Owner's Manual

SOURCE 1
HVAC SERVICE PARTS™

Model
S1-THEU22P7S
RESIDENTIAL

BACKLIT DISPLAY

Use with most Heat Pump Systems: 2-Heat, 2-Cool

Heat/Cool & Heat Pump 7-Day Programmable

Digital Thermostat

- **Stages: 2-Heat, 2-Cool**
- **Backlit Digital Display**
- **Aux Heat Indicator**

- **System Powered**
- **Fahrenheit or Celsius**

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Contents

Page #

Safety Warnings

P/N S1-THEU22P7S

CAUTION   Follow *Installation Instructions* carefully.

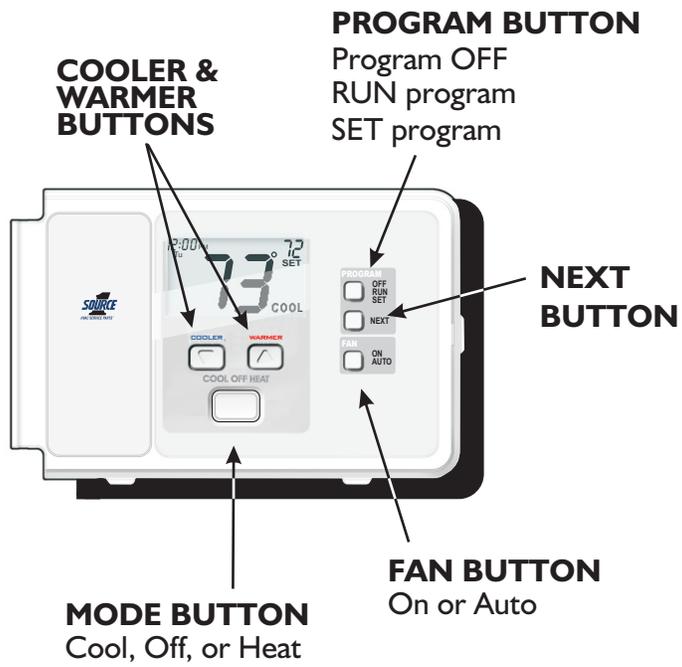DISCONNECT POWER TO THE HEATER - AIR CONDITIONER <u>BEFORE</u> REMOVING THE OLD THERMOSTAT AND INSTALLING THE NEW THERMOSTAT.

WARNING

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Location of Controls

PROGRAM BUTTON
Program OFF
RUN program
SET program

**COOLER &
WARMER
BUTTONS**

**NEXT
BUTTON**

FAN BUTTON
On or Auto

MODE BUTTON
Cool, Off, or Heat
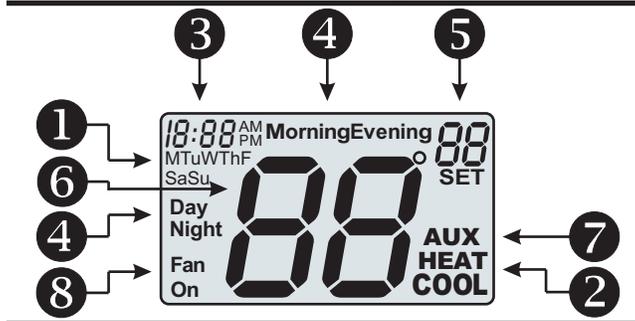
Display

1 Day of the week. Used for programming each of the 7 days of the week.

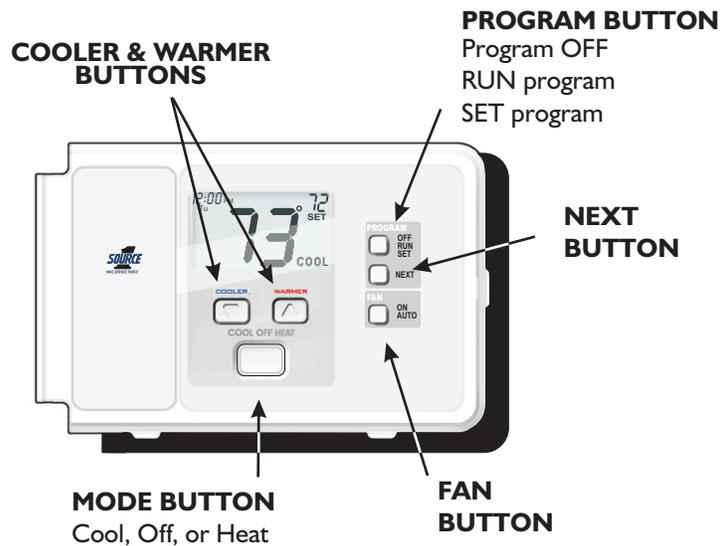**2** Heat and Cool indicators. In normal operation, Heat or Cool appears. When heat or cool is energized, the Heat or Cool indicator will flash.

