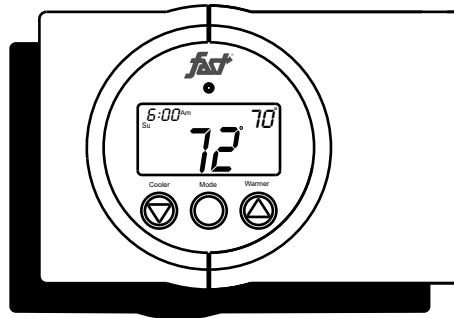


OWNER'S MANUAL

P/N TR7DRH

1 For All™ Programmable Digital Thermostat



- 7 Day Programmable
- 4 Time Periods per Day
- **Thermoglow™** Backlight
- **One-For-All™** Technology
- Programmable Fan
- Separate Humidification and Dehumidification Terminals
- Read Outdoor Temperature With Optional Sensor
- Large, Easy To Read Display

Meets Residential California Title 24

- Use with most Air Conditioning & Heating Systems including: 1 or 2 Stage Electric Cooling & Gas Heating, Heat Pump, Electric or Hydronic Heat.



International Comfort Products ©2004

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CAUTION

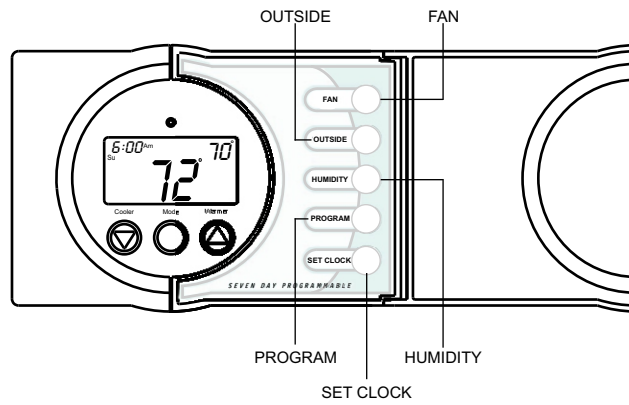
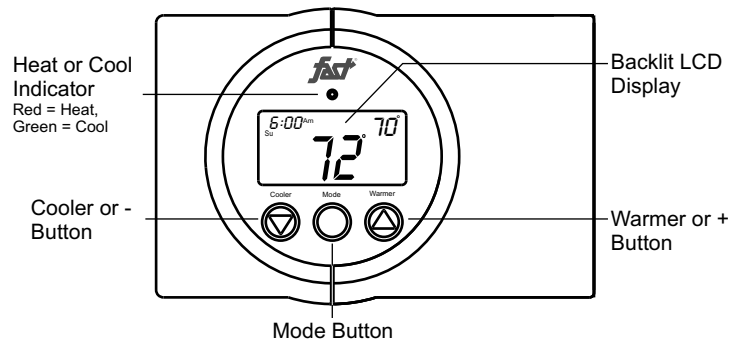
Follow *Installation Instructions* before proceeding.

