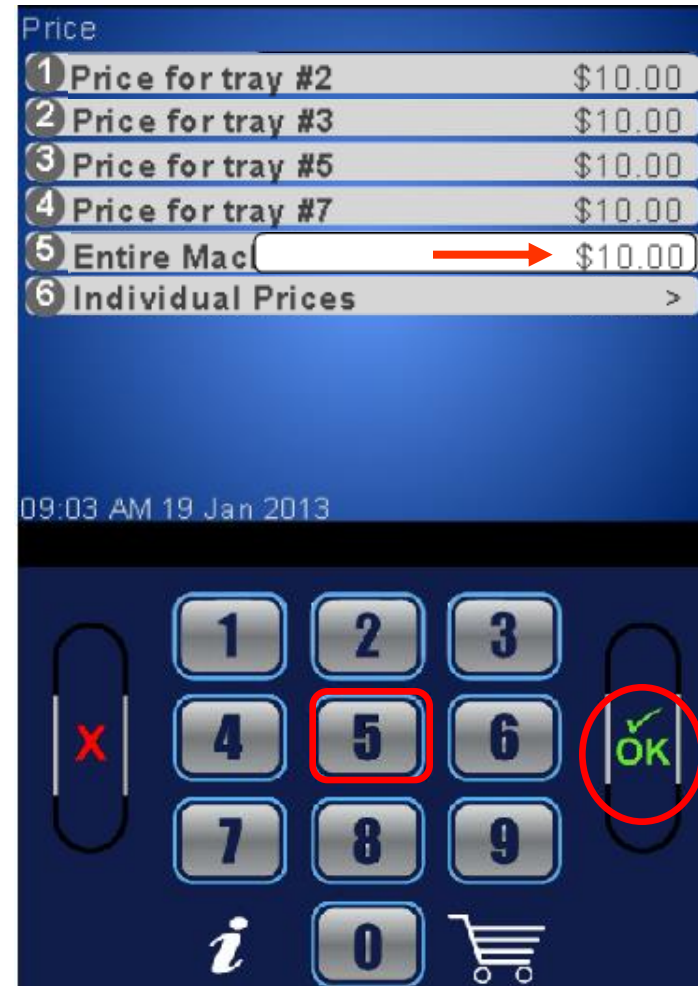
Individual Prices

Choose 6 on the keypad to set Individual Prices.

Continued →
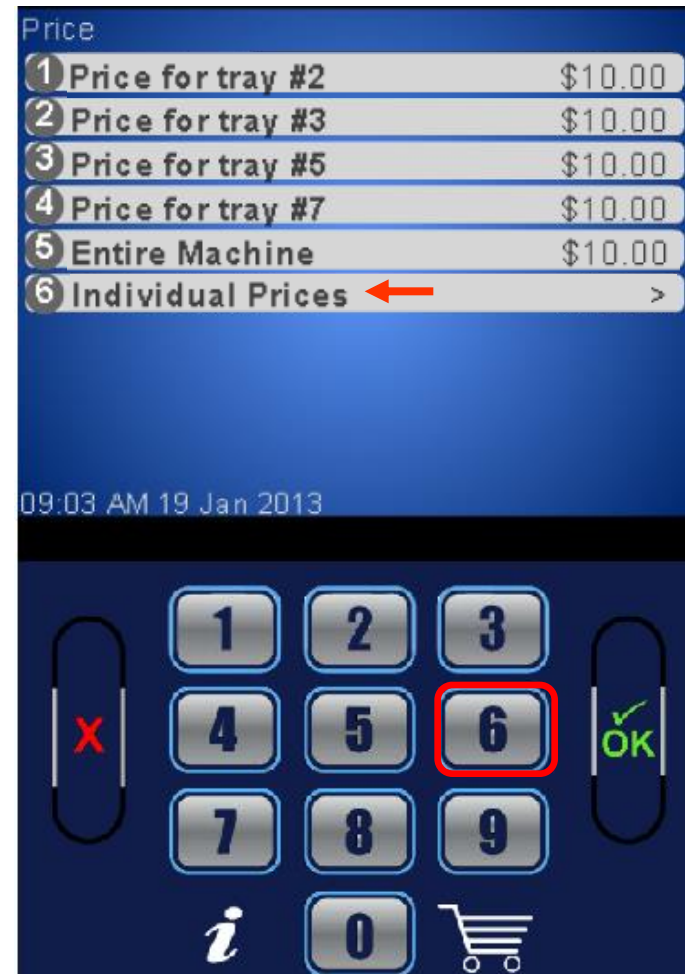
Step 1 –
Choose a Tray first

Step 2 –
Choose a Selection
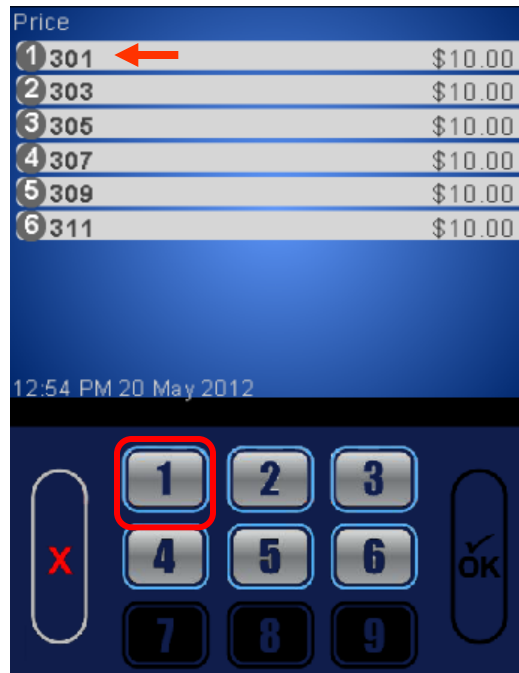
Step 3 –
Enter desired price and press OK

Product Configuration

- The Product Configuration menu provides access to the following modes in the machine:
  - Selection Configuration
  - FIFO Setup
  - UPC Setup (package UPC)
  - Shopping Cart Setup
  - View Planogram
  - Couple Motors
  - SureVend
  - Browse All Products

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company
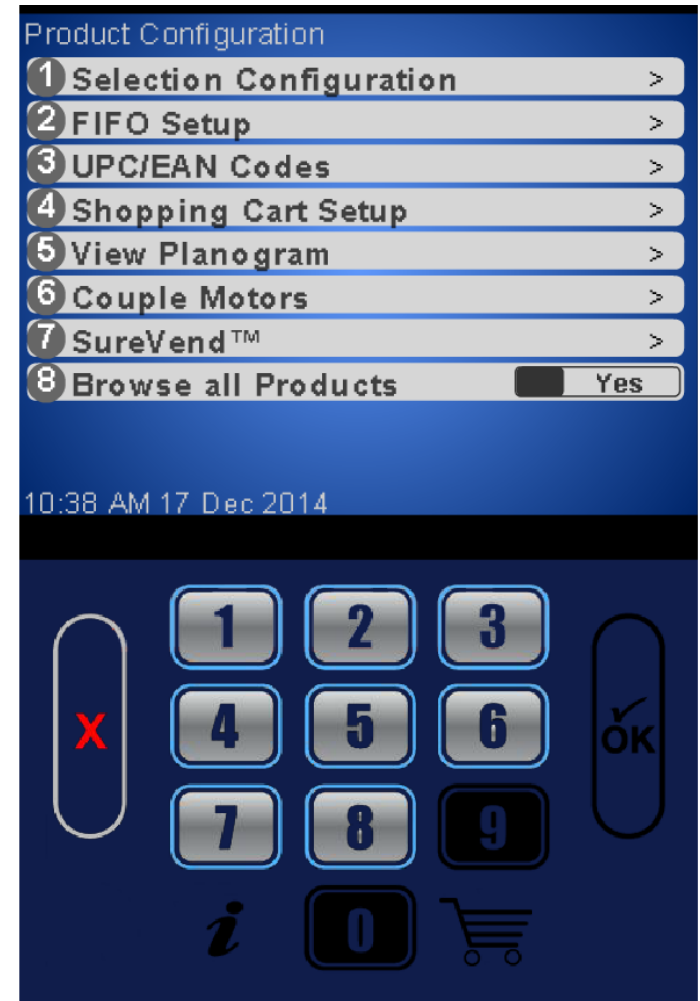
Press 1 to enter the Selection Configuration Menu.

Press 1 to Auto Configure the motors.

The controller will scan all the motors and automatically enable all motors that are detected.
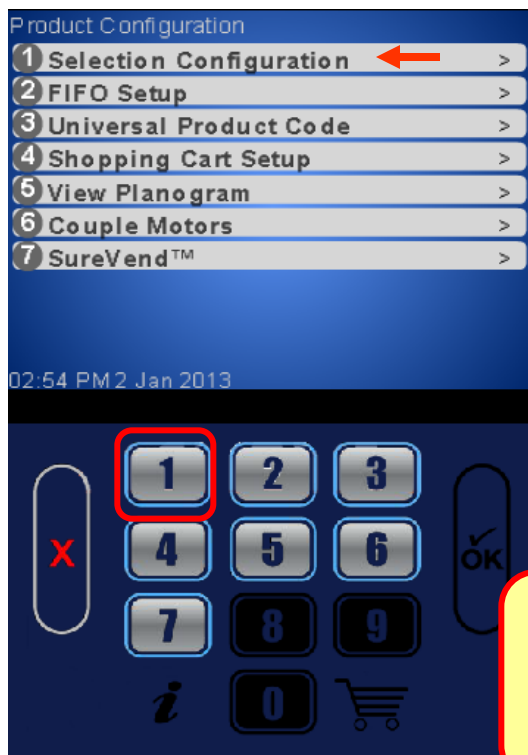
Caution: Performing an **Autoconfiguration** on a machine will reset all prices to the factory default of $99.95, and remove any existing coupled motors!

Selection Configuration – Set Up Selections

Press 2 to manually configure selections.

Select the desired tray to view or change the enabled selections.

