

# Aprilaire®

## ELECTRONIC THERMOSTAT



## Owner's Manual

### MODELS

### 8535, 8536 & 8537

Digital Heat Pump Thermostats

## OWNER'S MANUAL – TABLE OF CONTENTS

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**IMPORTANT: READ ALL INSTRUCTIONS THOROUGHLY**

## Introduction

Thank you for your recent Aprilaire® Electronic Thermostat purchase. We sincerely appreciate your business and are pleased to add your name to our growing list of customers. With this purchase, you have invested in the highest quality equipment currently available.

Please be assured that in addition to product quality, we are committed to total product performance and complete customer satisfaction.

Now, please take a few minutes to familiarize yourself with your new Aprilaire Thermostat. In order to take advantage of all the benefits of your new thermostat, it is important that you understand how to operate it.

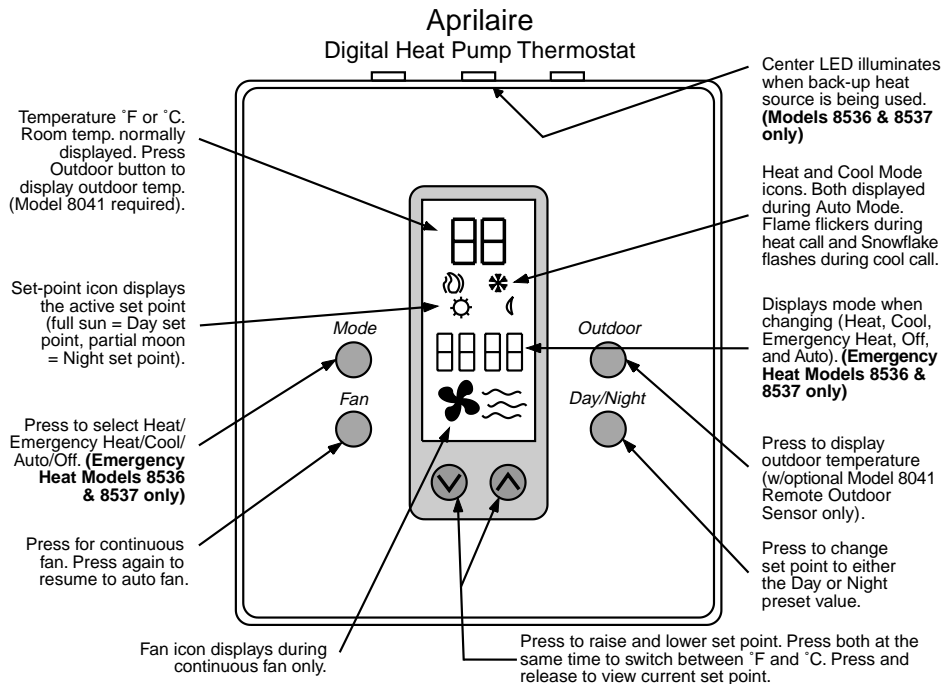




Figure 1 - Display and Button Description

# Getting Familiar with the Aprilaire Thermostat

(refer to *Figure 1*)

The LCD (Liquid Crystal Display) normally shows: the room temperature, the current mode of operation, if the **Day** or **Night** temperature setting is being used, and if the system fan is set for continuous operation.

## Temperature Display



Room temperature can be displayed in either degrees Fahrenheit or degrees Celsius. If the displayed temperature seems abnormally high or low (example: 70°F is equal to 21°C), press the **DECREASE**  button and **INCREASE**  button simultaneously to switch between °F and °C.

## Mode Button

Four modes of operation are available for all the DSL heat pump thermostat models: Heat, Cool, Auto, and Off. Additionally, with the Models 8536 and 8537, Emergency Heat mode is available. The mode of operation indicates how you want your heating and cooling equipment to operate. Press the **MODE** button until the desired mode of operation shows on the display.

## Temperature Settings - Day/Night Button

The thermostat stores four temperature settings in its memory, two for heating (Emergency Heat uses the same set points as the Heat mode) and two for cooling. The two temperatures for each mode are called

the **Day** setting "  " (a sun icon appears on the display) and the **Night** setting "  " (a moon icon appears on the display). The **Day** setting is intended to be an occupied or comfort setting and the **Night** setting is intended to be an unoccupied or energy savings setting. For example the four settings stored in the memory of the thermostat might be as shown in **Table 1**. Pressing the **DAY/NIGHT** button allows you to instantly change to a more economical setting when leaving the house or going to bed, and to a comfort setting when returning home or waking up. This thermostat is equipped with accessory inputs which can be used to automatically switch between day and night set points; contact your installing contractor for more details.

