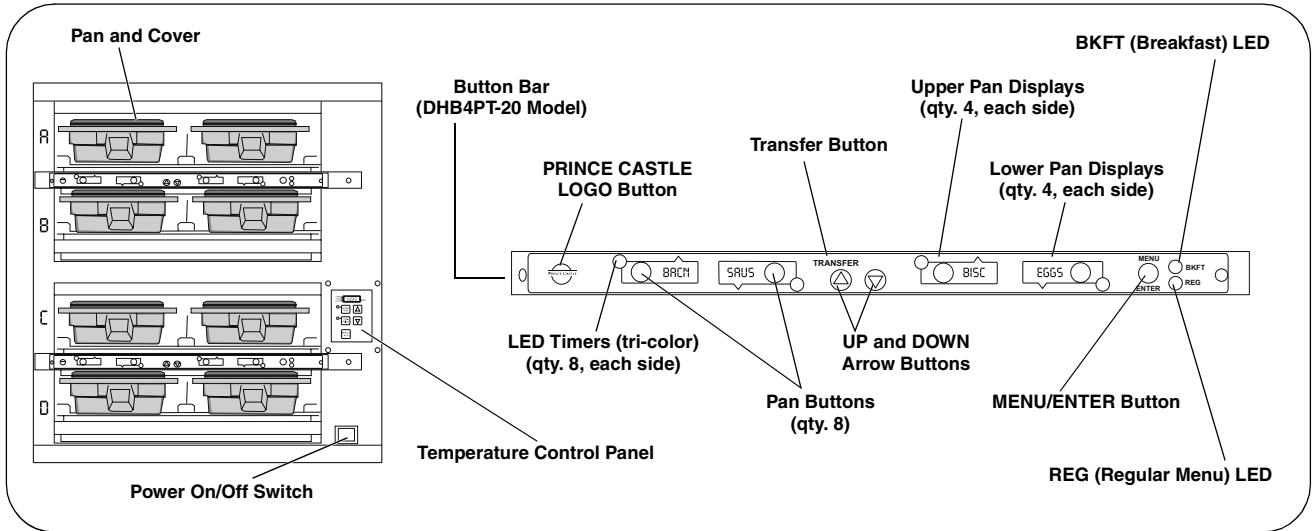


Operation Manual

Product Holding Bin
DHB4PT-20 Series

Product Identification



LIMITED WARRANTY

This product is warranted to be free from defects in material and/or workmanship for a period of one (1) year from date of original installation (with the exception of racks, pans, and covers), not to exceed 18 months from date of shipment from our factory. Any component which proves to be faulty in material and/or workmanship will be replaced or repaired (at the option of Prince Castle, Inc.) without cost to the customer for parts or labor. This warranty covers on location service (i.e. trip charges and/or mileage). Travel mileage is limited to 100 miles (200 kilometers-International) round trip (one trip warranty) from an authorized service agency or its sub-service agency.

This warranty is subject to the following exceptions/conditions:

- Use of any non-genuine Prince Castle parts voids this warranty.
- All labor shall be performed during regular work hours. Overtime premium will be charged to the buyer.
- Damage caused by carelessness, neglect, and/or abuse (e.g., dropping, tampering or altering parts, equipment damaged in shipment, by fire, flood or an act of God) is not covered under this warranty.

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PRINCE CASTLE LLC
WORLDWIDE



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Fax: 630-462-1460 • www.princecastle.com

Safety Information

⚠ WARNING

Indicates information important to the proper operation of the unit. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.

⚠ CAUTION

Indicates information important to the operation of the unit. Failure to observe may result in damage to the equipment.

Installation

- A. Remove the unit from the carton and inspect for signs of damage. If there is damage to the unit:
- notify the carrier within 24 hours of delivery
 - save carton and packaging materials for inspection purposes
 - contact your local dealer, or if purchased directly, the Prince Castle Sales Department at 800-722-7853 or 1-630-462-8800 to arrange for a replacement unit.

NOTE: When installing this unit, the ambient temperature at the mounting site should not exceed 100°F.

- B. Place the bin on a counter and seal the base to the counter with food-approved sealant.
- C. Plug the power cord into the bin and connect the plug into the proper electrical outlet (15 amp, 120 Volt). All connections must be in accordance with local electrical codes and any other applicable codes.

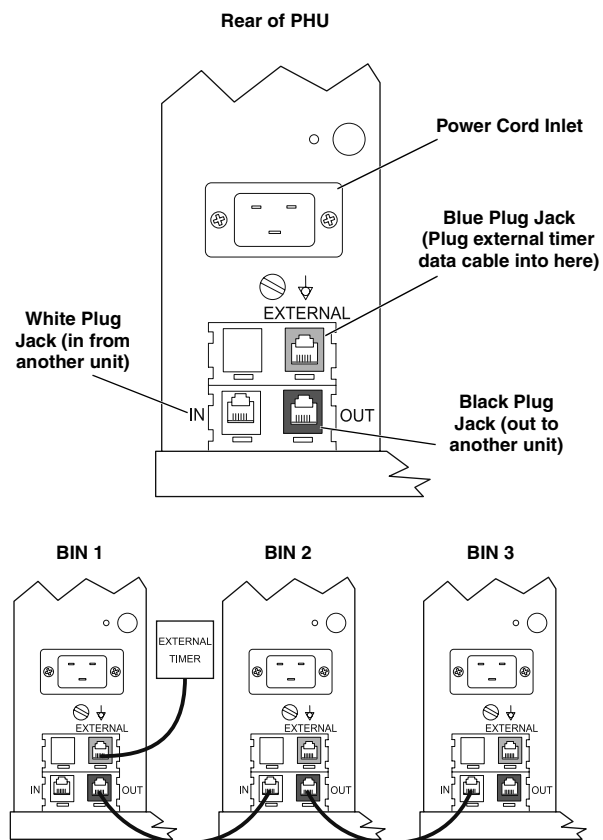
NOTE: The electrical receptacle should be a dedicated outlet. No other equipment should be operating on the line (refrigerators, fryers, etc.).

