bryant
®

Heating & Cooling Systems

MODEL TSTATBBPS701 PROGRAMMABLE DIGITAL THERMOSTAT
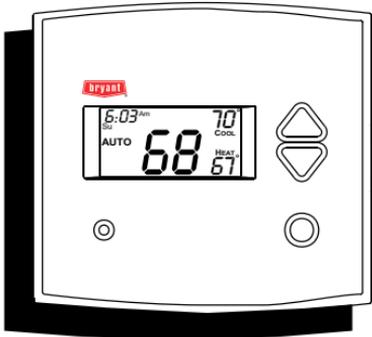
• Heat Pump & Heat Cool

- • 7 Day Programmable
- • 4 Time Periods per Day
- • Auto Changeover
- • Large, Easy To Read Display
- • Thermoglow™ Backlight
- • Very Easy to Program
- • Programmable Fan
- • No Batteries Required
- • Outdoor Temperature Sensor Available

• Meets California Title 24 Residential

Table Of Contents

⚠ **CAUTION**

Follow <u>Installation Instructions</u> before proceeding.

SET THERMOSTAT TO MODE "OFF" PRIOR TO
CHANGING SETTINGS IN SETUP OR RESTORING
FACTORY DEFAULTS.

**Residential Light Commercial Systems © Carrier Corporation 4/01**

TSTATBBPS101

Front Panel

Backlit LCD Display

Warmer or + Button

Cooler or - Button

Mode Button

Heat or Cool Indicator
Red = Heat, Green = Cool

FAN OUTSIDE VACATION PROGRAM SET CLOCK
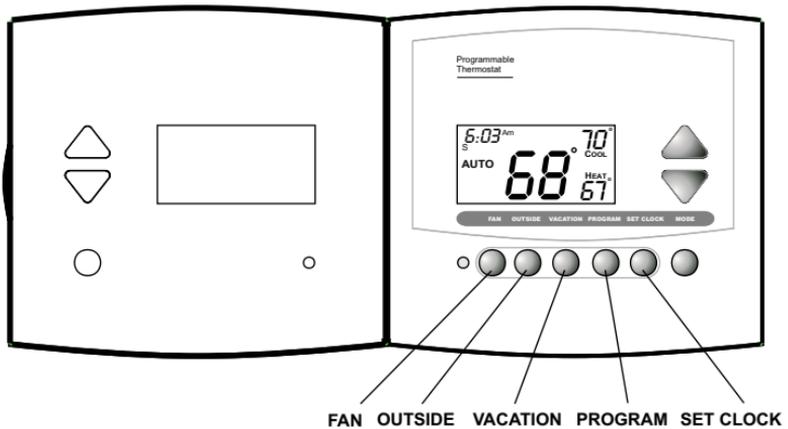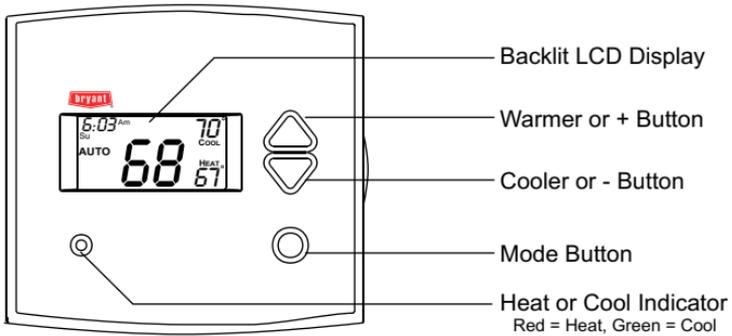
Display
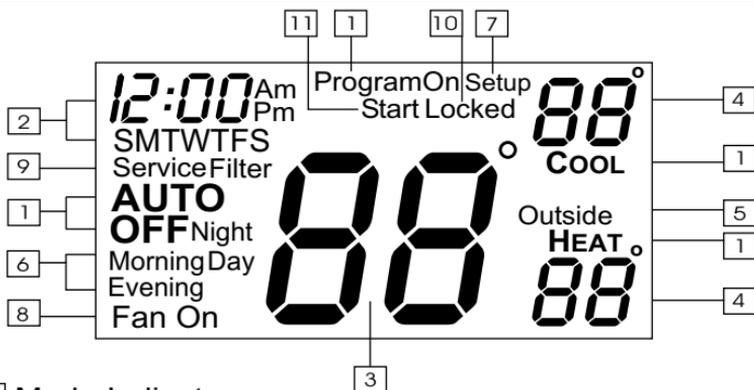
1 Mode Indicators

Selects the operation mode of the equipment.