3 Clock Display.

4 Time period indicators. These indicate the part of the program that is currently active, if the PROGRAM button is set to RUN.

5 Desired set temperature.

6 Current room temperature.

7 Indicates that the 2nd stage of heat or cool is energized. When 2nd stage heat or cool is energized, the Aux indicator will flash.

8 Indicates the fan will run continuously.

Normal Operation

PROGRAM BUTTON
Program OFF
RUN program
SET program

**COOLER & WARMER
BUTTONS**

**NEXT
BUTTON**

MODE BUTTON
Cool, Off, or Heat

**FAN
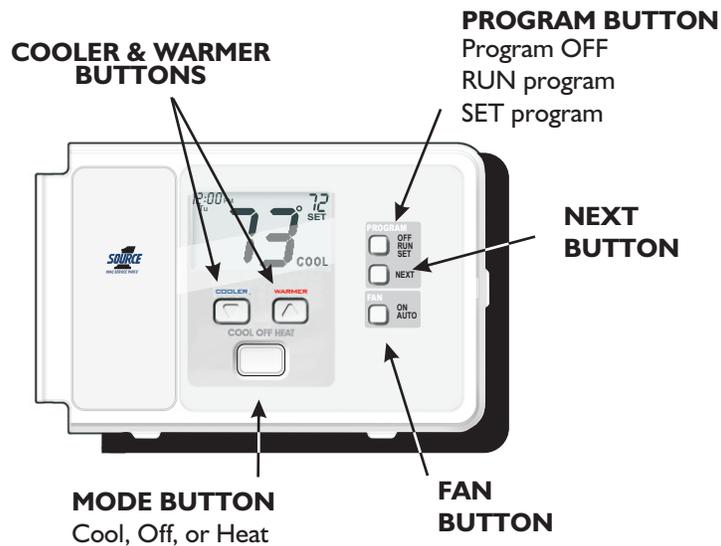BUTTON**

Manual Operation (Program set to OFF)

❶　Select Cool or Heat with the MODE button.

❷　Normally leave the fan set to Auto.
　　In Fan Auto, the fan will turn on only with a heat
　　or cool demand. When Fan On is selected, the
　　fan will run continuously.

❸　Adjust the desired set temperature with the
　　COOLER and WARMER buttons.

Normal Operation

PROGRAM BUTTON
Program OFF
RUN program
SET program

COOLER & WARMER BUTTONS

NEXT BUTTON

MODE BUTTON
Cool, Off, or Heat

FAN BUTTON

Programmed Operation (Program set to RUN)

❶ Select Cool or Heat with the MODE button.

❷ Select RUN with the PROGRAM button. Morning, Day, Evening, or Night will appear on the display.

❸ Normally leave the fan switched to Auto. When Fan On is selected, the fan will run continuously.

❹ The desired set temperature may be temporarily overridden. The thermostat will revert to the programmed settings in the following time period.

Clock Set

PROGRAM
OFF
RUN
SET

Press the PROGRAM button to enter the clock and day setup screens.

6:00 AM

WARMER

COOLER

Use these buttons to adjust the current time.

Press NEXT to advance

NEXT

To slew the time more rapidly, push and hold the COOLER or WARMER buttons.

6:00 AM

Su

WARMER

COOLER
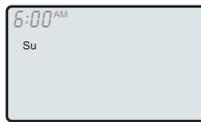
Use these buttons to adjust the current day.

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.

Time Period Programming

Overview

PROGRAM BUTTON

- Press the PROGRAM button to enter the time period programming screens.
- The blinking icon(s) on the display may be changed by pressing the COOLER or WARMER button.
- After the blinking icon is changed to the desired selection, press the NEXT button.
- Each item in the time period programming screens will flash and can be modified with the COOLER & WARMER buttons.
- Continue the steps above until programming is complete.
- Press the PROGRAM button twice to exit the programming screens and operate the thermostat according to the time period programming.
- Press the PROGRAM button once to exit the programming screens and operate the thermostat as a manual heat or cool only thermostat.

Time Period Programming

PROGRAM OFF RUN SET

Press the PROGRAM button to enter the time period programming screens. Press the NEXT button to advance past the Clock and Day setup screens (page 8).