- D. If used, plug a Prince Castle external timer bar (consult factory for model) data cable into the blue plug jack (external) located on the rear of the Prince Castle holding bin. If cable from timer is too short, use Prince Castle Extender Cable Kit, P/N PC-COMEXT.

- E. Install the racks, pans and pan covers into the cavities.

- F. Turn the power switch to ON. Allow 30 minutes for warm-up.

NOTE: If the unit is to be networked with other Prince Castle units, an external timer may be connected to any one bin in the chain. Refer to CASTLENET COMMUNICATIONS NETWORK in this manual.

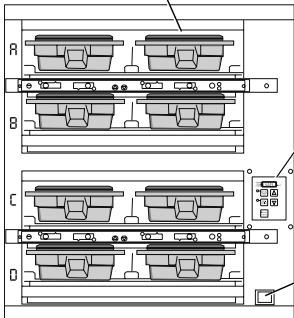


Prince Castle reserves the right to change specifications and product design without notice. Such revisions do not entitle the buyer to corresponding changes, improvements, additions or replacements for previously purchased equipment.

Operation

1 Turn power On/Off switch to ON position.


Load pan covers (if used) onto pan racks and insert racks into the unit.



Allow 30 minutes for heaters to reach operating temperature. The Temperature Display will show temperature as unit warms up to the operating temperature.

Power On/Off Switch


2 Press all PAN buttons (if applicable).



The PAN displays will show the assigned product name. If no product is assigned, the display will be dim and show "----". Pressing the PAN button will not activate the timer if "----" is displayed. Pressing PAN button when product name is displayed will start timing cycle.

BKFT (Breakfast) or REG (Regular Menu) will be lit depending on pre-programmed menu.

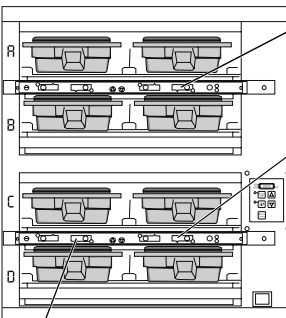
3 LED Timing Status



LED Timers

- RED (steady) = Ready for product
- RED (flashing) = Discard product
- GREEN (steady) = Oldest product, use first
- GREEN (flashing) = Cook more product
- YELLOW (steady) = Newer product, use green first
- YELLOW (flashing) = Cook more product

4 When LED is steady RED, load product and press the PAN button.



If no other pan is active for a product, the LED for the first pan loaded will turn from RED to GREEN.

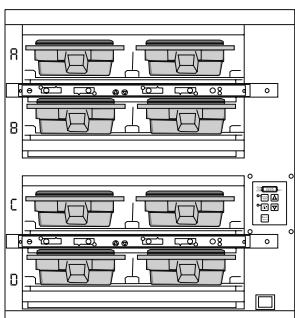
The LED for the 2nd pan (3rd pan, etc.) loaded will turn from RED to YELLOW.

An LED timer can be stopped (cancelled) at any time by pressing and releasing the corresponding PAN button.

If only one pan is active for a product, the LED will turn from RED to GREEN.

5 When any of the timer LEDs flash, cook more product or remove and discard product as indicated.

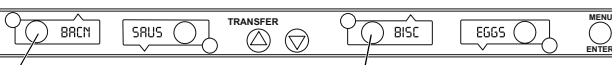
- GREEN (flashing) = Cook more product
- YELLOW (flashing) = Cook more product
- RED (flashing) = Discard product



WARNING
Hot surfaces.

6 Product, along with any remaining time, can be transferred from one cavity to another as follows:

- A. Press and release the TRANSFER button on the timer bar of the product to be moved. Displays for all pans available for transfer will be brightly lit. All others will be dimly lit.
- B. Press and release the PAN button of the product to be moved.
- C. Press and release the TRANSFER button on the bar where the product will be moved. All available pan locations on the bar will be brightly lit.
- D. Press and release the PAN button for the new location. The new location will finish timing the product. When the transferred pan time expires, the location will revert back to the original menu settings.



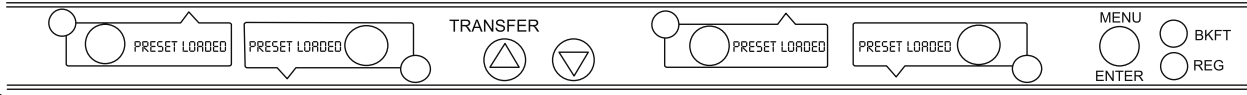
NOTE: If product transfer is not completed within a pre-programmed transfer time, the transfer will be cancelled. See your Manager.

Operation (continued)

- 7** To shut down the unit, turn the power On/Off switch to OFF.