Use the keypad to add or remove a checkmark. Motors with a checkmark will be enabled and part of the configuration. In some cases the bottom of the OK button will be lit to scroll to additional selections.
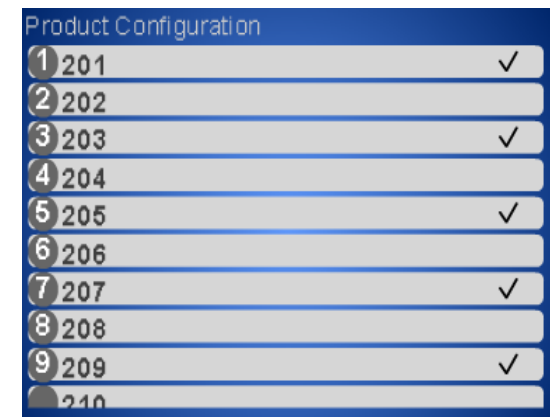
- This menu provides access to set up the Shopping Cart.
- Shopping Cart permits the user to select multiple items, and place them into a virtual "Shopping Cart" and to purchase them using a single financial transaction.
- Recommended Shopping Cart size is 3 items.
- The Maximum Shopping Cart size allowed is 3 on the Keypad version.
- Max Fund amount must be calculated by multiplying the highest vend price in the machine by the Shopping Cart size.

Note: When Rapid Vend is turned on in Special Vend Mode menu the shopping Cart is automatically disabled.
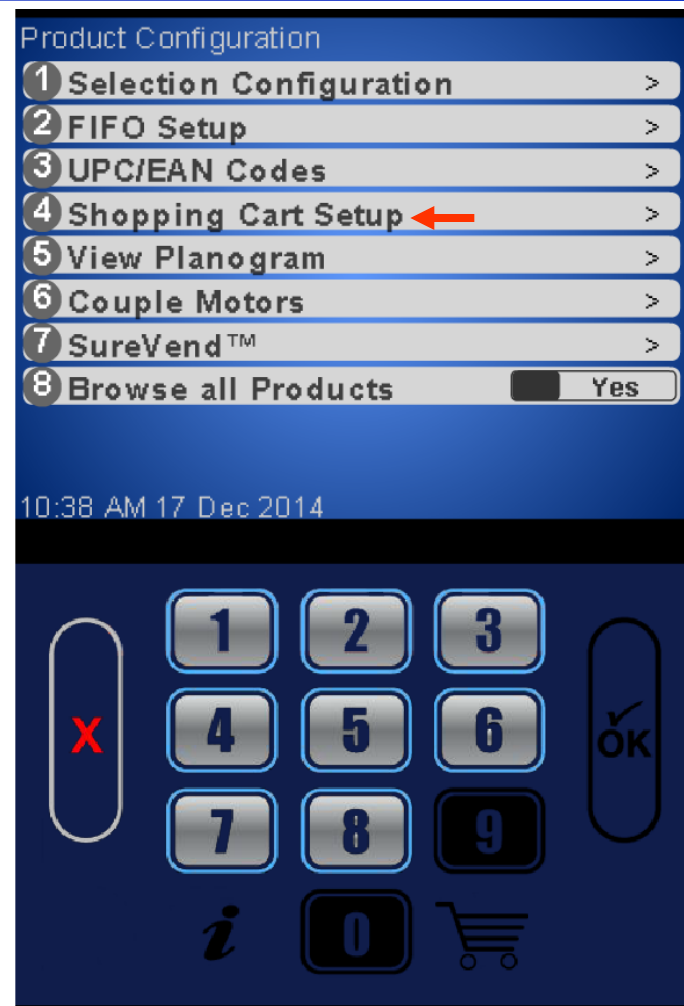
Product Configuration
1 Selection Configuration >
2 FIFO Setup >
3 UPC/EAN Codes >
4 Shopping Cart Setup ← >
5 View Planogram >
6 Couple Motors >
7 SureVend™ >
8 Browse all Products Yes

10:38 AM 17 Dec 2014

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Select 1 to change the maximum number of items in the cart, 3 is recommended. Press X to exit

Select 2 to change the maximum amount of funds in the cart. We recommend the cart size times the highest vend price. Press X to exit

Select 1 to change the maximum number of items in the cart, 3 is recommended. Press X to exit

Select 2 to change the maximum amount of funds in the cart. We recommend the cart size times the highest vend price. Press X to exit

Note: The Max Fund Amount menu can also be utilized allow the machine to be used as a bill changer.

For example, if you wish to allow for change of a $10.00 bill, you can set the Shopping Cart Max Fund Amount to $10.05, which will allow the machine to stack a $5 or $10 bill. When the coin return is pressed, change is returned. The same idea applies to a $5 or $20 bill, using $5.05 or $20.05 respectively.

If Rapid Vend is turned on you must turn it off for the Shopping Cart menu to appear, set the amount to be paid back in this menu, then turn Rapid Vend back on if desired.

CRANE **MERCHANDISING SYSTEMS**
A Crane Co. Company
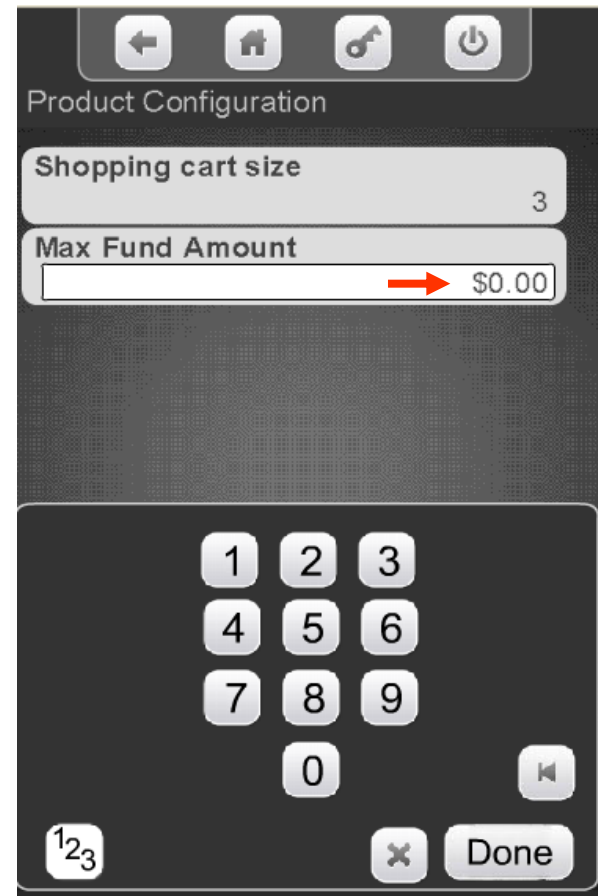
Press 5 to enter the Product Configuration Menu.

Press 5 to enter the Couple Motors Menu.
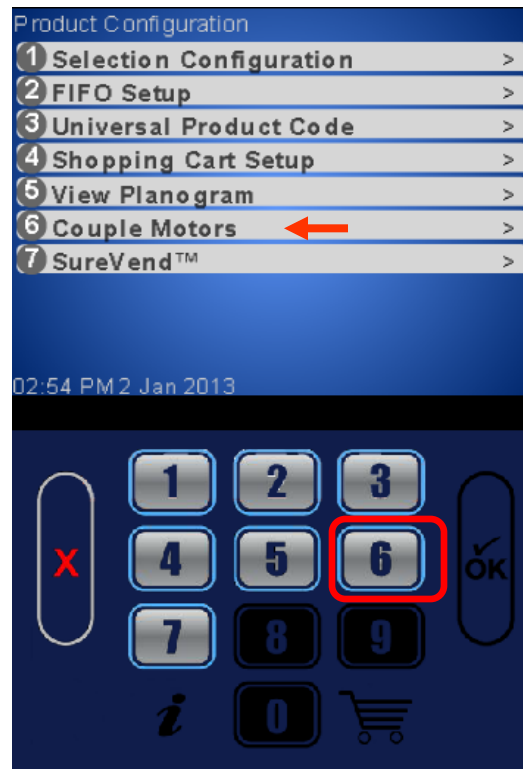
All available selections that can be coupled are shown. Use the keypad to add a checkmark to the selections to be coupled.
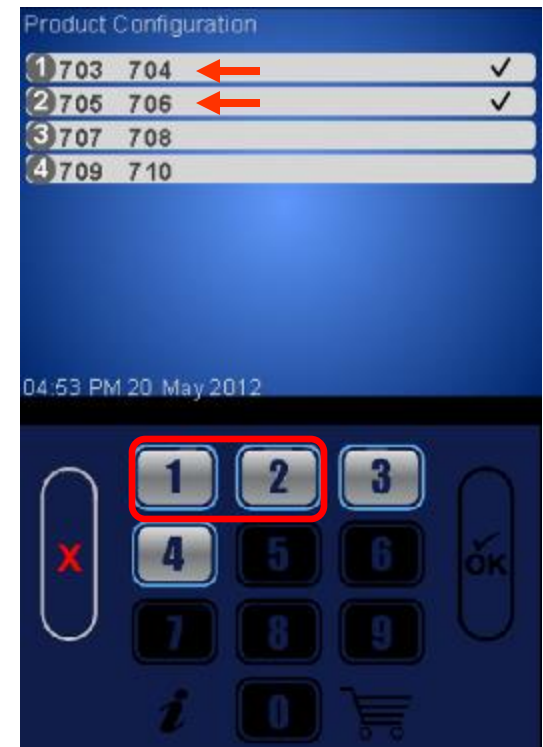
Monetary Menu Icon

- Allows the programming of settings for all credit devices and related functions.

- Press number 7 on the keypad to enter the Monetary Menu.

Press number 2 on the keypad to toggle between **MDB** or **No Bill** validator.

