

OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



Supplier Name: **MARSHALL AIR SYSTEMS, INC.**
Address: 419 Peachtree Drive South
Charlotte, NC 28217

Model #'s: _____
Serial #'s: _____
Date Received: _____
Date Installed: _____
Telephone #: 704-525-6230
Fax #: 704-525-6229
Service Referral #: 800-722-3474
Local Service Name: _____
Local Service #: _____

PRODUCT DESCRIPTION

The heated holding cabinet features Marshall's own ThermoGlo™ heating technology in conjunction with circulated air. Heat radiates from every square inch of the upper and lower flat plate heating surfaces. This eliminates the need to clean intricate calrod, wire and reflector assemblies.

This DH5D Heated Holding Unit series can accommodate one full pan, two half pans or three 1/3 pans per drawers.

It also features time/temperature controllers. These integrated time/temperature controllers independently control the top and bottom temperatures and have one timer channel for each drawer inside the unit for full control flexibility and maximum product integrity.

These Heated Holding Units offer the latest in technological design which gives you the most favorable holding characteristics in a system that is simple to work with and operate.

GENERAL SPECIFICATIONS

Height: 11.875"
Width: 29.000"
Depth: 30.500"
Weight: 145 lbs
of drawers: 2
of full pans: 2 (1 per drawer)
of half pans: 4 (2 per drawer)
of 1/3 pans: 6 (3 per drawer)
Electrical: 17.8 A @ 120 V
Cord: 37" long with NEMA 5-20 plug
Approvals: NSF, ETL/CETL
Patent Pending

OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER
FLAMMABLE VAPORS OR LIQUIDS IN THE
VICINITY OF THIS OR ANY OTHER APPLIANCE

AVERTISSEMENT

Ne pas entreposer ni utiliser de l'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil, ni de tout autre appareil.

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

AVERTISSEMENT: Une installation, un ajustement, une altération, un service ou un entretien non conforme aux normes peut causer des dommages à la propriété, des blessures ou la mort. Lisez attentivement les directives d'installation et d'opération et d'entretien avant de faire l'installation ou l'entretien de cet équipement

KEEP THIS MANUAL IN A SAFE PLACE AND RETAIN FOR FUTURE USE.

Cabinet area must be kept free of combustible materials and the flow of ventilation air must not be obstructed. Operating personnel must not perform any maintenance or repair functions. Contact your Qualified Service Company.

Clean unit and base with a damp cloth/rag and a mild cleaner.

DO NOT USE A GREEN SCOTCH BRITE PAD OR ANY OTHER ABRASIVE CLEANING PAD. THE BLUE SCOTCH BRITE (NO SCRATCH) IS SAFE TO USE.

DO NOT USE CAUSTIC CLEANING SOLUTIONS SUCH AS OVEN CLEANER. USE ONLY MILD, NON-ABRASIVE CLEANER.

DO NOT IMMERSE IN WATER!

OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



TABLE OF CONTENTS

| | |
|-------------------------------------|-------|
| PRE-INSTALLATION | 1 |
| FINAL INSTALLATION | 1 |
| CONTROL USER INTERFACE | 1 |
| OPERATION | 2 - 3 |
| PROGRAMMING – HOLDING TIME | 3 |
| PROGRAMMING - GENERAL SETTINGS..... | 4 - 5 |
| USB CONFIGURATION DOWNLOAD | 5 |
| DAILY MAINTENANCE..... | 6 |
| MONTHLY MAINTENANCE | 6 |
| TROUBLESHOOTING | 7 - 9 |
| REPLACEMENT PARTS | 10-12 |

ILLUSTRATIONS

| | |
|---|----------|
| OVERALL DIMENSIONS DH5D2-6BAC series..... | FIGURE 1 |
| REPLACEMENT PARTS DH5D2-6BAC series..... | FIGURE 2 |
| QUICK GUIDE, CONTROL OPERATION | 183791 |

SCHEMATICS

| | |
|---|--------|
| WIRING SCHEMATIC, DH5D2-6BAC & DH5D2-6BACBWW WITH 4-CHANNEL CONTROL | 187310 |
| WIRING SCHEMATIC, DH5D2-6BAC & DH5D2-6BACBWW WITH 2-CHANNEL CONTROL | 182967 |
| WIRING SCHEMATIC, DH5D2-6BAC-3..... | 187314 |

OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



PRE-INSTALLATION

1. The heated holding cabinet is packaged to minimize the risk of shipping damage. Immediately upon receipt, make certain to inspect the unit(s) for damage. **FILE ALL CLAIMS WITH THE FREIGHT CARRIER.**
2. Unpack and inspect the nugget cabinet. **IF ANY CONCEALED DAMAGE, FILE ALL CLAIMS WITH THE FREIGHT CARRIER.**

FINAL INSTALLATION

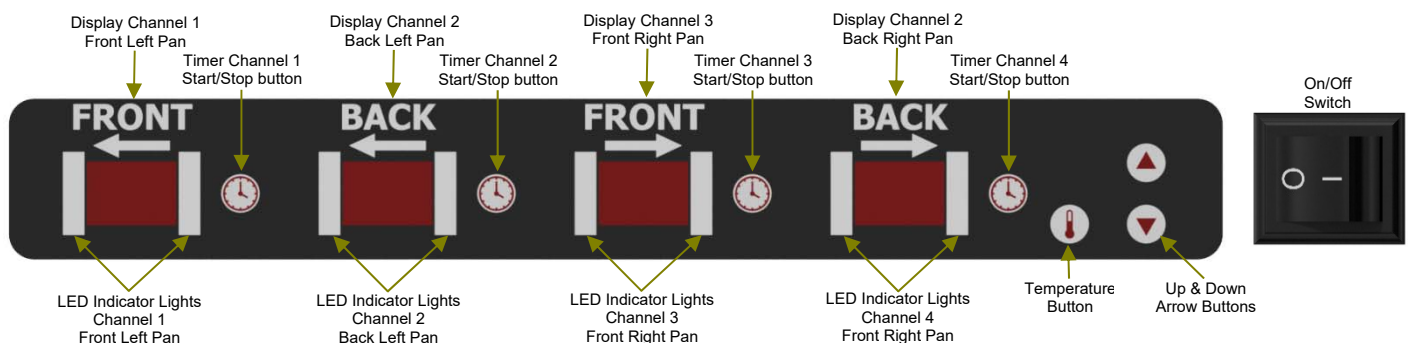
1. Unpack unit and remove all protective paper or plastic covering from metal parts.
2. Place holding unit on stable base.
3. Make sure that the rolling drawers are in place and moving freely. To insert drawer:



4. Plug unit into receptacle rated according to model being used. Refer to the General Specifications on the front page of the manual to find out amp load and plug type of your model.
5. Installation shall comply with the latest version of the National Electrical Code, NFPA 70.

CONTROL USER INTERFACE

The following picture is the user interface layout of the controller for the DH5D2-6BAC series. While the number of controllers and/or timer channels may differ depending on the model, the operation is essentially the same for all different models.



OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



OPERATION:

CONTROLLER POWER UP:

1. Turn on the power switch. Upon power up, the controller will briefly show the software version and then go to preheat mode and the display will show "PHt"

PREHEAT:

1. The controller will stay in preheat mode ("PHt") for the entire preheat period (preheat time parameter) even though both heaters (top and bottom) have reached set points before the end of that period. If the controller is inadvertently turned OFF and back ON, the preheat period can be bypassed by a 3 second press of the down arrow button only if both heaters are within the allowed differential temperature set points (preheat bypass temperature parameter).
2. After preheat, the controller goes into idle mode where the displays either show "---" or a product code name (Example: "Chn") if assigned. At this time, any timer can be started.