NOTE: To load preset times/menus:

- Turn power switch to OFF.
- Press and hold both the UP and DOWN Arrow buttons.
- Turn power switch ON.
- When the four right-most displays show PRESET LOADED, release the buttons.



Cleaning



WARNING

Before performing any maintenance, turn the power switch to the OFF position and unplug the power cord from the electrical receptacle.



CAUTION

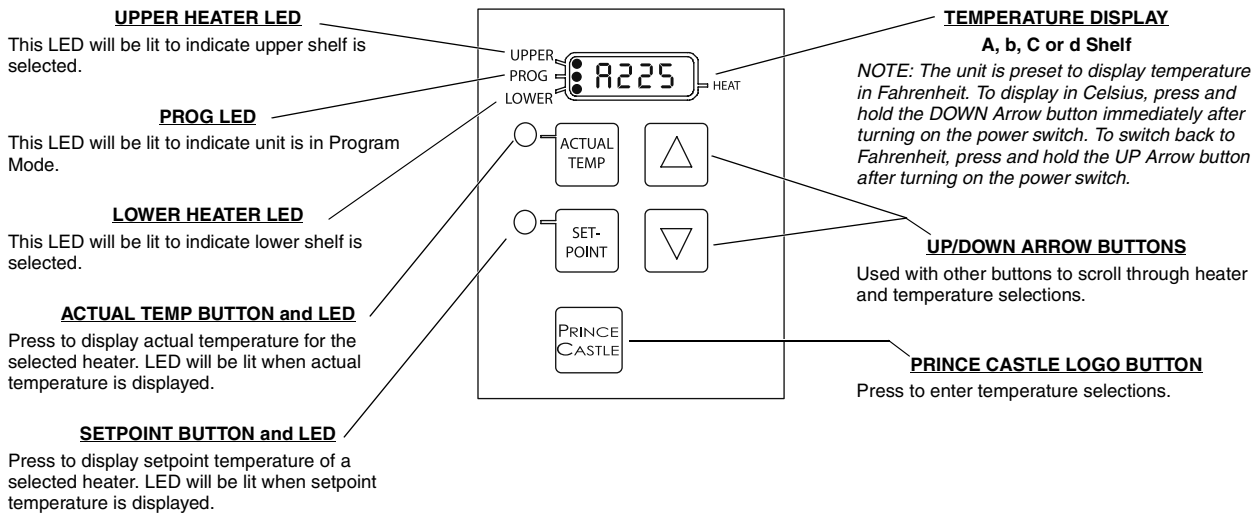
This unit is not watertight. Do not clean with a water jet/jet spray. Do not immerse the unit in water.

- Turn the unit off and unplug the power cord from the electrical receptacle.
- Remove the pan covers and pan racks. Wipe all parts and unit with a damp cloth. DO NOT use a green Scotch Bright pad cleaner, ice or water.

Setting the Temperature

- 1** The unit has four shelves, each with an upper and lower heater (eight heaters total).
 The factory pre-set for the upper heaters is 225°F.
 The factory pre-set for the lower heaters is 195°F.
 Each upper heater has a programmable range of 150° – 275°F.
 Each lower heater has a programmable range of 150° – 225°F.
 Use the control below and the following steps to set the setpoint temperature for each heater.

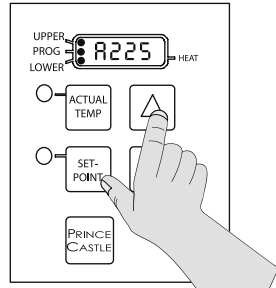
CAUTION
 DISPLAYED TEMPERATURES
 ARE HEATER TEMPERATURES
 AND DO NOT INDICATE ACTUAL
 FOOD TEMPERATURES.



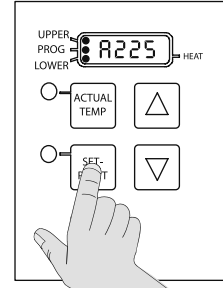
NOTE: To reset all times and temperatures to the factory settings, turn the unit off, then press and hold the UP and DOWN Arrow buttons simultaneously while turning the unit back on. A "P" will appear in the display and all times and temperatures will be reset to original factory settings.

Setting the Temperature (continued)

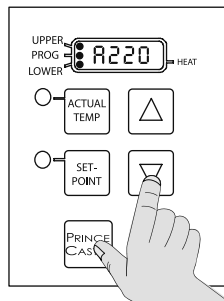
- 2** Press the UP or DOWN Arrow button until the desired shelf (A, b, C or d) LED and upper (U) or lower (L) heater is selected.



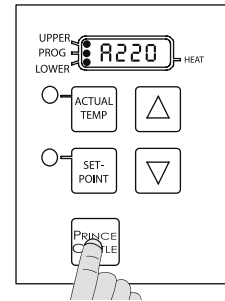
- 3** Press and hold the SETPOINT button and the PRINCE CASTLE LOGO button for 5 seconds. The Program LED will light.



- 4** Press the UP or DOWN Arrow button until the desired setpoint temperature is displayed.



- 5** Press the PRINCE CASTLE LOGO button to save the new setpoint value. Repeat steps 2 – 5 to change the setpoint for any other heater.