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

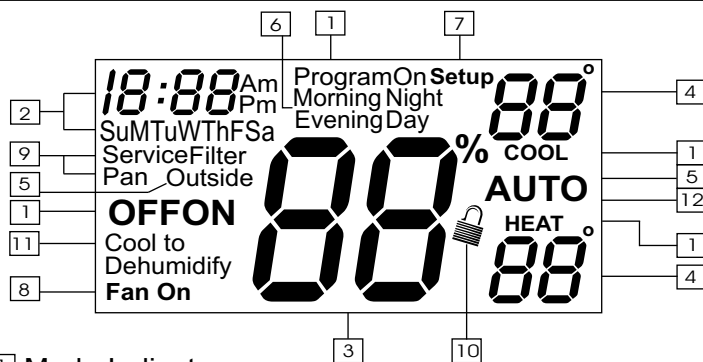
International Comfort Products ©2004

P/N TR7DRH

Front Panel




Display

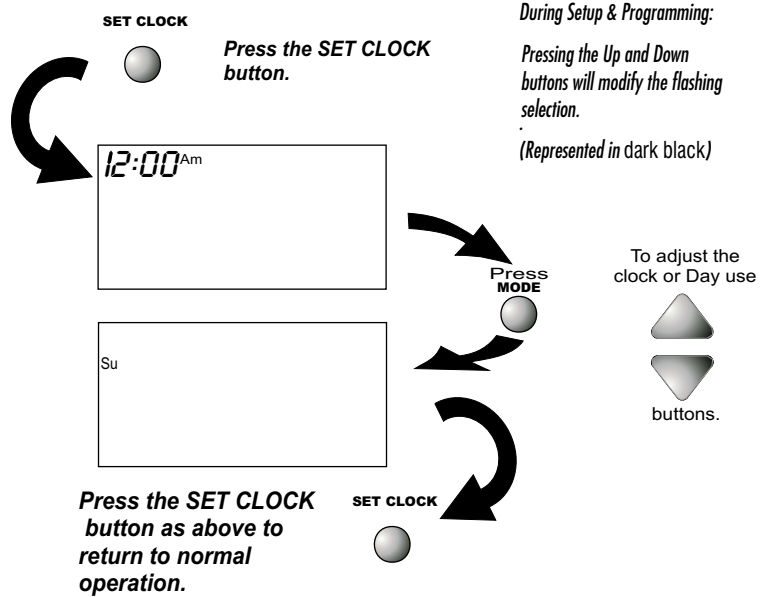


- 1 Mode Indicators
Selects the operation mode of the equipment.
HEAT - indicates the heat mode.
COOL - indicates the air conditioning mode.
AUTO - indicates the system will automatically changeover between heat and cool modes as the temperature varies.
OFF - indicates the entire system is turned off.
PROGRAM ON - indicates the stored program is enabled to run. *Page 6.*
- 2 Clock with Day of the Week
Indicates the current time and day. This clock is also used to program the time periods. *Page 5.*
- 3 Room Temperature Display
Indicates the current room temperature.
- 4 Desired Set Temperature
Indicates desired room temperature(s). *Page 7.*

Display

- 5 **Outside** Indication
Indicates the temperature displayed is from the optional outside sensor. *Page 21.*
- 6 **Morning, Day, Evening & Night** Indication
Indicates the program time period. *Page 9-12.*
- 7 **Setup** Indication
Indicates the thermostat is in the advanced programming mode. *Page 13.*
- 8 **Fan Operation** Indication
Fan On- indicates constant, continuous fan operation, (Fan On).
When **Fan On** is not lit - indicates the fan will only operate when necessary to heat or to cool. *Page 7.*
- 9 **Service Filter** and **Service Pan** Indication
Service Filter- indicates when the filter should be serviced under normal conditions.
Appears after 0 - 1950 hours of blower operation (adjustable). *Page 13.*
Service Pan- indicates that the condensate pan of the Evaporator Coil is full of water and needs to be checked for blockages and emptied out.
- 10 **Locked** Indication
 - appears after the right combination of buttons are pressed, rendering the buttons inoperative. *Page 20.*
- 11 **Cool to Dehumidify** Indication
Appears when the humidity in the space is above the Dehumidification Setpoint (page 8 step 4) and Dehumidification has been turned ON in the Advanced Setup (page 16 step 17).

Quick Start *Set the Clock and Go*



TIP: Hold the Fan button in while pressing up or down to rapidly advance the hours in Set Clock.

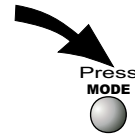
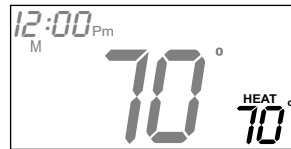
This thermostat is preprogrammed from the factory to operate 1 or 2 Stage equipment without the need for further programming. To optimize the installation of this thermostat follow the instructions in the Advanced Setup section.

