



REV. I

Cooler is **Better!**[™]



USER'S MANUAL



BLAST CHILLER / SHOCK FREEZER MODEL AP20BCF200-3 (with 1 heated food probe)

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INTRODUCTION

This manual is intended for the AP20BCF200-3 equipped with 1 heated food probe (controller B). Blast Chiller Model AP20BCF200-3 is used to rapidly chill cooked foods to temperatures suitable for refrigerated storage. It is capable of lowering the core temperature of up to 200 pounds of most foods from 160° F to 40° F in 90 minutes. When the shock freezing option is selected, it is also capable of lowering the core temperature of up to 120 pounds of most foods from 160° F to 0° F in 4 hours. In Thaw mode (optional) AP20BCF200-3 is capable of performing a safe uniform-temperature thawing of 120 lbs. of food from 0°F to 38°F within 6 hours. Food is loaded into 12" x 20" x 2-1/2" pans. All units are sized to accept one rack containing up to 20 pans. Model AP20BCF200-3 can have as options UV sterilization, an integral temperature recording device (printer) and 2 or 4 heated probes instead of one. It employs a high velocity flow of cooled air to assure even cooling of the food product, and to quickly bring the food temperature through the danger zone in which bacteria multiply rapidly. This is done in accordance with the requirements of HACCP, FDA and all applicable state regulations.

CONTROLLER FEATURES

The electronic control system is solid state and is based on the latest microprocessor technology. The display is VFD Industrial Type. It displays 2 lines of 20 characters each and allows operator viewing from any angle. The display is programmed to show clear step-by-step instructions and operating data. It is capable of storing 516 sets of data and 150 recipes. The unit has built-in safety and self-diagnostic systems. The controller notifies the operator if various faults, as listed below, should occur:

- Power supply failure / Restoration of power
- Faulty air temperature probe
- Faulty food temperature probe
- High air temperature (above 140° F)
- Low air temperature (below -35° F)
- High food temperature (above 180° F)
- Low food temperature (below 35° F)
- Excessively high or low pressures.

As an option, the unit can be operated by a PC. The PC interface allows the operator to remotely program the unit, operate it, download the data and print the data.

OPERATING MODES

The operator can choose from the following modes:

AUTOMATIC MODE

This is the preferred mode, in which all the food probes are active and take part in controlling the chilling or freezing process. The cycle will never proceed to its next step until all the probes have reached their set breaking temperatures. The operator needs only to select the recipe number of the food to be controlled by each probe (up to 150 recipes can be programmed), then insert each probe into its food. It is recommended that the operator remove the food when its temperature starts to flash and the display shows "Ready". The unit will automatically switch into holding mode (cavity air temperature between 35° F and 42° F) when all the food have reached the end cycle programmed temperature.

MANUAL MODE

Operating time is set manually, by the operator, for the meal that has been chosen. Air temperature is controlled by the air probe. If the food probes have been inserted into the food they will provide temperature readouts only. The unit will automatically switch into the holding mode at the end of the cycle.

OPERATING CYCLES

The operator can choose from the following 3 operating cycles:

| MODE | END FOOD TEMP. | USES | NOTES: |
|--------------------|----------------|---------------------------------|---|
| SOFT CHILL | 38° F TO 40° F | FOR LOW DENSITY FOODS | AIR TEMP. IS 28° F TO 35° F |
| HARD CHILL | 38° F TO 40° F | FOR MEDIUM & HIGH DENSITY FOODS | AIR TEMP. STARTS AT 0° F, RISES TO 28° F TO 35° F WHEN FOOD CORE TEMP. REACHES 60° F |
| SHOCK FREEZE | 0° F | FREEZE FOR LONGER STORAGE | AIR TEMP. IS HELD AT -25° F |
| THAW (OPTIONAL) | 38°F | THAW FROZEN FOODS | AIR TEMP. IS HELD AT 42°F TO 50°F PRODUCT SURFACE TEMPERATURE WILL NOT EXCEED 41°F |

NOTE: All Cycles automatically go into HOLDING MODE when the selected temperature is reached and remain there until the operator stops the cycle.

ADDITIONAL CYCLES

| MODE | USES | NOTES |
|---------------|---|---|
| DEFROST | TO DEFROST THE EVAPORATOR, NOT THE FOOD | USE AFTER SHOCK FREEZING CYCLE |
| UV (optional) | TO STERILIZE THE CAVITY, NOT THE FOOD | USE WHEN DESIRED |
| HEAT PROBE | TO HEAT THE FOOD PROBE | ALLOWS EASIER EXTRACTION FROM THE FOOD AFTER A SHOCK FREEZE CYCLE |

PRINTER (OPTIONAL)

An optional strip recorder provides a record of the unit's operating parameters during the cycle and the following holding period. The information recorded includes date, time, cycle identification, product identification and product core temperature at prescribed intervals.

PC CONNECTION (OPTIONAL)

The unit can be programmed and operated from a remote PC via modem and software (Windows 95, 98, NT, XP). Maximum distance is 4000 ft. Full instructions are supplied on a computer disc, which is furnished when the computer connection is ordered.

INSTALLATION

WARNINGS

READ ALL OF THE INSTRUCTIONS IN THIS MANUAL BEFORE YOU ATTEMPT TO INSTALL THE EQUIPMENT AND CAREFULLY FOLLOW THEM.

MAKE SURE THE AIR FLOW FOR THE CONDENSING UNIT MOUNTED ON THE TOP OF THE CABINET IS FRONT TO BACK. IF NOT, JUST REVERSE TWO PHASES.

THE UNIT MUST BE TRANSPORTED AND HANDLED AT ALL TIMES IN THE VERTICAL POSITION.

ALWAYS DISCONNECT THE UNIT FROM THE POWER SOURCE BEFORE PERFORMING ANY SERVICE OR MAINTENANCE.

INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED SERVICE AGENCY APPROVED & AUTHORIZED BY AMERICAN PANEL CORPORATION. DOING OTHERWISE MAY VOID THE WARRANTY.

Note: Any changes made to the equipment without authorization from the factory will void the warranty.

PREPARATION

- ✓ Check the integrity of the unit once it is unpacked.
- ✓ Check that the available power supply corresponds to the ratings on the unit's nameplates and that correctly rated electrical protection is provided.
- ✓ Quick disconnect must be provided for this unit by the installer.
- ✓ If additional refrigerant should be needed, be certain to use the correct type.
- ✓ Make certain that adequate drainage is provided.

Ambient air temperature should be **no greater than 90°F** to ensure the rated performance.

DIMENSIONS

Overall dimensions are 47-1/2" left to right, 42" front to back, 93" height. With the door open 90° the front to back distance is 72-1/2".

ELECTRICAL SPECIFICATIONS FOR USE DURING INSTALLATION

| MODEL | VOLTAGE | Hz | HP | AMPS | CORD SIZE | CIRCUIT |
|--------------|-----------|----|-----|------|-----------|---------|
| AP20BCF200-3 | 208, 3 PH | 60 | 2.5 | 19.5 | 10-4 | 30 AMPS |

CONDENSATE DRAINAGE CONNECTION

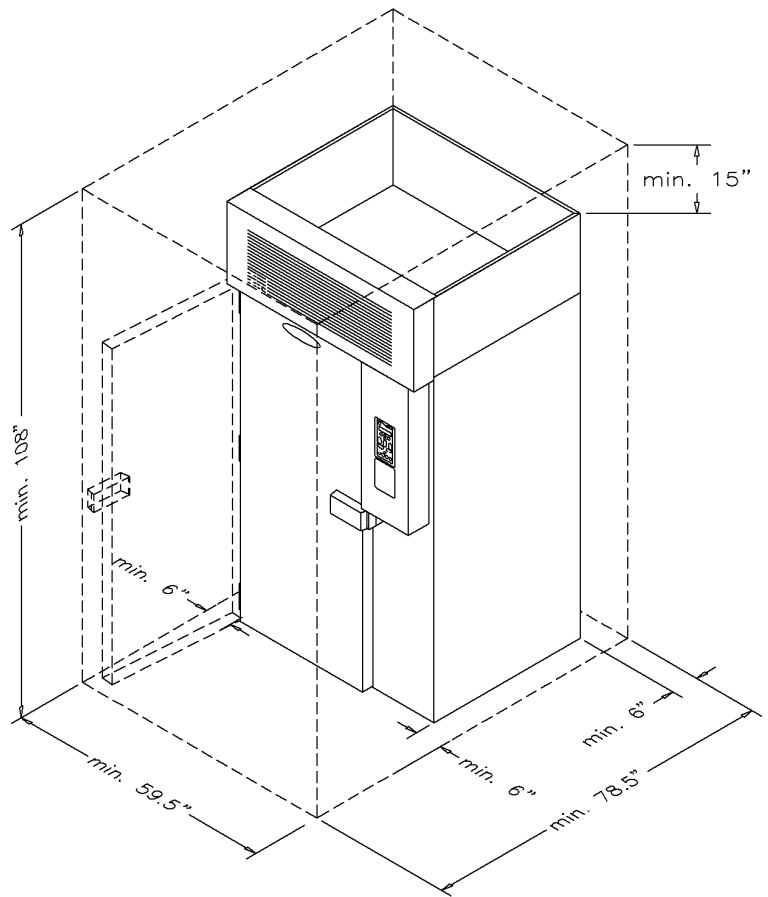
It is important that the condensate from the evaporator is properly drained. The drain line from the evaporator exits from the rear of the cabinet. It must be connected in conformance with local regulations.