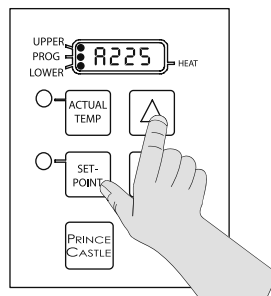


Calibrating Heaters

- 1** Use the following steps to calibrate the individual heaters.

NOTE: Allow sufficient amount of time for temperatures to stabilize before starting calibration.

Press the UP or DOWN Arrow button until the desired heater LED and upper (U) or lower (L) shelf is selected.

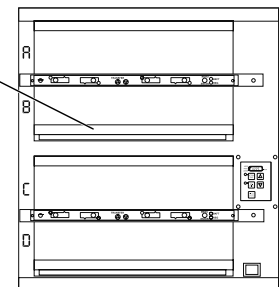


- 2** Take a temperature reading within the shelf near the center of the heater surface.

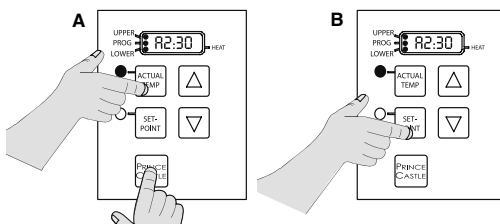
Use a stand-alone temperature meter (not supplied).



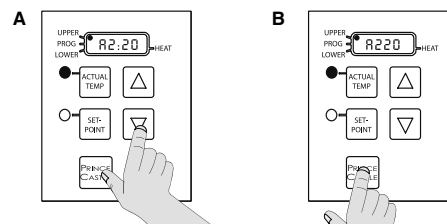
WARNING
Hot surfaces. Use caution when taking temperature readings within the shelf.



- 3** A. Press and hold the PRINCE CASTLE LOGO and ACTUAL TEMP buttons for 5 seconds. The colon (:) LED indicator will light. The temperature displayed is the actual heater temperature sensed by the controller.
B. To clear any offset readings, press the SETPOINT button.



- 4** A. Press the UP or DOWN Arrow button until the temperature displayed matches the reading obtained in Step 2.
B. Press the PRINCE CASTLE LOGO button to save the temperature value and exit the Calibration Mode.



Selecting Breakfast and Regular Menus

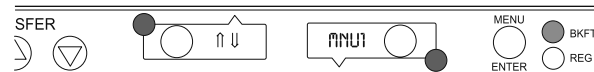
- 1** There are six menus available:
BKFT LED ON = Menu1 or Menu6
REG LED ON = Regular2, Regular3, Regular4, or Regular5
Press and hold the MENU/ENTER button, then use the UP or DOWN Arrow button to scroll through the 6 menus.

When scrolling, menu numbers appear in this display.



- 2** When the desired menu is displayed, release the MENU/ENTER button. The food products for the menu will be displayed in the upper and lower PAN displays.

When timers for a different menu are still active, those BKFT or REG LEDs will flash until they are all cancelled.

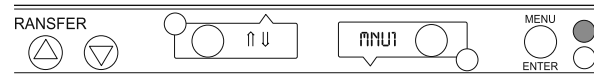


Programming the Menus

- 1** Press and hold the PRINCE CASTLE LOGO button (on the button bar) until all the displays show *PROG* and the PAN buttons LEDs all glow RED.



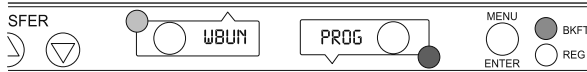
- 2** Press and hold the MENU/ENTER button. The display next to the MENU/ENTER button will show the menu choices. Use the UP or DOWN Arrow button to scroll through the 6 menus. Release the MENU/ENTER button when the desired menu is displayed.



When the MENU/ENTER button is released, all displays will again show *PROG*.



- 3** A. Press the PAN button next to the display to be changed. The LED will change from RED to YELLOW and the display will change from *PROG* to the assigned product choice.



B. Press the UP or DOWN Arrow button to scroll to the desired product choice.

C. Press the MENU/ENTER button to save the selection. All displays will show *PROG*.



- 4** A. Repeat Steps 2 and 3 as required.
B. Press the PRINCE CASTLE LOGO button to exit the Program Mode and return to the Run Mode.

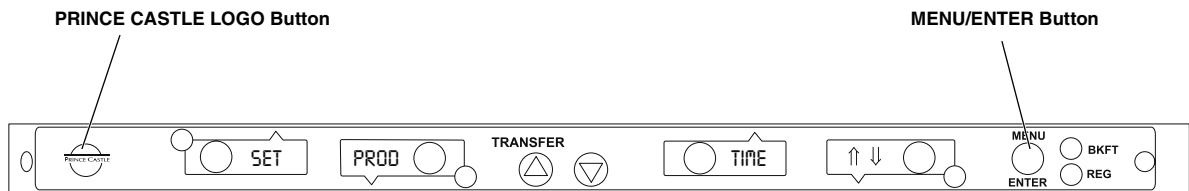
NOTE: Up to six items (one for each menu) may be programmed for each PAN button. A pan may be set as "not used" by assigning "---" as its product.



NOTE: Timer Bar Factory Presets: 1) Turn BIN off. 2) Press and hold UP and DOWN arrows on the Timer Bar while reapplying power. 3) Repeat for each Timer Bar.