Basic Operation

Temperature Control

Select Mode

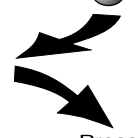
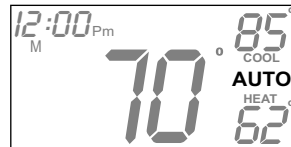
The **HEAT** setting indicates the temperature the room has to reach before the furnace will turn on to heat the room.



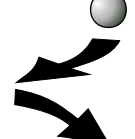
The **COOL** setting indicates the temperature the room has to reach before the air conditioner will turn on to cool the room.



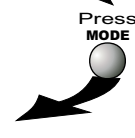
AUTO will automatically select heat or cool based on room temperature demand.



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



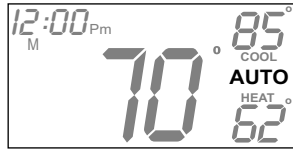
OFF indicates both heating and air conditioning systems are turned off.



Basic Operation

Temperature Control

Select Desired Temperature



In any mode, adjust the desired Set Temperature

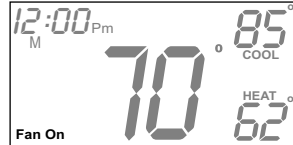
with




buttons.

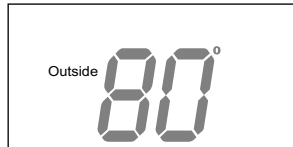
Pressing the up/down buttons in Auto mode will adjust **both** the heat and cool set temperatures simultaneously. Pressing the up/down buttons in Heat or Cool modes will adjust only the heat or cool set temperature.

Fan Operation



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

View Outdoor Temperature



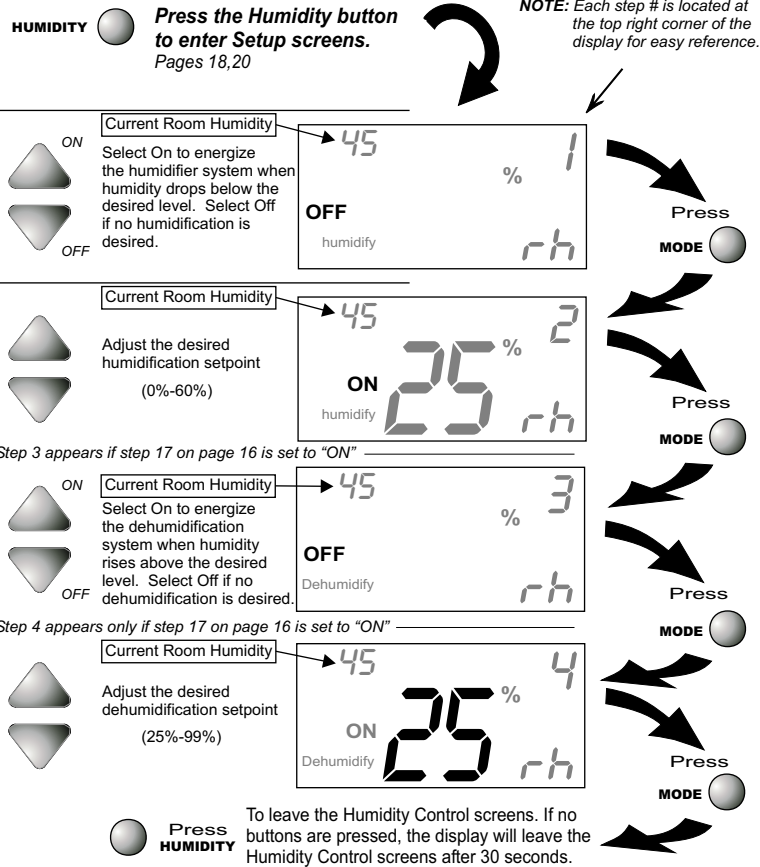
Press
Outside



To view Outdoor temperature press the Outside button. The Outside temperature will be displayed until the Outside button is pressed again. 2 dashes appear if no outdoor sensor is connected.