HEAT - indicates the heat mode.

COOL - indicates the air conditioning mode.

AUTO - indicates the system will automatically changeover between heat and cool modes as the temperature varies.

OFF - indicates the entire system is turned off.

**PROGRAM ON** - indicates the stored program is enabled to run. *Page 8.*

2 Clock with Day of the Week

Indicates the current time and day. This clock is also used to program the timer periods. *Page 5.*

3 Room Temperature Display

Indicates the <u>current</u> room temperature.

4 Desired Set Temperature

Indicates <u>desired</u> room temperature(s). *Page 7.*

Display

SET CLOCK

Press the SET CLOCK button.

During Setup & Programming:

Pressing the Up and Down buttons will modify the flashing selection.

.

(Represented in dark black*)*

12:00 Am   Setup 1

Press
MODE

To adjust the
clock or Day use

Setup 2

S

buttons.

Press the SET CLOCK button as above to return to normal operation.

SET CLOCK

This thermostat is preprogrammed from the factory to operate 1 or 2 Stage equipment without the need for further programming. To optimize the installation of this thermostat follow the instructions in the Advanced Setup section.

Basic Operation

Select Mode

*The **HEAT** setting indicates the temperature the room has to reach before the furnace will turn on to heat the room.*

12:00 Pm
M
70°
HEAT 69°

Press
MODE
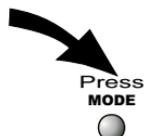
*The **COOL** setting indicates the temperature the room has to reach before the air conditioner will turn on to cool the room.*

12:00 Pm
M
72°
COOL
70°

Press
MODE

***AUTO** will automatically select heat or cool based on room temperature demand.*

12:00 Pm
M
72°
COOL
AUTO
70°
HEAT 69°

Press
MODE

***Program On** will activate the stored timer operation. (Morning, Day, Evening & Night Periods)*

12:00 Pm
M
ProgramOn
73°
COOL
Day
70°
HEAT 70°

Press
MODE

***OFF** indicates both heating and air conditioning systems are turned off.*

12:00 Pm
M
70°
OFF

Basic Operation

Select Desired Temperature

```
12:00 Pm
M                    72°
                      COOL
AUTO    70
                     HEAT
                      69°
```

In any mode, adjust the desired Set Temperature with

△

▽

buttons.

Pressing the Up or Down buttons in <u>Auto</u> mode will adjust **both** the heat and cool set temperatures simultaneously.
Pressing the Up or Down buttons in Heat **or** Cool modes will adjust only the heat **or** cool set temperature.

Fan Operation

Press
FAN ◯

```
12:00 Pm
S                    85°
                      COOL
        65
                     HEAT
Fan On               55°
```

Fan On indicates constant fan operation. This feature is active even if the thermostat is set to **Off**.

Press
PROGRAM
◯

Press the PROGRAM button to enter time period programming.

Use the back cover Programming Worksheet to help with this section.

△
▽

Select the day of week

(M - S)

M

Press
MODE
◯

△
▽

Adjust the start time
for Morning.

7:30 **Am**   Start
M

Morning

Press
MODE
◯

△
▽

Adjust the cooling
setpoint for Morning.

(35 - 99°)

7:30 **Am**   74°
M   **COOL**

Morning

Press
MODE
◯

△
▽

Adjust the heating
setpoint for Morning.

(35 - 99°)

7:30 **Am**   74°
M   **COOL**

Morning   **HEAT** °
72

Press
MODE
◯

Continued

Page 8

Adjust the start time for Day.
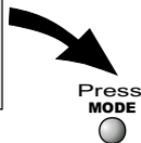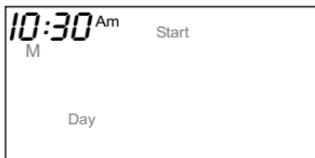
10:30 Am
M

Start

Day

Press
MODE

Adjust the cooling setpoint for Day.

(35 - 99°)

10:30 Am
M

Day

75°
COOL

Press
MODE

Adjust the heating setpoint for Day.