HOLDING TIME CYCLES:

1. To start a cycle, press a timer start/stop button. The LED bars for that timer channel will then light steady green to let the user know that it is now active. A press of the down arrow button will show the remaining holding time of any active channels for three seconds. If no product code has been assigned to the channel, the display will show the holding time value in minutes and start countdown.
2. When the timer reaches the pre-alert value, the display will also start flashing "drP" for DROP, the LED bars will start flashing and a beeping will start. The user then has to acknowledge the pre-alert by a press of the timer start/stop button. The display will then flash the remaining time for the rest of the cycle, the LED bars will go back to steady and the beeping will stop.
3. When the timer reaches the "000" value, the display will flash "000", the LED bars will flash red and the beeping will start until the user acknowledges the end of the cycle by pressing the timer start/stop button. The timer will then go back to idle mode, the led bars will turn OFF and the beeping will stop.
4. **This step only applicable if the control is set to interdependent group configuration. See Group Configuration into "Programming – General Settings" for more information.** If a subsequent timer cycle is started while previous timer cycle(s) are still active, the LED bars will turn steady red instead of green to indicate that the associated pan is not yet to be used. Only when all previously started linked cycles have been elapsed or cancelled that the LED bars will change to green to let the user know that the associated pan can now be used.
5. Any holding cycle can be cancelled at any time by a double press of the timer start/stop button. The double press timer cancelling can be changed to single press or press and hold of the timer start/stop button. See programming section for more info.

OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



6. If at any time during normal operation, one heater's temperature is falling or rising out of the allowed differential from set point (ready mode differential parameter), the displays will alternate between current mode and "LO" or "HI" to alert the user that the heater's temperature is too low or too high. This should remain until the heaters are back within the allowed temperature differential.

CURRENT TEMPERATURES DISPLAY:

1. To view the heaters current temperature, press and hold the temperature button for 3 seconds. The display will then alternate between "toP" for top heater and its current temperature value.
2. To view the bottom heater current temperature, press the temperature button again. The display will then alternate between "bot" for bottom heater and its current temperature value.
3. A press of the temperature button will cycle between top and bottom current temperatures.
4. To exit temperature view mode and return to previous mode, press and hold the temperature button.

DAY PART CONFIGURATION:

This functionality allows the user to quickly switch between four sets of configurations, day part 1 through day part 4 to hold different food product or to better accommodate the restaurant's daily need.

To display the active day part configuration, cancel all timers so all displays are in idle mode "---" then press and release the up arrow button. The displays will show the active configuration for a few seconds and return to the previous mode. To switch from one configuration to the other, cancel all timers so all displays are in idle mode "---" then press and hold the up arrow button for 3 seconds. The displays will briefly show the active day part configuration and then cycle to the next day part configurations. Release up arrow button when the desired day part configuration is displayed to activate it. Notice that if the temperature set points of the newly selected day part configuration are different than the previous settings, the "Hi" or "Lo" alert message will show up until the temperature settle around current set points.

PROGRAMMING - HOLDING TIME:

1. To change a timer channel holding time value, the unit needs to be in preheat mode "PHt" or in idle mode "---".
2. Press and hold for 3 seconds the timer start/stop button for the channel to be changed. The display will then flash the current setting in minutes.
3. Use the up/down arrow buttons to change to new setting.
4. Press and hold start/stop button for 3 seconds to save the new setting and go back to idle mode.
5. If necessary, repeat for other channels.

OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



PROGRAMMING – GENERAL SETTINGS:

NOTE: Programming mode can only be access from the front controller (master) on a pass thru unit with controllers on both sides. Controller must be in preheat “PHT” mode or idle mode where no timers are active.

To access programming mode, press and hold the up and down arrow button for 5 seconds. To save changes and exit programming mode, press and hold temperature button for 3 seconds.

Once in programming mode, the display will alternate between the parameter/functionality display codes and its current value (if applicable). Press the temperature button to cycle through the parameters/functionalities and use the up and down arrow buttons to change the parameter value. For channel specific parameters (parameters 4, 5 and 6) select channel to be changed by pressing the associated timer button first, then the up/down arrow buttons to edit value. Here is the list of the user programmable parameters and functionalities with their display code:

1. “CF” Configuration download functionality. See “USB CONFIGURATION DOWNLOAD” section for more details.
2. “dPn” Indicates which set of day part values will be edited. Some models have up to 4 day parts available (dP1, dP2, dP3 and dP4).
3. “grP” Group configuration.
 - “0”: Indicates that all channels on this controller are set to be independent.
 - “1”: Indicated that all channels on this controller are interdependent. In this setting, the user can keep track of which pan was inserted first by the state of the channels LED light bars. The channel that was started first will have the green LED light bars while any subsequent timers that are started will have red LED light bars. This lets the user know to use the pan associated with the green LED light bars first until timer is expired or cancelled. The LED light bars of the next channel in line will then turn green and so on.
 - “2”: This group setting allows any two adjacent timer channels to be paired. The user can then keep track of the oldest product in a case where two pans hold the same product. See pairing parameter (“Par”) below for more setting details.
4. “Par” In the case where grouping (“grP”) is set to “2”, for channel pairing, this parameter is used to define any pairing between two channels. Note that both paired channels need to be setup properly for unit to operate correctly. First select channel using timer button then choose between “no”, “uP”, “rt”, “dn” or “LF”. Not all options are available for some units.
5. Product Name: The user can assign a product name to each channel. If activated, this will display the product name instead of the holding time during operation (see next parameter). First, select channel to be edited, then use up/down arrow buttons to change selected character. Subsequent presses of the same timer button will cycle through the characters.
6. “Prd” This parameter defines which channel(s) will have the product name feature activated. First select channel to be edited the choose between “yes” to display product name or “no” to display holding time. **Note that the user can press the down arrow button during normal operational to display remaining holding time of any active timer channels for 3 seconds.**



7. "ALt" Drop time expressed as a percentage of the holding time
8. "CnC" Timer cancel mode
 - " 1": Single press of channel button
 - " 2": Double press of channel button
 - "HLd": Press and hold of channel button
9. "toP" Top heater temperature set point (in degree Fahrenheit or Celsius)
10. "bot" Bottom heater temperature set point (in degree Fahrenheit or Celsius)
11. "PHt" Preheat time (in minutes)
12. "bPS" Preheat bypass temperature differential (in degree Fahrenheit or Celsius).

USB CONFIGURATION DOWNLOAD: (ONLY APPLICABLE FOR MODELS WITH USB PORTS)

1. To download a new configuration, loosen the USB port cover screws using a Phillips head screwdriver (see figure 1 for USB port location).
2. Insert USB flash drive with a valid file (provided by Marshall Air systems) into port.
3. Access the " CF" parameter in programming mode as explained in the programming (user level) section.
4. Once the display shows " CF", press the down arrow button. If the controller recognized a valid file through the gateway USB port, the display will show "dLd" to let the user know that it is ready to download the new configuration file. If the controller cannot recognize a valid file, the display will show "Err" to let the user know that a file error occurred. The display will keep showing "Err" until a valid file is recognized or the user presses the temperature button to go back to parameter code display " CF".
5. To start the new configuration download when the display shows 'dLd', press the down arrow button again. The display will start flashing "dLd". When the download is complete, the display will show "Cpt" for complete. The user then acknowledges the download completion by pressing the down arrow button once more to go back to parameter code display " CF". If an error occurred during download, the display will show "Err" until a valid file is recognized or the user presses the temperature button to go back to parameter code display " CF".
6. If the unit has more than one control, repeat steps 3, 4 and 5 for all other decks.