Once communication is established the communication level of the Bill Validator will be shown

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company
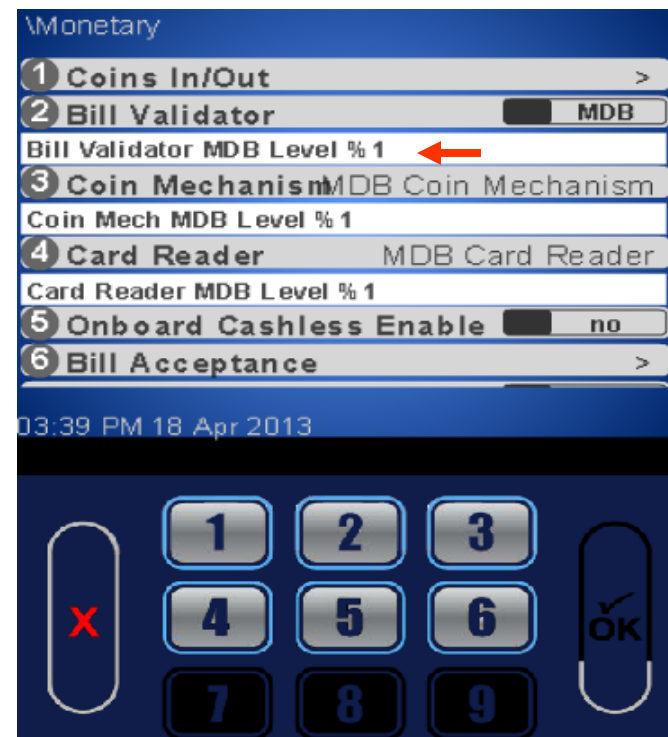
Press number 3 on the keypad to choose the Coin Mechanism type. The current setting is shown without entering the menu.

Choose your Coin Mechanism option and press OK.
Note: Exec is not used in the US.

7 Monetary

Card Reader / Cashless Options

•There are two menus shown on the right for Card Reader and/or Cashless options.

•MDB is an add on card reader that plugs into the MDB harness in the machine. Your options in this menu are MDB Card Reader or No MDB Card Reader. This option is set under the Card Reader Menu.

•Onboard Cashless is a swipe built into the front of the machine and it plugs directly in the Atlas board, the options for an Onboard Cashless is Yes or No.

•It is possible to have The onboard cashless, and one MDB Cashless device enabled at the same time.

\Monetary
1 Coins In/Out   >
2 Bill Validator   ▮ MDB
Bill Validator MDB Level % 1
3 Coin Mechanism MDB Coin Mechanism
Coin Mech MDB Level % 1
4 Card Reader   MDB Card Reader
Card Reader MDB Level % 1
5 Onboard Cashless Enable ▮ no
6 Bill Acceptance   >

03:39 PM 18 Apr 2013

X   1 2 3
     4 5 6   OK
     7 8 9

Press 6 on the keypad to enter into the Bill Acceptance menu. All denominations enabled by the Bill Validator will be shown
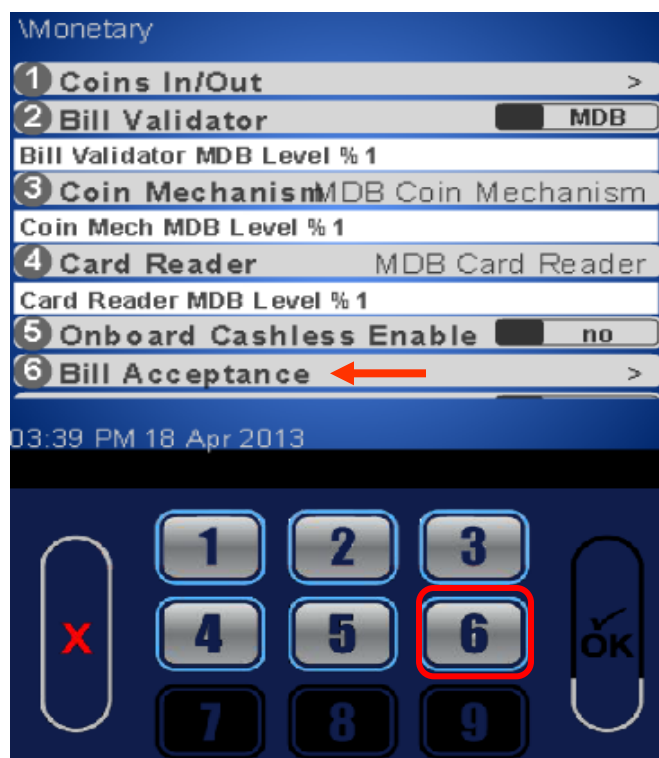
Press the corresponding number on the keypad to select or unselect the bill denominations you wish to accept/not accept. Token must be enabled to accept Tokens or Coupons. You will also need to choose what selections work with tokens or coupons in the Special Vend Modes Menu.
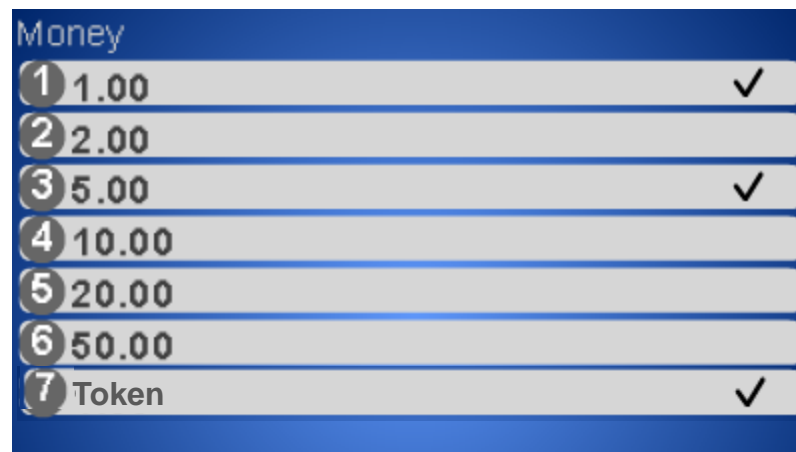
System Settings

•Press 8 to enter the System Setting menu from the home screen to access the System Settings Menus shown on the two screens to the right.

Press the bottom of the OK button to scroll to the next menu

Press the top of the OK button to return to the previous menu

System Settings

8 ⚙
System Settings
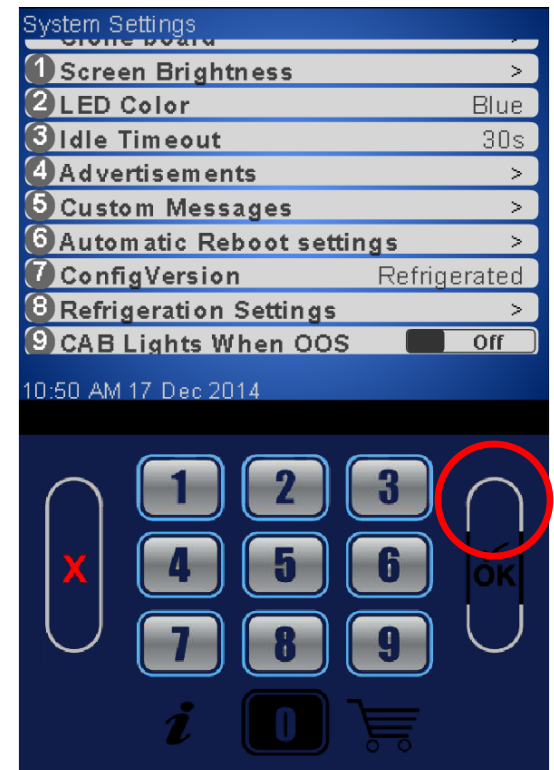
Press 2 to access the Time and Date Menu.

System Settings
1 Machine Information >
2 Time and Date ← >
3 Language >
4 DTS >
5 Software updates >
6 Backup/Restore >
7 Clone configurations >
8 Screen Brightness >
9 LED Color Blue

06:03 PM 18 Apr 2013

Press 1 to set your Time Zone

Time and Date
1 Time Zones (UTC-04:00) Puerto Rico
2 Time Format use 24h

Machine will be rebooted after next door closure if time or date gets changed

3 Time 01:04 AM
4 Date 9/20/2011

04:11 PM 7 Jun 2012
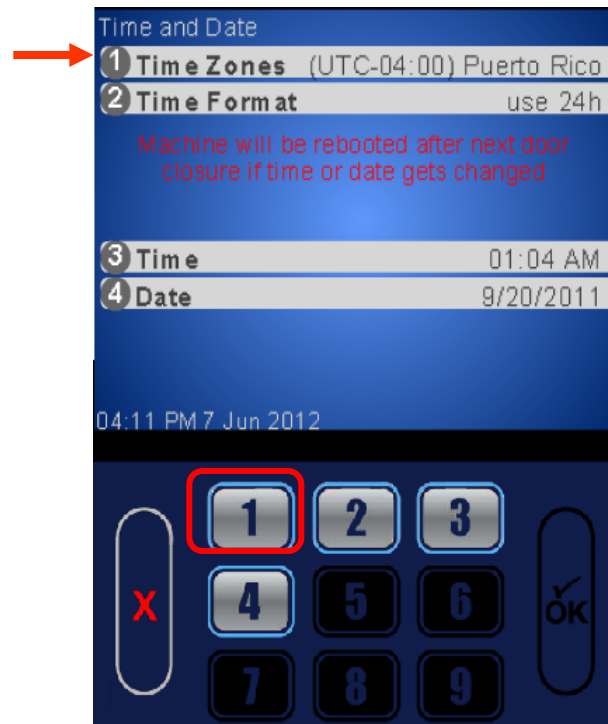
Press the number on the keypad for your Time Zone followed by OK

Time and Date
1 Time Zones (UTC-04:00) Puerto Rico

1 (UTC-04:00) Puerto Rico ✓
2 (UTC-05:00) Eastern
3 (UTC-06:00) Central
4 (UTC-07:00) Mountain
5 (UTC-08:00) Pacific