VERIFYING CORRECT INSTALLATION

1. Make sure that airflow for the condensing unit is front to back. If not, reverse two phases.
2. Check that there are no refrigerant leaks.
3. Check that the required quick disconnect has been installed.
4. Check all electrical connections and that the power supply is of proper voltage (208 VAC +/- 5%, 3 ph., 60 Hz.).
5. Check the provision for drainage of condensate water.
6. Make sure that the cabinet has been leveled.
7. Always handle the unit in vertical position.

SPACES AROUND THE CABINET

- At least 15" clear space is required above the unit for service.
- At least 6" clear space is required on both sides of the cabinet.
- At least 6" clear space is required on the rear of the cabinet for drain hookup and maintenance.
- Enough space should be provided in front of the cabinet to fully open the door.



USING THE HURRICHILL™ TECHNOLOGY

BLAST CHILLING

All cooked food rapidly loses its quality and aroma if it is not served promptly. Natural bacteria growth, the main reason why food becomes stale, takes place at an exponential rate between 140°F and 40°F. However lower temperatures have a hibernating effect that increases as the temperature drops, thereby gradually reducing bacterial activity until it stops altogether.

Only fast reduction of the temperature at the product's core allows its initial characteristics to be maintained intact. The HurriChill™ blast chiller gets food through this high-risk temperature band rapidly, cooling the core of the product to 40°F within 90 minutes. This conserves food quality, color and aroma while increasing its storage life. After blast chilling, the food can be preserved at 38°F for up to 5 days.

SHOCK FREEZING

For storage over the medium-long term, food has to be shock frozen (to 0°F or below). Freezing means converting the water contained in food into crystals. Thanks to the high speed at which low temperature penetrates the food, the HurriChill™ shock freezer assures the formation of small crystals (micro-crystals) that do not damage the product in any way. Uncooked raw products, semi-processed foods and cooked foods can be treated safely. When the food is thawed, no liquids, consistency, weight or aroma will be lost, and all its initial qualities will remain unchanged.

THAW CYCLE (OPTIONAL)

Use this cycle to safely thaw foods from 0°F to 38°F. The thaw cycle employs high velocity air and delicate air temperatures to ensure a uniform thawing of the product. For the most part of the thawing cycle, the evaporator coil is at a higher temperature than the food surface, making sure the food surface will not exceed 41°F during the cycle. This technology efficiently prevents food dehydration.

SOFT CHILL CYCLE

(160°F to 40°F)

This cycle is recommended for "delicate", light, thin products or small piece sizes, such as vegetables, creams, sweets, fish products and fried foods. Soft chilling lowers the food temperature quickly, but extremely delicately so as not to damage the outside of the food. This is the ideal cycle to chill any food quickly but delicately, even in haute cuisine.

HARD CHILL CYCLE

(160°F TO 40°F)

Hard chilling is suited for "dense" products and products with a high fat content, in large pieces or those products typically more difficult to chill. Careful chilling control ensures that the end temperature of 40°F is reached at the core of the product, with no danger of freezing and damaging the product, not even on its surface.

SHOCK FREEZE CYCLE

(160°F TO 0°F)

This cycle is recommended when you want to store food for several weeks or months at temperatures below 0°F. Freezers are suited for storing ready frozen foods, but not for freezing them. During shock freezing, the liquids contained in the food are transformed into micro-crystals that do not harm the tissue structure. When the food is thawed, its quality will be excellent. It is especially suited for all semi-processed foods and raw products.

PANNING AND LOADING

PANNING

1. Standard pan depth is 2-1/2". Other depths can be used but are not recommended as their use would require an increase in the cycle time.
2. Stainless steel or aluminum pans are recommended, as plastic containers will increase the chilling time.
3. Crockery or stainless steel cylinders, 6" dia. and 10" max. height, are acceptable.
4. Slack filled Cryovac bags can be used if placed on wire shelves.
5. Most foods should be covered with stainless steel or aluminum lids, or with aluminum foil.
6. Foods should be left UNCOVERED in the following circumstances:
 - a. When a dry surface is desired, such as with fried chicken, fish or potatoes.
 - b. When the food has a relatively large surface, such as with chicken breasts, Salisbury steaks, etc.
 - c. For large roasts of beef, turkey, etc.
 - d. For pastry and other bakery products.
7. Some foods, such as roast beef, will continue to cook after removal from the oven. To avoid this, they should be chilled uncovered.
8. Food probes should be at the center of the food in the pan.
9. Always wipe the probe with an alcohol swab after removing it from the food then place the probe in the holding device.
















LOADING

- a. Place the pans on the mobile cart so that the pan ends will face the fans and the cold air will be drawn over the length of the pans.
- b. The shelves should be loaded so that there is no less than 1 inch between the bottom of one pan and the top of the next. Also be certain that there is sufficient space between the top of any probe and the bottom of the pan above.
- c. Place the loaded cart in the center of the chilling cabinet between the refrigeration coil and the fans.








CONTROL PANEL FOR MODEL AP20BCF200-3 BLAST CHILLER WITH ONE HEATED PROBE (CONTROLLER B)



KEYBOARD KEYS

| | |
|--|--|
| <p>ON/OFF & START/STOP</p> <p> ON/OFF</p> <p> START/STOP</p> | <p>CYCLE KEYS</p> <p> SOFT CYCLE</p> <p> HARD CYCLE</p> <p> SHOCK CYCLE</p> |
| <p>PROGRAMMING KEYS</p> <p> UP</p> <p> DOWN / THAW CYCLE</p> <p> SELECT</p> <p> ENTER</p> | <p> AUTOMATIC CYCLE</p> <p> MANUAL CYCLE</p> <p> UV LIGHT CYCLE</p> <p> DEFROST CYCLE</p> <p> PRINT</p> <p> HEAT PROBE CYCLE</p> |

KEY COMBINATIONS





- **Initial Programming** state – to initially set the device
 - With the display reading "**OFF**", press and hold  ("**START/STOP**") for 5 seconds
- **Cycles programming** state – to initially set the cycles
 - With the display reading "**OFF**", press  ("**SELECT**") for 1 second
- **Recipe name programming** state – to enter recipe names
 - With the display reading "**OFF**", press  ("**A**") for 10 seconds
- **Load default values** state – to load the standard parameters
 - With the display reading "**OFF**", press  ("**UP**") for 10 seconds
- **Clear events memory** state – to clear obsolete data
 - With the display reading "**OFF**", press  +  ("**UP**"+"**DOWN**") for 10 seconds
- **Ready To Go** state – in order to start a cycle
 - If the controller is not "**OFF**", press  "**ON/OFF**" once.





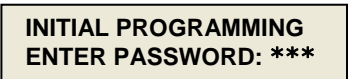
PROGRAMMING


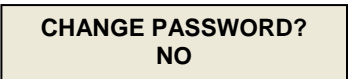
1. INITIAL PROGRAMMING




NOTE: Initial programming is preset at the factory. Use this section only if changes are desired. If no changes are to be made, skip to Page 15 (2. Programming the cycles).

a. With the display reading "OFF", press   OFF

b. To change the language, press  or  then press  . 


c. Enter the default password by pressing, in order, the    and  buttons. 



d. If you do **not** wish to change the password, press  . 




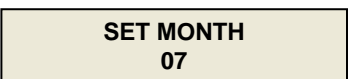
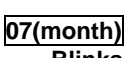
To change the default password, press  or  for "YES" then press  .

The password will always be a combination of three of the six available cycles:




      ("SOFT", "HARD", "SHOCK", "DEF", "UV", "HEAT PROBE").

Type the new password, then press  .
Be sure to remember the new password and keep a record of it in a safe place.

e. To change the year, press  or  then press  .  




f. To change the month, press  or  then press  .  

g. To set the day, press  or  then press  .  

h. To set the hour, press  or  (be sure to continue to press the buttons until the hour and "AM" or "PM" show correctly) then press .

SET TIME
10:25 AM




10(hours)
Blinks

i. To set the minutes, press  or  then press .

SET TIME
10:25 AM

25(minutes)
Blinks




The high air alarm temperature should be left at 140 °F. However, if a change is desired:

j. To change the temperature, press  or  then press .