Changing the Hold and Cook-More Times

- 1 A. The SET PRODUCT TIME menu is used to change the Hold and Cook-More times.
- B. Press and hold the PRINCE CASTLE LOGO button, then immediately press and hold the MENU/ENTER button until the display shows one of the programming menus.
- C. Use the UP or DOWN Arrow button to scroll to the *PRDD TIME ↑ ↓ ENTR* menu.



- 2 A. Press and release the MENU/ENTER button to enter the Set Product Time menu. The display will show, for example, *SET EGG5 TIME ↑ ↓*.
- B. Use the UP or DOWN Arrow button to scroll through the list of products. When the desired product is displayed, press the MENU/ENTER button to select it.

Refer to the Product Menu Details on page 11 for a list of products and their corresponding display names.



NOTE: Holding the UP or DOWN Arrow button for longer than 2 seconds will cause the product list to automatically scroll up or down.

- 3 A. The display now shows the current Hold time.

- B. Use the UP or DOWN Arrow button to scroll to the desired Hold time. When the desired Hold time is displayed, press the MENU/ENTER button to save the desired Hold time.



NOTE: Hold time cannot be reduced to less than the Cook-More time plus one minute.

- 4 A. The display will now show current Cook-More time. Use the UP or DOWN Arrow button to scroll to the desired Cook-More time.



- B. When the desired Cook-More time is displayed, press the MENU/ENTER button to save it.



NOTE: Cook-More time cannot be increased to more than the Hold time minus one minute.

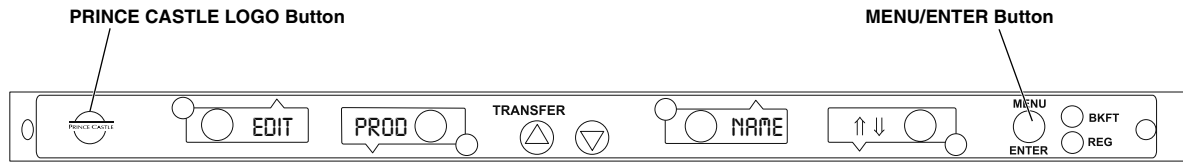
- 5 A. The display will show *SET PRDD TIME ↑ ↓*. Repeat Steps 2 – 4 for any other product.
- B. Press and release the PRINCE CASTLE LOGO button at any time to exit the Program Mode and return to the Run Mode.

NOTE: If the MENU/ENTER button has not been pressed to save any changes, the program will revert to the original values.



Changing Product Names

- 1** A. The EDIT PRODUCT NAME menu is used to change a default product name to one of your own choosing.
 - B. Press and hold the PRINCE CASTLE LOGO button, then immediately press and hold the MENU/ENTER button until the display shows one of the programming menus.
 - C. Use the UP or DOWN Arrow button to scroll to the *EDIT PROD NAME* ↑ ↓ menu.
- NOTE: The default names available for editing are listed on page 11.*



- 2** A. Press and release the MENU/ENTER button to enter the Edit Product Name menu. The display will read *SEL PROD XXXX* ↑ ↓.
- B. Use the UP or DOWN Arrow button to scroll through the list of products.
- C. When the desired product is displayed, press the MENU/ENTER button to select it. The first letter (in this case, the E) will start blinking.



- 3** A. To change the blinking E, use the UP or DOWN Arrow button to scroll to the desired letter/number/symbol.
- B. When the desired selection is displayed, press the PAN button (to the left or right of the selected display) to move to the next digit.
- C. Repeat for all digits.



NOTE: Holding the UP or DOWN Arrow button for longer than 2 seconds will cause the selected digit to automatically scroll up or down.

- 4** When all four digits have been changed, press the MENU/ENTER button to save the new name.

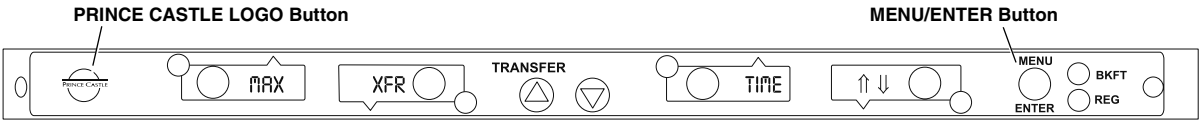


- 5** A. The display will show *EDIT PROD NAME* ↑ ↓. Repeat Steps 2 – 4 for any other product.
 - B. Press and release the PRINCE CASTLE LOGO button at any time to exit the Program Mode and return to the Run Mode.
- NOTE: If the MENU/ENTER button has not been pressed to save any changes, the program will revert to the original names.*




Set Maximum Transfer Time

1 A. The SET MAXIMUM TRANSFER TIME menu is used to set the amount of time allowed to make a product transfer from one pan to another.
 B. Press and hold the PRINCE CASTLE LOGO button, then immediately press and hold the MENU/ENTER button until the display shows one of the programming menus.
 C. Use the UP or DOWN Arrow button to scroll to the *MAX XFR TIME* ↑ ↓ (Set Maximum Transfer Time) menu.




The diagram shows a control panel with several buttons. On the left is the PRINCE CASTLE LOGO Button. To its right are buttons labeled MAX, XFR, and TRANSFER. Further right are buttons labeled TIME, and a set of UP and DOWN arrow buttons. On the far right is the MENU/ENTER Button, along with BKFT and REG buttons.

2 A. Press and release the MENU/ENTER button to enter the Set Maximum Transfer Time menu.
 B. The display shows *MAX XFR :20* ↑ ↓. This shows a value of 20 seconds.