04:15 PM 7 Jun 2012

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

System Settings

Press 2 to change the Time Format between 24 hours and AM/PM.
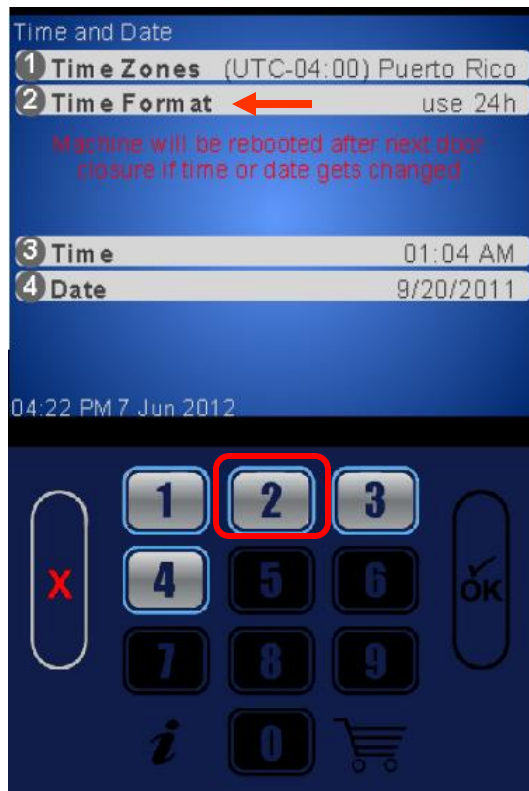
Press 1 or 2 to on the keypad to select your format. Press OK to save

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company
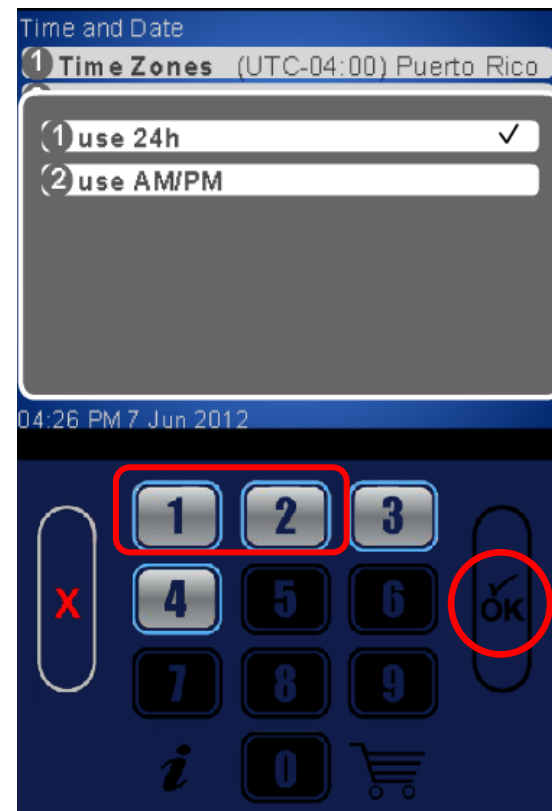
Press 3 to change the current time .
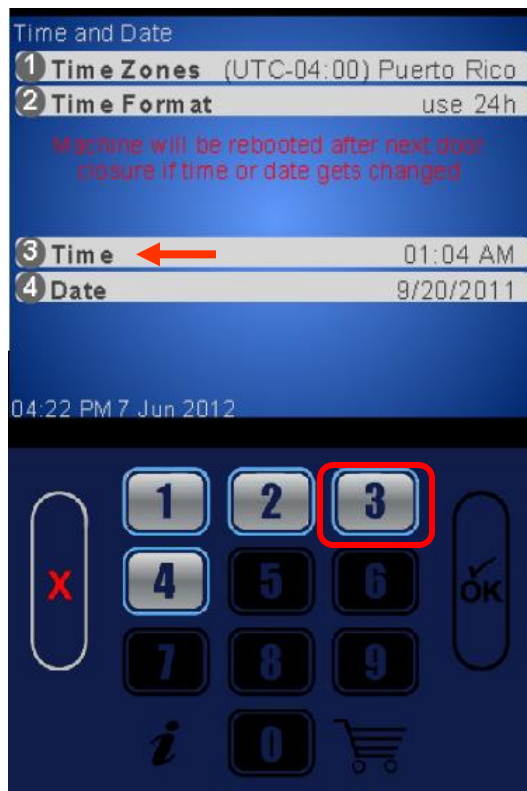
Enter the time using the keypad, use the *i* button to toggle between AM/PM.

Press OK when finished. Press the door switch after setting the time and/or date, this will cause a reboot and ensure the Time & Date are saved
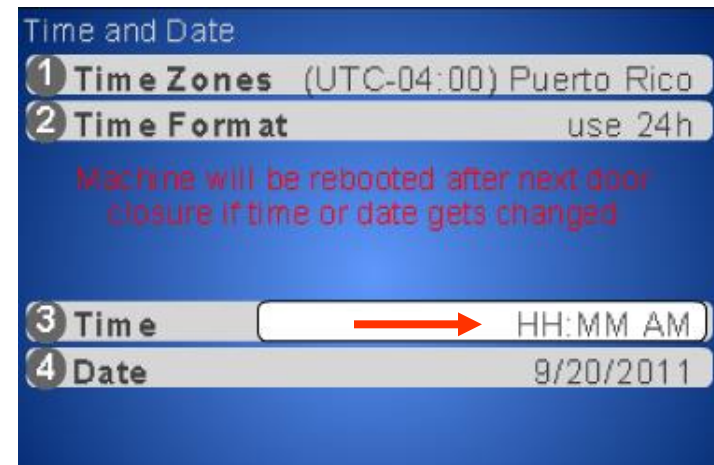
System Settings

Press 4 to change the Current Date .
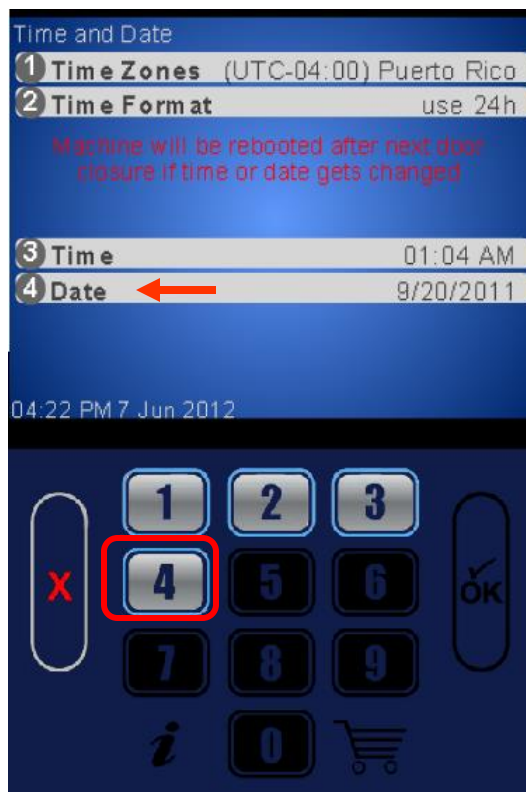
Use the keypad to enter the Date using the numeric format shown, Press OK when finished. Press the door switch after setting the time and/or date, this will cause a reboot and ensure the Time & Date are saved.

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company
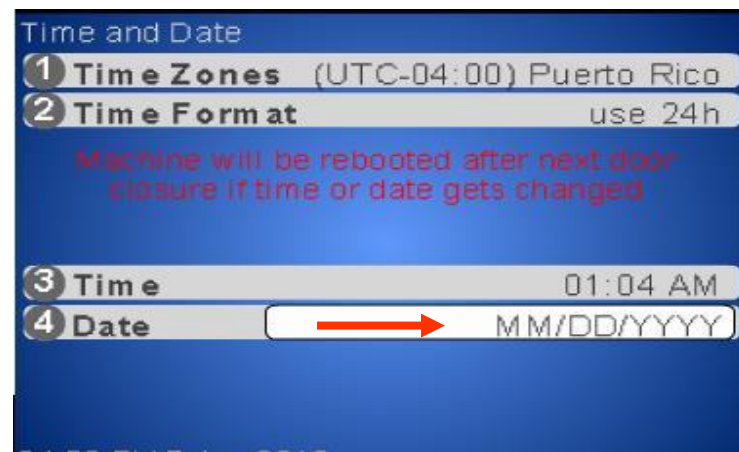
Press 3 to access the Language Menu.

Press 1 to install a Language

Press 2 to remove a Language

Press 3 to apply a Language to Service Applications

Press 4 to apply a Language to the user interface
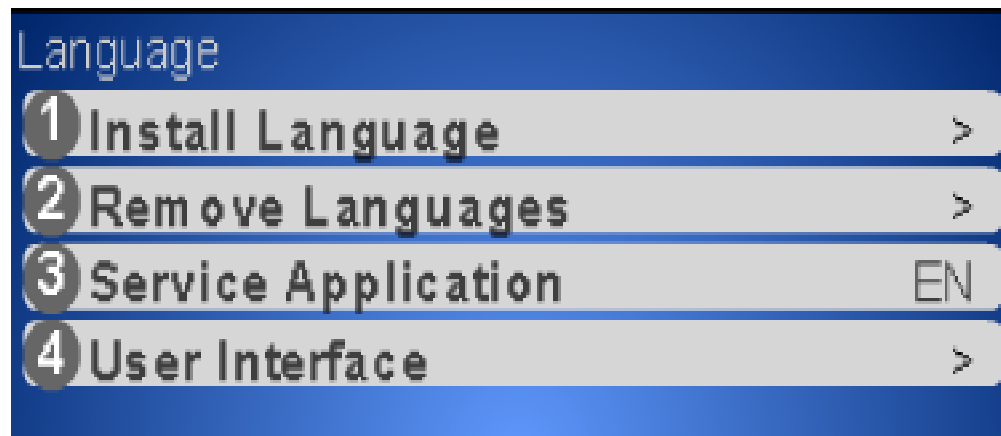
Setting the Machine Type

The choices are Ambient, Refrigerated, European Control, Non Perishable or Chilled.

