To better help you obtain assistance or service should you ever need it, write down the following information about the product. This information is on the identification label located on the left hand inside wall of the cabinet. We advise you to keep this Owners Manual and sales slip in your possession.

Model: _____

Serial Number: _____

Date of Purchase: _____

minusforty®

30 Armstrong Avenue
Georgetown, Ontario
Canada L7G 4R9

tel: 800.800.5706 or 905.702.1441
fax: 905.702.1442
email: info@duenorth.com
web: duenorth.com

MNL_R290 UDGF LOCK_EN20240701

minusforty®
a Due North brand

Owners Manual

Glass Door Freezers with

SMARTLOCK HEALTH TIMER

Models 43-UDGF, 44-UDGF

R290

30 Armstrong Ave. Georgetown, Ontario Canada L7G 4R9
tel 800.800.5706 · 905.702.1441· fax 905.702.1442 · DUENORTH.com

⚠WARNING

IN THE EVENT THE ELECTRONIC SAFETY LOCK HAS LOCKED THE FREEZER, THE FOOD IN THE FREEZER MUST BE INSPECTED TO INSURE ITS SAFETY AND QUALITY FOR CONSUMPTION.

⚠WARNING

MAKE SURE THE FREEZER IS DISCONNECTED FROM THE POWER SUPPLY BEFORE ANY SERVICE. PRESS THE FREEZER SWITCH TO THE “OFF” POSITION THEN UNPLUG THE POWER CORD FROM THE ELECTRICAL RECEPTACLE.

ALL SERVICE WORK MUST BE PERFORMED BY CERTIFIED, FACTORY AUTHORIZED SERVICE PERSONNEL ONLY. COMPONENT PARTS MUST BE REPLACED WITH LIKE COMPONENTS.

COMMERCIAL USE ONLY. NOT FOR HOUSEHOLD USE.

FOR INDOOR USE ONLY.

⚠ SAFETY PRECAUTIONS

READ ALL INSTRUCTIONS AND SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS NEAR THIS OR ANY OTHER APPLIANCE.

DO NOT TOUCH COLD SURFACES WITH DAMP OR WET HANDS. SKIN MAY STICK TO EXTREMELY COLD SURFACES.

DO NOT ALLOW CHILDREN TO CLIMB, HANG OR STAND ON FREEZER SHELVES.

KEEP FINGERS OUT OF PINCH-POINT AREAS.

DISCONNECT POWER TO THE UNIT PRIOR TO CLEANING OR REPAIRING.

BEFORE DISCARDING THIS OR ANY OTHER APPLIANCE, REMOVE THE DOORS OR LIDS TO REDUCE RISK OF CHILD ENTRAPMENT.

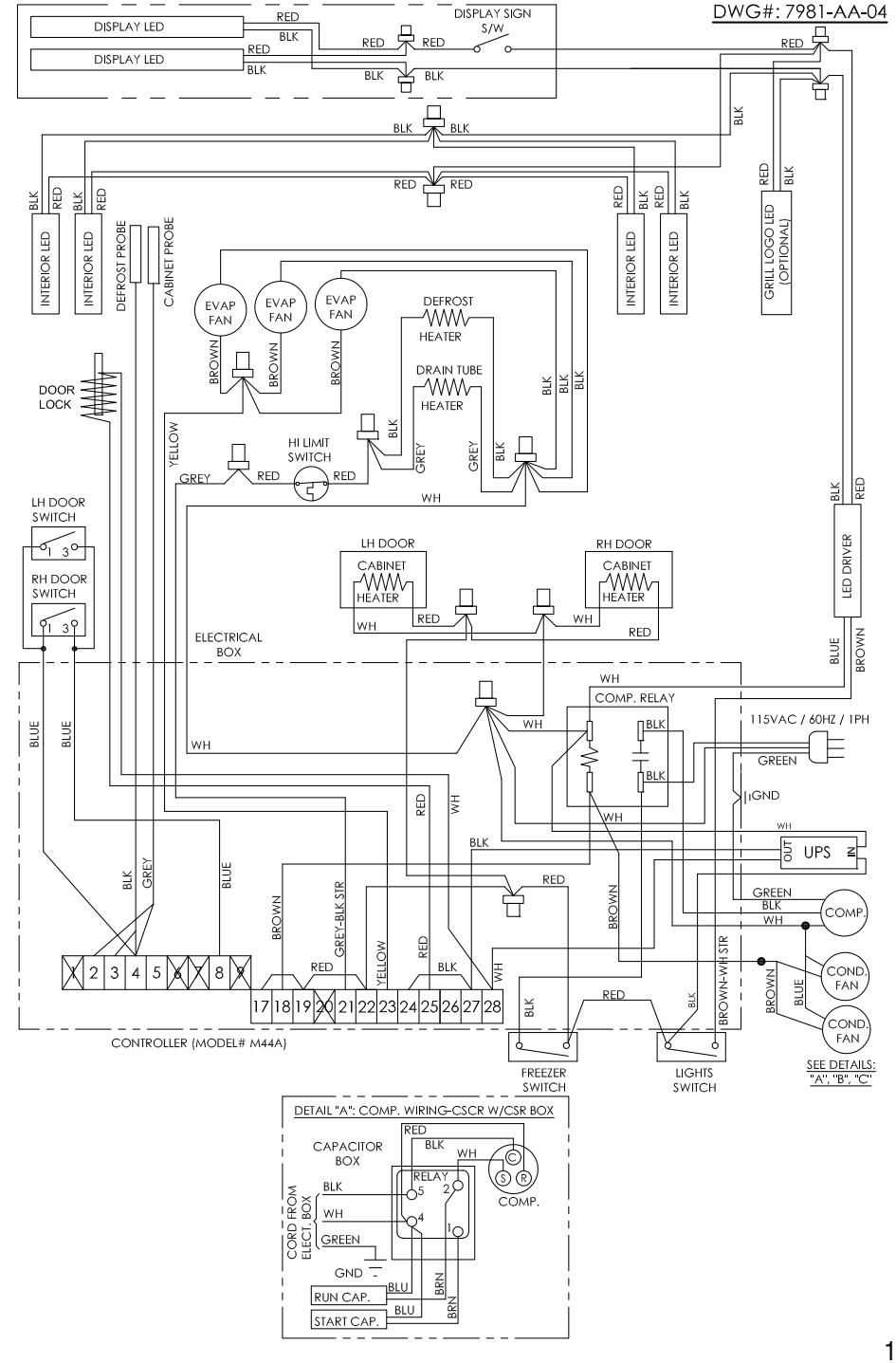
WHEN RECYCLING THE UNIT, REFRIGERANTS MUST BE HANDLED IN ACCORDANCE WITH LOCAL AND NATIONAL REGULATIONS.