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OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



DAILY MAINTENANCE

1. Turn off the unit and allow it to cool for 20 minutes.
2. Drawers should be removed, washed in mild multi-purpose detergent, rinsed and sanitized.
3. Clean unit and base with a damp cloth/rag and a mild cleaner.

DO NOT USE A GREEN SCOTCH BRITE PAD OR ANY OTHER ABRASIVE CLEANING PAD. THE BLUE SCOTCH BRITE (NO SCRATCH) IS SAFE TO USE. DO NOT USE CAUSTIC CLEANING SOLUTIONS SUCH AS OVEN CLEANER. USE ONLY MILD, NON-ABRASIVE CLEANER.

DO NOT IMMERSE IN WATER!

4. Allow sufficient drying time before attempting to use.

MONTHLY MAINTENANCE

1. Follow the daily schedule; there are no adjustments.
2. Inspect condition of cord/plug. If damaged, have it replaced.
3. Inspect the condition of the control overlay. If damaged, have it replaced.
4. With the unit OFF and unplugged, remove drawers to clean the air circulation louvres located in the inside back of the unit as well as the upper heater slots to allow for proper air flow.

OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



TROUBLESHOOTING CHART

Before trouble shooting is started: check unit is plugged in, check for tripped circuit breaker and check that power switch on.

**** DISASSEMBLING HEATER VOIDS WARRANTY ****

| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|----------------------------------|---|--|
| 1. CONTROL DISPLAYS "PHt" | A. NORMAL OPERATION CABINET HAS NOT BEEN ON FOR 20 MIN B. INADVERTANT POWER DISRUPTION IF SWITCH TURNED OFF BY ACCIDENT, POWER DISRUPTION BY THUNDERSTORM ETC. | A. WAIT 20 MINUTES B. PRESS AND HOLD DOWN ARROW FOR 3 SECONDS TO CLEAR "PHt" CYCLE |
| 2. UNIT WILL NOT TURN ON | A. UNIT UNPLUGGED B. IS CONTROLLER ON/OFF SWITCH "ON" C. OUTLET HAS NO POWER D. CORD DEFECTIVE E. DOES POWER SUPPLY BOARD HAVE 120V INCOMING F. DOES POWER SUPPLY BOARD HAVE 8.5 VDC OUTGOING TO CONTROLLER G. BAD CONTROLLER | A. PLUG IN UNIT B. TURN SWITCH ON C. CHECK CIRCUIT BREAKER D. REPLACE DEFECTIVE CORD E. REPLACE SWITCH F. REPLACE POWER SUPPLY BOARD G. REPLACE CONTROLLER |
| 3. UNIT NOT HEATING | A. HEATER IS TURNED "OFF" B. WIRES NOT PLUGGED INTO BACK OF CONTROLLER C. NO VOLTAGE TO DC SIDE OF SOLID STATE RELAY | A. SEE "PROGRAMMING USER LEVEL" SECTION TO TURN HEATER ON B. PLUG WIRES INTO CONTROLLER C. LOOSE WIRES, REPLACE CONTROLLER |

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OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|--|---|--|
| 3. UNIT NOT HEATING | D. SOLID STATE RELAY HAS DC VOLTAGE, NOT ALLOWING POWER TO PASS THROUGH E. HEATING BLANKET WIRES HAVE POWER NOT HEATING | D. REPLACE SOLID STATE RELAY E. LOOSE WIRES, REPLACE HEATING BLANKET |
| 4. LOW PRODUCT TEMPERATURE | A. TEMPERATURE SET POINTS ARE TOO LOW B. EXCESSIVE AIR DRAFT(S) | A. ADJUST TO HIGHER TEMPERATURE SET POINT (SEE PROGRAMMING SECTION) B. SHIELD DRAFT(S) |
| 5. HIGH PRODUCT TEMPERATURE | A. TEMPERATURE SET POINTS ARE TO HIGH | A. ADJUST TO LOWER TEMPERATURE SET POINT (SEE PROGRAMMING SECTION) |
| 6. UNIT FLASHES "+Pr" "LO" (TEMPERATURE LOW) | A. EXCESSIVE AIR DRAFT(S) B. LOOSE WIRE IN ELECTRICAL CABINET C. BAD TEMPERATURE SENSOR D. BAD SOLID STATE RELAY E. BAD HEATING BLANKET | A. SHIELD DRAFT(S) B. CHECK WIRING C. REPLACE SENSOR D. REPLACE SOLID STATE RELAY E. REPLACE HEATING BLANKET |
| 6. PRODUCT NOT HOLDING PROPER TEMPERATURE OR QUALITY STANDARD | A. DO FANS WORK IN AIR PLENUM B. ARE AIR CIRCULATION LOUVRES ON INSIDE BACK OR SLOTS ON UPPER HEATER CLOGGED AND PREVENTING AIR FLOW | A. REPLACE BAD FAN(S) B. CLEAN UNIT (SEE CLEANING SECTION) |

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OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



| PROBLEM | POSSIBLE CAUSE | SOLUTION |
|---|---|--|
| 7. UNIT FLASHES "+Pr" "HI" (TEMPERATURE HIGH) | A. BAD SOLID STATE RELAY B. BAD TEMPERATURE SENSOR C. BAD CONTROLLER | A. REPLACE SOLID STATE RELAY B. REPLACE TEMPERATURE SENSOR C. REPLACE CONTROLLER |
| 8. ERROR CODE: "OPN" "UP" OR "LO" "OPEN TEMPERATURE SENSOR" "uP" UPPER DECK OR "LO" LOWER DECK | A. TEMPERATURE SENSOR WIRES BECAME DISCONNECTED B. BAD SENSOR C. BAD CONTROLLER | A. RECONNECT TEMPERATURE SENSOR WIRES B. REPLACE SENSOR C. REPLACE CONTROLLER |
| 9. ERROR CODE "SHT" "uP" OR "LO" "SHORTED TEMPERATURE SENSOR" "uP" UPPER DECK OR "LO" LOWER DECK | A. TEMPERATURE WIRES ARE SHORTED B. BAD SENSOR C. BAD CONTROLLER | A. CHECK WIRES B. REPLACE SENSOR C. REPLACE CONTROLLER |
| 10. TIMER COLOR LEDS NOT ILLUMINATING | A. BAD CONTROLLER | A. REPLACE CONTROLLER |
| 11. ERROR "dft" ON POWER UP | A. INTERNAL MEMORY DAMAGED | A. REPLACE CONTROLLER |
| 12. CABINET FAN NOT WORKING | A. NO VOLTAGE TO FAN B. BAD FAN | A. CHECK WIRING B. REPLACE FAN |







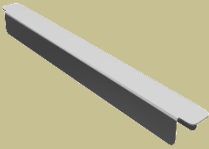
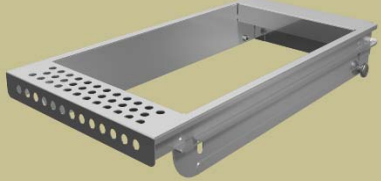

****NOTE:** When replacing sensor, a special heat sink sealant will be present when removing failed sensor. Applying new sealant is not required; however, be sure to utilize existing sealant when mounting new sensor.

OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



REPLACEMENT PARTS

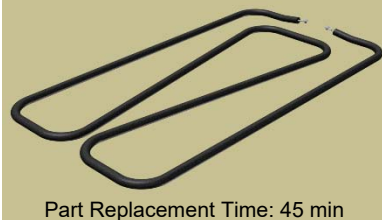
| | | |
|--|--|--|
|  <p>Part Replacement Time: 10 min 502080 - Connector, Strain Relief All Models</p> <p>Strain relief used with main power cord 504345 and should be replaced if missing or damaged.</p> |  <p>Part Replacement Time: 20 min 182989 – Control Models DH5D2-6BAC & DH5D2-6BACBWW All S/N Before 66840 Except 65216 & 65217</p> <p>Time/temperature controller factory pre-programmed according to customer's specific settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.</p> |  <p>Part Replacement Time: 20 min 187312 – Control Models DH5D2-6BAC & DH5D2-6BACBWW S/N 65216, 65217 & After 66839</p> <p>Four channel Time/temperature controller factory pre-programmed according to customer's specific settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.</p> |
|  <p>Part Replacement Time: 20 min 187321L – Control, Left Side Drawer Model DH5D2-6BAC-3</p> <p>Time/temperature controller factory pre-programmed according to customer's specific settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.</p> |  <p>Part Replacement Time: 20 min 187321R – Control, Right Side Drawer Model DH5D2-6BAC-3</p> <p>Time/temperature controller factory pre-programmed according to customer's specific settings. Replace if the controller is not operating according to specs or if it won't turn on when 8.5VDC is supplied to it.</p> | <p><i>Picture might not necessary be representative or actual part.</i></p>  <p>Part Replacement Time: 10 min 504290 - Cord, 12/3 120V, NEMA 5-20 Plug All Models</p> <p>120V main power cord. Damaged cord can cause unit to stop operating and should be replaced.</p> |
|  <p>Part Replacement Time: N/A 183798 – Divider, Adjustable All Models</p> <p>Dividers are inserted in between half or 1/3 pan size preventing them to slide over each other when opening or closing drawers. Replace if damaged.</p> |  <p>Part Replacement Time: N/A 185010 – Drawer, Full Pan All Models</p> <p>Replace if missing or damaged.</p> |  <p>Part Replacement Time: 45 min 501964 (4 per) – Element, Bottom Heater All Models S/N BEFORE 99999</p> <p>These heating blankets are used in the bottom heaters of each deck. A defective blanket could cause non-heating of the associated deck bottom heater and therefore an undesired change in the food product quality.</p> |

OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



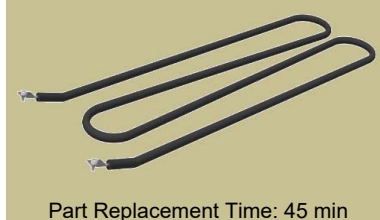
REPLACEMENT PARTS



Part Replacement Time: 45 min

504862 (2 per) – Element, Bottom Heater
All Models
S/N After 99999

These heating blankets are used in the bottom heaters of each deck. A defective blanket could cause non-heating of the associated deck bottom heater and therefore an undesired change in the food product quality.



Part Replacement Time: 45 min

182966 (4 per) – Element, Top Heater
All Models

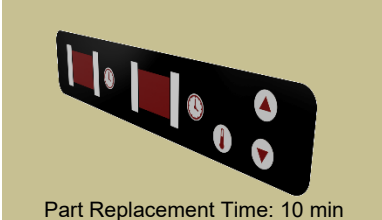
These heating blankets are used in the top heaters of each deck. A defective blanket could cause non-heating of the associated deck top heater and therefore an undesired change in the food product quality.



Part Replacement Time: 15 min

171132 - Fan, Cooling, Asby, 115VAC
All Models

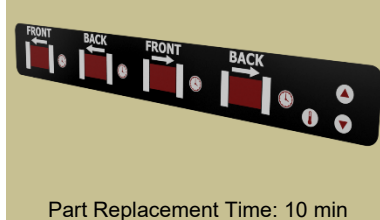
Fan used inside control box to cool electrical components. Failure can cause electrical components to overheat and fail or alter food product quality. Should be replaced if worn or damaged.



Part Replacement Time: 10 min

504387 – Overlay, 2 Channel Control
Model DH5D2—6BAC & DH5D2-6BACBWW
All S/N Before 66840 Except 65216 & 65217

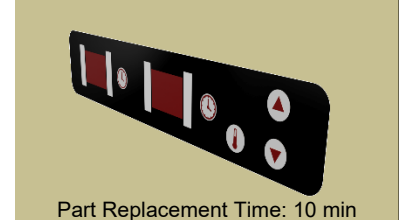
The overlay is protecting the controller from any debris that could damage it. Replace if damaged or missing.



Part Replacement Time: 10 min

504860 – Overlay, 2 Channel Control
Model DH5D2—6BAC & DH5D2-6BACBWW
S/N 65216, 65217 & After 66839

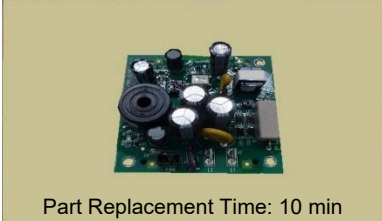
The overlay is protecting the controller from any debris that could damage it. Replace if damaged or missing.



Part Replacement Time: 10 min

504387 – Overlay, 2 Channel Control
Model DH5D2-6BAC-3

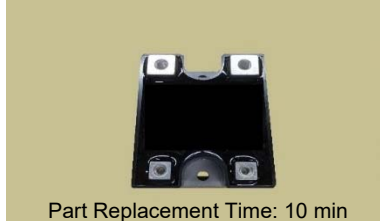
The overlay is protecting the controller from any debris that could damage it. Replace if damaged or missing.



Part Replacement Time: 10 min

504318 – Power Supply
All Models

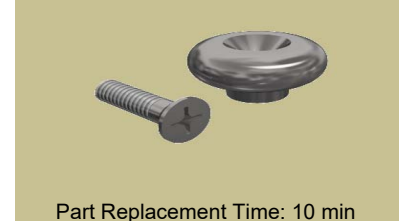
The 120VAC to 8.5VDC power supply is used to power the time/temperature controller. A defective power supply could cause controller to not turn on when powered.



Part Replacement Time: 10 min

504023 - Relay, Solid State 25A
All Models

SSRs are used to turn on and off power delivered to their associated heater once it reaches temperature set point. Failure will cause the associated heater to excessively rise above set point and might cause permanent damage to it.



Part Replacement Time: 10 min

504731 – Roller, Stainless Steel With Screw
All Models

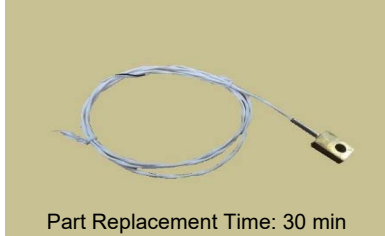
Damaged roller will prevent drawers from moving smoothly. Replace if damaged.

OWNER'S MANUAL

DH5D HEATED HOLDING CABINET SERIES WITH DRAWERS & AIR CIRCULATION



REPLACEMENT PARTS



Part Replacement Time: 30 min
502064 - Sensor, RTD, 48"

Used to read heater's temperature. If a RTD sensor goes bad or is disconnected, its associated controller will beep and the display will flash either "oPn" or "SHt" to indicate failure.



Part Replacement Time: 10 min

502425 – Switch, Rocker
Before S/N 65209 & after S/N 70328

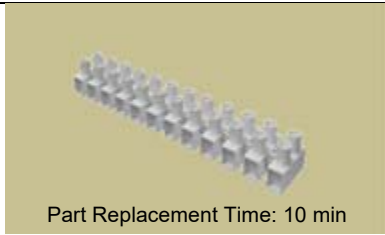
One switch for each deck is used to allow energy efficiency. A bad switch could cause the associated controller to not turn on. Bad or damaged switches should be replaced immediately.