MODE	DAY	NIGHT
Heat	68°F	60°F
Cool	78°F	85°F

**Table 1 – Typical Set Point Values**

### Fan Button

The system fan will operate automatically during a heating or cooling cycle. If it is desired to run the fan continuously, press the **FAN** button, and a **Fan** "  " icon will appear on the display.

### Outdoor Button

This button will be made functional when the optional Aprilaire Model 8041 Remote Outdoor Sensor has been installed. It can then be used to find out the outdoor temperature from indoors. If the Model 8041 Remote Outdoor Sensor has not been installed, two dashes " – " will appear on the display when this button is pushed.

## Setting Up The Aprilaire Thermostat

To ensure accurate temperature control, observe the following simple guidelines:

- When the thermostat is operating, close the cover to allow proper air circulation over the temperature sensor.
- Do not place anything which can give off warm or cool air, such as candles or portable humidifiers, near the thermostat.

1. **Adjusting the Heat Temperature Settings.** There are two settings, the **Day** setting "☀️" (a sun icon appears on the display) and the **Night** setting "🌙" (a partial moon icon appears on the display).

See **Figure 2**.



- a. Press the **MODE** button repeatedly until **HEAT** appears on the display.
- b. Press the **DAY/NIGHT** button until the "☀️" icon (**Day** setting) appears on the display.
- c. Use the **DECREASE**  button and **INCREASE**  button to adjust the setting.



Figure 2 - Adjust Heat Settings

- d. Press the **DAY/NIGHT** button until the “☾” icon (**Night** setting) appears on the display.
- e. Use the **DECREASE** (▼) button and **INCREASE** (▲) button to adjust the setting.

2. **Adjusting the Cool Temperature Settings.** There are two settings, the **Day** setting “☀” (a sun icon appears on the display when this setting is being used) and the **Night** setting “☾” (a partial moon icon appears on the display when this setting is being used). See **Figure 3**.

- a. Press the **MODE** button repeatedly until **COOL** appears on the display.
- b. Press the **DAY/NIGHT** button until the “☀” icon (**Day** setting) appears on the display.
- c. Use the **DECREASE** (▼) button and **INCREASE** (▲) button to adjust the setting.
- d. Press the **DAY/NIGHT** button until the “☾” icon (**Night** setting) appears on the display.
- e. Use the **DECREASE** (▼) button and **INCREASE** (▲) button to adjust the setting.

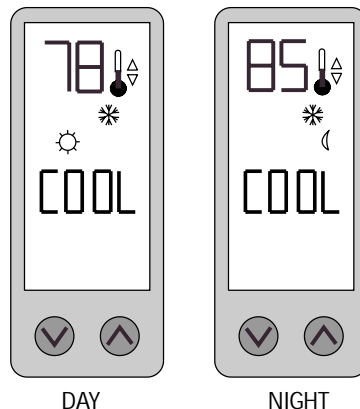



Figure 3 - Adjust Cool Settings





## Operating The Aprilaire Thermostat

1. **Select the mode of operation** by repeatedly pressing the **MODE** button until the desired mode appears on the display (“**E ht**” = Emergency Heat – Models 8536 and 8537 only). The heating and cooling system may be turned off by selecting the “**OFF**” mode. *Do not set to the “OFF” mode during periods when freezing temperatures may occur.*


- **COOL:** In the “**COOL**” mode a **Snowflake** “- 7 -



2. **Select the temperature setting** to be used by pressing the **DAY/NIGHT** button until the desired previously stored temperature setting (Day or Night) appears on the display. Use the **DECREASE**  button and **INCREASE**  button to change the temperature if desired (NOTE that if changed, the new set point will be permanently stored in memory - see **CHANGING THE CURRENT TEMPERATURE SETTING**).



3. After approximately 5 seconds the thermostat will return to the normal display.

***Note:** This thermostat utilizes time delays to protect the heating and cooling equipment. If the equipment does not shut off or turn on immediately when the temperature setting has been changed, it may be due to the built-in time delays (4 minutes max.).*





4. Press the **Fan** button, if it is desired, to run the fan continuously. A Fan  icon will appear on the display when the fan is set to operate continuously.



## Changing The Current Temperature Setting

1. Press and release either the DECREASE  button or INCREASE  button to see the current temperature setting. The setting, a Thermometer icon and a Double Arrowhead icon will appear (see *Figures 2* and *3* on pages 5 and 6).