The diagram shows a close-up of the control panel with the XFR and TRANSFER buttons highlighted.

3 A. To change the time, use the UP or DOWN Arrow button to scroll to the desired time. When the desired selection is displayed, press the MENU/ENTER button to enter the selection.
 B. Press and release the PRINCE CASTLE LOGO button at any time to exit the Programming Mode and return to the Run Mode.
NOTE: If the MENU/ENTER button has not been pressed to save any changes, the program will revert to the original time.



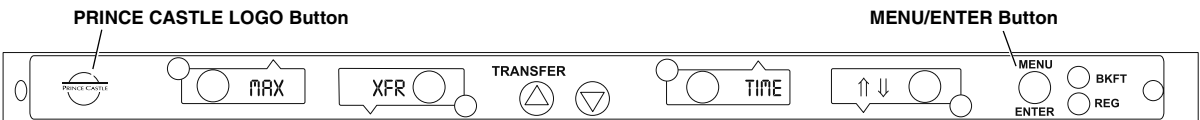
The diagram shows a close-up of the control panel with the XFR and TRANSFER buttons highlighted. A digital display shows ':25'.

Product Linking

Any Timer Bar (except bun holding timers) can be linked to others (see Special Programming Mode, this page). If Timer Bars are set to the same link group, any product started in any bar of the same group will be compared to all other products in the same group, and its LED color will be determined based on all timers in the group with the same product (not just with all timers on its own Timer Bar).

Special Programming Mode

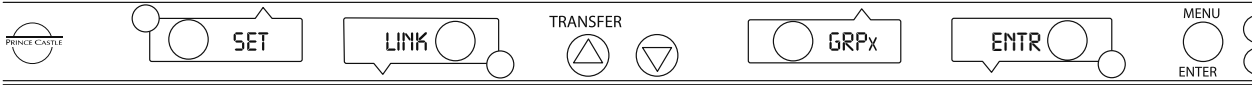
1 A. Press and hold the PRINCE CASTLE LOGO button then immediately press and hold the MENU/ENTER button. Hold both buttons for six seconds. The displays will change to show the first menu — depending on model.
 B. Press and release the UP and DOWN Arrow buttons to scroll through the list of Special Modes.



The diagram shows a control panel with the PRINCE CASTLE LOGO Button and MENU/ENTER Button highlighted.

2 Set Link Group

A. When the displays show *SET LINK GRPX* ↑ ↓ *ENTR*, the X indicates the currently assigned Link Group. Press and release the MENU/ENTER button to set the Link Group Mode.
 B. The link group number (X) will flash. Press and release the UP and DOWN Arrow buttons to change the group number. The maximum number allowed is 3, and the minimum is 0. When a Timer Bar is assigned to Link Group 0, it is isolated and not associated with any other Timer Bar (linking is disabled).
 C. When the desired link group is displayed, press and release the MENU/ENTER button to save it. The program will revert to Set Link Group Mode.



The diagram shows a control panel with buttons labeled SET, LINK, TRANSFER, and GRPX. There is also an ENTR button and a MENU/ENTER button on the right.

CastleNet® Communications Network

The Prince Castle DHB Bins, external timers, and New Bun Cabinet Timers can be inter-connected to form the CastleNet® Communication Network. The network can be used for data transfer between bins and timers for menu updates or to transfer product Hold time from bin-to-bin. A PDA (or similar device) or a notebook with Prince Castle MenuView® software is used to connect to the network and enter the desired changes.

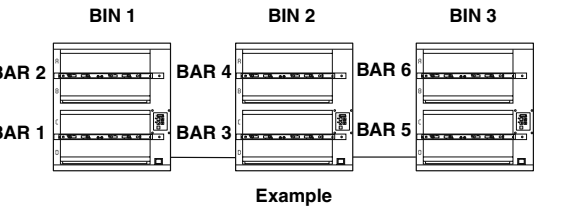
Each bin is supplied with a standard 25' cable and allows units to be "daisy-chained" together to form the network. If cable is too short, use Prince Castle Extender Cable Kit, P/N PC-COMEXT.

The factory default address for Main bins and timers is address 1. The factory default address for Specialty bins and timers is address 2. If a third bin is used, the address must be set at 3.

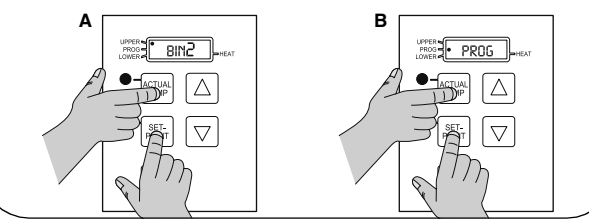
1 Telephone jack plugs are located on the back of the unit. Connect the units using the cables provided as shown here.



2 **IMPORTANT:** Each timer must have a different address. If a location has three bins, it is recommended that the bins and timers be set consecutively to addresses 1 through 6.

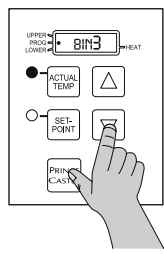


3 A Turn the power switch off, wait 15 seconds. Turn the switch to ON while pressing and holding the ACTUAL TEMP and SETPOINT buttons. The display will show the current bin address.
B. Continue to hold the buttons until PROG LED turns on.