HIGH AIR ALARM
140 °F

140 Blinks



The low air alarm temperature should be left at -35 °F. However, if a change is desired:

k. To change the temperature, press  or  then press .

LOW AIR ALARM
-35 °F

-35 Blinks



The high food alarm temperature should be left at 180 °F. However, to make a change:

l. To change the temperature, press  or  then press .

HIGH FOOD ALARM
180 °F




180 Blinks

The low food alarm temperature should be left at 35 °F. However, to make a change:

m. To change the temperature, press  or  then press .




LOW FOOD ALARM
35 °F

35 Blinks

n. To change to **YES** or **NO**, press  or  then press .

SHOCK FREEZE?
YES




YES Blinks

o. To change the temperature, press  or  then press .

SHOCK FREEZE
-5 °F

-5 Blinks




(LOW FOOD ALARM)

p. To change to **YES** or **NO**, press  or  then press .

UV CYCLE?
NO

NO Blinks

q. Select **YES** only if you purchased the thaw feature.

To change to **YES** or **NO**, press  or  then
press .

THAW CYCLE?
NO

NO Blinks

If you selected **YES** at the previous step, the next steps will allow you to setup the thaw cycle. If you selected **NO**, skip to step w.




r. To change the final temperature of the food to be

thawed, press  or  then press .

TARGET FOOD TEMP
38 °F

38 Blinks




s. To change the maximum air temperature during the

thawing cycle, press  or  then press
.

MAX AIR TEMP
50 °F

50 Blinks




t. To change the minimum air temperature during the

thawing cycle, press  or  then press
.

MIN AIR TEMP
42 °F

42 Blinks




u. To change the maximum air temperature during the

holding cycle, press  or  then press
.

HOLD HIGH AIR
42 °F


42 Blinks

v. To change the minimum air temperature during the

holding cycle, press  or  then press
.

HOLD LOW AIR
35 °F

35 Blinks

w. To change to **YES** or **NO**, press  or  then

press .




PC CONNECTION?
NO

NO Blinks

For **YES**, the display will show:

The P.C. baud rate should be left at 38400.

However, to make a change:

x. To change the baud rate, press  or  then
press .

PC BAUDRATE
38400

38400 Blinks

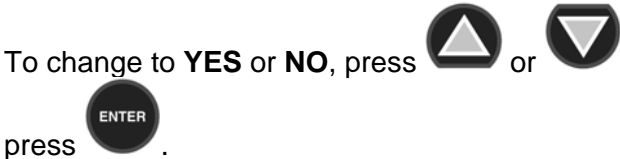
y. To change the number (between 01 & 32), press



CHILLER NETWORK ID
01

01 Blinks

z. To change to YES or NO, press



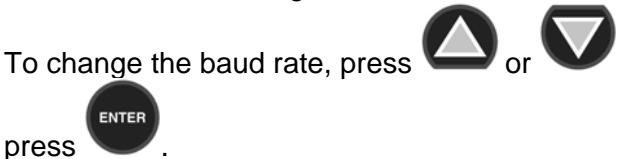
PRINTER CONNECTION?
NO

NO Blinks

The printer baud rate should be left at 1200.

However, to make a change:

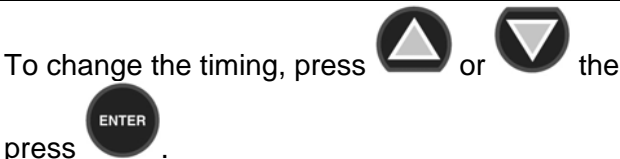
aa. To change the baud rate, press



PRINTER BAUDRATE
1200

1200 Blinks

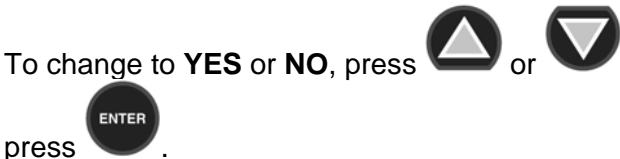
bb. To change the timing, press



PRINT & SAVE EVENTS
EVERY 15 MIN

15 Blinks

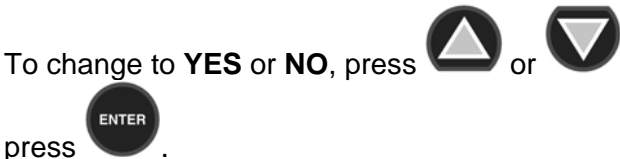
cc. To change to YES or NO, press



PRINT DURING CYCLE
NO

NO Blinks

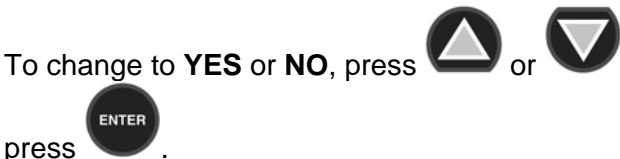
dd. To change to YES or NO, press



RECIPES?
NO

NO Blinks

ee. To change to YES or NO, press




NAFEM COMMUNICATION
NO

NO Blinks

The display will show:

INITIAL PROGRAMMING
COMPLETE

NOTE: During programming  key can be used to return to the previous screen (except at the steps 1h, 1i and 3d, when it has different functions).

 key is used to confirm the settings and advance to the next screen.

2. PROGRAMMING THE CYCLES

a. With the display reading "OFF", press .

OFF

b. Enter your password (see page 11), then press



PARAM. PROGRAMMING
ENTER PASSWORD: ***

The LED for "A" will be "ON". The LED'S for cycles will be blinking.

AUTOMATIC MODE
PROGRAMMING CYCLE

AUTOMATIC SOFT CYCLE PARAMETERS PROGRAMMING

c. Press . The LED for "SOFT" will be "ON".


PARAM. PROGRAMMING
AUTOMATIC SOFT CYCLE

After about 2 seconds the display will automatically change to:

d. To change the temperature, press  or 

LOW AIR TEMPERATURE
28 °F

 Blinks

then press .

e. To change the temperature, press  or 

HIGH AIR TEMPERATURE
35 °F


 Blinks

then press .

f. To change the temperature, press  or 

FOOD TEMPERATURE
40 °F

 Blinks

then press .

g. To change the temperature, press  or 

HOLDING LOW TEMP
35 °F

 Blinks

then press .

h. To change the temperature, press  or 

HOLDING HIGH TEMP
42 °F

 Blinks

then press .


























The display will show:

AUTOMATIC SOFT CYCLE
PROGRAMMING COMPLETE

















After about 2 seconds the display will automatically change to:

AUTOMATIC MODE
PROGRAMMING CYCLE





AUTOMATIC HARD CYCLE PARAMETERS PROGRAMMING

| | |
|---|--|
| <p>i. Press the  button. The LED for "HARD" will be "ON".</p> | <p>PARAM. PROGRAMMING AUTOMATIC HARD CYCLE</p> |
| <p>After about 2 seconds the display will automatically change to:</p> | |
| <p>j. To change the temperature, press  or  then press .</p> | <p>LOW AIR TEMP PART 1 0 °F 0 Blinks</p> |
| <p>k. To change the temperature, press  or  then press .</p> | <p>HIGH AIR TEMP PART 1 10 °F 10 Blinks</p> |
| <p>l. To change the temperature, press  or  then press .</p> | <p>BREAKING TEMP 60 °F 60 Blinks</p> |
| <p>m. To change the temperature, press  or  then press .</p> | <p>LOW AIR TEMP PART 2 28 °F 28 Blinks</p> |
| <p>n. To change the temperature, press  or  then press .</p> | <p>HIGH AIR TEMP PART 2 35 °F 35 Blinks</p> |
| <p>o. To change the temperature, press  or  then press .</p> | <p>HARD FOOD TEMP 40 °F 40 Blinks</p> |
| <p>p. To change the temperature, press  or  then press .</p> | <p>HOLDING LOW TEMP 35 °F 35 Blinks</p> |
| <p>q. To change the temperature, press  or  then press .</p> | <p>HOLDING HIGH TEMP 42 °F 42 Blinks</p> |
| <p>The display will show:</p> | <p>AUTOMATIC HARD CYCLE PROGRAMMING COMPLETE</p> |
| <p>After about 2 seconds the display will automatically change to:</p> | <p>AUTOMATIC MODE PROGRAMMING CYCLE</p> |

