



HiDef Communicating Control System

FOR SMART HVAC SYSTEMS

HOMEOWNER'S GUIDE



Part No. CTK02AA

Message to the Homeowners

Your premium ComfortNet™ control system is designed to give you and your family the indoor comfort you desire. It's easy to use, energy-efficient and reliable. It ensures your system is set up properly, running at its most efficient and provides optimal comfort.




Introduction to your ComfortNet™ HiDef Control

Your ComfortNet control is designed to regulate and communicate with your central heating and cooling control. This control system has the ability to share information so that you will enjoy efficient comfort throughout your home.

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Control System Home Screen Display and Controls



- 1 The **indoor temperature**
- 2 The relative indoor **humidity**
- 3 The **day** of the week and the **time**
- 4 The **outside** temperature if outdoor sensor is connected
- 5 The desired temperature or **setpoint**
- 6 Indicates **system** setting or  .
- 7 This button selects system settings **Cool**, **Heat**, **EM**, **Auto**, or **Off**. In the menus, this button is used to display the Home screen
- 8 ▲ and ▼ move the temperature up and down.
Also used to navigate through menus
- 9  is used to enter any menu function of the control system
- 10 ◀ and ▶ used to move through the menu settings.
Also, the ◀ is used to exit the temperature hold function
- 11 This button selects the fan operation **On** or **AUTO**. Also the **Enter** button in the control system menus used to save entries and display previous menu.
- 12 Indicates **Fan** mode or  .

Navigating through your control system menus

Your control system features a simplified easy to understand menu structure. Navigating through any menu in your control system uses the same approach.

- Press **M** to enter the Main Menu
- Highlight a menu item using the **▲** or **▼** buttons
- Enter the item by pressing **M**
- Use the **◀** or **▶** and the **▲** or **▼** to change menu items and settings
- Press the **Home** button to display the Home Screen. 
- Press the **Enter** button to save any changes you have made and display the previous menu. 
- **If no button is pressed for two minutes, you will return to the home screen without saving changes.**



- Press **M** to enter the Main Menu

Set the Current Time and Date

- On the Main Menu, highlight and enter **Clock and Display Settings**.
- Highlight and Enter **Time & Date**.
- Set the time and date using the **▲** or **▼** buttons.
- Press **▷** to highlight Minute, AM/PM, Month, Day or Year.
- The control system will automatically assign the correct day of the week after the date is set.
- Press the **Enter** button when finished.

Note: If system power is lost for more than eight hours, the clock will have to be reset. Programming and configuration settings will be saved.



Choose the System Setting

- From the Home screen, press the button as shown to choose the system setting.



Energy Saving Factory Pre-Program

Your control system is programmed from the factory with the energy saving settings shown below for every day of the week. If this program meets your needs, simply select either **Cool**, **Heat** or **Auto** using the **System** button and press ◀ to begin program operation.

Factory Pre-Programmed Heating and Cooling Schedule

	Wake Up (Morning)		Leave for Work (Day)		Return Home (Evening)		Go to Bed (Night)	
Heating Program	6:00 AM	70°F	8:00 AM	62°F	5:00 PM	70°F	10:00 PM	62°F
Cooling Program	6:00 AM	75°F	8:00 AM	83°F	5:00 PM	75°F	10:00 PM	78°F

If you want to change the heating and/or cooling programs in your control system, see the **“Programming Your Control system”** section.

System Setting

Press the System button to choose whether you want your system to be in Cool, Heat, EM or Auto mode.



Control system controls only the cooling system.



Control system controls only the heating system.



Heating and Cooling systems are off.



Emergency setting available only when the control system detects a heat pump in the system. When selected, system will use only the backup heat.



Auto Changeover is used where both heating and cooling may be required during the same day. AUTO allows the control system to automatically select heating or cooling depending on the indoor temperature and the

selected heat and cool temperatures. This control system will not allow you to program a conflict between Heating and Cooling setpoints.

For example: In the morning heating is required. During the day, the temperature gets warmer and you want the air conditioner to run. The control system will automatically change the system mode from heating to cooling.

The temperature you desire in your home can be changed by pressing ▲ or ▼.



Auxiliary Heating (Heat pumps only)

If you have a heat pump, your system will automatically activate Auxiliary Heating when the outside temperature is too cold for the heat pump to efficiently heat your home. When Auxiliary Heating is called for, the display will show “**Aux**” with the **Heat** icon. In dual fuel applications “**Aux**” will indicate gas furnace operation.



Temporary Temperature Hold

You can temporarily adjust the temperature in your home at any time while your control system is running a program by pressing either the ▲ or ▼. Your control system will maintain this desired temperature for four hours (default). The display will show “**Hold at**” by the desired temperature, and “**Hold Until**” with the time the temporary hold will end. The display will also briefly show “**Press ◀ or ▶ to set the Hold Time**”. While this message is displayed, you can change the time that you wish to have the Hold end.

Press the ◀ button to cancel a temporary hold. The desired temperature will display the current program setting.



Permanent Temperature Hold

If you desire, you can set your control system to permanently hold a temperature. This feature will bypass any programs you may have set in your control system and maintain a single constant temperature. This is a convenient feature to use if you are going to be away from the house for a set amount of time such as a vacation.