Part Replacement Time: 10 min

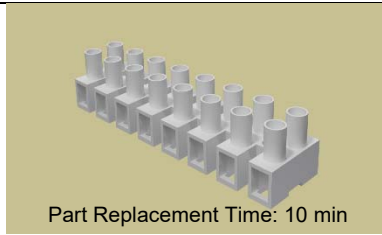
187699 – KIT, SWITCH REPLACEMENT
Only for S/N 65209 to 70328

One switch for each deck is used to allow energy efficiency. A bad switch could cause the associated controller to not turn on. Bad or damaged switches should be replaced immediately.



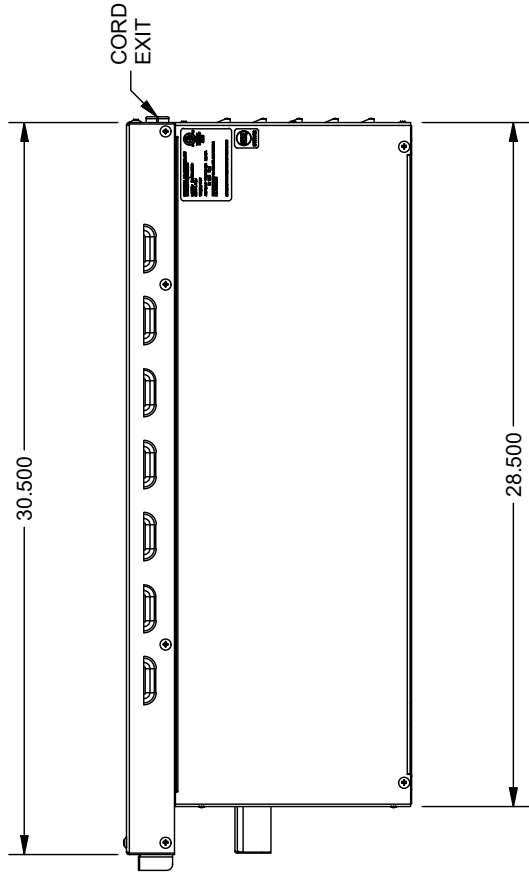
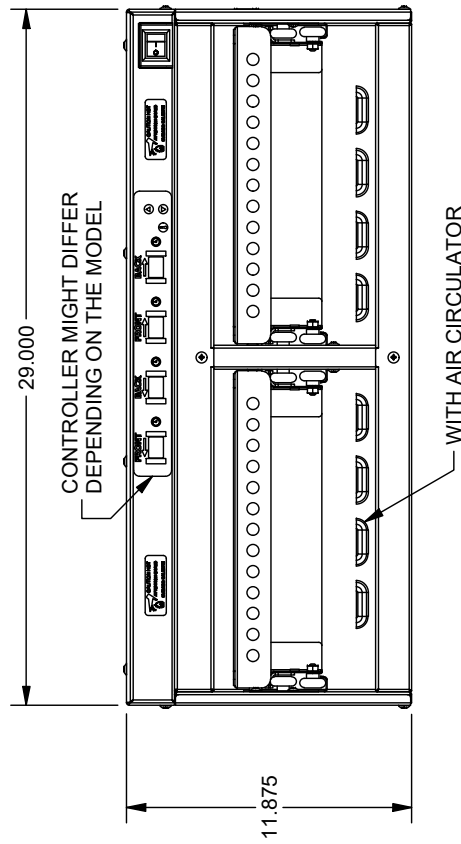
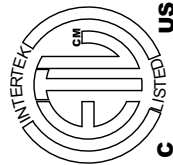
Part Replacement Time: 10 min
503087 – Terminal Strip, 12 Poles

A bad terminal strip can cause bad connections between electrical components. Replace if damaged.

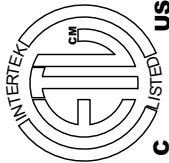


Part Replacement Time: 10 min
166041 – Terminal Strip, 8 Poles

A bad terminal strip can cause bad connections between electrical components. Replace if damaged.

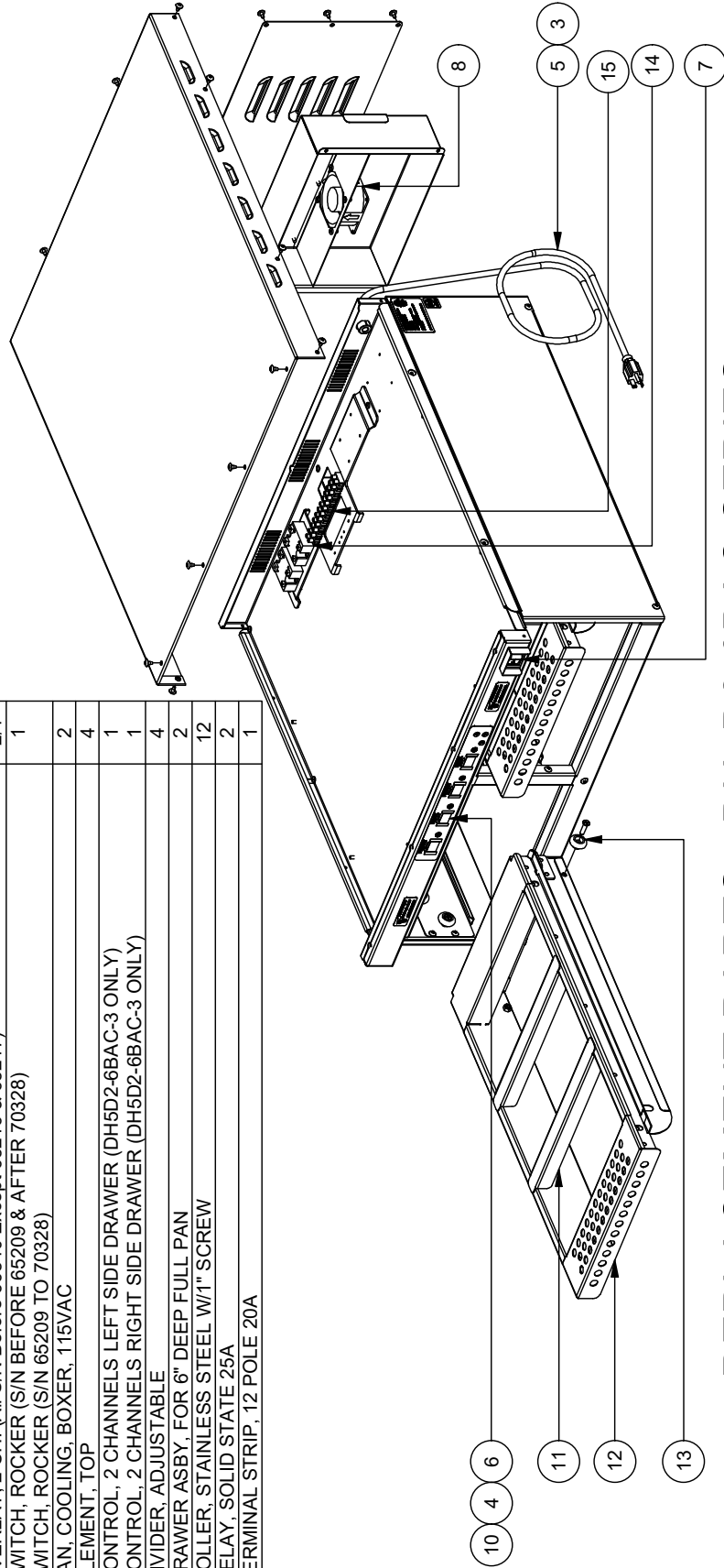
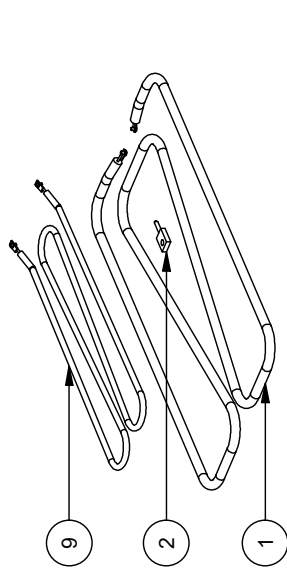