AUTOMATIC SHOCK CYCLE PARAMETERS PROGRAMMING

| | |
|---|--|
| <p>r. Press the  button. The LED for "SHOCK" will be "ON".</p> | <p>PARAM. PROGRAMMING AUTO SHOCK CYCLE</p> |
| <p>After about 2 seconds the display will automatically change to:</p> | |
| <p>s. To change the temperature, press  or  then press .</p> | <p>LOW AIR TEMPERATURE -25 °F -25 Blinks</p> |
| <p>t. To change the temperature, press  or  then press .</p> | <p>HIGH AIR TEMPERATURE -15 °F -15 Blinks</p> |
| <p>u. To change the temperature, press  or  then press .</p> | <p>FOOD TEMPERATURE 0 °F 0 Blinks</p> |
| <p>v. To change the temperature, press  or  then press .</p> | <p>HOLDING LOW TEMP -4 °F -4 Blinks</p> |
| <p>w. To change the temperature, press  or  then press .</p> | <p>HOLDING HIGH TEMP 3 °F 3 Blinks</p> |
| <p>The display will show:</p> | <p>AUTO SHOCK CYCLE PROGRAMMING COMPLETE</p> |
| <p>After about 2 seconds the display will automatically change to:</p> | <p>AUTOMATIC MODE PROGRAMMING CYCLE</p> |

UV LIGHT CYCLE PARAMETERS PROGRAMMING

| | |
|--|--|
| <p>x. Press the  button. The LED for "UV LIGHT" will be "ON".</p> | <p>PARAM. PROGRAMMING UV CYCLE</p> |
| <p>After about 2 seconds the display will automatically change to:</p> | |
| <p>y. To change the time, press  or  then press .</p> | <p>UV CYCLE TIME H 00:30 MIN 00:30 Blinks</p> |


The display will show:

UV CYCLE
PROGRAMMING COMPLETE

After about 2 seconds the display will automatically change to:

AUTOMATIC MODE
PROGRAMMING CYCLE

DEFROST CYCLE PARAMETERS PROGRAMMING




z. Press the  button. The LED for "DEFROST" will be "ON".




PARAM. PROGRAMMING
DEFROST CYCLE

After about 2 seconds the display will automatically change to:

MANUAL DEFROST TIME
15 MIN

 Blinks




aa. To change the time, press  or  then press .

bb. To change to YES or NO, press  or  then press .

AUTOMATIC DEFROST
NO




 Blinks

If you chose YES at the previous step, follow the next steps to setup the automatic defrost cycle. If you chose NO then you have completed setting up the defrost cycle.

cc. To change the minimum time that the unit must operate before enabling automatic defrost cycle, press  or  then press .

UNIT OPERATING TIME
6 HOURS

 Blinks

dd. To change the time, press  or  then press .

AUTO DEFROST TIME
40 MIN

 Blinks

The display will show:

DEFROST CYCLE
PROGRAMMING COMPLETE









After about 2 seconds the display will automatically change to:

AUTOMATIC MODE
PROGRAMMING CYCLE











NOTE: The manual defrost is done by running the evaporator fan with the door open.




The automatic defrost is done by running the evaporator fan with the door closed at a time when the unit is not in use.

HEATED PROBE CYCLE PARAMETERS PROGRAMMING

| | |
|--|--|
| <p>ee. Press the  button. The LED for "HEATED PROBE" will be "ON".</p> | <p>PARAM. PROGRAMMING HEATED PROBE CYCLE</p> |
| <p>After about 2 seconds the display will automatically change to:</p> | <p>HEATING TEMPERATURE 30 °F</p> |
| <p>ff. To change the temperature, press  or  then press .</p> | <p>30 Blinks</p> |
| <p>gg. To change the time, press  or  press .</p> | <p>HEATING TIME 05 SEC</p> |
| <p>The display will show:</p> | <p>HEATED PROBE CYCLE PROGRAMMING COMPLETE</p> |
| <p>After about 2 seconds the display will automatically change to:</p> | <p>AUTOMATIC MODE PROGRAMMING CYCLE</p> |
| <p>hh. Press  to program the manual mode. The "M" LED will be steady "ON" and the 6 "CYCLE LED's" will all blink.</p> | <p>MANUAL MODE PROGRAMMING CYCLE</p> |




MANUAL SOFT CYCLE PARAMETERS PROGRAMMING

| | |
|--|---|
| <p>ii. Press . The LED for "SOFT" will be "ON".</p> | <p>PARAM. PROGRAMMING MANUAL SOFT CYCLE</p> |
| <p>After about 2 seconds the display will automatically change to:</p> | <p>LOW AIR TEMPERATURE 28 °F</p> |
| <p>jj. To change the temperature, press  or  then press .</p> | <p>28 Blinks</p> |
| <p>kk. To change the temperature, press  or  then press .</p> | <p>HIGH AIR TEMPERATURE 35 °F</p> |
| <p>ll. To change the time, press  or  press .</p> | <p>TOTAL TIME H 01:30 MIN</p> |
| | <p>01:30 Blinks</p> |

mm. To change the temperature, press  or  then press  .

HOLDING LOW TEMP
35 °F

35 Blinks

nn. To change the temperature, press  or  then press  .

HOLDING HIGH TEMP
42 °F

42 Blinks


The display will show:

**MANUAL SOFT CYCLE
PROGRAMMING COMPLETE**

After about 2 seconds the display will automatically change to:




**MANUAL MODE
PROGRAMMING CYCLE**

MANUAL HARD CYCLE PARAMETERS PROGRAMMING

oo. Press the  button. The **LED** for "**HARD**" will be "**ON**".




**PARAM. PROGRAMMING
MANUAL HARD CYCLE**

After about 2 seconds the display will automatically change to:

pp. To change the temperature, press  or  then press  .

LOW AIR TEMP PART 1
0 °F

0 Blinks

qq. To change the temperature, press  or  then press  .




HIGH AIR TEMP PART 1
10 °F

10 Blinks

rr. To change the time, press  or  then press  .




TIME 1
H 01:00 MIN

01:00 Blinks

ss. To change the temperature, press  or  then press  .

LOW AIR TEMP PART 2
28 °F

28 Blinks

tt. To change the temperature, press  or  then press  .




HIGH AIR TEMP PART 2
35 °F

35 Blinks

uu. To change the time, press  or  then press  .




TIME 2
H 01:00 MIN

01:00 Blinks

vv. To change the temperature, press  or 
then press  .

HOLDING LOW TEMP
35 °F

35 Blinks

ww. To change the temperature, press  or 
then press  .

HOLDING HIGH TEMP
42 °F

42 Blinks

The display will show:

MANUAL HARD CYCLE
PROGRAMMING COMPLETE

After about 2 seconds the display will automatically change to:




MANUAL MODE
PROGRAMMING CYCLE

MANUAL SHOCK CYCLE PARAMETERS PROGRAMMING

xx. Press the  button. The LED for "SHOCK" will be "ON".




PARAM. PROGRAMMING
MANUAL SHOCK CYCLE

After about 2 seconds the display will automatically change to:

yy. To change the temperature, press  or 
then press  .




LOW AIR TEMPERATURE
-25 °F

-25 Blinks

zz. To change the temperature, press  or 
then press  .




HIGH AIR TEMPERATURE
-15 °F

-15 Blinks

aaa. To change the time, press  or 
then press  .




TOTAL TIME
H 04:00 MIN

04:00 Blinks

bbb. To change the temperature, press  or 
then press  .

HOLDING LOW TEMP
-4 °F

-4 Blinks

ccc. To change the temperature, press  or 
then press  .

HOLDING HIGH TEMP
3 °F

3 Blinks

The display will show:


MANUAL SHOCK CYCLE
PROGRAMMING COMPLETE

After about 2 seconds the display will automatically change to:

MANUAL MODE
PROGRAMMING CYCLE

NOTE: PROGRAMMING FOR "UV", "DEFROST" & "HEAT PROBE" WILL BE THE SAME IN MANUAL MODE AS IT IS IN AUTOMATIC MODE.

3. RECIPE NAME PROGRAMMING




a. With the display reading "OFF", press the  button and hold it for 10 seconds.

OFF

b. Enter your password (see page 11), then press







RECIPES PROGRAMMING
ENTER PASSWORD:





c. Press  or  to change to the desired recipe number (from 1 to 150), then press  which will move you to the "NAME" line.


ENTER RECIPE NO 1
NAME:

 Blinks

d. Using  or  type the letters or numbers required, then press . To confirm the recipe and go to the next one press .

ENTER RECIPE NO 1
NAME: CHICKEN

If a mistake is made in writing a recipe, use  to go to the desired location and correct it using  or . There is a blank space after number 9. It can be used to add a space or delete a letter. Press  when the recipe is corrected.


To finish the recipe name programming press  ("ON/OFF").

OPERATION


1. AUTOMATIC MODE - SOFT CHILL

a. With the display reading "OFF", press the  button.

| |
|-----|
| OFF |
|-----|

b. To select a cycle, press the appropriate button . The LED for "SOFT" will be "ON".

| |
|--------------------------------|
| OPERATING MODE CHOOSE CYCLE |
|--------------------------------|

c. The LED's for "AUTOMATIC" and "MANUAL" are now blinking. To select an "AUTOMATIC" cycle, press the button . The LED for "AUTOMATIC" will now be steady "ON".

| |
|------------------------------------|
| SOFT CYCLE CHOOSE MODE AUTO/MAN |
|------------------------------------|

d. To choose your recipe, press  or  then press .

| |
|------------------------------|
| ENTER RECIPE NO 1 CHICKEN |
|------------------------------|


This screen is shown only if the **RECIPE** parameter is set to "ON" in the **INITIAL PROGRAMMING**. To enter additional recipe names, refer to Page 22 "**RECIPE NAME PROGRAMMING**".