NOTICE

OPERATING THE FREEZER FOR 24 HOURS PRIOR TO LOADING PRODUCT IS RECOMMENDED

MONITOR FREEZER TEMPERATURE REGULARLY

WIRING DIAGRAM (43-UDGF, 44-UDGF)



TROUBLESHOOTING GUIDE CONT'D

for online reference go to duenorth.com

⚠ WARNING

Make sure the freezer is disconnected from the power supply before any service. Press the freezer switch to the "Off" position then unplug the power cord from electrical receptacle. All service work must be conducted by a certified technician only.

Problem	Possible Cause	Action
Condensation on glass door.	• Door not closing properly. • Room humidity too high.	• Check the spring tension or any obstruction • To prevent condensation, room humidity should be below 55%.
LED strips are not working.	• Light switch is off. • Faulty LED strip.	• Check if the light switch is on. • Replace the LED strip. (See page 16)
Cabinet is noisy.	• Part(s) loose • Tubing vibrating	• Locate and tighten loose part(s). • Ensure tubing is not in contact with other tubing or components.
Door does not close tight.	• Freezer is not leveled. • Hinges are loose / not adjusted. • Gasket is out of the groove.	• Level the unit (See page 2). • Adjust / tighten the hinge screws. • Check gasket condition. Adjust position or replace gasket.
Electronic control blank, flashing, or displaying incorrect characters.	• Wires disconnected at back of electronic control.	• See actions described on the controller section. (page 9)
Evaporator fan does not run.	• Fan wire disconnected. • Door switch not working. • Defrost probe not attached to the evaporator coil.	• Check wiring. • Check door switch. • Check the location of defrost probe. It should be pressed in between fins in the middle of the evaporator and close to the cabinet top

CAUTIONARY INSTRUCTIONS FOR UNITS CHARGED WITH PROPANE (R290) REFRIGERANT

⚠ WARNING

THIS UNIT IS CHARGED WITH PROPANE REFRIGERANT. PROPANE IS AN EXTREMELY FLAMMABLE AND EXPLOSIVE GAS. PLEASE READ CAREFULLY THIS MANUAL/GUIDE AND FOLLOW ALL SAFETY PRECAUTIONS CONTAINED HEREIN TO REDUCE A RISK OF FIRE AND/OR EXPLOSION. FAILURE TO FOLLOW THE SAFETY PRECAUTIONS MAY RESULT IN SERIOUS INJURY OR DEATH, AND/OR PROPERTY DAMAGE.

- **DANGER - RISK OF FIRE OR EXPLOSION. FLAMMABLE REFRIGERANT USED. DO NOT USE MECHANICAL DEVICES TO DEFROST REFRIGERATOR. DO NOT PUNCTURE REFRIGERANT TUBING.**
- **DANGER - RISK OF FIRE OR EXPLOSION. FLAMMABLE REFRIGERANT USED. TO BE REPAIRED ONLY BY FACTORY AUTHORIZED TRAINED SERVICE PERSONNEL. DO NOT PUNCTURE REFRIGERANT TUBING.**
- **CAUTION - RISK OF FIRE OR EXPLOSION. FLAMMABLE REFRIGERANT USED. CONSULT REPAIR MANUAL/OWNER'S GUIDE BEFORE ATTEMPTING TO SERVICE THIS PRODUCT. ALL SAFETY PRECAUTIONS MUST BE FOLLOWED.**
- **CAUTION - RISK OF FIRE OR EXPLOSION. DISPOSE OF PROPERLY IN ACCORDANCE WITH FEDERAL OR LOCAL REGULATIONS. FLAMMABLE REFRIGERANT USED.**
- **CAUTION - RISK OF FIRE OR EXPLOSION DUE TO PUNCTURE OF REFRIGERANT TUBING; FOLLOW HANDLING INSTRUCTIONS CAREFULLY. FLAMMABLE REFRIGERANT USED.**

Propane is approved for use as a refrigerant in commercial, self-contained units in Canada and USA under limited use conditions. It can be used in new equipment only, retrofitting is not allowed, with a limited charge of up to 150 grams (5.3 oz) per refrigeration circuit. Even though this is a small amount, it still presents a fire/explosion hazard if it leaks out of refrigerant containing parts. When mixed with air, a flammable propane-air mixture can be created and easily ignited by sparks, open flames, or hot surfaces. This is particularly true in confined zones. Propane is heavier than air and tends to settle at lower points.

To mitigate the risk, please follow the precautionary measures as follows:

- Avoid unit installation in areas with open flames (kitchens, repair garages or the like), or in vicinity of open flames or high surface temperatures.
- Avoid unit installation in confined spaces. Well ventilated areas are preferred. Keep clear all ventilation openings of obstructions.
- Do not rely on smell to detect potential leaks of propane refrigerant. Propane refrigerant is a high purity propane gas and does not contain any stenching agent(s). Stenching agents are typically used in fuel-grade propane and natural gas to detect their presence in air by relying on smell.
- All repairs must be performed in well ventilated areas.
- To minimize the risk of possible ignition due to incorrect parts or improper service, component parts shall be replaced with like components and servicing shall be done by service personnel authorized by Minus Forty Technologies.
- Do not attempt to modify the unit or remove any functional part(s) from the unit.
- Handle the unit with care to avoid any damage.
- When transporting the unit, all appropriate safety considerations must be considered. Check with local Department of Transportation for detailed requirements pertaining to transportation of flammable gasses.

CONTENTS

Warranty	1
Installation Instructions	2
Shelf and Basket, Placement and Adjustment	3
Operating Instructions	3
Electronic Food Safety Lock	4 - 7
General Description	4
Entrapment Lock Release	5
Delaying Lock Action After Product Stocking	5
Accessing / Resetting Alarm Data	5 - 7
Field Testing	7
Product Loading	8
Temperature Adjustment and Switch Functions	9
Controller Alarms and Signals	9 - 10
Controller Symbols and Functions	10
Manual Defrost	11
How to Remove the Front Bottom Grill	11
Condenser Cleaning	12
Cabinet Cleaning	12 - 13
ISD Trans-Light LED Strip Replacement	14 - 15
Graphic Panel Replacement	15
Interior LED Strip Replacement	16
Troubleshooting Guide	17 - 18
Wiring Diagram	19

TROUBLESHOOTING GUIDE

for online reference go to duenorth.com

⚠ WARNING

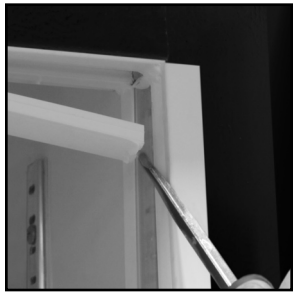
Make sure the freezer is disconnected from the power supply before any service. Press the freezer switch to the “Off” position then unplug the power cord from electrical receptacle. All service work must be conducted by a certified technician only.