2. Change the temperature setting:

**OPTION 1** – Use the DECREASE  button or INCREASE  button. Press and hold the DECREASE  button or INCREASE  button to change the current temperature setting. The thermostat remembers the most recent temperature settings. For example, if the Day, Cool temperature shown in Figure 3 were changed from 78°F to 76°F, the 76°F setting would remain in memory as the Day, Cool setting.

*Note: The Cool temperature setting must remain 2°F higher than the Heat temperature setting for both the Day and Night sets. The thermostat will automatically update the setting not being changed. In the example above, if the Day, Heat setting was 75°F, the thermostat would have automatically changed the setting to 74°F when the Cool setting was changed to 76°F.*



**OPTION 2** – Use the DAY/NIGHT button. Press the DAY/NIGHT button to instantly change the temperature setting to one of the two settings stored in memory.


## Optional Feature – Locking The Keypad

If tampering with the thermostat is expected and unwanted, the keypad can be locked by changing the position of the Keypad Lock DIP switch (switch no. 4) from the factory set **OFF** position to **ON**.

The DIP switches are located inside the thermostat on the circuit board. To access the DIP switches, refer to the Installation Instructions that came with the thermostat, or consult your contractor.

In the locked position, only the following functions can be done:

- The outdoor temperature button will display the outdoor temperature.
- The thermostat will default to the **Day** setting.
- The **DECREASE**  button and **INCREASE**  button will temporarily change the **Day** setting a maximum of  $\pm 6^{\circ}\text{F}$  ( $\pm 3^{\circ}\text{C}$ ) for a period of 3 hours before the thermostat automatically returns to the **Day** setting.



If the thermostat does not respond when a button is pushed, it may be because the keypad has been locked. A **Lock** “” icon will appear when a button other than **Outdoor** is pushed if the keypad has been locked.

## Setting High And Low Balance Points (Models 8536 & 8537 only)

High and low balance points can only be accessed if the Aprilaire Model 8041 Remote Outdoor Sensor has been installed. To check if this optional accessory has been installed, press the **Outdoor** button. If a temperature appears, the Model 8041 Remote Outdoor Sensor has been installed.

During heating, heat pumps operate by extracting energy out of the outdoor air and transferring it to the indoor air. This process is efficient over a wide range of temperatures. However, at low outdoor temperatures there is a point at which it becomes more economical to operate the back-up heat without the heat pump. This is called the Low Balance Point, "**Lo bP**". Conversely, the use of back-up heat with the heat pump during mild weather could use more energy than is required to heat the home. At outdoor temperatures exceeding the High Balance Point, "**Hi bP**", use of the back-up heat is limited to Emergency Heat operation only.

To review the set points, press and hold the **Outdoor** button and press the **Fan** button. "**Hi bP**" and its temperature value will appear on the display. Next, press the **Outdoor** button again and "**Lo bP**" and its temperature value will appear on the display. After approximately 15 seconds the display will return to normal.

After accessing a balance point, it can be changed by pressing the **DECREASE**  button or **INCREASE**  button. This should only be done after consulting with a qualified contractor. Improperly set balance points can result in increased energy expenses and possible equipment damage.

## In Case Of Power Failure

This thermostat does not require a battery. If the power goes out, the display is blank. During the period that the power is off, the heating/cooling system will not operate. When the power is restored, the thermostat will default to the **Day** setting and the current mode of operation at the time of the power outage.

This thermostat is equipped with a continuous memory feature which does not require any battery. The thermostat will never lose the four programmed temperature settings regardless of the length of the power outage.

## Cleaning

If the surface of the thermostat becomes dirty it can be cleaned with plain water or many non-abrasive household cleaners, such as glass cleaner. When using any cleaner be careful not to get any into the interior of the thermostat. Do not spray any cleaner directly onto the thermostat. Spray the cleaner onto a soft cloth and wipe the surface of the thermostat.

## Limited Warranty

Your Research Products Corporation Aprilaire® Thermostat unit is expressly warranted for two (2) years from date of installation to be free from defects in materials and workmanship.

Research Products Corporation's exclusive obligation under this warranty shall be to supply, without charge, a replacement for any thermostat which is found to be defective within a two (2) year period and which is returned, together with the date of installation, no later than thirty (30) days after said two (2) year period by you to either your original supplier or to Research Products Corporation, Madison, Wisconsin 53701.

THIS WARRANTY SHALL NOT OBLIGATE RESEARCH PRODUCTS CORPORATION FOR ANY LABOR COSTS AND SHALL NOT APPLY TO DEFECTS IN WORKMANSHIP OR MATERIALS FURNISHED BY YOUR INSTALLER AS CONTRASTED TO DEFECTS IN THE THERMOSTAT ITSELF.

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# Aprilaire®

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