The display will show:

| | |
|----------------|----------|
| 03.07.2006 | 10:28 AM |
| READY TO START | |

alternating with

| | |
|-------------|-------|
| AIR | 75°F |
| F / CHICKEN | 140°F |

e. Press the  ("START/STOP") button to start the cycle.

| |
|-----------------------------|
| READY TO START Blinks |
|-----------------------------|

The display will show:

| | |
|--------------------|----------|
| 03.07.2006 | 10:28 AM |
| ELAPSED TIME 00:01 | |

alternating with

| | |
|-------------|-------|
| AIR | 75°F |
| F / CHICKEN | 140°F |

| |
|------------------------|
| 00:01 Will count up |
|------------------------|

The **AUTOMATIC** mode uses both the food probe and air probe temperatures to control the cycle. When the food temperature has reached the final setting of 40° F, the unit will automatically go into holding mode and a beep will sound for 5 seconds.

The display will show:

| | |
|--------------------|----------|
| 03.07.2006 | 11:56 AM |
| ELAPSED TIME 01:28 | |

alternating with

| | |
|-------------|------|
| AIR | 34°F |
| F / CHICKEN | 40°F |

alternating with

| | |
|------|-------|
| AIR | 34°F |
| FOOD | Ready |

| |
|-----------------|
| 01:28 Blinks |
|-----------------|



The operator can now end this cycle by pressing the  ("**START/ STOP**") button.

The display will now show:

| |
|--|
| OPERATING MODE CHOOSE CYCLE |
|--|

2. MANUAL MODE - SOFT CHILL

IF INSTEAD OF AUTOMATIC you wish to select a **MANUAL** cycle, perform steps 1.a, 1.b, 1.c

and 1.d (above), except in step 1.c press button  **instead of button** . The LED for "**MANUAL**" will then be steady "**ON**". The four readouts in those steps will be the same as before.

Cycle time can be changed only in Cycle Programming mode. To change the programmed cycle time for any cycle see the instructions on Pages 14 to 20.

e. Press the  ("**START/STOP**") button to start the cycle.

The display show will:

alternating with

| | |
|----------------|----------|
| 03.07.2006 | 10:41 AM |
| REMAINING TIME | 01:29 |

| | |
|-------------|-------|
| AIR | 72°F |
| F / CHICKEN | 140°F |

01:29
Will count
down

The **MANUAL** mode uses time and the air probe temperature to control the cycle.

The default total time for a soft cycle is 90 minutes. After the 90 minutes the unit will automatically go into holding mode.


The display show will:

alternating with

| | |
|----------------|----------|
| 03.07.2006 | 12:11 PM |
| REMAINING TIME | 00:00 |

| | |
|-------------|------|
| AIR | 34°F |
| F / CHICKEN | 40°F |

00:00
Blinks

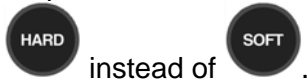
The operator can now end this cycle by pressing  ("**START/ STOP**").

The display will now show:

| |
|--|
| OPERATING MODE CHOOSE CYCLE |
|--|

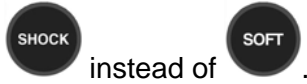
3. HARD CHILL CYCLE

To perform a hard chill cycle, follow steps 1 or 2 (above), **EXCEPT** in step 1.b (above) press



4. SHOCK FREEZE CYCLE

To perform a shock freeze cycle, follow steps 1 or 2 (above), **EXCEPT** in step 1.b (above) press




5. UV (STERILIZATION) CYCLE

a. To perform a UV cycle **remove all food**, then press

the  ("UV LIGHT") button.

OPERATING MODE
CHOOSE CYCLE

b. Press the  ("START/STOP") button to start the UV cycle.

UV CYCLE
READY TO START

READY TO
START
Blinks

The display will now show:

03.07.2006 11:43 AM
UV CYCLE TIME 29:59

29:59
Will count
down to 00:00


After 30 minutes the display will show:
The controller will beep for a few seconds.

03.07.2006 12:13 PM
UV CYCLE COMPLETE

UV CYCLE
COMPLETE
Blinks

6. DEFROST CYCLE


The defrost cycle runs the evaporator fan for 15 minutes with the door open.

a. To perform a defrost cycle, press  ("DEFROST") button.

OPERATING MODE
CHOOSE CYCLE

b. Open the door.

DEFROST CYCLE
OPEN DOOR!

c. Press the  ("START/STOP") button to start the defrost cycle.

DEFROST CYCLE
READY TO START

READY TO
START
Blinks

The display will now show:

03.07.2006 12:15 PM
DEFROST TIME 14:59


14:59
Will count
down to 00:00

After 5 minutes the display will show:
The controller will beep for a few seconds.





03.07.2006 12:20 PM
DEFROST COMPLETE

DEFROST
COMPLETE
Blinks

In addition to the manual defrost AP20BCF200-3 is equipped with an automatic defrost feature. The automatic defrost cycle will start when the unit is in "OFF" mode, after continuous operation for a preset amount of time (see Page 18).

To stop the automatic defrost cycle press the  ("ON/OFF") button.

7. HEATED FOOD PROBE

| | | |
|--|---|--------------------------------------|
| <p>a. To select the heated food probe, press  ("HEATED PROBE").</p> | <p>OPERATING MODE CHOOSE CYCLE</p> | |
| <p>If the food probe temperature is >30 °F, the display will show:</p> | <p>HEATED FOOD PROBE NOT NEEDED</p> | |
| <p>After a few seconds it will go back to reading:</p> | <p>OPERATING MODE CHOOSE CYCLE</p> | |
| <p>If the food probe temperature is <30 °F, the display will show: b. Open the door.</p> | <p>HEAT FOOD PROBE OPEN DOOR!</p> | |
| <p>c. Press the  ("START/STOP") button to start the cycle.</p> | <p>HEAT FOOD PROBE READY TO START</p> | <p>READY TO START Blinks</p> |
| <p>The display will now show:</p> | <p>HEATING FOOD PROBE</p> | |
| <p>After 5 seconds the display will show:</p> | <p>HEATING COMPLETE FOOD PROBE</p> | |
| <p>NOTE: To stop any cycle before it has finished, press  ("START/STOP").</p> | | |
| <p>The controller will beep for a few seconds. If you still want to stop the cycle, press  ("START/STOP") again. If you do NOT want to stop, do nothing and the cycle will continue.</p> | <p>UNIT IN PROCESS DO YOU WANT TO STOP?</p> | |

8. THAW CYCLE (OPTIONAL)





FOOD LOADING

When loading the food into the unit, in preparation for thawing cycle, space the food enough to achieve optimum air circulation within the cabinet.







Use the provided food grade drill to drill a hole into the thickest part of the food and fully insert the thaw probe in it.

Note: The thaw probe must be fully inserted into the product.



AUTOMATIC THAW CYCLE

| | | | |
|--|---|---|--------------------------------------|
| <p>a. With the display reading "OFF", press the ("ON/OFF") button.</p> |  | <p>OFF</p> | |
| <p>b. To perform a thaw cycle, press ("DOWN") button.</p> |  | <p>OPERATING MODE CHOOSE CYCLE</p> | |
| <p>c. The display will show.</p> | | <p>THAW CYCLE AUTO / MANUAL</p> | |
| <p>d. Press the ("AUTO") button. The display will now show:</p> |  | <p>THAW CYCLE READY TO START</p> | <p>READY TO START Blinks</p> |
| <p>Press the ("START/STOP") button to start the cycle.</p> |  | <p>AIR 45°F T/ 0°F</p> | |
| <p>The display will show: alternating with</p> | | <p>03.07.2006 10:28 AM THAW CYCLE 00:01</p> | <p>00:01 Will count up</p> |
| <p>AIR 45°F T/ 0°F</p> | | | |
| <p>The AUTOMATIC mode uses both the thaw probe and air probe temperatures to control the cycle. When the food temperature has reached the final setting of 38° F, the unit will automatically go into holding mode.</p> | | | |
| <p>The display will show: alternating with</p> | | <p>THAW CYCLE HOLDING</p> | <p>HOLDING Blinks</p> |
| <p>alternating with</p> | | <p>AIR 37°F T/ 38°F</p> | |