Problem	Possible Cause	Action
Freezer not operating.	• Freezer switch located on the front grill turned off.	• Turn power switch on.
	• Fuse blown / circuit breaker tripped.	• Replace fuse/reset circuit breaker.
	• Power cord unplugged. • Receptacle not working.	• Plug in power cord. • Check receptacle.
	• Improper voltage supplied to cabinet / over load circuit.	• Remove extension cords or other equipment on the same circuit.
Freezer not getting cold but compressor is running	• Freezer located in direct sunlight or ambient (room) temperature is too hot.	• Move freezer away from direct sunlight. • Room temperature is recommended not to exceed 86ºF (30ºC), 55% RH.
	• Condenser clogged with dust.	• See page 12 (Cleaning)
Condensing unit operates for a prolonged period or continuously.	• Freezer loaded with excessive amount of warm product. • Prolonged door opening or door ajar.	• Allow enough time for product to cool down. • Close door when not in use. Avoid prolonged door openings.
	• Door not closing properly.	• Level the unit (See page 2). Check gasket condition. Check the door spring.
	• Clogged condenser.	• Clean the condenser (See page 12).
	• Evaporator coil blocked with ice or frost.	• Defrost manually if required (See page 11).
Freezer cabinet temperature too high.	• Electronic control set too high.	• Adjust control setting (See page 9).
	• Poor air circulation in cabinet.	• Follow instructions for product loading (See page 8)
	• Insufficient clearance around cabinet or ambient temperature too high.	• Keep at least 6” (15.24cm) free space around all sides of the freezer. Room temperature is recommended not to exceed 86ºF (30ºC), 55% RH. Make sure the air flow to the compressor is not obstructed.
	• Clogged condenser	• Clean the condenser (See page 12)

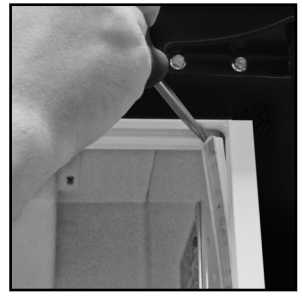
INTERIOR LED STRIP REPLACEMENT

⚠ WARNING

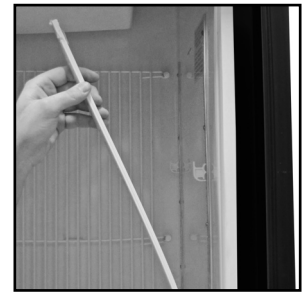
Make sure the unit is disconnected from the power supply before any service. Press the power switch to the "Off" position then unplug the power cord from electrical receptacle. All service work must be conducted by a certified technician only.



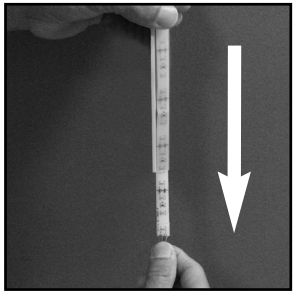
Remove silicone corner beads. Pry the screwdriver between plastic cover and cabinet frame. Pry from one end to the other.



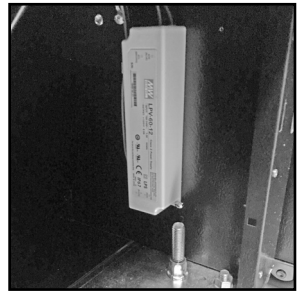
Pry the screwdriver between plastic lens cover and cabinet frame.



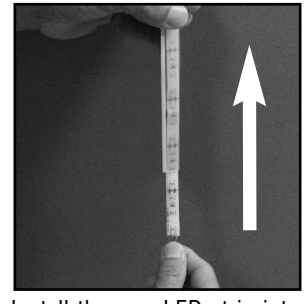
Carefully remove the plastic lens cover from cabinet frame.



Slide faulty LED strip from plastic cover.

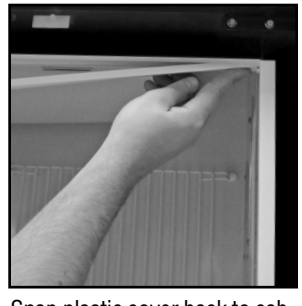


Locate the wire for the LED strip in the compressor compartment and disconnect from connectors.



Install the new LED strip into the plastic cover.

Attach wires, observing color coding. Press lens cover back to cabinet frame.



Snap plastic cover back to cabinet frame. Apply silicone at plastic cover corners.

Plug the unit in and make sure the light switch on the bottom grill is in the 'ON' position.

STANDARD WARRANTY FOR MINUS FORTY® REFRIGERATION EQUIPMENT AND ACCESSORIES

LIMITED WARRANTY

Minus Forty® Technologies warrants its products to be free from defect as to workmanship and materials for a period of twelve (12) months from the time of delivery.

Minus Forty® Technologies will at its option either replace or repair any defective parts returned within twelve (12) months of the time of delivery, transportation charges prepaid, which Minus Forty® Technologies in its sole discretion, determines to be defective.

This warranty shall not apply to any products that have been repaired or altered outside of Minus Forty® Technologies factory or repair facilities if the repairs in the judgement of Minus Forty® Technologies have affected the reliability or wear of the product and nor does the guarantee apply to any product which has been subject to misuse, accident or to any product which has not been maintained pursuant to the instruction of Minus Forty® Technologies.

This warranty does not extend to any consequential damage caused by the failure of the product under any circumstance and further, Minus Forty® Technologies shall not be responsible for damage to the contents of the product or any economic loss caused by the failure of the product, whether such loss is suffered by the customer or a third party user of the product or whether the contents are owned by the customer or a third party user or supplier.

minusforty®

Effective January 1, 1996

INSTALLATION INSTRUCTIONS

⚠ WARNING

The freezer MUST be installed on a dedicated grounded circuit protected with a 15 Amp circuit breaker or 15 Amp time delay fuse. Do not remove ground prong. If the cord or plug is damaged, replace with the same type. Refrigeration and electrical work must be performed by a qualified technician. Failure to follow these instructions can result in injury, death, fire, or electrical shock.