(35 - 99°)

10:30 Am
M

Day

75°
COOL
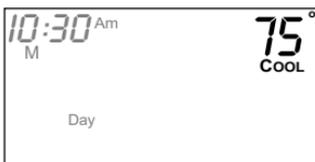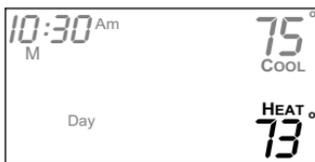
HEAT°
73

Press
MODE

Adjust the start time for Evening.
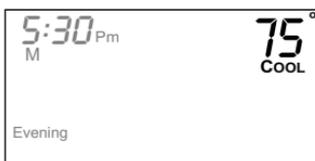
5:30 Pm
M

Start

Evening

Press
MODE

Adjust the cooling setpoint for Evening.

(35 - 99°)

5:30 Pm
M

Evening

75°
COOL

Press
MODE

Continued

Adjust the heating
setpoint for Evening.

(35 - 99°)

| 5:30 Pm |
| M |
| 75° COOL |
| HEAT° 73 |
| Evening |
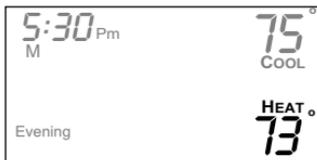
Press
MODE

Adjust the start time
for Night.

| 11:30 Pm   Start |
| M |
| Night |

Press
MODE

Adjust the cooling
setpoint for Night.

(35 - 99°)

| 11:30 Pm |
| M |
| 78° COOL |
| Night |

Press
MODE

Adjust the heating
setpoint for Night

(35 - 99°)

| 11:30 Am |
| M |
| 78° COOL |
| HEAT° 70 |
| Night |
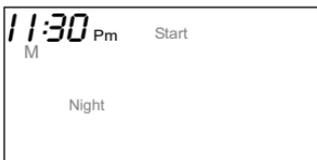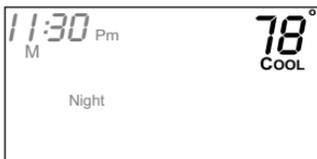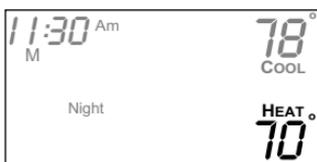
Press
MODE

Continued

The copy command becomes available after programming the entire previous day.

Yes

Select Yes or No to copy the previous day's program to this day.

No

NO
T

CO PY

If Yes is selected:

If No is selected:

Selecting Yes, then pressing mode will copy the previous day's program and then will ask the same copy question again. If yes is selected each time, this routine will repeat.

Press
MODE

Press
MODE

If **No** is selected, as in previous steps, flashing prompts for input will appear for the 4 time periods for the next day.

Advanced Setup

MODE ◯
PROGRAM ◯

Press the Mode button. While holding the Mode, press the Program button to enter Setup screens.

Adjust the time of day clock.

Tip: To change hours quickly, press and hold the override button in and press the up or down buttons.

Setup 1
12:00AM

Press
MODE ◯

Select the day of the week.

Setup 2
Mo

Press
MODE ◯

On

Select residential Heat Pump, On or Off.

Off

Setup 3
OFF HP

Press
MODE ◯

B

Select the reversing valve polarity for Heat Pump, O or B. *(Step 4 only appears if heat pump is **on** in step 3)*

O

Setup 4
0

Press
MODE ◯
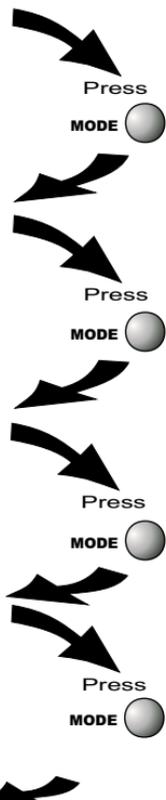
Continued

Advanced Setup

On

Select Electric Heat On or Off. (Step 5 only appears if heat pump is **off** in step 3)

Off

OFF EH Setup 5

Press

MODE

Adjust the deadband from 1 - 6 degrees.

db Setup 6

2

Press

MODE
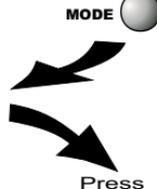
Adjust the minimum *difference* between cooling & heating setpoints.

(0 - 6°)

dIF Setup 7

COOL

2

HEAT

Press

MODE
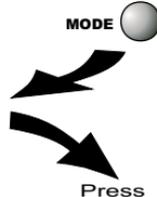
Select the cycles per hour limit. d=cycles per hour limit defeated. d1=d + defeat 5 min. Compressor lockout.