OVERALL DIMENSIONS - DH5D2-6BAC SERIES
FIGURE 1



US

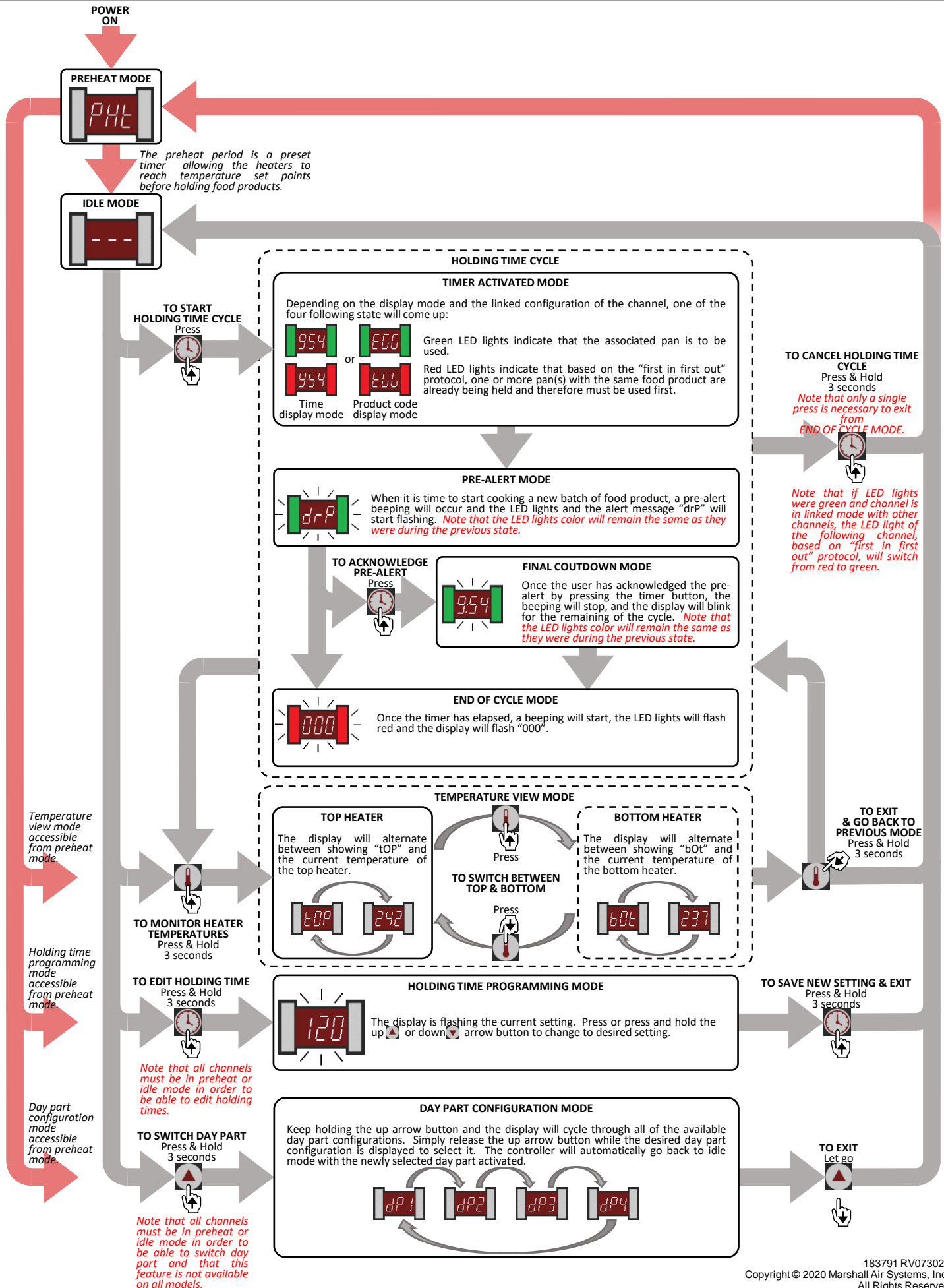
| Parts List | | |
|---------------|---|-----|
| ITEM PART NO. | DESCRIPTION | QTY |
| 1 | ELEMENT BOTTOM, 420W 120V (AFTER S/N 99999) | 2 |
| 186525 | ELEMENT BOTTOM, 840W 120V (BEFORE S/N 99999) | 4 |
| 2 | 502064 SENSOR, RTD, .48" | 2/4 |
| 3 | 502080 CONNECTOR, STRAIN RELIEF .875 HOLE | 1 |
| 4 | 187312 CONTROL, 4 CHANNELS (DH5D2-6BAC(BWW) S/N 65216, 65217 & After 66839) | 1 |
| 182989 | CONTROL, 2 CHANNELS (DH5D2-6BAC(BWW) ALL S/N Before 66840 Except 65216 & 65217) | |
| 5 | 504290 CORD, 12/3 SJTOW W/STR 120V PLUG | 1 |
| 6 | 504860 OVERLAY, 4 CH. (S/N 65216, 65217 & After 66839) | 1 |
| 504387 | OVERLAY, 2 CH. (All S/N Before 66840 Except 65216 & 65217) | 2/4 |
| 7 | 502425 SWITCH, ROCKER (S/N BEFORE 65209 & AFTER 70328) | 1 |
| 187699 | SWITCH, ROCKER (S/N 65209 TO 70328) | |
| 8 | 171132 FAN, COOLING, BOXER, 115VAC | 2 |
| 9 | 182966 ELEMENT, TOP | 4 |
| 10 | 187321L CONTROL, 2 CHANNELS LEFT SIDE DRAWER (DH5D2-6BAC-3 ONLY) | 1 |
| 187321R | CONTROL, 2 CHANNELS RIGHT SIDE DRAWER (DH5D2-6BAC-3 ONLY) | 1 |
| 11 | 183798 DIVIDER, ADJUSTABLE | 4 |
| 12 | 185010 DRAWER ASBY, FOR 6" DEEP FULL PAN | 2 |
| 13 | 504731 ROLLER, STAINLESS STEEL W/1" SCREW | 12 |
| 14 | 504023 RELAY, SOLID STATE 25A | 2 |
| 15 | 503087 TERMINAL STRIP, 12 POLE 20A | 1 |