POWER REQUIREMENTS: These models require a 15 Amp dedicated and properly grounded 115V/60Hz/1Ph circuit with a NEMA 5-15P receptacle. Wiring should be sized according to the amperage rating stated on the serial plate. Failure to use a dedicated circuit may cause the circuit breaker to trip off and/or cause voltage drops. As a result, power to the freezer may be interrupted and freezing performance can be adversely affected which may cause equipment damage and/or product loss.

NEMA 5-15P

Voltage supply to the freezer must not vary more than ±10% of the nominal 115V, or performance may be affected. The warranty and liability does not cover damage resulting from excessive voltage variations.

- **DO NOT USE AN EXTENSION CORD**
- **DO NOT CUT, REMOVE OR BYPASS THE GROUNDING PRONG FROM THE PLUG**
- **DO NOT PLUG FREEZER INTO AN OUTLET CONTROLLED BY A WALL SWITCH**
- **ENSURE POWER CORD IS NOT CUT OR DAMAGED FROM PINCHING, KNOTTING, OR MISHANDLING**

CABINET LOCATION: An air space of at least 6" (15.24cm) must be maintained on all sides of the freezer. Do not locate the freezer in a warm unventilated room exceeding 86ºF (30ºC), 55% RH; do not place freezer in direct sunlight; do not place freezer under or near heat range or heating vent.

CABINET LEVELING: The freezer must be completely leveled side to side and front to back or slightly tilted front to back but never tilted forward. Once the freezer is placed in its final location, use a carpenter level to level the freezer. Proper leveling of the freezer is important for the door closing and water drainage during the defrost cycle. There are two leg levelers in the front that can be adjusted. First, loosen the nuts using an adjustable wrench. Second, turn levelers counter-clockwise to raise the freezer, or clockwise to lower, until they reach the leveled position. Lastly, tighten the nuts again to lock the legs.

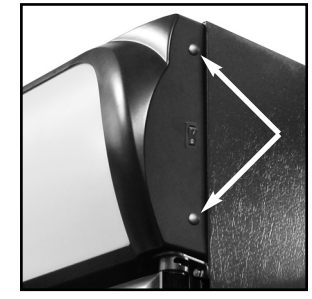
NOTICE:

Failure to follow these instructions may void the warranty and/or cause loss of product.

PROTECTIVE DOOR FILM

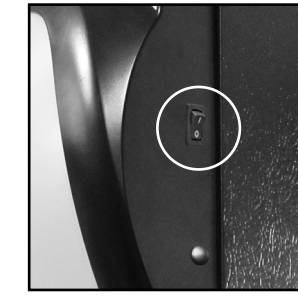
The anti-fog glass door has a protective film on the inner side. After the unit has been installed, peel and remove the protective film covering the inner glass surface.

ISD TRANS-LIGHT LED STRIP REPLACEMENT CONT'D



Replace the plastic screw covers on the display end cap.

Plug the freezer in and make sure the light switch on the bottom grill is in the 'ON' position.

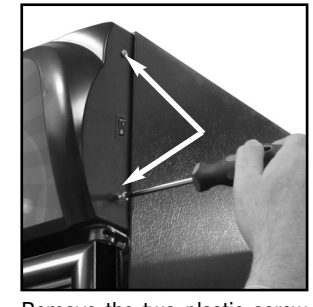


To turn the display lighting "ON" or "OFF", use the display light switch.

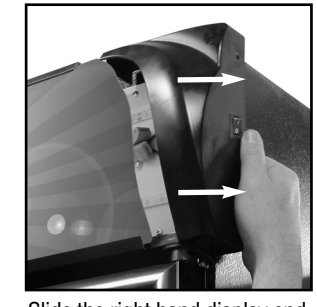
GRAPHIC PANEL REPLACEMENT (IF EQUIPPED)

⚠ WARNING

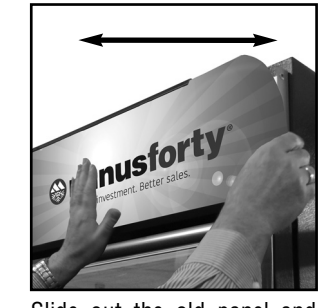
Make sure the freezer is disconnected from the power supply before any service. Press the freezer switch to the "Off" position then unplug the power cord from electrical receptacle. All service work must be conducted by a certified technician only.



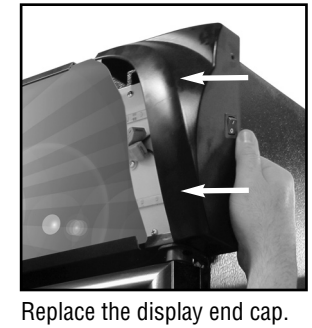
Remove the two plastic screw covers and the two screws from the right hand display end cap.



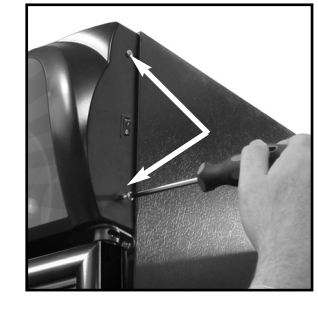
Slide the right hand display end cap from the display frame.



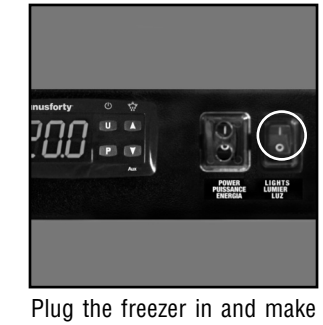
Slide out the old panel and replace with the new panel.



Replace the display end cap.



Replace the two screws and plastic screw covers on the display end cap. To turn the display lighting "ON" or "OFF", use the display light switch.



Plug the freezer in and make sure the light switch on the bottom grill is in the 'ON' position.

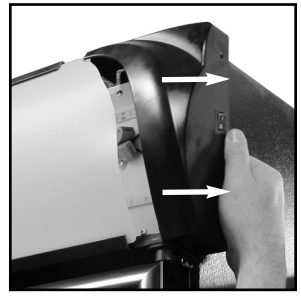
ISD TRANS-LIGHT LED STRIP REPLACEMENT (IF EQUIPPED)

⚠ WARNING

Make sure the freezer is disconnected from the power supply before any service. Press the freezer switch to the "Off" position then unplug the power cord from electrical receptacle. All service work must be conducted by a certified technician only.

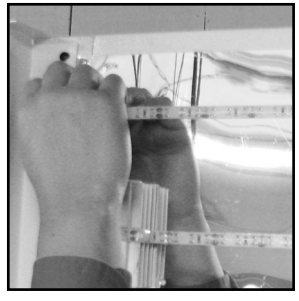
Remove the plastic screw covers from the right hand side of the display.