(d, d1, 2 - 6)

Setup 8

6 CY

Press

MODE
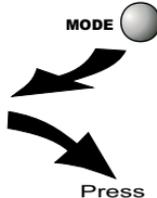
Adjust the programmable fan timer. 0 - 60 minutes. 0:00 = off

0:00 Setup 9

Fan On

Press

MODE

Continued

Page 13

Advanced Setup

Adjust the programmable fan start time. (step 10 appears only if step 9 is not 0:00)

7:00 Am   On Setup   **10**

Fan On
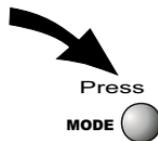
Press
MODE

Adjust the programmable fan stop time. (step 11 appears only if step 9 is not 0:00)

9:00 Pm   Setup   **11**

OFF

Fan On
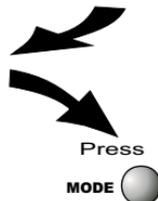
Press
MODE

On

Select the display back-light always **On**, or **Off** after 8 seconds.

Off

On Setup   **12**

L1

Press
MODE

Press

FAN
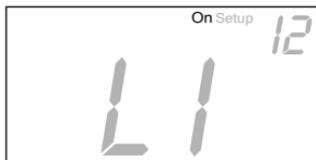
Reset the Energy Watch **Heat** hour counter.

(0 - 1999)

0   Setup   **13**

HEAT

Press
MODE

Press

FAN

Reset the Energy Watch **Cool** hour counter.

(0 - 1999)

0   Setup   **14**

COOL

Press
MODE

Advanced Setup

FAN

Reset the Service Filter counter. This will also remove the Service Filter icon from the display

0

ServiceFilter

Setup *15*

Press

MODE

Adjust the number of hours the blower will run before the Service Filter icon appears on the display. 0 = off.

(0 - 1950)

0

ServiceFilter

Setup *16*

Press

MODE

C

Select thermostat operation in degrees **F**ahrenheit or **C**entigrade.

F

F

Setup *17*

Press

MODE

FAN

Press the Mode button. While holding the Mode, press the Fan button for 2 seconds to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

Advanced Setup Table

Step #	Description	Range	Factory Default
1	Time of day clock set	24 hour	12:00 Am
2	Day of the week	Sun - Sat	Monday
3	Heat Pump	Off / On	Off
4	Reversing Valve polarity	O / B	O
5	Electric Heat	Off / On	Off
6	Deadband or Temperature swing	1 - 6	1
7	Forced minimum difference heat/cool	0 - 6	2
8	Cycles per hour	d, d1, 2 - 6	6
9	Programmable Fan	0:00 - 0:60	0:00
10	Programmable Fan Start Time	24 hour	7:00 Am
11	Programmable Fan Stop Time	24 hour	9:00 Pm
12	Thermoglow backlight	Off / On	On
13	Energy Watch - Heat Timer	0 - 1999	0
14	Energy Watch - Cool Timer	0 - 1999	0
15	Reset Service Filter icon	- -	- -
16	Service Filter run time set	0 - 1950	0
17	Fahrenheit or Centigrade	F / C	F

About Advanced Features & Operation

�֍ MEMORY BACKUP - In the event of a power loss, the thermostat will retain the stored program settings without external power or batteries.

�֍ 2 STAGE OPERATION - The 2nd Stage of heat or cool is turned on when (**1**) the 1st Stage has been on for a minimum of two minutes, **and** (**2**) the temperature spread from the setpoint is equal to or greater than: *the setpoint plus the deadband, plus 2 degrees.*
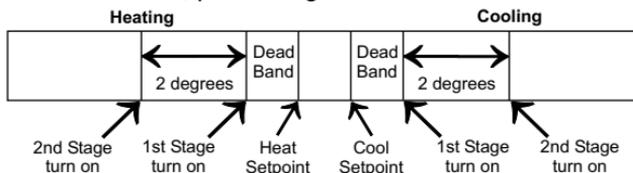
✖ MINIMUM HEAT/COOL SETPOINT DIFFERENCE - The Heat and Cool setpoints will not be allowed to come any closer to each other than the value set in Advanced Setup *step # 7, on page 13*. This minimum difference is enforced during Auto changeover and Program On operation.

✖ PROGRAMMABLE FAN - If the Programmable Fan timer is set to a value other than 0:00, the fan will run for the preprogrammed amount of time, *page 13, step# 9.* The Programmable Fan timer will start the fan at the top of each hour. The Programmable Fan may be active even if the thermostat mode is Off. Steps 10 & 11 restrict the hours in which Programmable Fan may operate. Step# 10, page 14 is the start time and step# 11 is the stop time. Setting the times to the same setting in both steps 10 & 11 will allow Programmable Fan to operate 24 hours a day.