Press NEXT to advance NEXT

M

WARMER

COOLER

Use these buttons to select the day of the week to be programmed.

Press NEXT to advance NEXT

6:00 AM Morning
M

WARMER

COOLER

Use these buttons to adjust the start time for the morning time period.

Press NEXT to advance NEXT

6:00 AM Morning
M　　　　　　78 SET

COOL

WARMER

COOLER

Use these buttons to adjust the cool setpoint for the morning time period.

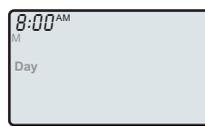**Press NEXT to advance** NEXT

6:00 AM Morning
M　　　　　　70 SET

HEAT

WARMER

COOLER

Use these buttons to adjust the heat setpoint for the morning time period.

Next Page

Time Period Programming

Press NEXT to advance

[NEXT]

`8:00`AM
M
Day

[WARMER] [COOLER]

Use these buttons to adjust the start time for the day time period.
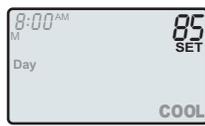
Press NEXT to advance

[NEXT]

`8:00`AM
M
Day
`85` SET
COOL

[WARMER] [COOLER]

Use these buttons to adjust the cool setpoint for the day time period.

Press NEXT to advance

[NEXT]

`8:00`AM
M
Day
`62` SET
HEAT

[WARMER] [COOLER]

Use these buttons to adjust the heat setpoint for the day time period.

Press NEXT to advance

[NEXT]

`6:00`PM   Evening
M

[WARMER] [COOLER]
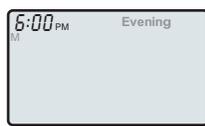
Use these buttons to adjust the start time for the evening time period.

Press NEXT to advance

[NEXT]

`6:00`PM   Evening `78`
M   SET
COOL

[WARMER] [COOLER]

Use these buttons to adjust the cool setpoint for the evening time period.

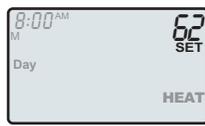Next Page

Time Period Programming

Press NEXT to advance

[NEXT]

`6:00 PM` M   Evening **70** SET

HEAT

WARMER

COOLER

Use these buttons to adjust the heat setpoint for the evening time period.

Press NEXT to advance

[NEXT]

`10:00 PM` M

Night

WARMER

COOLER

Use these buttons to adjust the start time for the night time period.

Press NEXT to advance

[NEXT]

`10:00 PM` M   **82** SET

Night

COOL

WARMER

COOLER

Use these buttons to adjust the cool setpoint for the night time period.

Press NEXT to advance

[NEXT]

`10:00 PM` M   **62** SET

Night

HEAT

WARMER

COOLER
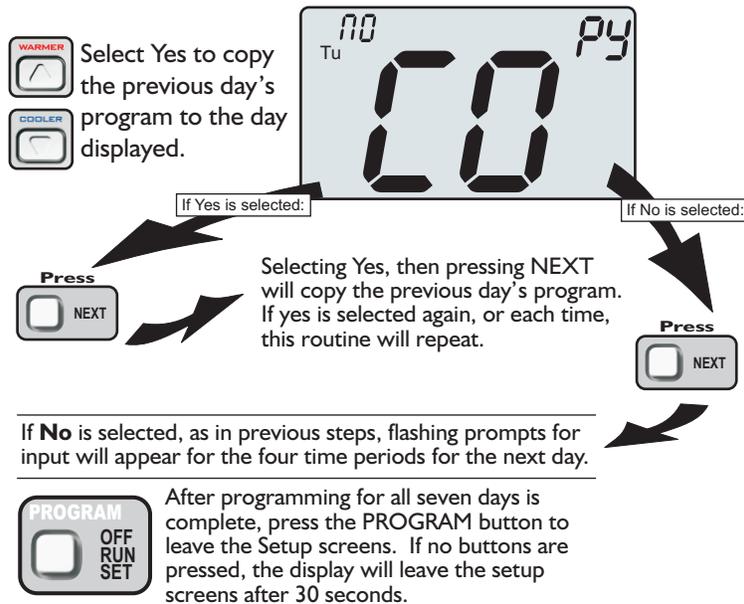
Use these buttons to adjust the heat setpoint for the night time period.

Next Page

Time Period Programming
Copying the Program

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

WARMER / **COOLER** — Select Yes to copy the previous day's program to the day displayed.