With a screwdriver remove the two screws from the right hand side of the display.

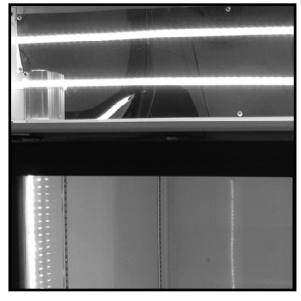


Slide the right hand display end cap from the display frame.

Slide the diffuser panel and graphic panel (if used) out of the frame channel.

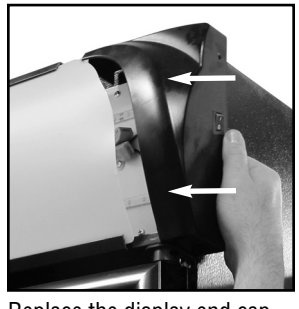


Disconnect LED strip wires from connectors and peel LED strips off freezer.

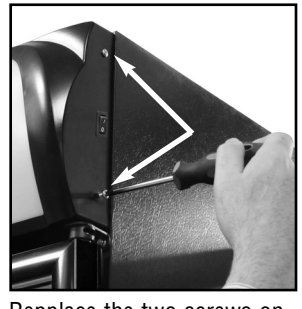


Install replacement LED strips at the same place and connect wires. Observe color coding.

Replace the diffuser panel and graphic panel (if used).



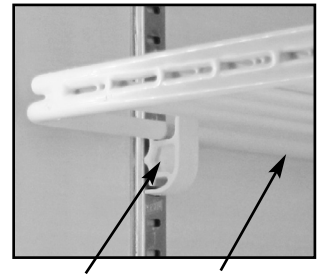
Replace the display end cap.



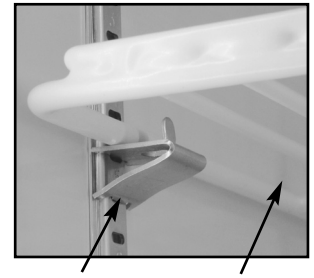
Repplace the two screws on the display end cap.

SHELF AND BASKET, INSTALLATION AND ADJUSTMENT

The unit is supplied with shelves and molded or metallic clips. The unit has slotted pilasters to position the shelves according to the customer's needs.



Molded Clip Shelf



Metallic Clip Shelf

The clips can be removed at any time if a new position is chosen for the shelf or basket. To remove, grab the clip with your thumb and index finger, then push up the bottom surface until the clip is free. Once the clips are in place, put the shelf on top. Once the shelves are securely in place, baskets (if equipped) may be positioned on the shelves.

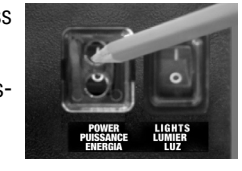
OPERATING INSTRUCTIONS

⚠ WARNING

Check with your power company if you are not certain of your power supply.
Before connecting to power supply the freezer should be upright and idle for at least 1 hour.

Once the unit has been installed and the power supply has been connected, press the power switch to the "ON" position using a pen or pencil.

The compressor will start to run after 6 minutes. This can be confirmed by listening for a slight humming or a slight vibration.



NOTE:

If the freezer is running and the power supply is interrupted, the freezer will not restart immediately. There is a 6 minute delay for compressor protection.

Once the freezer is running, the inside temperature will start to cool down within a couple of minutes. Ensure that the freezer has reached the desired temperature (this will take between 2 to 3 hours) by checking the electronic control display readout before loading product. **It is strongly recommended to run the freezer empty for 24 hours before loading any products.**

ELECTRONIC FOOD SAFETY LOCK

⚠ WARNING

IN THE EVENT THE ELECTRONIC SAFETY LOCK HAS LOCKED THE FREEZER, THE FOOD IN THE FREEZER MUST BE INSPECTED TO INSURE ITS SAFETY AND QUALITY FOR CONSUMPTION.

⚠ ATTENTION

IMMEDIATELY AFTER POWERING ON THE FREEZER, YOU MAY OBSERVE A “HAC” SCROLLING MESSAGE ON THE ELECTRONIC CONTROLLER. TO CLEAR THIS MESSAGE, HOLD THE DOWN ARROW BUTTON ON THE CONTROLLER UNTIL THREE DASHES APPEAR, THEN RELEASE THE BUTTON. THE “HAC” SCROLLING MESSAGE SHOULD NO LONGER APPEAR.

⚠ ATTENTION

TURN THE UN-INTERUPED POWER SUPPLY (UPS) ‘OFF' WHEN THE FREEZER IS NOT IN SERVICE. DEPLETING THE UPS CHARGE REDUCES ITS LIFECYCLE AND LEADS TO PREMATURE FAILURE. SEE THE LABELS ON THE UNIT AND SECTIONS BELOW ON HOW TO TURN THE UPS ON/OFF.

GENERAL DESCRIPTION

The purpose of the electronic safety lock is to lock the cabinet door in the event of freezer malfunctioning, thereby preventing public access to potentially hazardous food.
The electronic controller continuously monitors temperature inside the food storage compartment and locks the door via a mechanical lock if the temperature stays above these limits:

- 0°F (-18°C) for 30 minutes or longer in freezers.

The electronic safety lock system consists of three major components:

- **Electronic controller.** The factory pre-programmed electronic controller located on the front grill monitors temperature inside the food compartment and activates the mechanical lock if food safety temperature limits are reached.
- **Mechanical lock.** It is located under the top display and mechanically locks the cabinet door when it receives an electrical signal from the electronic controller.
- **Un-interrupted power supply (UPS).** The purpose of the UPS is to supply electricity to the electronic controller and to the mechanical lock in the event of power failure (black out). It allows the electronic controller to monitor the temperature and lock the door during prolonged power losses and when food safety temperature limits are reached. It’s capable of providing power for approximately 4 hours. The UPS does not power any other electrical component of the freezer.

To start the freezer, the UPS must be turned ON. The UPS is located on the back of the freezer (Figure 1). If preferred, the UPS may be repositioned to the top of the cabinet (Figure 2). The yellow stickers on the back indicate the location of the power button. With your finger, press and hold the UPS button for 2 seconds. The UPS button will illuminate green when turned ON.