MANUAL THAW CYCLE

| | | |
|---|---|---|
| <p>a. With the display reading "OFF", press the  ("ON/OFF") button.</p> | <p>OFF</p> | |
| <p>b. To perform a thaw cycle, press  ("DOWN") button.</p> | <p>OPERATING MODE CHOOSE CYCLE</p> | |
| <p>c. The display will show.</p> | <p>THAW CYCLE AUTO / MANUAL</p> | |
| <p>d. Press the  ("MANUAL") button. The display will now show:</p> | <p>MANUAL THAW TIME H 06:00 MIN</p> | <p>06:00 Blinks</p> |
| <p>alternating with</p> <p>To change the thaw cycle time press  or </p> <p>then press the  ("START/STOP") button to start the cycle.</p> | <p>AIR 45°F T/ 0°F</p> | |
| <p>The display will show: alternating with</p> | <p>03.07.2006 10:28 AM MANUAL THAW 05:59</p> | <p>05:59 Will count down</p> |
| <p>The MANUAL mode uses only the air probe temperatures to control the cycle. When the thaw cycle time elapses the unit will automatically go into holding mode.</p> | | |
| <p>The display will show: alternating with</p> | <p>THAW CYCLE HOLDING</p> | <p>HOLDING Blinks</p> |
| <p>alternating with</p> | <p>AIR 37°F T/ 38°F</p> | |

9. PREPARING AND USING THE OPTIONAL PRINTER

| | |
|---|---|
| <p>a. With the display reading "OFF", press the  ("PRINT") button.</p> | <div style="border: 1px solid black; padding: 5px; text-align: center;">OFF</div> |
| <p>b. To start printing, press the  ("START/STOP") button.</p> | <div style="border: 1px solid black; padding: 5px; text-align: center;">PRINT EVENTS MEMORY READINGS LEFT 249</div> |
| <p>After a few seconds the display will show: ... and the printer will be printing.</p> | <div style="border: 1px solid black; padding: 5px; text-align: center;">PRINT EVENTS MEMORY PRINTING ...</div> |

10. TO CLEAR DATA

| | |
|---|---|
| <p>a. To clear existing data that is no longer needed from the controller, from the "OFF" display, press  and  together for about 10 seconds.</p> | <div style="border: 1px solid black; padding: 5px; text-align: center;">OFF</div> |
| <p>b. Press .</p> | <div style="border: 1px solid black; padding: 5px; text-align: center;">CLEAR EVENTS MEMORY? NO</div> <div style="text-align: right; margin-top: 5px;">NO Blinks</div> |
| <p>c. Press .</p> | <div style="border: 1px solid black; padding: 5px; text-align: center;">CLEAR EVENTS MEMORY? YES</div> <div style="text-align: right; margin-top: 5px;">YES Blinks</div> |
| <p>d. Enter your password, then press .</p> | <div style="border: 1px solid black; padding: 5px; text-align: center;">CLEAR EVENTS MEMORY? ENTER PASSWORD ***</div> |
| <p>e. Wait about 40 seconds,</p> | <div style="border: 1px solid black; padding: 5px; text-align: center;">CLEAR EVENTS MEMORY? PLEASE WAIT ...</div> |
| <p>after which the display will show, for only 2 seconds:</p> | <div style="border: 1px solid black; padding: 5px; text-align: center;">CLEAR EVENTS MEMORY? COMPLETE</div> |

The display will go back to "OFF" and all 516 reading spaces will be available.

MAINTENANCE AND CLEANING

WARNING

Always disconnect the unit from the main power supply before attempting service or maintenance on the unit!

CLEANING THE CONDENSER

For correct and efficient operation of the blast chiller, it is necessary that the condenser be kept clean so that air can flow through it freely and come into contact with the whole of its surface.



Fig. 1

This operation (to be performed every 30 days, max.) can be accomplished using a brush (non-metallic) to remove all the dust and dirt from the condenser fins. Remove the finned grid to gain access to the condenser.

CLEANING THE STORAGE COMPARTMENT

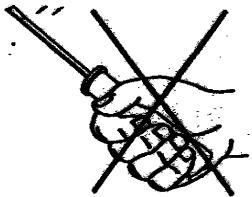


Fig.2

Clean the inside of the storage compartment daily to avoid altering the taste and aroma of the food.

Clean the inside, the grid supports and the grids with a non-corrosive detergent and then rinse thoroughly.

The storage compartment and its internal components have been designed to aid all cleaning operations.

Clean the outside surfaces regularly with a detergent for stainless steel and dry using a soft cloth.

Always defrost the unit (see manual).

DO NOT USE ABRASIVES, SOLVENTS OR GLASS WOOL (Fig. 3).

Avoid using sharp implements and abrasives, especially when cleaning the evaporator (Fig. 2).

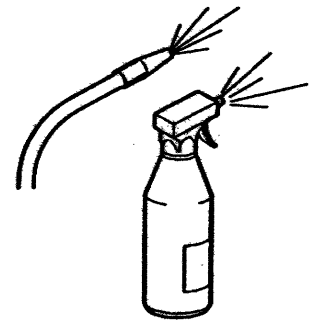
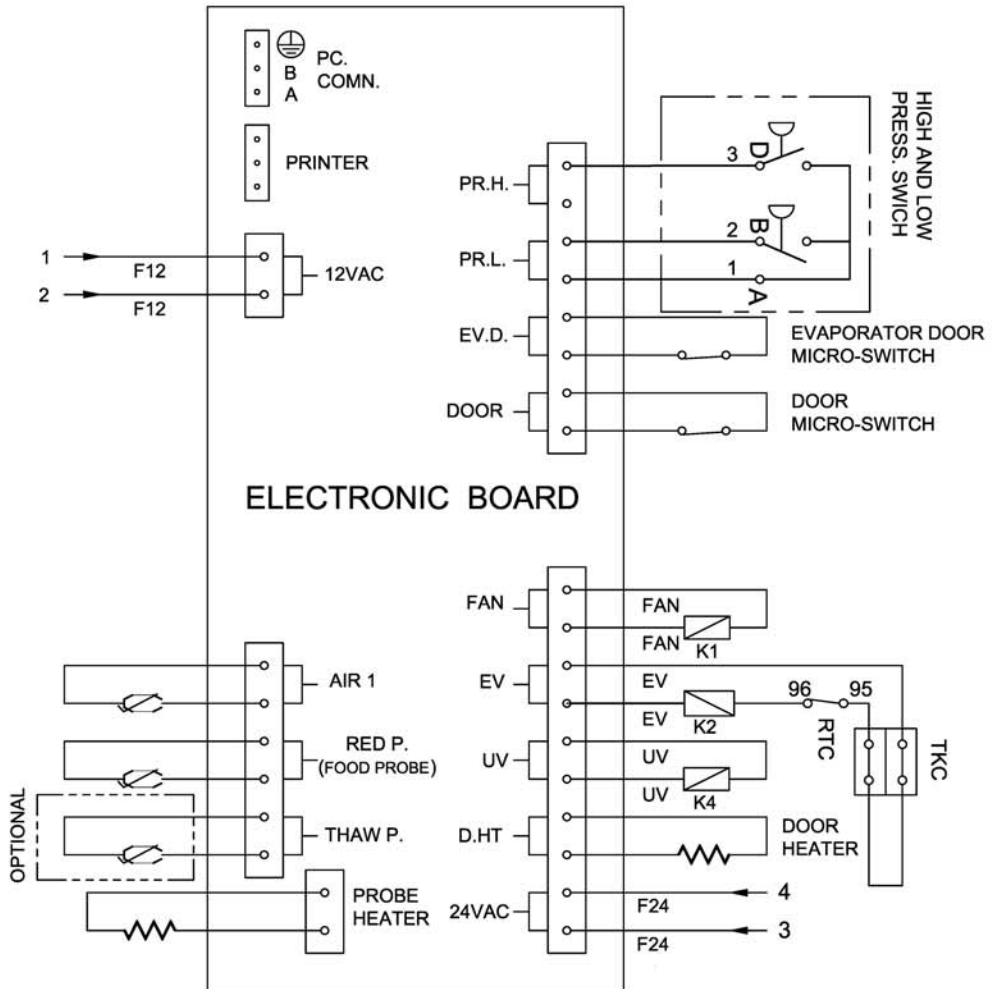


Fig. 3

NOTE: If additional refrigerant should be needed, be certain to use the correct type and amount as shown on the nameplate.