- Ambient will always be selected when a refrigeration unit is not present. When Ambient is selected the Refrigeration Settings Menu Bar will not appear.
- When Refrigerated is chosen the temperature is settable from 33-38°F (1-3°C) and the health control menu will be available.
- When European Control is chosen the temperature is settable from 33-41°F (1-5°C) and the health control menu will be available.
- When Non Perishable is chosen the temperature is settable from 33-45°F (1-7°C) and the health control menu will **not** be available.
- When Chilled is selected the settable temperature range is from 49-69°F (9-21°C) and the health control menu will **not** be available.
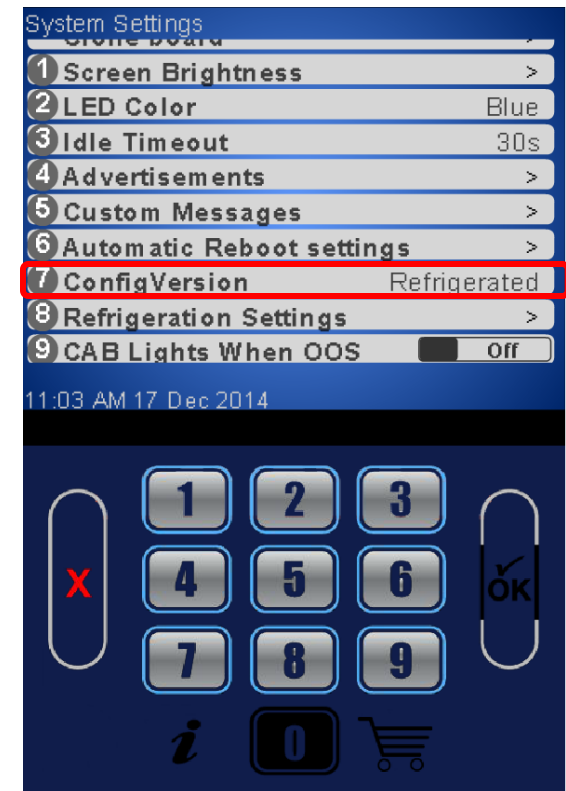
Pressing 8 from the main menu will take you to the System Settings Menu. Press the bottom of the OK button to go to the next menu
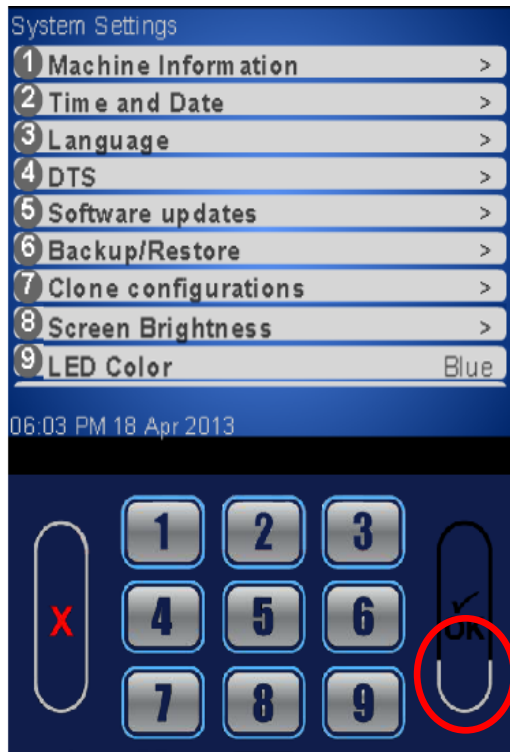
Press 6 to go to Config Version
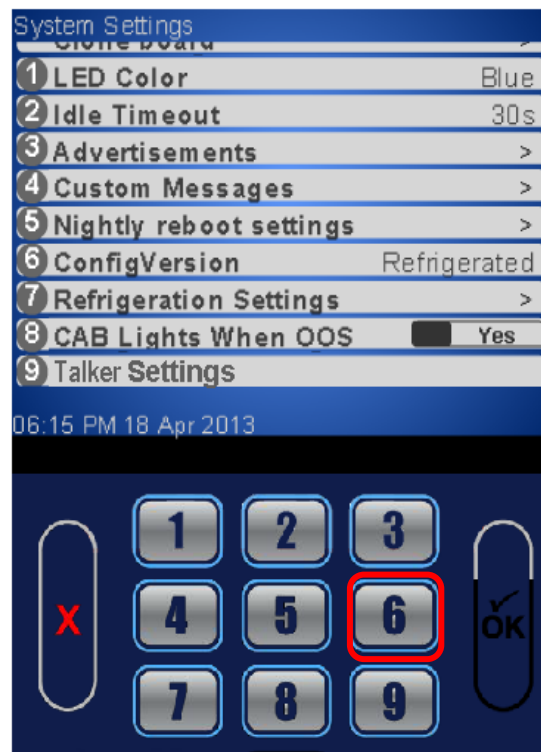
Press 1- 5 to select the desired Configuration Setting. Do not use # 3 in the US. You must press OK to save changes.

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

61

Pressing 8 from the main menu will take you to the System Settings Menu. Press the bottom of the OK button to go to the next menu

Press 6 to go to Refrigeration Settings, this menu will not appear when the Configuration setting is Ambient.

Press 1- 4 to set the Refrigeration Settings.

Refrigeration Settings – Adjust Temperature

Setting the Temperature Range

- In Ambient machines this menu will not appear.

- Refrigerated temperature is settable from 33-38°F (1-3°C) and the health control menu will be available.

- European Control temperature is settable from 33-41°F (1-5°C) and the health control menu will be available.

- Non Perishable temperature is settable from 33-45°F (1-7°C) and the health control menu will be not available.

- Chilled temperature range is from 49-69°F (9-21°C) and the health control menu will <u>not</u> be available.

Press 1 on the keypad to Adjust the Temperature

On the keypad enter the desired Temperature followed by OK

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company
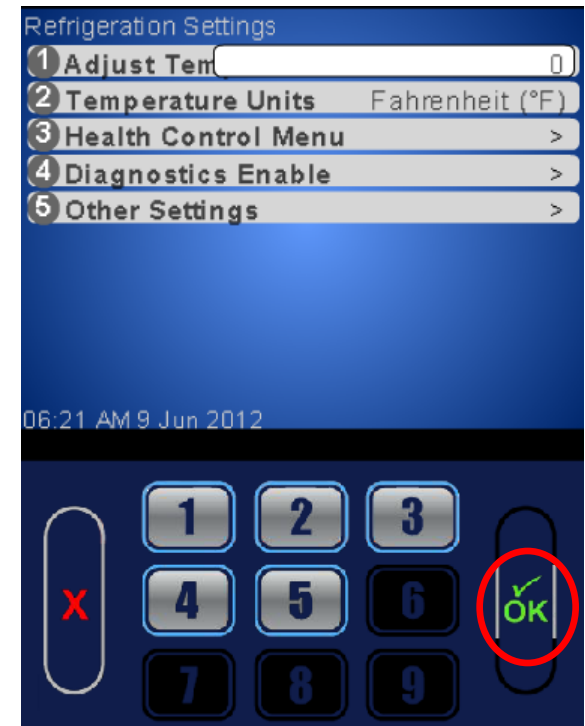
Refrigeration Settings – Temperature Units

Press 2 on the keypad to change the viewable Temperature between Fahrenheit and Celsius
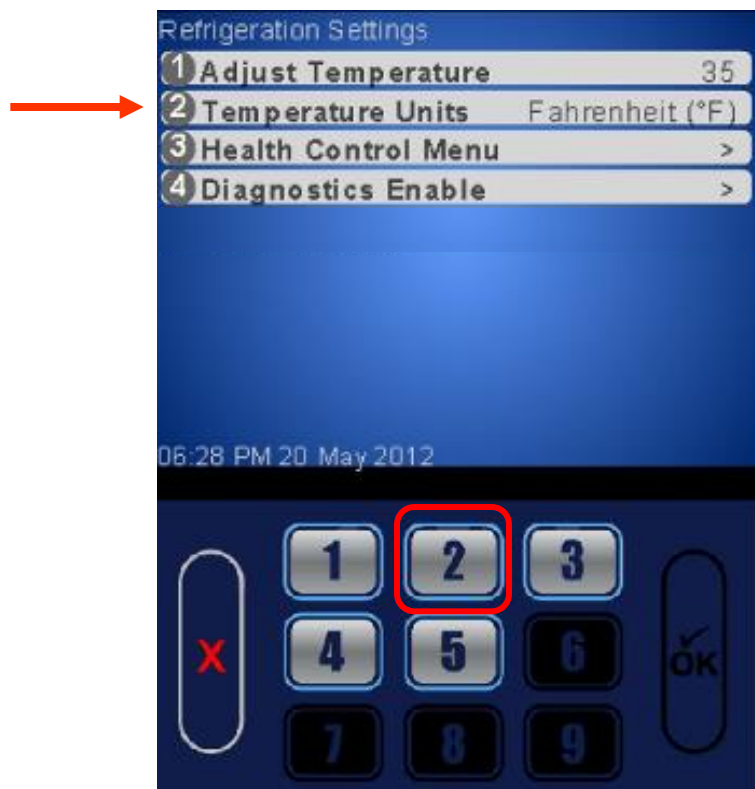
On the keypad press 1 for Fahrenheit, 2 for Celsius, followed by OK

CRANE | MERCHANDISING SYSTEMS
A Crane Co. Company
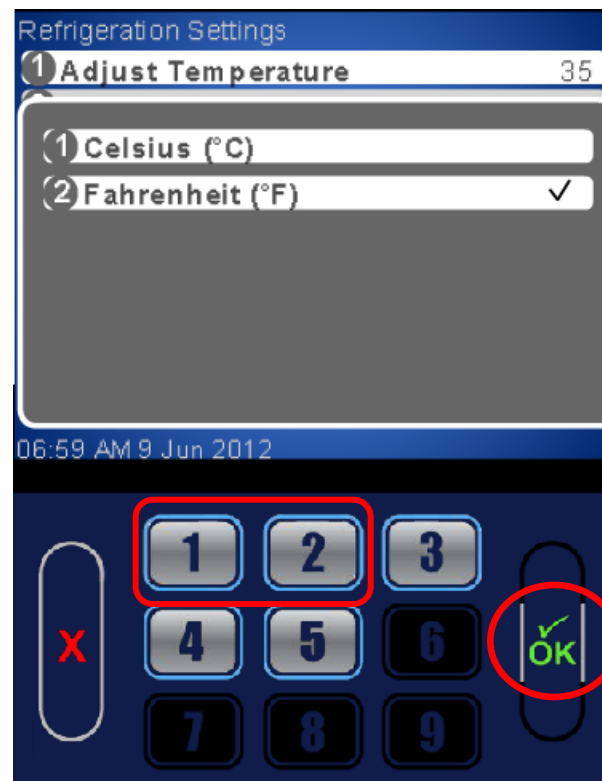
8 ⚙
System Settings

Refrigeration Settings – Health Control

Press 3 on the keypad to access the Health Control Menu

On the keypad press the tray number you wish to view or change

All available selections are shown. Use the keypad to add a checkmark to the motors that are active for Health Control.