Figure 1

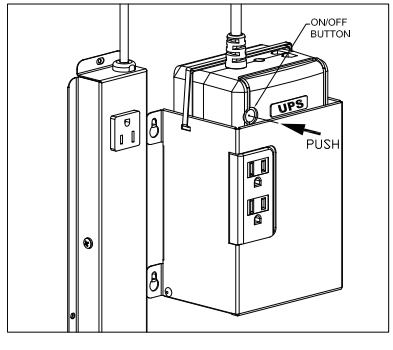
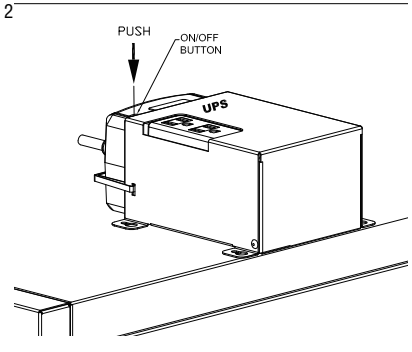


Figure 2



CABINET CLEANING (CONT’D)

EXTERIOR CLEANING

Use only mild non-abrasive liquid cleaner, water and a soft cloth for the painted surfaces and a stainless steel polish and cleaner for the stainless steel surfaces if desired.

CLEANING GLASS DOOR EXTERIOR

Due to the special coating on the glass, use only a mild, non-abrasive liquid cleaner, water, and a soft cloth. The same applies to the plastic door frame.

ANTI FOG GLASS DOOR INTERIOR

The anti-fog glass door has a protective film on the inner side. After the unit has been installed, peel and remove the protective film covering the inner glass surface.

The Anti-Fog coating is a scratch resistant, permanent coating applied on the inner surface of the door glass. It prevents fogging and icing of cold glass surface after door opening and closing.

Cleaning can be performed using common household glass cleaners (Sidolin®, Windex®, Mr. Muscle ®) and a tissue or paper towel. However, on very cold surfaces these cleaners may freeze. In these cases a mixture with 30% pure alcohol and water may be used.
At temperatures above 0°C, warm hand temperature water with a mild detergent can be applied.

Do not use abrasive cleaners or materials like Ajax®, Scotch Brite® or Steel Wool.
Do not contaminate the door with silicone.
Do not use tape, glue, stickers, attachments, magic markers or similar products on the coating.
Do not use razor blades or any other mechanical device to remove foreign residues or objects directly from the coating.

Do not use cleaners or materials that hinder the anti-fog performance by leaving residue or damaging the surface. Examples of these cleaners include: ArmorAll®, Tilex®, Bleach, Windex® No-Drip, Windex® Wipes, Pledge®, or any product containing silicone oils or waxes.

Recommended cleaners include: Greased Lightning®, Formula 409® Grease & Grime®, Fantastik®, Windex® Vinegar, Windex® Original, MicroClean Professional APC® (formerly Now® all purpose cleaner), Mean Green®, or Mr. Clean® (degreasing cleaners).

Recommended cleaning is with a soft dry or slightly damp towel, or with one of the degreasing cleaners listed above.

CONDENSER CLEANING

The freezer is designed for minimal condenser cleaning. With the “lint free” condenser design, most dust and dirt will pass right through the condenser. To insure the proper operation, we recommend scheduled check-ups and cleaning every three to four months. This period may be shorter or longer depending on the location in which the freezer was installed. A dirty condenser can result in a voided warranty, part failure, product loss, and higher electrical cost. The steps to clean the condenser are as follows:

1. Remove the front bottom grill (see page 11)
2. Switch off power at freezer switch on control panel.
3. Unplug power cord from electrical receptacle.
4. Brush the dirt, dust and paper off the condenser coil plate, all the way to the fan. Use either a vacuum or blow with a compressed air supply if available.
5. When finished with cleaning, plug power cord back into receptacle.
6. Switch power back on at switch on control panel.
7. Replace bottom grill (see page 11)

NOTE:
The cleaning of the condenser is a service not covered under the warranty

CABINET CLEANING

⚠ WARNING

To reduce the risk of fire, electrical shock or personal injury, disconnect the freezer from the power source before cleaning. Press the freezer switch to the “Off” position, then unplug the power cord from the receptacle. Keep liquids away from electrical and electronic components.

⚠ CAUTION

Do not apply hot water on cold glass components. Allow glass to warm sufficiently to prevent shattering.

⚠ CAUTION

Do not use ammonia or bleach based cleaners or abrasive type cleaners.
Do not use abrasive cleaning pads.

To clean the exterior whether it has the original finish or a decal package, use only a mild non-abrasive liquid cleaner, water and a soft cloth. For stainless steel parts, a commercial stainless steel polish and cleaner can be used. Always apply the cleaner to the soft cloth and then clean the freezer. Never apply the cleaner directly to the freezer. Excess liquid applied to the surface may seep into the electronic control and switches which can cause an electrical hazard or a malfunction.

DO NOT USE abrasive or caustic cleaners, scouring pads, solvents or flammable liquids.

GENERAL

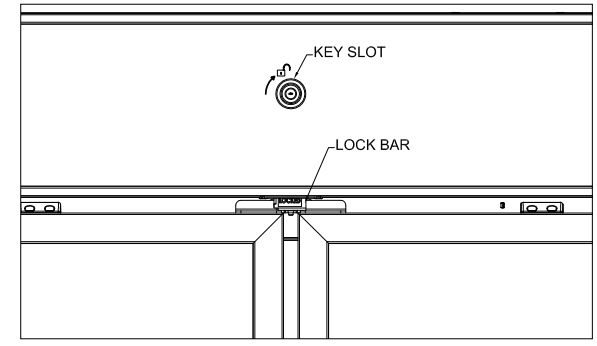
The freezer should be cleaned at regular intervals to meet a good standard of hygiene and to keep the freezer attractive as an effective point of purchase display.

INTERIOR CLEANING

Use only mild non-abrasive liquid cleaner, water and a soft cloth for the entire freezer interior. Make sure to wipe off all residue.

In the event the food safety temperature limits have been reached, the lock bar with a tag “LOCKED” will pop-down and lock the brackets at the top of the doors (Figure 3). To reset the mechanical lock, insert the lock key into the key slot and turn the key clockwise (Figure 3) until the lock bar is pulled back by the lock spring. The alarm buzzer will be also activated and will sound cyclically. To silence the buzzer, press and release any of the four buttons on the electronic controller.

Figure 3



ENTRAPMENT LOCK RELEASE

The lock is equipped with an emergency entrapment release feature. In the event of entrapment the door can be unlocked from cabinet inside by pulling the cable, then pushing against the door.

DELAYING LOCK ACTION AFTER PRODUCT STOCKING

During product stocking, the temperature inside the cabinet may rise above the food safety temperature limits, thereby causing nuisance door locking.