Basic Operation

Humidity Control



NOTE: If Humidity Step #1 is set to ON, you cannot set the Dehumidify setpoint any lower than the Humidify setpoint, + 5%. When both Humidity step #'s 1 and 3 are set to ON, the adjustable 5% differential is forced between the Humidify and Dehumidify setpoints.

NOTE: Due to variations in environmental conditions, it is not always possible to achieve the desired humidification or dehumidification setpoint.

Programming 4 Time Periods

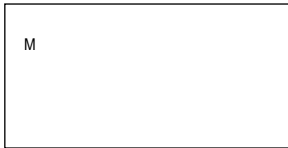


Press the **PROGRAM** button to enter time period programming.

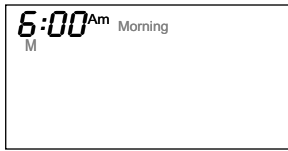
Use the back cover *Programming Worksheet* to help with this section.



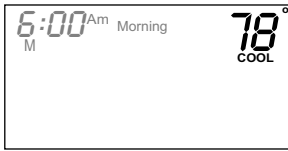
Select the day of week
(M - Su)



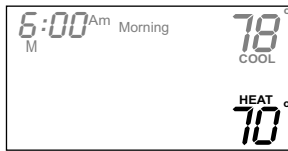
Adjust the start time
for Morning.



Adjust the cooling
setpoint for Morning.
(35 - 99°)



Adjust the heating
setpoint for Morning.
(35 - 99°)

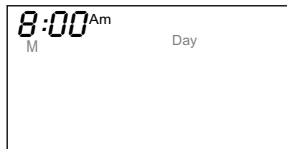


Continued

Programming 4 Time Periods



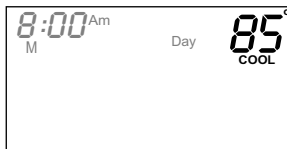
Adjust the start time for Day.



Press MODE



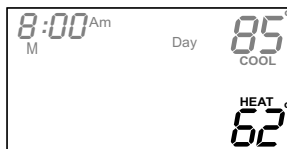
Adjust the cooling setpoint for Day.
(35 - 99°)



Press MODE



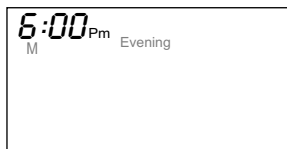
Adjust the heating setpoint for Day.
(35 - 99°)



Press MODE



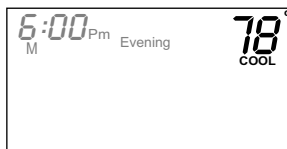
Adjust the start time for Evening.



Press MODE



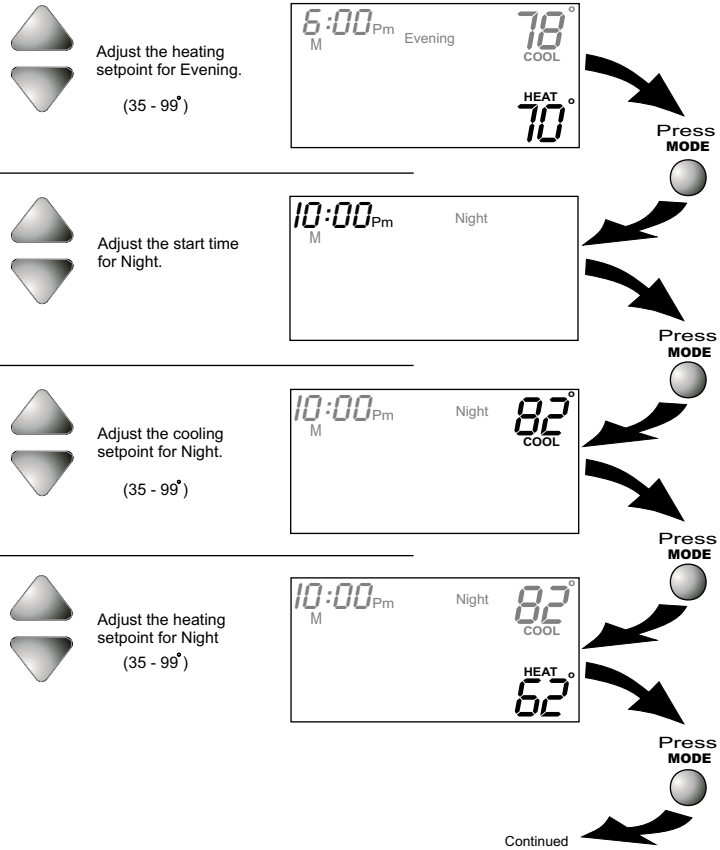
Adjust the cooling setpoint for Evening.
(35 - 99°)