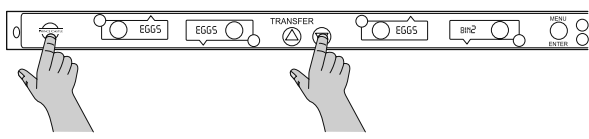


4 Use the UP or DOWN Arrow button to scroll to the desired address. Press the PRINCE CASTLE LOGO button to store the new address.

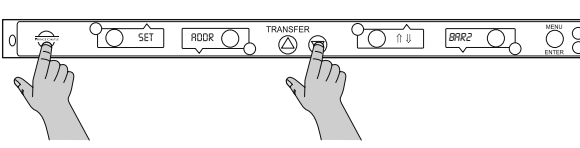
Available addresses are:
BIN1 thru BIN3, BIN A, BIN B, BIN C, BIN D, BIN E and BIN F.
IMPORTANT: Continue to Step 5 to check the timer address. No two timers can have the same address.



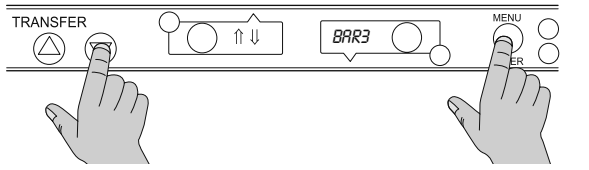
5 To check the timer address, press and hold the PRINCE CASTLE LOGO button and the DOWN Arrow button. The current timer address will be displayed in the far right timer display. To change the timer address, proceed to Step 6.



6 To change the timer address, turn the unit power switch off and wait 15 seconds. Turn the power switch back on and immediately press and hold the PRINCE CASTLE LOGO button and the DOWN Arrow button for approximately 6 seconds or until the display shows SET ADDR ↑ ↓ BAR2. The address number will blink on/off.



7 Use the UP or DOWN Arrow button to scroll to the desired address. Press the MENU/ENTER button to store the new address and return to normal Operating Mode.
Available addresses are:
BAR1 thru BAR3 and A thru F.



Factory Presets

Product Menu Details

Product	Display Name	Hold Minutes ¹	Cook-More Minutes ¹
Burger	BUR1	30	3
Burger	BUR2	30	3
Chicken Patty	CHX1	30	3
Chicken Patty	CHX2	30	3
Chicken Patty	CHX3	30	3
Chicken Wing	WING	30	3
Fish	FISH	5	3
Eggs	EGGS	30	3
Sausage	SAUS	30	3
Bacon	BACN	30	3
Ham	HAM	30	3
Popper	POP	30	3
Mozzarella Stick	MOZ	30	3
Onion	ONIN	10	7
Mushroom	MUSH	30	3
Chicken Nuggets	NUGG	30	3
Spicy Chicken	SPCY	30	26
French Toast	TOST	10	8
Chicken Stars	STAR	30	27
Large	LRG	20	17
\$6 Burger	SIX	20	17
BBQ Chicken	BBQ	20	17
Crispy Chicken	CRSP	30	26
Special #1	SPC1	30	3
Special #2	SPC2	30	3

1. Hold and Cook-More times may be re-programmed. See page 7.
2. Product abbreviations SPC1 and SPC2 may be reprogrammed. See page 8.