To prevent such events, press the door switch repeatedly three times within 5 seconds after product stocking, close the door, and check for a scrolling message “HACCP dELAY” on the controller. This message confirms that the delay has been accepted by the electronic controller and is active. This delay will prevent the lock from being activated for a factory pre-set time (75 minutes). During this delay time, the freezer should bring temperature in the food storage temperature within normal operating range.

ACCESSING AND RESETTING ALARMS DATA ON THE ELECTRONIC CONTROLLER

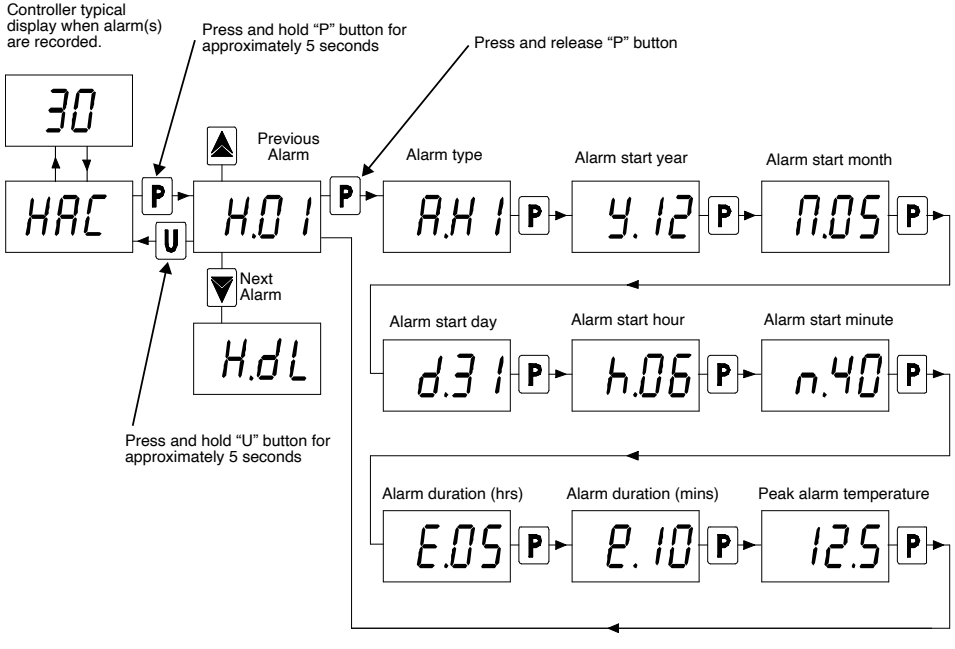
The electronic controller records two types of alarms: high temperature and power failures (black outs). If there have been multiple alarms, the electronic controller records up to 10 alarms sorts them form the most recent (H.01) to the oldest (H.10). If there have been more than 10 alarms, the electronic controller deletes alarms on historical basis (newer ones are kept), and keeps the number of deleted alarms in the parameter H.dL by increasing this variable by 1 each time an alarm is deleted.

ACCESSING AND RESETTING ALARMS DATA ON THE ELECTRONIC CONTROLLER CONT'D.

For each recorded alarm, the following data are recorded:

- Alarm type
  A.H1, high temperature alarm
  A.bo, power failure (black out)
- Alarm start date and time
  y.dd, dd = 10 ÷ 99, last two digits of the year
  M.dd, dd = 1 ÷ 12, month
  d.dd, dd = 1÷ 31, day
  h.dd, dd = 0 ÷ 23, hour
  n.dd, dd = 0 ÷ 59, minute
  Note: Since the electronic controller is powered through a UPS device, the electronic controller will record power failure when the UPS drains out, not when the freezer loses power at the electric receptacle.
- Alarm duration
  E.dd, dd = 0 ÷ 99, number of hours the alarm lasted
  e.dd, dd = 0 ÷ 23, number of minutes the alarm lasted
- Peak temperature in the cabinet during the high temperature alarm condition (A.H1), or temperature in the cabinet when the power is restored after power failure (A.bo)

The chart below shows how to navigate through the controller to access alarm data.



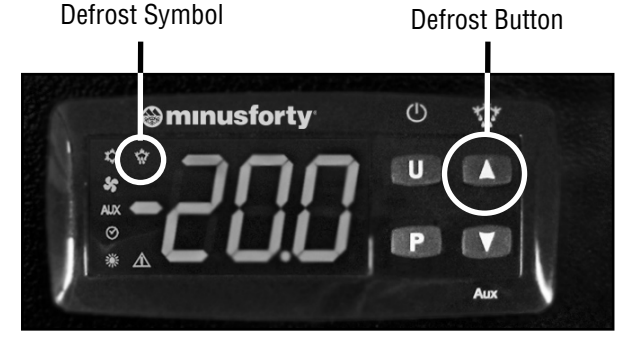
If an alarm flashes (H.01...H.10) when a user scrolls through the alarm list, the flashing indicates that the alarm has never been reviewed. After pressing the P key on an alarm and reviewing any of its data, the alarm will be displayed solid afterwards to indicate that the alarm has been reviewed. If the alarm is still ongoing at the time of its display, the data are displayed but the ongoing alarm will be flashing all time.

MANUAL DEFROST

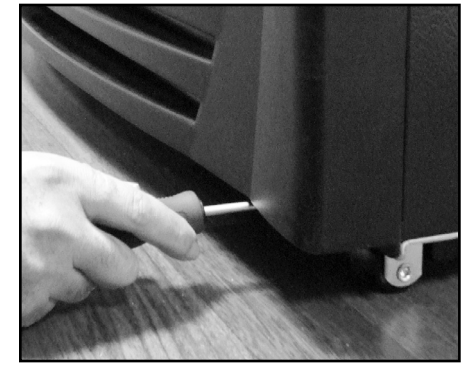
This freezer is designed for automatic defrost. Every eight hours the refrigeration system is turned OFF and the defrost/drain heaters are activated to melt the ice from the evaporator coil and drain pan. If the freezer is not leveled properly, the water may not drain out of the freezer, it will re-freeze and ice gradually builds up. Excessive ice buildup reduces cooling performance and may cause the failure of refrigeration system and product loss. Ice buildup may be noticed through the evaporator fan grill on the coil fins.