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Refrigeration Settings – Diagnostics enable

The Diagnostic Enable menu allows you to turn on or off the errors reported by the evaporator sensor and condenser sensor. These errors are reported when the door is opened if they exist. The defaults is on for both warnings & errors

High Side errors & warnings are created when the Condenser Outlet Sensor is out of Range, most likely due to blocked screen, dirty condenser, or condenser fan failure

▪**Warning: If the Condenser Outlet Sensor is greater than 125F for the 30 MINUTES.**

▪**Error: If the Condenser Outlet Sensor is greater than 150F for the 5 minutes, cooling is disabled. The error will need needs to be manually reset.**

Low Side errors & warnings are created when the unit goes into Low-Temp Defrost; where the Evaporator Coil Sensor is less than 10F to frequently . Most likely due to an obstructed evaporator coil, low charge, or an evaporator fan failure.

▪**Warning: If the unit goes into Low-Temp Defrost (10F) in more than 5 minutes, but less than 75 minutes after a previous defrost cycle.**

▪**Error:, If the unit goes into Low-Temp Defrost (10F) in less than 5 minutes after a previous defrost cycle, cooling is disabled. The error will need needs to be manually reset.**

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Refrigeration Settings – Diagnostics Enable Menu

Press 4 on the keypad to Access the Diagnostics Enable Menu

Each Warning or Error can be turned off individually by selecting 1- 4 on the keypad

On the keypad enter 1 for Off or 2 for On, followed by OK
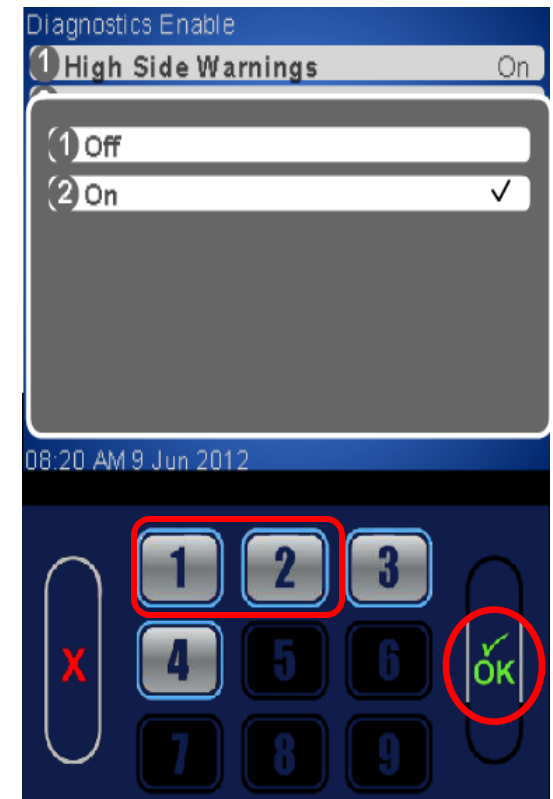
Firmware Information

Choosing Firmware on the keypad brings up a information screen that shows you the following information

– All the MDB peripherals in the machine including manufacturer, serial number and software version.

– The software version of the SureVend™ board.

– The software version of the I/O board.

– The software version of the LE board.

Error Description	Probable Cause	Possible solutions
Stuck Keys Fatal	Stuck keys on keypad or shorted connections/harness	Check connectors to be properly installed Check harness for damage Replace the keypad
No Monetary Device Fatal	The control board has not been able to detect a working monetary device	Check connectors to be properly installed Check harness for damage Check for faulty bill validator/harnessing Retest without the bill validator and harnessing installed Replace the coin mechanism
Coin Mech No Comms	No Communications are occuring between the coin mechanism and the control board	Check connectors to be properly installed Check harness for damage Retest without the bill validator and harnessing installed Replace the coin mechanism
Coin Mech ROM Error	Coin Mech ROM Error	Replace the coin mechanism
Coin Mech Acceptor Unplugged	Coin Mech Acceptor Unplugged	Check the connections within the coin mechanism Replace the coin acceptor Replace the coin Mechanism
Coin Mech Acceptor Jammed	Coins or other items are stuck in the acceptor causing the gate to remain open	Remove the coins or other items from the acceptor Replace the acceptor Replace the coin mechanism
Coin Mech Payout Jammed	Coin pay out motor or solinoid is stuck in cycle	Check for and remove bent coins or other items causing the jam Replace the coin mechanism
Coin Mech Sensor Error	Bad coin mechanism sensor	Check for an item causing a blockage and remove Replace the coin mechanism
Coin Mech All Tubes Error	Coin mechanism not sensing any pay out tubes	Check for proper pay out cassette placement Replace the pay out cassette Replace the coin mechanism
Coin Mech Tube Error	Coin mechanism not sensing a pay out tube	Check for proper pay out cassette placement Replace the pay out cassette Replace the coin mechanism
Coin Mech Disabled	Coin mechanism has been disabled by the board	Power down the machine and re-start Remove bill validator and/or card reader from system Replace the coin mechanism Reset the control board Replace the control board
Exec Price Error	Executive coin mechanism error	Check for a price set outside of allowed parameters Replace executive coin mechanism

Error Description	Probable Cause	Possible solutions
No Monetary Device	No monetary device detected by the board	Check connectors to be properly installed Check harness for damage Retest without the bill validator and harnessing installed Replace the coin mechanism
Coin Return Motor Not Present	Control board not sensing the presence of a coin return motor	Check the connection J6 on the I/O board to the coin return motor Home the coin return motor Replace the coin return motor Check for damage to harnessing Reset or replace the control board
Coin Return motor Run Time Timeout	The board has determined that the coin return motor should have arrived at home position, but it has not	Check the connections to the coin return motor Home the coin return motor Replace the coin return motor Check for damage to harnessing Reset or replace the control board
Coin Return Motor Short Circuit	Coin return motor has shorted out	Check connections and harnessing for damage Replace the coin return motor
Coin Return Motor Drive Failure	The coin return motor is not engaging the coin return arm on the coin mechanism	Check for damaged or missing drive linkage Check for proper mounting of coin mechanism Check for damage on coin mechanism pay out parts
Low Change	The coin mechanism has reported a low or empty condition in one or more of the coin pay out tubes	Add coins to the tubes using the coins in/out screen in the monetary section of the service modes Do vends with coins to add coins to the tubes Replace coin mechanism
No IO Comm	The control board is not communicating with the I/O board	Check for proper connections on the I/O board Check for proper connections on the control board Check for damage to the harnessing Remove the monetary devices from the system and check for restored communication Replace the I/O board Reset and/or replace the control board
Please Wait	The board is asking you to wait while it completes an ongoing operation	Wait for the board to finish the operation Re-start the machine and let it re-boot Remove monetary devices and re-start the machine Reset and/or replace the control board
No Selections Available	The control board is not sensing any motors available for use	Check for motors to be homed Check for motors and harnesses to be connected Check for power to I/O board Replace I/O board Reset and/or replace control board

CRANE | MERCHANDISING SYSTEMS
A Crane Co. Company

Error Description	Probable Cause	Possible solutions
All Selections Disabled	The control board has disabled all the motors in the machine	Check SureVend settings and operation Check motors to be homed and connected properly Check for a timed event to be enabled causing the condition Check/replace I/O board Reset/replace control board
IO Board Voltage	The control board has detected improper voltage for I/O board operation	Check voltage to the machine Check voltage to the I/O board Replace the I/O board
Init Failed	The control board has failed to initialize successfully	Power down and re-start the machine Power down, disconnect monetary devices and re-start the machine Replace the control board
# XXX Motor Error	The board has detected a problem with a selection motor (XXX indicates the selection involved)	Check harness connection Check for damage to the tray harnessing Check for damage to channel harnessing if applicable Replace the snack motor
Health Control Active	The control board has detected a tempereture condition which is outside the allowed parameters and has stopped allowing sales of involved products	Check for clean screens and condenser Check for acceptable clearance behind the machine Check temperature sensor for accurate readings Check refrigeration system for proper function
SureVend Comm Error	The control board is not communicating with the SureVend board system. Can be fatal or non-fatal depending on SureVend settings (optional or must)	Check the harness connections between the SureVend boards and to the I/O board at J3 Check the harnesses for damage (crushed, cut, etc.) Check the right side SureVend board to be an updated board and replace if it is not Replace the SureVend boards
SureVend Is Blocked	The control board has determined that a sureVend sensor is blocked. Can be fatal or non-fatal depending on SureVend settings (optional or must)	Check the delivery bin for items that may have hung up and blocked a beam Check harnesses and connections on the SureVend boards Check calibration on the SureVend boards Replace the SureVend boards
SureVend Calibration Error	The control board has calculated a value which is not possible. Can be fatal or non-fatal depending on SureVend settings. (optional or must)	Check for damage to the SureVend boards or harnesses Replace the SureVend boards
Anti Jackpot Error	The control board has detected multiple attempts to vend a product from a selection and has not seen a successful delivery	Check SureVend calibration Check SureVend function Check motor function