`NO` `Tu` `CO` `PY`

If Yes is selected:

If No is selected:

Press NEXT

Selecting Yes, then pressing NEXT will copy the previous day's program. If yes is selected again, or each time, this routine will repeat.

Press NEXT

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

PROGRAM OFF RUN SET — After programming for all seven days is complete, press the PROGRAM button to leave the Setup screens. If no buttons are pressed, the display will leave the setup screens after 30 seconds.

Time Period Programming

After you have completed setting the time period programming, you have two options:
1) Run the time period program by pressing the PROGRAM button two times.
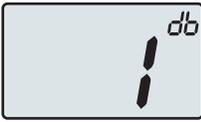
                    or,

2) Do not run the time period program by pressing the PROGRAM button one time. The thermostat will operate as a manual heat or cool thermostat.
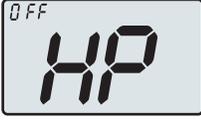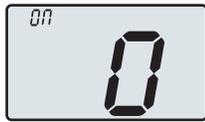
Advanced Setup

This is normally done by the installer at initial installation.

Press the PROGRAM button to enter the Advanced Setup. When the clock is flashing, press the NEXT button for 5 seconds. Do not release the button until this screen appears.

Press NEXT to advance
[NEXT]

db
1

Use these buttons to adjust the deadband from 1 to 6 degrees.

Press NEXT to advance
[NEXT]

CY
6
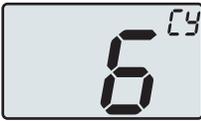
Use these buttons to adjust the Cycles Per Hour from 2 to 6.
d=no limit (zoning)
d1=d+no compressor lockout (page 16).

Press NEXT to advance
[NEXT]

on
L1

Select backlight operation when a button is pressed:
ON: Light continuously.
OFF: Light for 8 seconds after a button press.

Press NEXT to advance
[NEXT]

F

Use these buttons to select thermostat operation in degrees F or C.

The following three setup steps are 'Read Only' and may only be set with the jumpers on the circuit board of the thermostat (see Installation Instructions).

Press NEXT to advance
[NEXT]

OFF
HP

OFF = Gas Electric operation
ON = Heat Pump operation

Press NEXT to advance

NEXT

`On`
`0`

Indicates that the thermostat jumper is set for an **O** reversing valve (energize in cooling) or a **b** reversing valve (energize in heating).

Press NEXT to advance

NEXT

`OFF`
`EH`

ON indicates that the thermostat jumper is set for Electric Heat operation, or **OFF** for Gas/Electric or Heat Pump operation.

Press the PROGRAM button to exit Advanced Setup.

About Advanced Features & Operation

CYCLES PER HOUR - The Cycles Per Hour setting (*page 15*) monitors the number of times per hour your HVAC unit may energize. For example, at a setting of 6 cycles per hour the HVAC unit will only be allowed to energize once every 10 minutes. The Cycles Per Hour limit may be temporarily overridden by pressing the WARMER or COOLER button.

MULTI-STAGE OPERATION - Controls up to two Heat and two Cool stages. The **1st Stage** of heat or cool is turned on when:
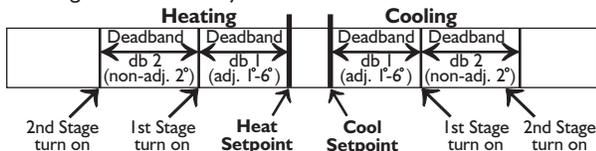 (**A**) The temperature spread from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (page 15)*. This 1st stage deadband is adjustable from 1-6 degrees and the default is one degree.
The **2nd Stage** of heat or cool is turned on when:
  (**A**) The 1st Stage has been on for a minimum of *two minutes*.
and
  (**B**) The temperature spread from the setpoint is equal to or greater than: *the setpoint plus the 1st stage deadband (page 15), plus the 2nd stage deadband*. This 2nd stage deadband is fixed at two degrees and is not adjustable.