WIRING DIAGRAMS



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| REV. | DATE | CHANGE MODEL DESIGNATION | REV. BY | APP. BY |
|------|----------|--------------------------|---------|---------|
| C | 04/16/12 | | RT | RT |



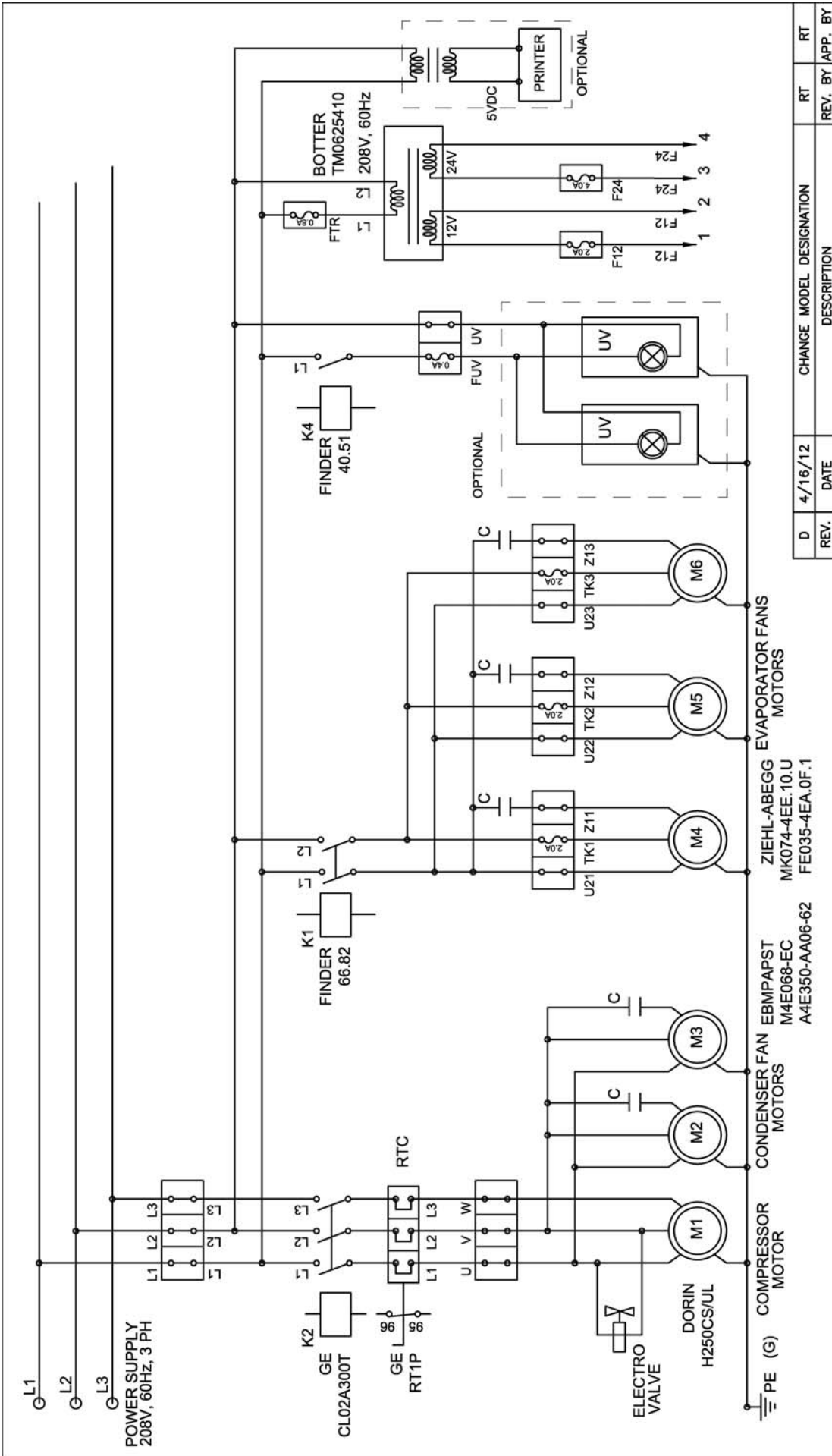
AMERICAN PANEL CORPORATION
 5800 S.E. 78th St. Ocala, Florida 34472
 Ph. (352) 245-7055 Fax (352) 245-0726

TITLE: WIRING DIAGRAM #1 EL. BOARD TYPE B WITH THAW CYCLE

MODEL: AP20BCF200-3 ONE PROBE

DATE: 06/24/09 DRAWN BY: RT P.O.#: REV: C

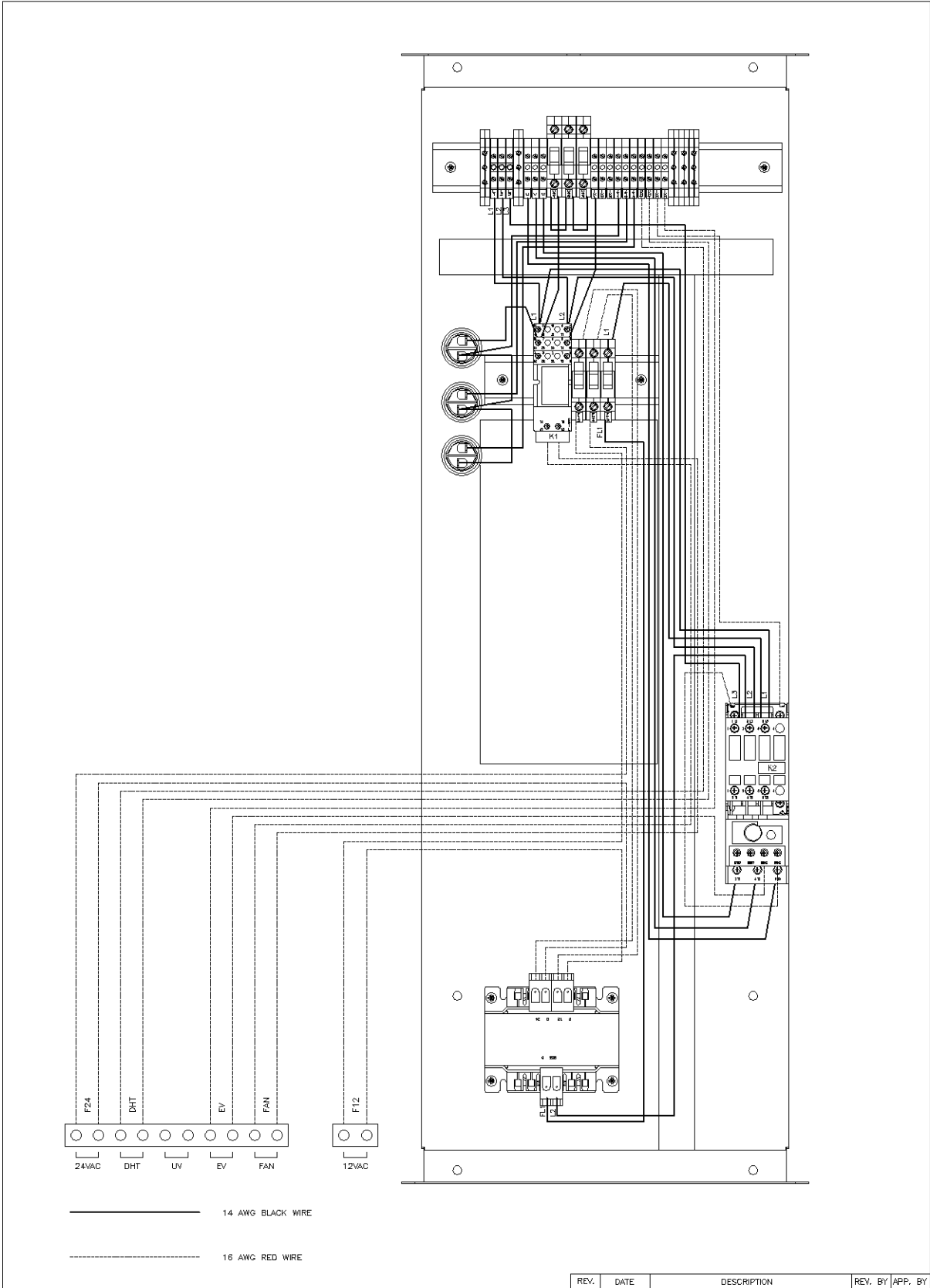
SCALE: NTS DWG#: 98011-11 JOB#: SHEET 1 of 1



| REV. | DATE | CHANGE MODEL DESIGNATION | DESCRIPTION | REV. BY | APP. BY |
|------|---------|--------------------------|-------------|---------|---------|
| D | 4/16/12 | | | RT | RT |

| | |
|--|----------------|
| <p>American Panel</p> <p>AMERICAN PANEL CORPORATION 5800 S.E. 78th St. Ocala, Florida 34472 Ph. (352) 245-7055 Fax (352) 245-0726</p> | |
| <p>TITLE: WIRING DIAGRAM #2</p> | |
| <p>MODEL: AP20BCF200-3</p> | |
| DATE: 05/19/06 | DRAWN BY: RT |
| SCALE: NTS | DWG#: 98011-01 |
| | JOB#: 1 of 1 |

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————— 14 AWG BLACK WIRE
 - - - - - 16 AWG RED WIRE

| REV. | DATE | DESCRIPTION | REV. BY | APP. BY |
|------|------|-------------|---------|---------|
|------|------|-------------|---------|---------|