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Error Description	Probable Cause	Possible solutions
# XXX Sold Out	The control board has determined that a selection is sold out. (XXX indicates the selection number involved)	Check to see that there is product Check SureVend calibration Check SureVend function Check motor function
Factory Init	An attempt to restore factory default settings has been unsuccessful	Power down, power up and try again Power down, remove monetary devices and try again Replace the control board and reset
Card Reader No Comms	The control board is not able to communicate with the card reader	Check connections for the card reader Check for damage to the harness (cut, pinched, etc.) Replace the card reader Reset the control board Replace the control board
Card Reader Comms Error	The control board is not communicating with the card reader	Check the connections and harness for damage Check the settings on the board and on the reader Replace the reader Reset and/or replace the board
Bill Validator No Comms	Tthe control board is not communicating with the bill validator	Check the connections and settings for the validator Replace the harness Replace the validator
Bill Validator Motor Error	The validator has reported an error to a drive motor within the validator	Check for a broken belt or blockage Replace the bill validator
Bill Validator Sensor Error	The validator has reported an error to a sensor within the validator	Check for a sensor blockage Replace the bill validator
Bill Validator ROM Error	an error has been detected in a main chip in the validator	Replace the bill validator
Bill Validator Acceptor Jammed	A jam in the bill path has been detected	Check the bill path for items that are blocking sensors Check to see that the bill path gates are not open Replace the bill validator
Bill Validator Stacker Error	An error has been reported concerning the bill box	Check the bill box to be mounted to the validator properly Replace the bill box Replace the bill validator
Bill Validator Stacker Full	The bill validator is reporting that the bill box is full of bills	Check for bills and remove them Replace the bill box Replace the bill validator
Bill Validator Disabled	The control board has disabled the bill validator	Check for coins in the payout tubes of the coin mechanism Check for a fault with the bill validator
Check Winner Prize	The control board has detected a failed winner vend	Check for the presence of product Check motor function
POWER OFF	The control board has detected a power outage	Check the power cord and plug Check the circuit breaker Check the On/Off switch in the machine

CRANE | **MERCHANDISING SYSTEMS**
A Crane Co. Company

Error Description	Probable Cause	Possible solutions
DOOR OPEN	The control board is reporting that the door has been opened	Check to see if someone has been in the machine Check the door switch Check switch connections and harnessing for damage
Power Save mode	The machine is in a power save event	Let the event complete Modify or eliminate the event in the software settings
Return Air Temperature Sensor Error	The control board has recorded sensor readings that are outside of allowed parameters	Check the readings for high or low temperatures Check for a defrost event Check for ice buildup on the evaporator
Evaporator Temperature Sensor Error	The control board has recorded sensor readings that are outside of allowed parameters	Check the readings for high or low temperatures Check for a defrost event Check for ice buildup on the evaporator Check for evaporator fan function
Cabinet Temperature Sensor Error	The control board has recorded sensor readings that are outside of allowed parameters	Check the temperature readings against a thermometer, placed at near the same level as the sensor, for accuracy Replace the sensor
Condenser Temperature Sensor Error	The control board has recorded sensor readings that are nearing or outside of allowed parameters	Clean screens and condenser Check to see that the machine has six inches of clearance from the wall Replace the sensor
Condenser High Side Warning	Temperatures at or nearing 150 degrees are being reported	Clean screens and condenser Check to see that the machine has six inches of clearance from the wall Replace the sensor
Condenser High Side Error	Temperatures of an unlikely nature are being reported (such as 999 degrees) Cooling functions are stopped	Check the temperature sensor and connections Replace the temperature sensor
Evaporator Coil Low Side Warning	The control board has recorded sensor readings that are nearing or outside of allowed parameters	Check for evaporator fan function Check for ice buildup on evaporator Check for excessive moisture
Evaporator Coil Low Side Error	The control board has recorded sensor readings that are outside of allowed parameters. Cooling functions are stopped	Check for evaporator fan function Check for ice buildup on evaporator Check for excessive moisture Replace the temperature sensor
IO Even Input Short	The I/O board is reporting that an even input switch has shorted out	Check for motor errors (out of home position) replace the I/O board
IO Odd Input Short	The I/O board is reporting that an odd input switch has shorted out	Check for motor errors (out of home position) replace the I/O board
Sold Out Machine	The control board has determined that all selections in the machine are sold out	Check SureVend settings and function Check for vend motor function Check harnessing connections Check for board function (selection configuration)

CRANE | **MERCHANDISING SYSTEMS**
A Crane Co. Company

Error Description	Probable Cause	Possible solutions
Recycler Motor Problem	A problem has been detected with a motor inside the **bill** validator	Check for an obstruction or blockage within the recycler which is stopping the motorfrom completing its cycle Replace the bill validator
Recycler Sensor Problem	A problem has been detected in a sensor within the recycler	Replace the recycler cassette Replace the bill validator
Recycler Jam	The recycler is unable to function	Check for an obstruction or blockage which is preventing the recycler from completing its cycle Replace the recycler cassette Replace the bill validator
Recycler Checksum Error	A communications error has been reported between the recycler and the control board	Check the bill validator harnessing for damage Re-start the system to restore communication Replace the recycler
Recycler Disabled	The recycler has been disabled by the control board	Check for proper function of the recycler unit (errors) Check the recycler cassette for proper installation Replace the bill validator
# XX Coin Mech Tube Empty	The coin mechanism is reporting tha there is an empty payout tube. (# XX indicates which tube is empty)	Check for an empty tube and replenish Check for a bad sensor Replace the coin cassette Replace the coin mechanism
Bill Validator Stacker Motor Error	An error has been reported concerning the stacker motor in the bill validator	Check the bill path for a blockage preventing the proper operation of the bill stacker motor Replace the bill validator
Bill Validator Recycler Gate Error	An error has been detected in the recycler gate	Check for an blockage in the bill path preventing the gate from functioning Replace the bill validator
Bill Validator Recycler Tape Error	An error has been reported in the operation of the recycler tape within the recycler cassette	Check for a blockage in the bill path which prevents the tape from moving backward and/or forward Replace the recycler cassette Replace the bill validator
Optical Sensor Failure	The failure of an optical sensor within the bill validator has been detected	Check the bill path for an obstruction or blockage which prevents the optical sensor from functioning Replace the bill validator
Magnetic Sensor Failure	The failure of the magnetic sensor within the bill validator has been detected	Check the bill path for an obstruction or blockage which prevents the magnetic sensor from functioning Replace the bill validator
Recycler Cass Jammed	The recycler cassette is not able to move	Check for an obstruction or blockage which is preventing the cassette from moving Replace the recycler cassette Replace the bill validator

Error Description	Probable Cause	Possible solutions
Bill Validator Path Jammed	A blockage of the bill path has been reported	Check for an obstruction or blockage which is preventing the bills from moving thru the bill validator Replace the bill validator
Bill Validator Cashbox Jammed	The bill box has become jammed and is not allowing the stacker motor to complete its cycle	Check for a full bill box Check for damaged bills blocking the operation of the stacker plate Replace the bill box Replace the bill validator
Stacker Out Of Position	The control board has detected that the stacker has stopped out of its home position	Check for a blockage or obstruction which is not allowing the stacker motor to complete its cycle Check for proper installation of the bill box Replace the bill box Replace the bill validator
Recycler Out Of Position	The recycler is not able to accept bills	Check for proper installation of the recycler cassette Check for an obstruction or blockage which is preventing the cassette from locking into position Replace the recycler cassette Replace the bill validator
Cold Drink X Motor Failure	The control board is reporting that the X motor is not functioning	Check for proper connections to the motor Check for damage to the harnessing Check for proper switch function Check for over tightening of the motor Replace the motor
Cold Drink Y Motor Failure	The control board is reporting that the Y motor is not functioning	Check for proper connections to the motor Check for damage to the harnessing Check for proper switch function Check for over tightening of the motor Replace the motor
Cold Drink Picker Motor Failure	The control board is reporting that the picker motor is not functioning	Use the position test functions to test the picker motor Replace the picker cup
Cold Drink Port Motor Failure	The control board is reporting that the port motor is not functioning	Use the port test functions to test for function Check wiring connections Check switch functions including the position cam Replace the motor
Cold Drink Vend Timeout	The control board is reporting that a successful vend cycle has not been completed in the allowed amount of time	Check for a picker cup that did not return to the home position Check for a port door that did not open/close
Cold Drink Cabinet Failure	An error that has not yet been defined	Should not be seen in a machine Replace the control board

Error Description	Probable Cause	Possible solutions
Cold Drink Coin Return Motor Failure	The control board is reporting that the coin return motor has failed	Check the wiring connections Check for proper mounting of the motor Check for proper mounting of the coin mechanism Replace the coin return motor
Cold Drink Picker Home Failure	The control board has reported that the picker has failed to return to its home position at the end of a cycle	Use the position test functions to test or cycle the picker back to its home position Replace the picker cup
Cold Drink Temperature Sensor Error	the control board is reportingthat the temperature sensor has failed	Compare the reported temperature against a thrmometer Replace the temperature sensor
Cold Drink Cooling System Not Cooling	The control board is reporting that the refrigeration system is not functioning	Check for a bad temperature sensor Check for other errors that would cause the refrigeration system to have been shut down by the board
Cold Drink Cabinet Too Hot	The control board is reporting that the cabinet is operating at three degrees, or more, above the allowed parameter	Check for an accurate temperature reading Check refrigeration system for proper function (clean screens, condenser also distance from rear wall) Check for proper fan operation
Cold Drink Cabinet Too Cold	The control board is reporting that the cabinet is operating at three degrees, or more, below the allowed parameter	Check for an accurate temperature reading Check refrigeration system for proper function (clean screens, condenser also distance from rear wall) Check for proper fan operation
Card Reader Manuf Trans Error	The card reader has reported an error in transmitting data	Check the card reader for proper function Replace the card reader
Card Reader Service Error	An internal error has occurred within the card reader	Reset the card reader and retry Replace the card reader
Card Reader Manufact Error	An internal error has occurred within the card reader	Reset the card reader and retry Replace the card reader
Card Reader Failed OOS Error	An internal error has occurred within the card reader	Reset the card reader and retry Replace the card reader
Card Reader Comms OOS Error	An internal error has occurred within the card reader	Reset the card reader and retry Replace the card reader
Card Reader Jam OOS Error	An internal error has occurred within the card reader	Reset the card reader and retry Replace the card reader
Card Reader Manufact OOS Error	An internal error has occurred within the card reader	Reset the card reader and retry Replace the card reader