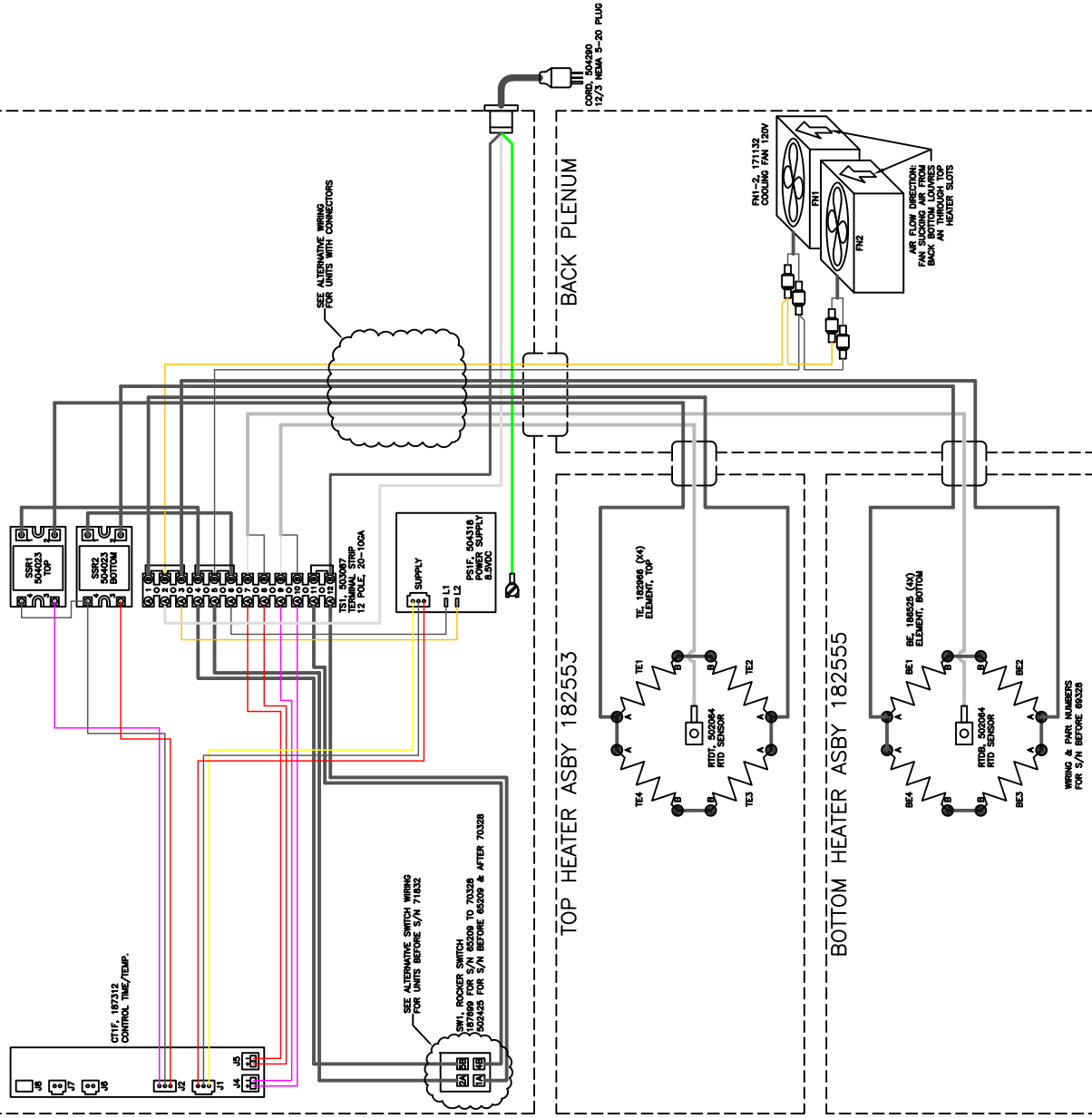
REPLACEMENT PARTS - DH5D2-6BAC SERIES
FIGURE 2

QUICK GUIDE, CONTROL OPERATION

DH5 HOLDING CABINETS WITH SOFTWARE VERSION 2.64, 4.14, 4.15 OR 4.16



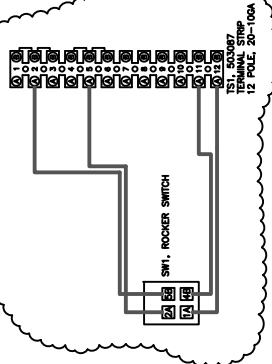
TOP CONTROL CABINET (VIEW FROM LEFT SIDE)



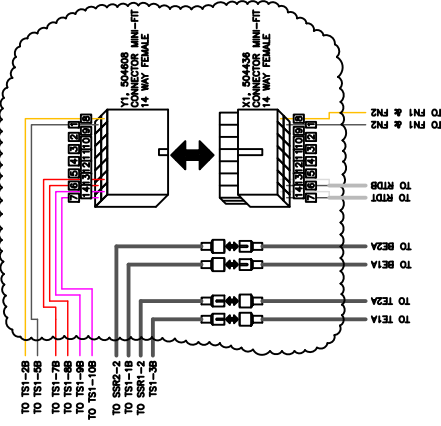
SCHEMATIC ONLY FOR UNITS WITH 4-CHANNEL CONTROL (S/N 65216, 65217 & AFTER 66839):