Press MODE

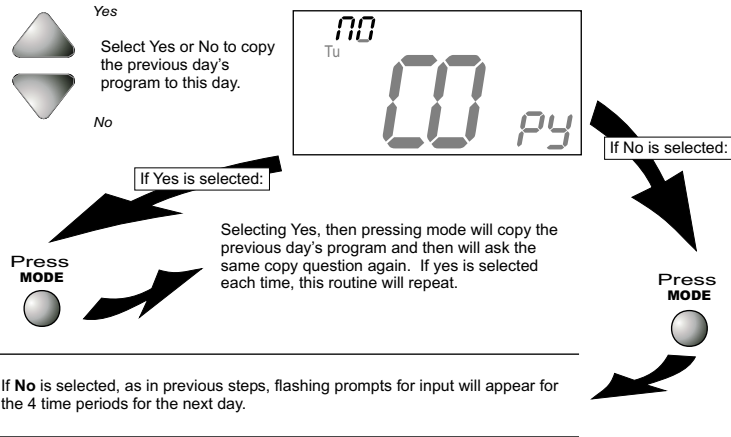
Continued

Programming 4 Time Periods




Programming 4 Time Periods


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




Advanced Setup


Before entering Advanced Setup, use the Mode button to place the unit in OFF. These steps are normally set up by the installer. Setting these values incorrectly may result in improper operation. Setup steps 1 & 2 are found in the clock set section.


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


PROGRAM 


NOTE: Each step # is located at the top right corner of the display for easy reference.


Press FAN  Reset the Service Filter counter to 0, to remove the icon from the display.





Press MODE 


 Adjust the number of hours the blower will run before the Service Filter icon appears on the display. 0 = off. (0 - 1950)




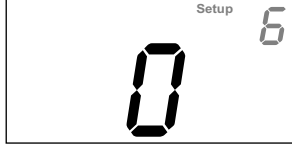
Press MODE 


 Select Heat Pump operation (**ON**) or, Gas/Electric operation (**OFF**).




Press MODE 




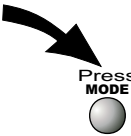


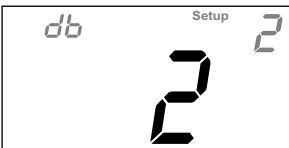











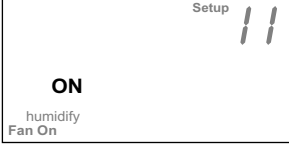
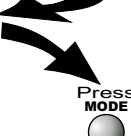
 ^B Select reversing valve type, O or B. (Step 6 appears if step 5 is **ON**.)



Press MODE 

Continued 

Advanced Setup

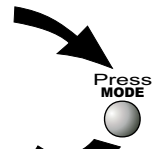
<p>  ON Select Electric Heat On or OFF. (Step 7 only appears if Step 5 is set to OFF).  OFF </p>		
<p>  Adjust the Deadband (1 - 6)  </p>		
<p>  Adjust the minimum difference between cooling & heating setpoints. (0 - 6°)  </p>		
<p>  Select the cycles per hour limit. d=cycles per hour limit defeated. d1=d + defeat 5 min. Compressor lockout. (d, d1, 2 - 6)  </p>		
<p>  On Select ON for 'Standalone' Humidity/Fan operation. IntelliStat will turn on the fan and humidifier with a humidity demand.  Off or, Select OFF to only turn on the humidifier if in Heat or Fan and there is a humidity demand. </p>		

Continued

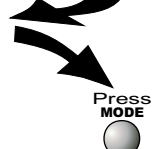
Advanced Setup



Adjust the programmable fan timer. *page 20*
0 - 60 minutes.
0:00 = off



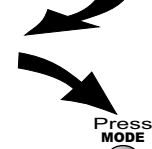
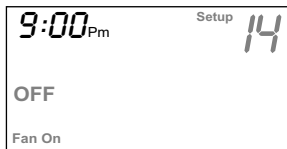
Adjust the programmable fan start time.