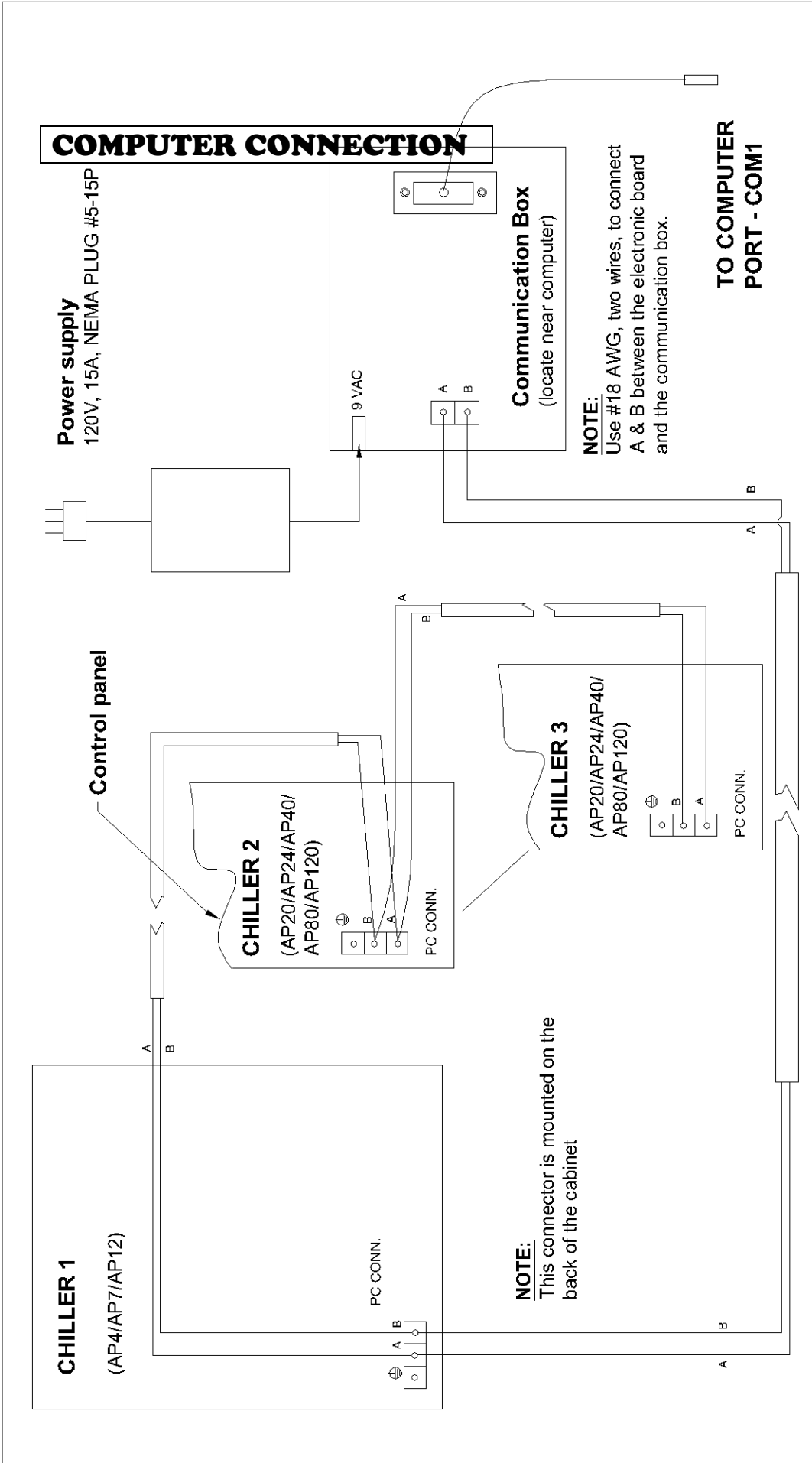
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American Panel

AMERICAN PANEL CORPORATION
 5800 S.E. 78th St. Ocala, Florida 34472
 Ph. (352) 245-7055 Fax (352) 245-0726

TITLE: WIRING DIAGRAM #3
 MODEL: AP20BCF175-3

| | | | |
|----------------|----------------|--------|--------------|
| DATE: 05/16/06 | DRAWN BY: GC | P.O.#: | REV: A |
| SCALE: NTS | DWG#: 98011-02 | JOB#: | SHEET 1 of 1 |



| REV. | DATE | DESCRIPTION | REV. BY | APP. BY |
|------|------|-------------|---------|---------|
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|---|-----------|--|--------|
| American Panel | | AMERICAN PANEL CORPORATION 5800 S.E. 78th St. Ocala, Florida 34472 Ph. (352) 245-7055 Fax (352) 245-0726 | |
| TITLE: COMPUTER CONNECTION | | | |
| MODEL: AP4/AP7/AP12/AP20/AP24/AP40/AP80/AP120 | | | |
| DATE: | DRAWN BY: | P.O.#: | REV. |
| 06/02/06 | GC | | A |
| SCALE: | DWG#: | JOB#: | SHEET |
| NTS | 98018-00 | | 1 of 1 |

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PARTS LIST

| PART # | DESCRIPTION |
|---------------|--------------------------------------|
| 990227 | PRINTER |
| 990060 | RELAY 10 A FINDER (UV) |
| 990074 | TRANSFORMER 208V/24V/12V |
| 990228 | TRANSFORMER FOR PRINTER |
| 990215 | ELECTRONIC BOARD "BLUE SYS" (B) |
| 990104 | PC CONNECTION BOX |
| 990105 | CONNECTION CABLE, SERIAL |
| 990108 | AIR PROBE PT100 |
| 990122 | COMPRESSOR DORIN (R404A REFRIGERANT) |
| 990128 | CONTACTOR GE |
| 990136 | EVAPORATOR FAN |
| 990145 | FOOD PROBE - HEATED |
| 990147 | MAGNETIC DOOR SWITCH |
| 990149 | OVERLOAD RELAY GE |
| 990155 | SOLENOID, DANFOSS |
| 990156 | SOLENOID SOCKET |
| 990159 | UV LAMP, 6W |
| 990175 | COND. FAN MOTOR |
| 990178 | AC ADAPTOR PC CONNECTION |
| 990191 | RELAY 30 A FINDER |
| 991016 | CONDENSER |
| 991021 | EVAPORATOR |
| 991025 | EXPANSION VALVE TES2 |
| 991027 | FILTER DRIER CASTEL |
| 991031 | HIGH/LOW PRESSURE SWITCH DANFOSS |
| 991033 | LIQUID RECEIVER FRIGOMECC |
| 991035 | SIGHT GLASS |
| 991037 | ORIFICE 01 |
| 991040 | SOLENOID VALVE EVR6 |
| 993018 | DOOR GASKET 29-1/2"X72-3/4" |
| 993024 | DOOR HINGE |
| 993025 | DOOR LOCK |
| 993030 | DOOR SWEEP |

STANDARD WARRANTY

AMERICAN PANEL CORP.

5800 S.E. 78th Street, Ocala, Florida 34472-3412

American Panel Corporation products are warranted to the original user installed within the United States and Puerto Rico to be free from defects in materials and workmanship under normal use and service for the applicable period shown in the chart below.

NOTE: This Warranty does not apply to altered or misused parts.

BLAST CHILLERS / SHOCK FREEZERS (ONLY)

| WARRANTY COVERS | PARTS | LABOR |
|--|------------------------------|------------------------------|
| Complete unit | 1 year from date of shipment | 1 year from date of shipment |
| COMPRESSOR ONLY | Additional 4 years | NONE |
| Food probes, UV and incandescent lamps | NONE | NONE |

American Panel Corporation agrees to repair or replace at its option, FOB Factory, any part which proves to be defective due to defects in material or workmanship during the warranty period, providing the equipment has been properly installed, maintained and operated in accordance with the HurriChill™ User's Manual. Refer to the above chart for details and exceptions for various equipment items. Labor covered by this warranty must be authorized by American Panel Corporation and performed by a factory-authorized service agency.

This warranty does not apply to remote or pre-assembled remote refrigeration systems requiring electrical inter-wiring or refrigerant piping provided by others. In no event shall American Panel Corporation be liable for the loss of use, revenue or profit or for any other indirect, incidental, special or consequential damages including, but not limited to, losses involving food spoilage or product loss. American Panel Corporation reserves the right to withdraw this warranty if it is determined that the equipment is not being operated properly. There are no other warranties expressed or implied.

During the warranty period, all requests for service **MUST** be made before any work is begun. Such requests must be directed to American Panel Corporation Service Department, which will issue written authorization when applicable. Without this authorization, the Warranty may be voided. The Service Department can be contacted by mail at American Panel Corp., 5800 S.E. 78th Street, Ocala, Florida 34472-3412; or by telephone at 1-800-327-3015; or by fax at (352) 245-0726.

Proper installation is the responsibility of the dealer, the owner-user, or the installing contractor. It is not covered by this Warranty.