REFER TO SCHEMATIC #182967 FOR UNITS WITH 2-CHANNEL CONTROL

ALTERNATIVE SWITCH WIRING FOR UNITS BEFORE S/N 71832

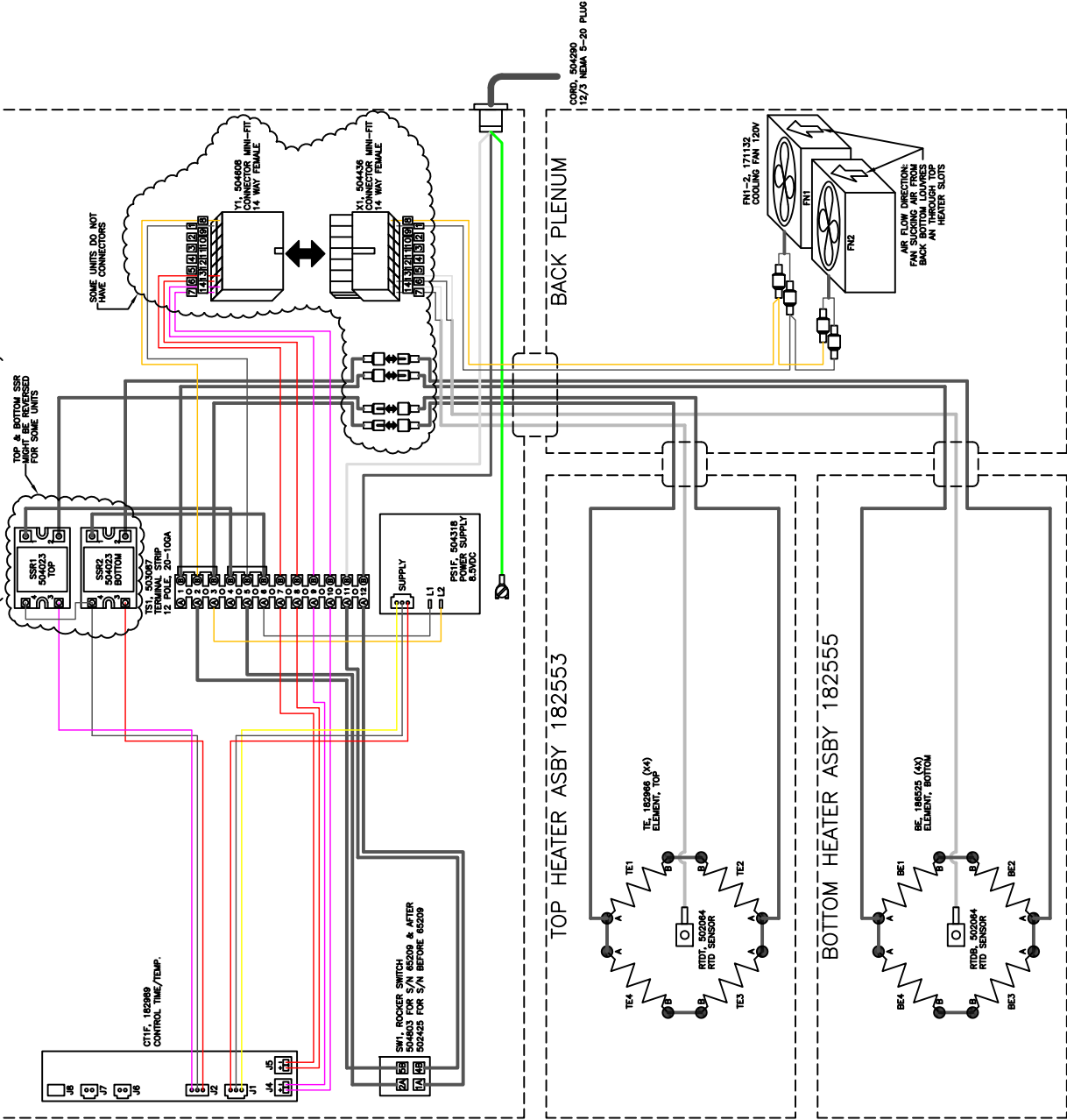


ALTERNATIVE WIRING FOR UNITS WITH CONNECTORS



| | | | | | | | | |
|---------------------|--|------------|------|----------------------|----------------------------------|-----------|---|--|
| REV | DESCRIPTION | DATE | REV. | BY | DRAWN BY: | DATE: | MARSHALL AIR SYSTEMS, INC. | |
| 1 | ADDED S/N 70329 FOR SWITCHES | 8/12/2021 | S.A. | S.A. | S.A. | 4/12/2021 | SCHEMATIC, FOR UNITS WITH 4-CHANNEL CONTROL | |
| 2 | CHANGED WIRING TO SPLIT LOAD AT SWITCH | 11/9/2021 | S.A. | S.A. | | | 120V, WITH DRAWERS & AIR CIRCULATION | |
| MATERIAL: REFERENCE | | SIZE: A | | ROUTE: ELECT | DWG. NO.: 187310 | | REV.: 2 | |
| " X" | | SCALE: NTS | | IMAGE MAY BE REDUCED | CODE: DH5D2-6BAC & DH5D2-6BACBWW | | | |

TOP CONTROL CABINET (VIEW FROM LEFT SIDE)

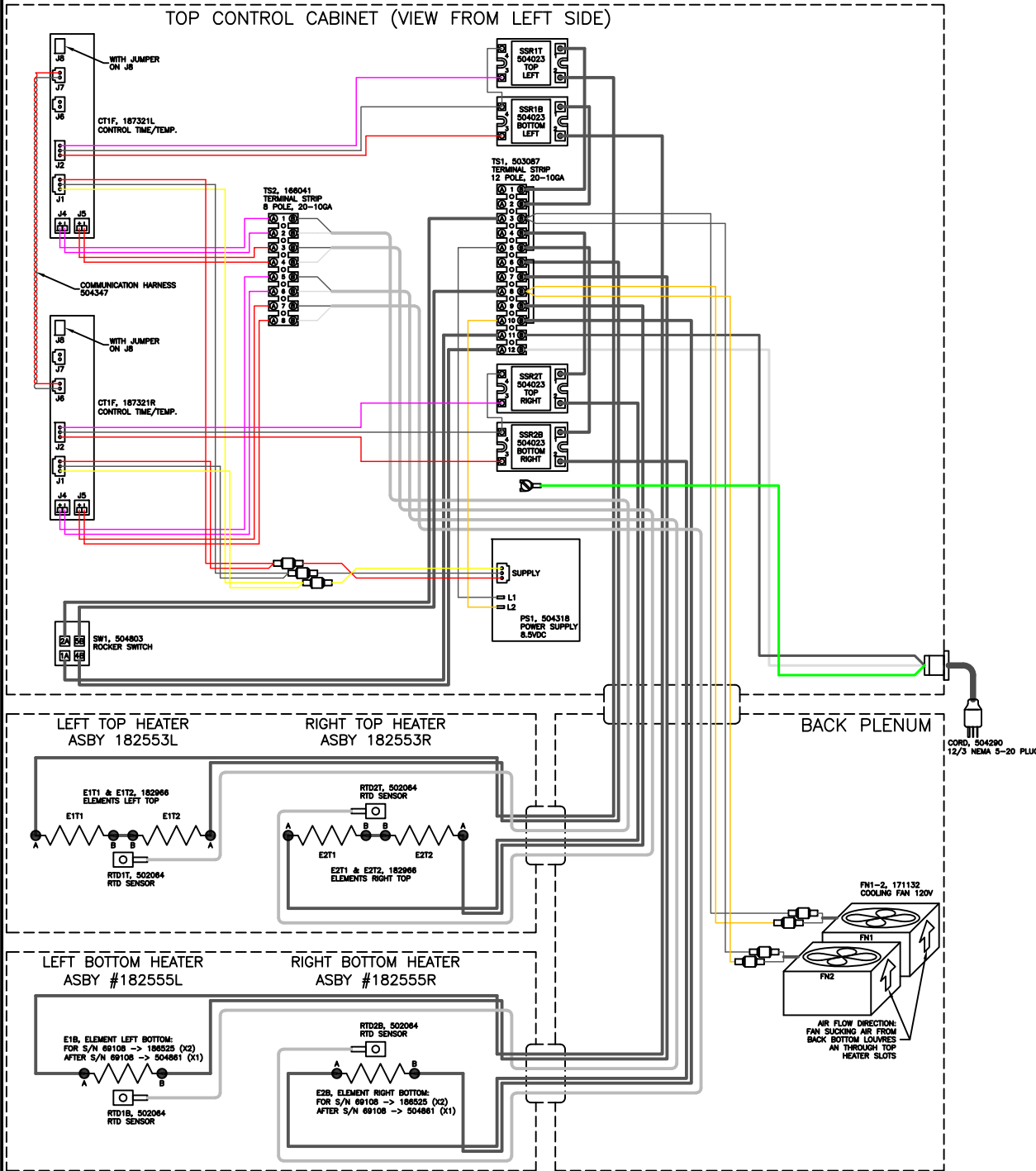


SCHEMATIC ONLY FOR UNITS WITH 2-CHANNEL CONTROL (ALL S/N BEFORE 66840 EXCEPT 65216 & 65217):



REFER TO SCHEMATIC #187310 FOR UNITS WITH 4-CHANNEL CONTROL

| | | | | | | | |
|---------------------|-------------------------|------------|---------|----------------------|------------------|---|--|
| REV | DESCRIPTION | DATE | REV. BY | DRAWN BY: | DATE: | MARSHALL AIR SYSTEMS, INC. | |
| 1 | ADDED SWITCH P/N 504803 | 1/21/2021 | S.A. | S.A. | 3/19/2020 | SCHEMATIC, FOR UNITS WITH 2-CHANNEL CONTROL | |
| 2 | ADDED S/N NOTE | 4/9/2021 | S.A. | | | 120V, WITH DRAWERS & AIR CIRCULATION | |
| MATERIAL: REFERENCE | | SIZE: A | | ROUTE: ELECT | DWG. NO.: 182967 | REV: 2 | |
| " X" | | SCALE: NTS | | IMAGE MAY BE REDUCED | | CODE: DH5D2-6BAC & DH5D2-6BACBWW | |



| | | | | | |
|--|--------------|-------------------------|---------|---------------------|--|
| MARSHALL AIR SYSTEMS, INC. | | DRAWN BY: S.A. | | DATE: 5/14/2021 | |
| SCHEMATIC, FOR VERSION 3 (WITH TWO 2 CH. CONTROLS) | | GENERIC NAME: SCHEMATIC | | PRODUCT CLASS: HHC | |
| 120V, WITH DRAWERS & AIR CIRCULATION | | FAB | | MATERIAL: REFERENCE | |
| SIZE: A | ROUTE: ELECT | DWG. NO.: 187314 | REV.: 0 | SCALE: NTS | |
| IMAGE MAY BE REDUCED | | CODE: DH5D2-6BAC-3 | | NTS | |