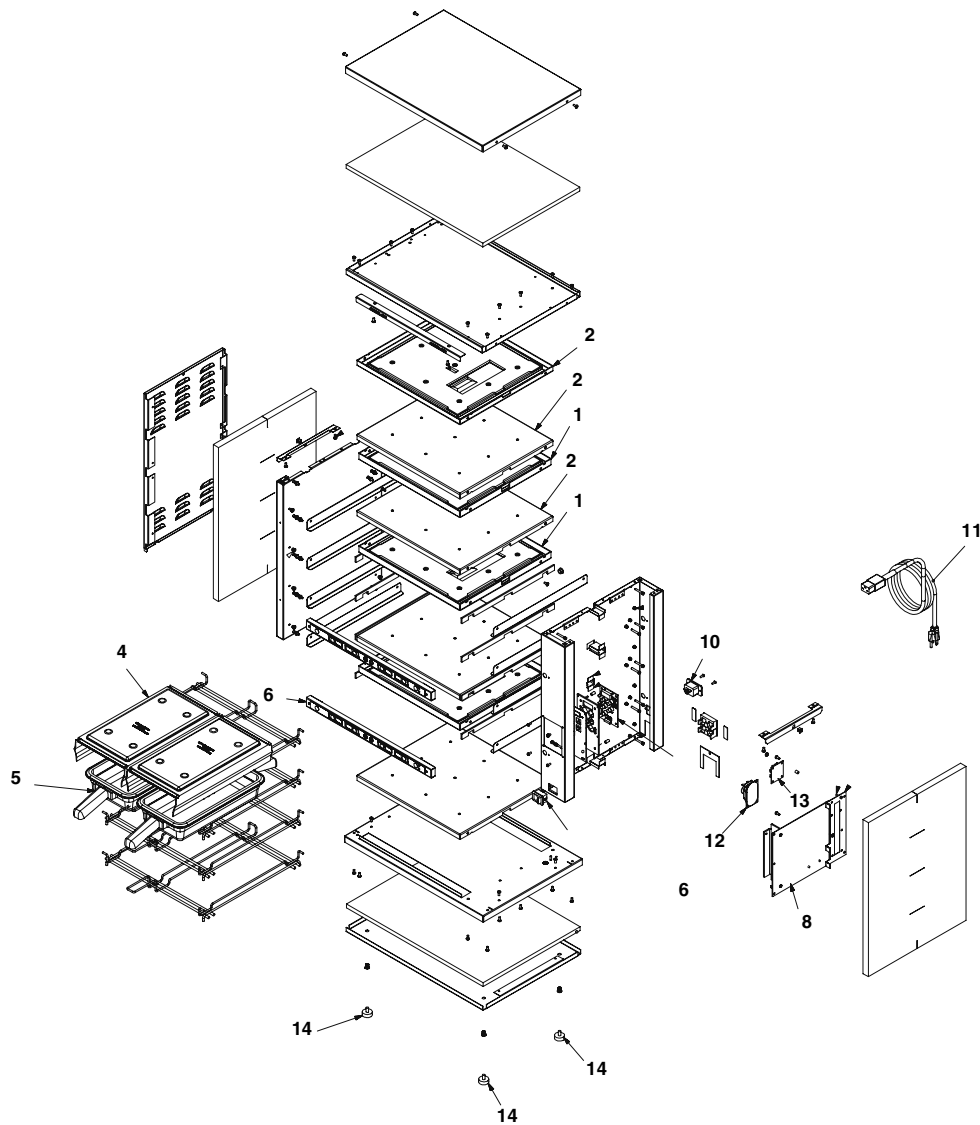
Menus

UP	DOWN	UP	DOWN	UP	DOWN	UP	DOWN	Menu	LED
CRSP	ONIN	BBQ	SPCY	SIX	SIX	LRG	LRG	MNU1	Bkft
BUR1	BUR1	BUR1	BUR1	BUR2	BUR2	BUR2	BUR2	MNU2	Reg
CHX1	CHX1	CHX2	CHX2	CHX3	CHX3	WING	FISH	MNU3	Reg
CHX1	CHX2	WING	WING	MOZ	MOZ	POP	POP	MNU4	Reg
CHX1	CHX2	WING	WING	WING	POP	ONIN	MUSH	MNU5	Reg
EGGS	EGGS	EGGS	EGGS	HAM	BACN	SAUS	SAUS	MNU6	Bkft

Troubleshooting

PROBLEM	PROBABLE CAUSE	SOLUTION
Display flashes <i>OPN</i> and <i>REL</i> .	Open relay. Circuit inoperable.	Replace power circuit board.
Display flashes <i>SHR</i> and <i>REL</i> .	Shorted relay. Circuit inoperable. Open heater. Unplugged ribbon cable between power and main circuit boards.	Replace power circuit board. Test heater resistance (150.2 Ohms). Replace heater if necessary. Verify ribbon cable connection.
Display flashes <i>OPN</i> and <i>REL</i> .	Temperature is below 75°F. Heater inoperable. Probe inoperable. Relay inoperable.	Normal display during warmup. Test heater resistance (150.2 Ohms). Check for open thermocouple wires from probe. Replace heater/probe assembly. Replace power circuit board.
Display shows <i>HHH</i> for an extended period of time and heater surface temperature is hot.	Temperature is above 300°F (abnormal operation).	Diagnostic circuit inoperable. Replace power circuit board.
Display shows <i>HHH</i> for an extended period of time and heater surface temperature is cool.	Probe is inoperable.	Check for pinched thermocouple wires from probe. Replace heater/probe assembly.

Exploded View and Parts List



Ref.	Part No.	Description	Ref.	Part No.	Description
1	542-154S	Heater Assy Kit (Upper), DHB4PT-20, -20A, -20B	9	78-184S	Lighted Rocker Switch
	542-156S	Heater Assy Kit (Upper), DHB4PT-20AU, -20F, -20CE, -20GB	10	88-609S	Power Inlet Connector, DHB4PT-20, -20A, -20B
	542-159S	Heater Assy Kit (Upper), DHB4PT-20J		88-720-01S	Power Inlet Connector, DHB4PT-20AU, -20F, -20CE, -20GB, -20J
2	542-153S	Heater Assy Kit (Lower), DHB4PT-20, -20A, -20B	11	72-200-15S	Power Cord, DHB4PT-20, -20A, -20B
	542-155S	Heater Assy Kit (Lower), DHB4PT-20AU, -20F, -20CE, -20GB		72-367S	Power Cord, DHB4PT-20AU
	542-158S	Heater Assy Kit (Lower), DHB4PT-20J		72-237S	Power Cord, DHB4PT-20F, -20J
N/S	88-600-200S	Fuse Kit (Pkg of 10) (Fuse on Main PCB)		72-230S	Power Cord, DHB4PT-20CE
4	541-723e4s	Pan Cover Kit (Pkg of 4)		72-236S	Power Cord, DHB4PT-20GB
5	155695n-12	1/3 Size Dual Handle Pans (Pkg of 12)	12	541-959S	Audio Interface PCB
6	541-821S	Timer Bar	13	88-709-2-11S	Speaker Assembly
7	541-719S	Display PCB Kit	14	197-232S	Mounting Foot (Pkg of 4)
8	541-802S	Main PCB Kit, DHB4PT-20, -20A, -20B			
	541-827S	Main PCB Kit, DHB4PT-20AU, -20F, -20CE, -20GB, -20J			

Wiring Diagram