About Advanced Features & Operation

✳ EMERGENCY HEAT - Is a feature available to Heat Pump installations. To turn on Emergency Heat press in the Fan button. While holding the Fan button press the Up button for 2 seconds. The Cool setpoint display will read 'EH'.

Press for Emergency Heat

FAN

12:00 Am   EH°

73°
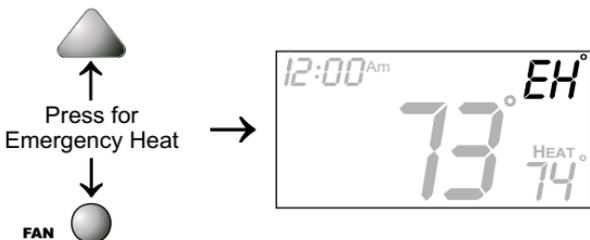
HEAT°
74°

During Emergency Heat the thermostat will turn on the fan and the 2nd stage of heat, when there is a demand for heat, locking out the 1st stage compressor. Exiting Emergency Heat is the same as entering. During Emergency Heat only OFF and HEAT are available.

✳ ELECTRIC HEAT - Selecting Electric Heat on, *page 13, step 5*, will cause the thermostat to turn on the fan immediately any time there is a heat demand. Since all gas furnaces control the fan, this feature should be off unless the heater is only electric.

About Advanced Features & Operation

✽ KEYPAD LOCK - To prevent unauthorized use of the thermostat, the front panel buttons may be disabled. To disable, or 'lock' the keypad, press and hold in the Mode button. While holding the Mode button in, press the Up and Down buttons in together. The **Locked** icon will appear on the display.

Press all 3 for Keypad Lockout
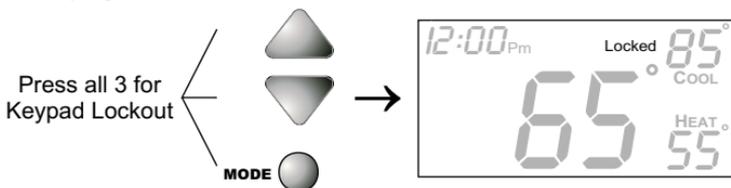
To *unlock* the buttons, again press and hold the Mode button. While holding the Mode button in, press the Up and Down buttons in together. The **Locked** icon will disappear from the display.

About Advanced Features & Operation

✳ VACATION MODE - When the thermostat is in Vacation mode, the thermostat will operate under the Vacation time period set points. In order for Vacation mode to become active the thermostat must be in the Program On mode. Vacation mode will take effect when the time clock reaches 12:00am.

VACATION ⬤ *Press the VACATION button to enter the vacation programming setup steps.*

Select the number of days that the Vacation Schedule will be in effect. A value of 0 disables Vacation mode.
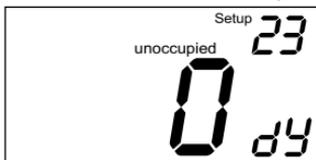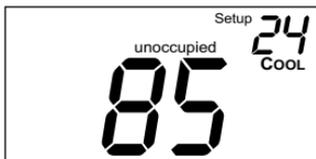
Setup **23**
unoccupied
0 dY

Press

MODE ⬤

Adjust the cooling setpoint for Vacation mode.

(35˚- 99˚)

Setup **24**
unoccupied **COOL**
85

Press

MODE ⬤

Adjust the heating setpoint for Vacation mode.

(35˚- 99˚)

Setup **25**
unoccupied
55 **HEAT**
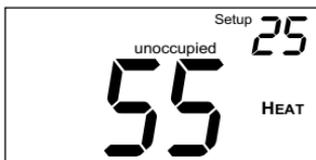
Press

VACATION ⬤

Press the Vacation button to exit the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

About Advanced Features & Operation

✱ DUAL SETPOINT BEHAVIOR - The adjustable setpoint range
   is: 35 - 99 degrees in Fahrenheit and 7 - 35 degrees in
   Centigrade. When in the modes Heat or Cool, this
   adjustable range is unhampered.
   When adjusting any Auto mode, including programming
   4 Time periods, the thermostat will not allow the
   Heat setpoint to get closer to the Cool setpoint
   than the value programmed as the minimum difference
   in *step 7, page 13.*
   When entering the Auto mode from Cool, the Heat and
   Cool setpoints will remain spread apart by the amount
   that they were adjusted, prior to entering Auto.
   For example: If the Cool setpoint was set to 80 while
   in the Cool mode and the Heat setpoint was adjusted to
   70 while in the Heat mode, upon entering the Auto mode
   the Heat and Cool setpoints would be 80 and 70. **Both**
   setpoints would then move up and down together, (in this
   example spread by 10 degrees), by pressing the up or
   down buttons.
   To move the Heat and Cool setpoints closer together,
   enter the Cool or Heat mode by pressing the Mode button,
   then adjust the setpoint(s) closer together. <u>Heat</u> is limited
   to how close it can come to Cool by *step 7, page 13*.