Step 16 appears only if step 15 is not 0:00.



Adjust the programmable fan stop time.



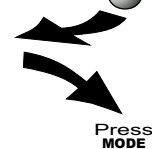
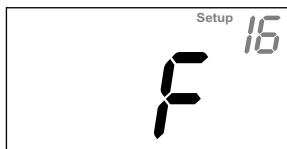
Step 15 appears only if step 13 is not 0:00.



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





C
Select thermostat operation in degrees Fahrenheit or Centigrade.
F



Continued

Advanced Setup

 On
 Off



Select Dehumidification Operation On or Off. *Page 8,18,20*

Setup 17

OFF

Dehumidify

Step 18 appears if step 17 is set to "ON"

 On
 Off

Select Cool to Dehumidify feature. *Page 8,18,20*



Setup 18

COOL

OFF

Dehumidify

Step 19 appears only if step 17 is set to "ON"

 On
 Off




Adjust the Maximum overshoot of the set temp. In Cool to Dehumidify Mode. *Page 8,18,20*

Setup 19

COOL

3

Dehumidify

 Press MODE
 Press MODE
 Press PROGRAM To Exit

Advanced Setup

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	Reset Service Filter icon	0	0
4	Service Filter run time set	0 - 1950	0
5	Heat Pump operation	Off / On	Off
6	Reversing valve polarity	O / B	O
7	Electric Heat	Off / On	Off
8	Deadband, temperature swing	1 - 6	2
9	Heat - Cool temperature difference	0 - 6	2
10	Cycles per hour	d, d1, 2 - 6	6
11	Standalone Humidity with Fan	Off / On	Off
12	Programmable Fan	0:00 - 0:60	0:00
13	Programmable Fan Start Time	24 hour	7:00 Am
14	Programmable Fan Stop Time	24 hour	9:00 Pm
15	Thermoglow backlight	Off / On	On
16	Fahrenheit or Centigrade	F / C	F
17	Dehumidification Operation	On / Off	Off
18	Cool to Dehumidify	On / Off	Off
19	Maximum Dehumidification Overshoot	0-5	3

* These setup steps may be accessed by pressing the Set Clock button (page 5).

About Advanced Features & Operation

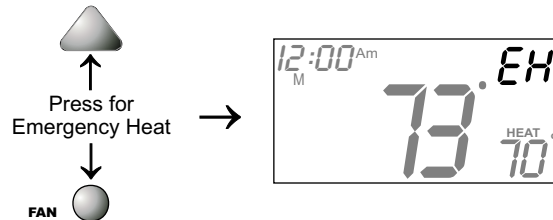
- * COOL TO DEHUMIDIFY - The compressor will run with the fan in this mode to reduce moisture in the air (step#19). This feature will allow adjustment of the cooling overshoot of the setpoint 0° to 5° (step#20).

- * DEHUMIDIFICATION SETPOINT - If your HVAC unit is equipped with a Dehumidification System and the Humidity Module has been installed, *page 8, 16, 20*, the thermostat will provide power to the Misc. terminal on the backplate of the thermostat when the Humidity in the home is below the setpoint you have chosen and, when the humidity in the home rises above the setpoint you have chosen, the Misc. terminal will be deenergized. The value for this setpoint ranges from 25% to 50%, or OFF if no dehumidification is desired or if a Dehumidification System has not been installed.