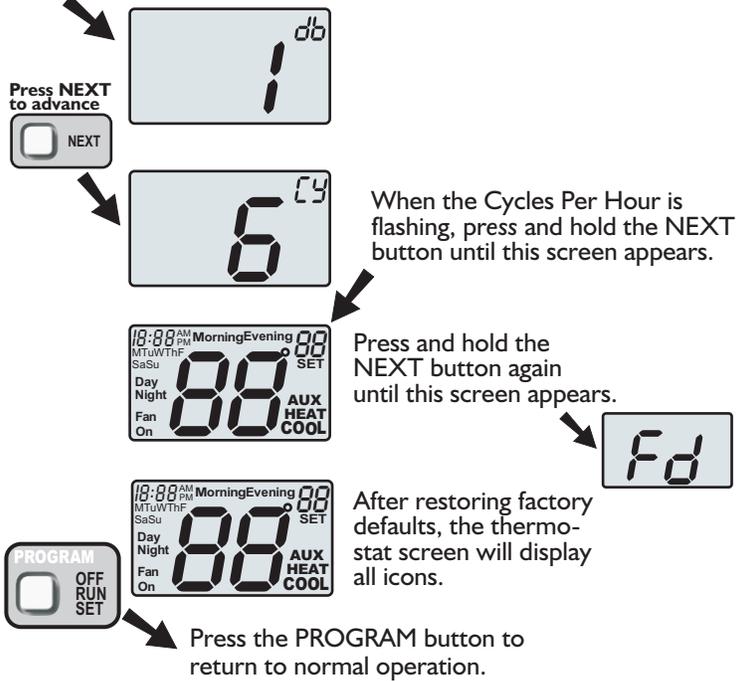|	**Heating**			**Cooling**		
	Deadband db 2 (non-adj. 2°)	Deadband db 1 (adj. 1°-6°)		Deadband db 1 (adj. 1°-6°)	Deadband db 2 (non-adj. 2°)	
2nd Stage turn on	1st Stage turn on		**Heat Setpoint**	**Cool Setpoint**	1st Stage turn on	2nd Stage turn on

CAUTION

⚠

Factory Defaults

If, for any reason, you desire to return all the stored settings back to the factory default settings, follow the instructions below.

Press the PROGRAM button to enter the Advanced Setup. When the clock is flashing, press the NEXT button for 5 seconds. Do not release the button until this screen appears.

db

1

Press NEXT to advance

NEXT

CY

6

When the Cycles Per Hour is flashing, press and hold the NEXT button until this screen appears.

Press and hold the NEXT button again until this screen appears.

Fd

After restoring factory defaults, the thermostat screen will display all icons.

PROGRAM
OFF
RUN
SET

Press the PROGRAM button to return to normal operation.

CAUTION

⚠️

Calibration

Under normal circumstances it will not be necessary to adjust the calibration of the temperature sensor. If calibration is required, please contact a trained HVAC technician to correctly perform the following procedure.

Press the PROGRAM button to enter the Advanced Setup. When the clock is flashing, press the NEXT button for 5 seconds. Do not release the button until this screen appears.
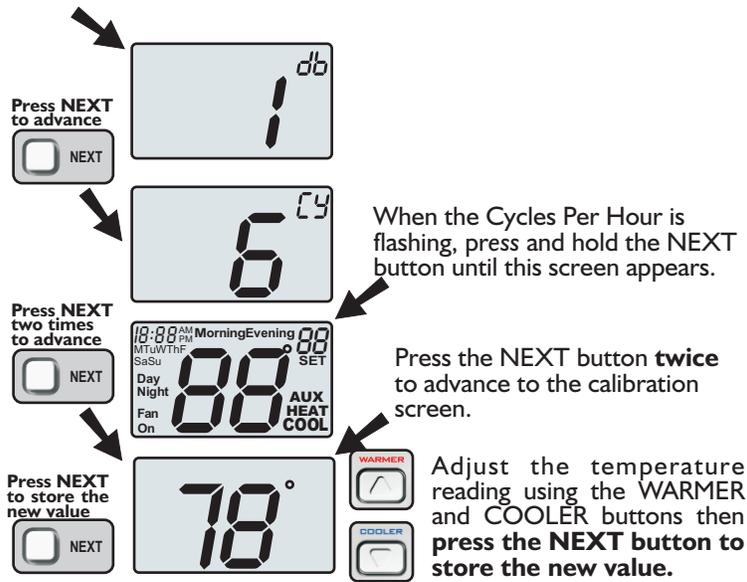
Press NEXT to advance

NEXT

Press NEXT two times to advance

NEXT

When the Cycles Per Hour is flashing, press and hold the NEXT button until this screen appears.

Press the NEXT button **twice** to advance to the calibration screen.

Press NEXT to store the new value

NEXT

WARMER

COOLER

Adjust the temperature reading using the WARMER and COOLER buttons then **press the NEXT button to store the new value.**

Warranty

One-Year Warranty - This Product is warranted to be free from defects in material and workmanship. If it appears within one year from the date of original installation, whether or not actual use begins on that date, that the product does not 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 MAY 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 owner's 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 for 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 from state to state.

Programming Worksheet   *see Page 9*

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				