About Advanced Features & Operation

�֍ OUTSIDE SENSOR **(Optional Accessory)** - When connected to terminals RS+5, RS, & GND on the back of the thermostat, the thermostat will read the temperature from the Outside Sensor when asked to. This thermostat will not control to this sensor, it is only to read outside temperature.

To read the temperature from the Outside Sensor, press the **Outside** button of the thermostat .
The display will then only show Outside temperature.
Pressing the **Outside** button will then return the display to normal operation.

The Outside Sensor is available in a wired or wireless version. The wired sensor can be connected to the thermostat with **up to 500' of 20 ga. or 300' of 18 ga. Unshielded, thermostat wire**.

See the Outside Sensor instructions for further details.

✷ FACTORY DEFAULTS - If, for any reason it is desirable to return all stored settings back to the factory default settings, press the Mode button. While holding the Mode button in, press the Fan button for 5 sec. All icons will appear. Press and hold in the Fan button until **Fd** appears. This resets all factory settings. **To calibrate room temperature,** press the Up and Down arrow buttons simultaneously, twice.

At this point use the Up and Down buttons to calibrate room temperature, if needed. Press the Mode button to return to normal operation. ***NOTE CAUTION ON PAGE 1.***

Warranty

Five-Year Warranty - This Product is warranted to be free from defects in material and workmanship. If defect appears within five years from the date of original installation, whether or not actual use begins on that date, then the product does meet this warranty. A new or remanufactured part, at the manufacturer's sole option, to replace any defective part will be provided without charge for the part itself; PROVIDED the defective part is returned to the distributor through a qualified servicing dealer.

THIS WARRANTY DOES NOT INCLUDE LABOR OR OTHER COSTS incurred for diagnosing, repairing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts. Such costs may be covered by a separate warranty provided by the installer.

THIS WARRANTY APPLIES ONLY TO PRODUCTS IN THEIR ORIGINAL INSTALLATION LOCATION AND BECOMES VOID UPON REINSTALLATION.

LIMITATIONS OF WARRANTIES – ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH THE LIMITED WARRANTY IS GIVEN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE MAY NOT APPLY TO YOU. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MANY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON WHATSOEVER.

ALL WORK UNDER THE TERMS OF THIS WARRANTY SHALL BE PERFORMED DURING NORMAL WORKING HOURS. ALL REPLACEMENT PARTS, WHETHER NEW OR REMANUFACTURED, ASSUME AS THEIR WARRANTY PERIOD ONLY THE REMAINING TIME PERIOD OF THIS WARRANTY.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the installation and servicing instructions or owners manual including filter cleaning and/or replacement and lubrication.
2. Damage or repairs required as a consequence of faulty installation, misapplication, abuse, improper servicing, unauthorized alteration or improper operation.
3. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.
4. Damage as a result of floods, winds, fires, lightning, accidents, corrosive environments or other conditions beyond the control of the Manufacturer.
5. Parts not supplied or designated by the Manufacturer, or damages resulting from their use.
6. Manufacturer products installed outside the continental U.S.A., Alaska, Hawaii, and Canada.
7. Electricity or fuel costs or increases in electricity or fuel costs from any reason whatsoever including additional or unusual use of supplemental electric heat.
8. ANY SPECIAL INDIRECT OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states do not allow the exclusion of incidental or consequential damages, so the above may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which may vary form state to state.

Programming Worksheet *see page 8*

DAY	PERIOD	START TIME	COOL	HEAT	
MONDAY	Morning				
	Day				
	Evening				
	Night				
TUESDAY	Morning				*Copy Mon→Tue*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				
WEDNESDAY	Morning				*Copy Tue→Wed*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				
THURSDAY	Morning				*Copy Wed→Thu*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				
FRIDAY	Morning				*Copy Thu→Fri*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				
SATURDAY	Morning				*Copy Fri→Sat*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				
SUNDAY	Morning				*Copy Sat→Sun*
	Day				☐ *No*
	Evening				☐ *Yes*
	Night				

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