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Error Description	Probable Cause	Possible solutions
Health Check Error	The control board is reporting that an error occurred in the proccess of conducting a health check	Check temperature sensors for proper function Check the refrigeration system for function Reset machine for another cool down period to check for proper health control function Reset the control board to default settings and set up for another test Replace the control board and re-test
Heath Timer Error	The control board is reporting that an error has occurred in the operation of the timer during a health check function	Reset machine for another cool down period to check for proper health control function Reset the control board to default settings and set up for another test Replace the control board and re-test
Health Recheck Error	The control board is reporting that an error occurred in the proccess of conducting a second attempt at a health check	Check temperature sensors for proper function Check the refrigeration system for function Reset machine for another cool down period to check for proper health control function Reset the control board to default settings and set up for another test Replace the control board and re-test
Capacity Sensor Failure	An error has been reported with a sensor inside the bill validator	Re-start the bill validator and check function Replace the bill validator
Not Calibrated Sensor Error	An error has been reported with a sensor inside the bill validator	Re-start the bill validator and check function Replace the bill validator

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company

Atlas Controller

Atlas Controller with Merchant Keypad Software:

Part # PCR0020294

CR00XXXXX **Harness Part Number**

On board Jumpers – Unless Jumper Position is shown, pins are empty

CR0012945

J8 Zigbee 1

J9 Zigbee 2

J5 - Service

J16 – DEX-IRDA

J12 – Bootloader

J36 –RFID

J27 High current for USB1 (pins 2-3)

J20 – USB1 USB to Radio

J22 – USB3 USB Update

CR0006098

Zigbee Orientation

When Zigbee Module is installed:
ZL1 = Communication LED
ZL2 =Power LED
ZA = Zigbee Antenna

ZL1 ZA ZL2

USB1 USB2 USB3

J28 Bootloader No Jumper

J17 Watchdog No Jumper

Sw2 Master Reset

LED 18 Power Red Steady = OK

J18 Temp 1

CR0014363

J42 Cashless Bezel

J6 Selection

LED 15- Status
Green Heartbeat – Normal
Red Steady during reboot
Yellow during file loading

J19 Temp 2

J30 Cabinet Comm

CR0010651

CR0014564

J11 AC Power In Pin 1->2 30Vac

Battery 3.0V + CR2032

Sw1 Service

CR0010913

J7 Door Switch Door open = Switch Open

J4 Aux Con LED Driver

CR0014650-D

J3 Console

J1 Pins 2& 3

J37 Battery

J38 Display Data & Clock

CR0014650-A

J14 MDB Pin 5 – Red - Pin 6 White + 31Vdc

CR0013989

J31 Display Power Pin 1->4 Pin1->5 36Vdc

CR0014650-B

J2 Pins 2&3

J10 LVDS

CR0014650-C

J34 DPS

J35 MSL

Low Voltage
Wiring Diagram
Keypad

9

120 Volt AC Box Assembly CR0004739

HIGH VOLTAGE WIRING DIAGRAM
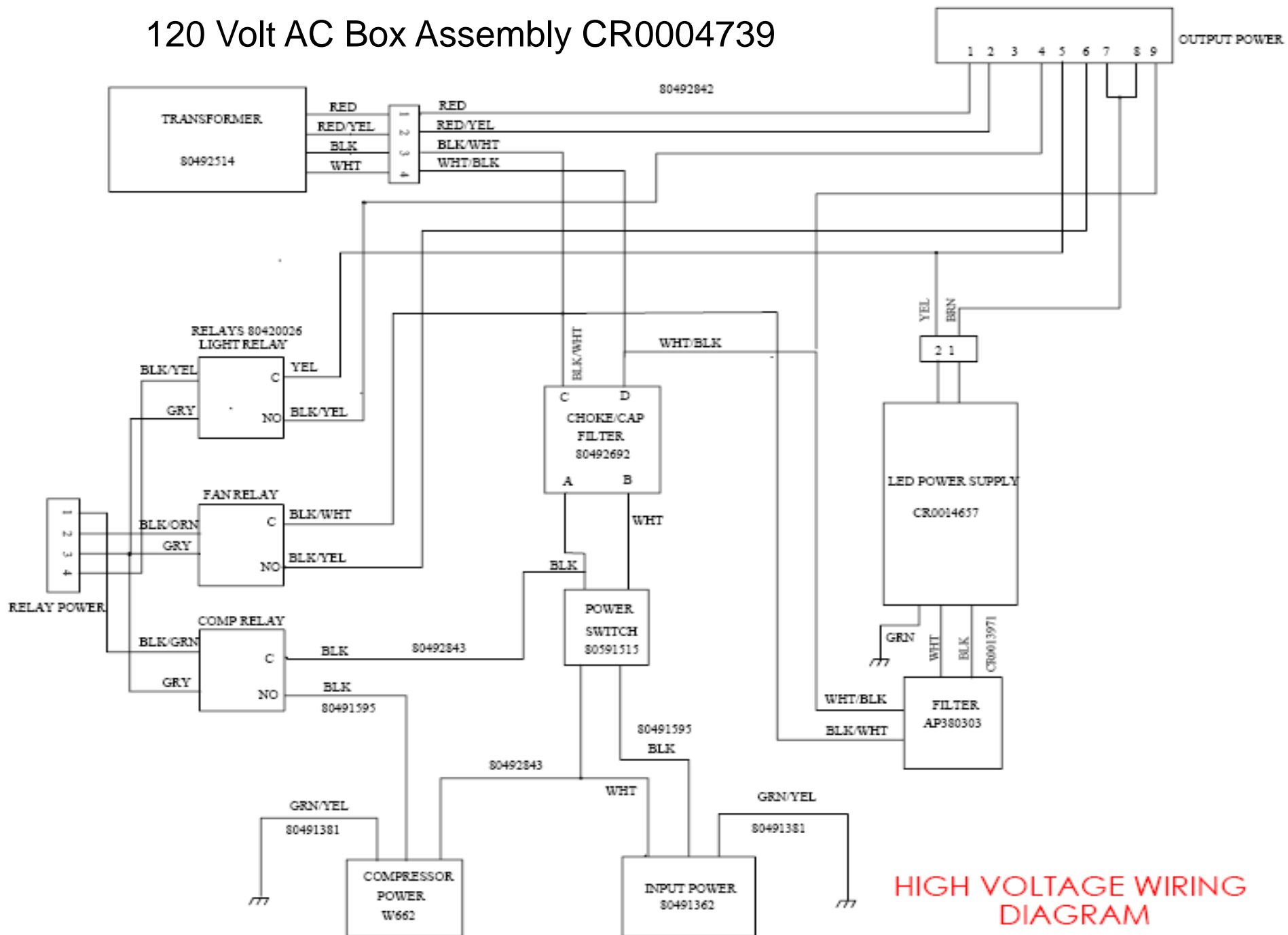
230 Volt AC Box Assembly CR0014549

OUTPUT POWER

1 2 3 4 5 6 7 8 9

CR0014549

TRANSFORMER
80492868

RED — RED
RED/YEL — RED/YEL
BLK — BLK/WHT
WHT — WHT/BLK

RELAYS 80420026
LIGHT RELAY

BLK/YEL
GRY
C — YEL.
NO — BLK/YEL

FANRELAY
BLK/ORN
GRY
C — BLK/WHT
NO — BLK/YEL

RELAY POWER
1 2 3 4

COMP RELAY
BLK/GRN
GRY
C — BLK — 80492843
NO — BLK
80491595

CHOKE/CAP
FILTER
80492691
BLK/WHT
C   D
A   B

WHT/BLK

WHT

POWER
SWITCH
80410112
BLK

80491595
BLK

80492843

WHT

LED POWER SUPPLY
CR0014657

YEL   BRN
2   1

GRN   WHT   BLK   CR0013971

WHT/BLK
BLK/WHT

FILTER
AP380303

High Voltage Wiring Diagram

GRN/YEL
80491381

COMPRESSOR
POWER
80491414

GRN/YEL
80491381

INPUT POWER
80491362

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed. **Preamble**

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

    a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

    b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

    c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

    a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

    b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

    c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the program's name and an idea of what it does. Copyright (C) *yyyy name of author* This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version. This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details. You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA. Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) *year name of author* Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'. This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details. The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker, *signature of Ty Coon,* 1 April 1989 Ty Coon, President of Vice This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

- Complete text of v2 of the GPL may be found online at http://www.gnu.org/licenses/gpl-2.0.html.

CRANE MERCHANDISING SYSTEMS *A Crane Co. Company*

GNU Lesser General Public License (LGPL), version 2.1

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed. [This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.] **Preamble**

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software—to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages—typically libraries—of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

[Full license text of the GNU Lesser General Public License, version 2.1, follows, including the TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION (sections 0–16), NO WARRANTY, END OF TERMS AND CONDITIONS, and How to Apply These Terms to Your New Libraries.]

• Complete text of v2.1 of the LGPL may be found online at http://www.gnu.org/licenses/lgpl-2.1.html.

CRANE MERCHANDISING SYSTEMS
A Crane Co. Company