- * DUAL SETPOINT BEHAVIOR - The adjustable setpoint range is: 35 - 99 degrees in Fahrenheit and 2 - 36 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 9, page 14*. 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. Heat is limited to how close it can come to Cool by *step 9, page 14*.

About Advanced Features & Operation

- * **ELECTRIC HEAT** - Selecting Electric Heat **ON**, *page 14, step 7*, 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.
- * **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'.

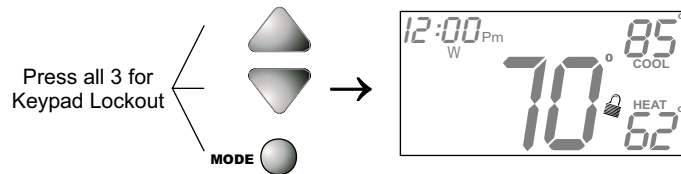


During Emergency Heat the thermostat will turn on the fan and the 2nd stage of heat, when there is a demand for heat, locking out the 1st stage compressor. Exiting Emergency Heat is the same as entering. During Emergency Heat only OFF and HEAT are available.

- * **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 return to normal operation, press the Mode button twice more.

About Advanced Features & Operation

- * **HUMIDIFICATION SETPOINT** - If your HVAC unit is equipped with a humidification system, the thermostat will provide power to the Dehum terminal on the backplate of the thermostat when the Humidity in the home falls below the setpoint you have chosen. The value for this setpoint ranges from 25% to 50%, or OFF if no Humidity is desired or if a Humidification System has not been installed.
- * **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.

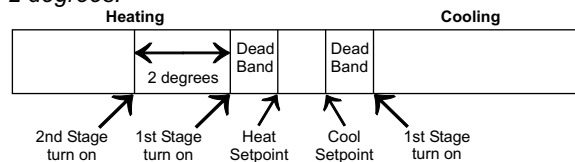


To **unlock** the buttons, again press and hold the Mode button. While holding the Mode button in, press the Up and Down buttons in together. The **Locked** icon will disappear from the display.

- * **MEMORY BACKUP** - In the event of a power loss, the TR7DRH will retain the stored program settings without external power or batteries.

About Advanced Features & Operation

- * **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 # 9, on page 14*. This minimum difference is enforced during Auto changeover and Program On operation.
- * **MULTI-STAGE OPERATION** - Control up to 2 Heat, 1 Cool Stages.
The **2nd Stage** of heat is turned on when:
(A) the 1st Stage has been on a minimum of 2 minutes **and**
(B) the temperature spread from the setpoint is equal to or greater than: *the setpoint plus the deadband, plus 2 degrees*.



- * **OUTDOOR SENSOR (Optional Accessory)** - When connected to terminals RS+5, RS1, & RS GND on the back of the thermostat, the thermostat will read the temperature from the outdoor 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 Outdoor Sensor, press the Outside button. The display will then only show Outside temperature. Pressing the Outside button will then return the display to normal operation. The Outdoor sensor is also used by the thermostat to compare the outside temperature to the indoor temperature for window condensation control. The Outdoor 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 Outdoor Sensor instructions for further details.

About Advanced Features & 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 15, step# 12*. 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 13 & 14 restrict the hours in which Programmable Fan may operate. Step# 13, page 15 is the start time and step# 14 is the stop time. Setting the times to the same setting in both steps 13 & 14 will allow Programmable Fan to operate 24 hours a day.

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 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 from state to state.

Programming Worksheet

see page 9

DAY	PERIOD	START TIME	COOL	HEAT
MONDAY	Morning			
	Day			
	Evening			
	Night			
TUESDAY	Morning			<i>Copy Mon → Tue</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			
WEDNESDAY	Morning			<i>Copy Tue → Wed</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			
THURSDAY	Morning			<i>Copy Wed → Thu</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			
FRIDAY	Morning			<i>Copy Thu → Fri</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			
SATURDAY	Morning			<i>Copy Fri → Sat</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			
SUNDAY	Morning			<i>Copy Sat → Sun</i>
	Day			<input type="checkbox"/> No
	Evening			<input type="checkbox"/> Yes
	Night			



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