To perform a manual defrost, follow these steps:

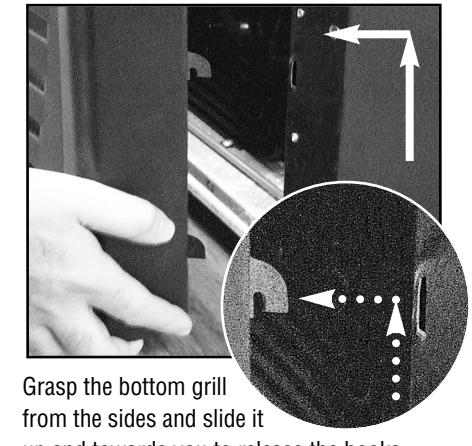
1. Press the UP arrow button and hold it for 6 seconds until the defrost symbol illuminates.
2. Wait until the electronic control stops defrost (the defrost symbol disappears).
3. If ice is still noticeable on the evaporator, press the power switch to the "Off" position then disconnect the freezer from the power supply.
4. Take down the evaporator shroud and use a hair dryer to quickly melt the ice.
5. Make sure the freezer is leveled side to side, and front to back or slightly tilted front to back.
6. Replace the evaporator shroud.



HOW TO REMOVE THE FRONT BOTTOM GRILL



With a Phillips screwdriver remove the bottom screws from the grill.



Grasp the bottom grill from the sides and slide it up and towards you to release the hooks.

To replace bottom grill, align hooks of the grill with slots and slide the grill back onto the freezer. Replace the bottom screws to secure the grill to the cabinet.

CONTROLLER ALARMS AND SIGNALS CONT'D

Message	Cause	Action
StArt dELAy	Start up delay in progress	• Wait for 6 minutes
Hi °F or Hi °C	Maximum temperature alarm in progress	• Check door • See Troubleshooting (page 17
Lo °F or Lo °C	Minimum temperature alarm in progress	• Adjust set temperature
door oPEn	Door open	• Close door
dEFroSt	Defrosting in progress	• none
PoSt dEFroSt	Post-defrosting in progress	• none
CC CyCLE	"Turbo" mode active	• none
HAC	Stored HACCP alarm on controller	• none
HACCP dELAy	HACCP delay after stocking command	• Press the door switch 3 times repeatedly within 5 seconds to enable restocking.
AL	Digital input alarm in progress	• none

CONTROLLER SYMBOLS AND FUNCTIONS

At the left side of the controller display are the following LED indicators:

1. Indicates compressor status:
   - Light on - Compressor cooling on
   - Light off - Compressor cooling off
   - Light flashing - Start-up delay in progress

2. Indicates defrost status:
   - Light on - Defrost in progress
   - Light flashing - Freezer in dripping mode

3. Indicates fan status:
   - Light on - Cabinet fan ON
   - Light off - Cabinet fan OFF
   - Light flashing - Start-up delay in progress after defrost.

4. Indicates internal clock is running.
   - Flashing slowly - clock error (ie:clock chip not working).
   - Flashing rapidly - the clock battery is drained.

5. Indicates the alarm status:
   - Light on - Alarm is on
   - Light off - Alarm is off
   - Light flashing - Alarm silenced or memorized

In the event of non-reviewed and/or still ongoing alarms, the electronic control displays the message "HAC", alternating it with the temperature reading.
An alarm can be deleted from the controller memory by holding the arrow-down button for more than 5 seconds while one of the alarm data is displayed. After alarm deletion, the controller displays three dashes: **---**. Similarly, the value of the "H.dL" parameter can be reset to 0 by holding the arrow-down button for more than 5 seconds while the value is displayed. All recorded alarms can be deleted at once, by holding the arrow down button in the controller regular display. After all alarms deletion, the controller displays three dashes: **---**.

FIELD TESTING OF THE FOOD SAFETY LOCK

Proper operation of the food safety lock can be verified by following these steps:

1. Ensure the freezer power cord is plugged into an electrical receptacle and the electronic controller is powered. Make sure the freezer door is closed.
2. Push and hold "P" and "U" buttons on the electronic controller simultaneously for 5 seconds. (See figure 6 below)

Figure 6

3. After 5 seconds the alarm should sound and the door lock will activate.
4. To reset the mechanical lock, insert the lock key into the key slot and turn the key counter-clockwise (Figure 3) until the lock bar is pulled back by the lock spring. To silence the buzzer, press and release any of the four buttons on the electronic controller.

PRODUCT LOADING

NOTICE:

Ensure the freezer has reached the proper operating temperature before loading product. The electronic control displays the interior cabinet temperature.

Product loss is not covered under warranty.

For enhanced performance of the unit and to avoid spoilage of perishable products, follow these instructions:

DO leave at least 6" (15.24cm) free space between the fan and the product for air circulation.

DO NOT stock any products against the evaporator fan. See load limit labels inside the cabinet for reference.

DO NOT block the air space behind the grill. Free space is required for proper air circulation.

AVOID removing the bottom shelf from the inner bottom.

DO NOT overstock the unit.

TEMPERATURE ADJUSTMENT AND SWITCH FUNCTIONS

Locate the electronic control on the right of the front bottom grill. The electronic control displays actual temperature inside the freezer. In addition, the electronic control turns the refrigeration system OFF when freezer reaches the set temperature, and turns the refrigeration system ON after the freezer temperature rises by 8°F or after 7 minutes, whichever lasts longer.

To adjust the set temperature, follow these steps:
1. Press and release P button; the set temperature and SP1 are displayed alternatively on the controller
2. Press the UP or DOWN buttons to adjust the set temperature.
3. Press P to store the adjusted value; The electronic control will return to cabinet temperature display. The U Button on the electronic controller is used for displaying cabinet and defrost temperatures (PR1 and PR2 parameters)

There are two switches located on the right hand side of the controller.
Their functions are to manually switch electronic components of the freezer.

1. FREEZER switch turns the refrigeration system (including all electrical parts) ON or OFF. (use a pen or pencil to press the power switch to the ON or OFF position).
2. LIGHT switch turns the internal and external lights ON or OFF.

ELECTRONIC CONTROLLER

ELECTRONIC CONTROL FREEZER LIGHTS

CONTROLLER ALARMS AND SIGNALS

The electronic controller can detect and signal several alarm conditions: high/low freezer temperatures, door open and open or short-circuited temperature probes. If the alarm conditions last longer than preprogrammed time delays, the controller will turn ON an audio signal (buzzer). Also a LED light located in the upper left corner of the controller, next to the caution symbol, will glow in case an alarm is active.

Once the alarm conditions have been fixed, the controller will turn off the alarms on its own. Alarms can be disabled by pressing any controller button, during alarm conditions

Message	Cause	Action
Prl diSC	Cabinet temperature probe open	• Check connections • Replace probe
Prl Short CC	Cabinet temperature probe short-circuited	
Pr2 diSC	Defrost probe open	• Check connection • Replace probe
Pr2 Short CC	Defrost probe short-circuited	
EPr	Internal memory error	• Replace controller