To use Permanent Hold, change the temperature with the ▲ or ▼ and press the **Hold** button. When your control system is in Permanent Hold, the “**Hold at**” will be displayed by the desired temperature.

Press the ◀ button to exit permanent hold and display the current program setting.

Choosing the Fan Setting (On or Auto)

Fan Auto This is the most commonly used setting. The fan will turn on only when the heating or cooling system is running.

Fan On You can choose to have the fan running continuously by selecting **Fan On**. When this is selected, the fan will run at the speed (**High, Medium, or Low**) selected in the Fan Settings menu.





Maintenance Reminders

Your control system can automatically provide reminders when the air filter, humidifier pad, or UV lamp needs to be replaced. Each of these reminders are turned on or off and the reminder time period set from the appropriate item in the **Control system Settings Menu**.

Maintenance reminders are:



When a reminder appears, it can be turned off by entering the Alert Information Detail menu on the Main Menu.

Select **Yes** to “**Clear Alert and Reset Timer**”.

Clock and Display Settings Menu

In addition to setting time and day on this menu, you can use the **Display Settings** menu to adjust the screen brightness, choose the background color, select the keypad backlight, and the auto dimmer. Other choices select what will be displayed on the Home screen, Time & Day, Outdoor Temp Display, Humidity Display and Alert Message Area.



On the **Main Menu**, highlight and Enter **Clock and Display Settings**



Highlight and Enter **Display Settings**



Brightness. By using the ◀ and ▶ this adjusts the backlight between dark and bright.



Theme. Theme allows the user to choose from alternate background schemes.



Keypad Backlight. When selected **On**, the light on the keypad will be on to give the keypad better visibility. If selected **Off**, the keypad light will turn on for a short time when a button is pressed and then turn off again.



Display Backlight. The display backlight menu item shall be used to turn on or off the LCD backlight. Display backlight setting shall be **On** by default. Upon selecting the Display Backlight menu from the Display Settings menu, display backlight menu shall be displayed as shown at left. If the display backlight is set to **Off**, then the thermostat shall turn **On** the LCD backlight only if a key press is detected. If a key press is detected when the display backlight is set to **Off**, TSTAT shall turn on the LCD backlight. The TSTAT shall turn off the backlight again if it does not detect a key press for more than 8 seconds.



Auto Dimmer. When selected **On**, the display will change to a darker background during the hours of 10:00 PM to 5:00 AM when no buttons are pressed. If selected **Off**, the display will remain at the same brightness.

Heating Program/Cooling Program

On the **Main Menu**, highlight and enter **Heating** or **Cooling Program**. See upcoming Programming Your Control System section.



Fan Setting Menu

This menu selects the speed that the fan will run when selected On with the Fan button.



On the **Main Menu**, highlight and enter **Fan Settings**



Enter **Fan "On" Speed**.

Default is **"Medium"**. Select fan speed of medium, low or high.

Control System Settings Menu

Additional control system operating settings are found in the Control system Settings Menu.



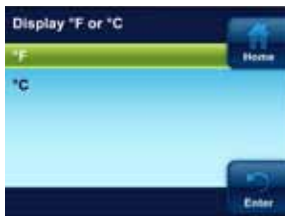
On the **Main Menu** highlight and enter **Control system Settings**

Air Filter Maintenance/UV Lamp Maintenance Humidifier Maintenance

Default for each is **Off**. When set to **On**, a maintenance reminder will appear on the home screen when the system has run for the selected amount of time. The length of time for the maintenance reminder can be selected to a setting of 1 to 12 months.



Use ▲ or ▼ to select On or Off. When On is selected, set time of maintenance period using ◀ and ▶.



°F or °C – Default is °F. Select temperature display to be Fahrenheit or Celsius.



Beeper – Default is **On**. Turns audible prompt on to indicate when a button is pressed.



EMR (Energy Management Recovery)
Default is **On**. With EMR selected **On**, the heating or cooling system will start early so the temperature in your home is at the desired temperature at the beginning of the program period. If set to **Off**, the system will not start until the beginning of the program period.



Maximum Heat Setpoint Temp. – Default is **99°**.

Minimum Cool Setpoint Temp. – Default is **45°**.

These settings are the highest temperature limit in **Heat** mode or the lowest temperature limit in **Cool** mode. Select a setting of **98°** to **45°** for the maximum heating temperature or **46°** to **99°** for the maximum cooling temperature.

Humidity Display Adjust – Default is **0%**.

Temperature Display Adjust – Default is **0°**. Your control system was accurately calibrated at the factory. However, this option allows you to change the humidity or temperature displayed to match other control systems in your home.

De-Humidification and Humidification Setpoint – The

Dehumidification and Humidification setpoints are the percentage of humidity that the cooling and heating system will attempt to maintain. Dehumidification is accomplished through control of the compressor and speed of the air circulating blower. Humidification is controlled through a set of contacts on the control board and initiation of the continuous fan speed. If a simultaneous call for heating exists while in Humidification mode the heating fan speed will take precedence. Default for the De-Hum setpoint is 60% and is adjustable from a range of 40% to 95%. Default for the Humidity setpoint is 45% and is adjustable from a range of 20% to 95%. **NOTE:** Humidification setpoint will only be displayed if indoor equipment has humidification capabilities.



Planning your Program

Your control system can be programmed in different profiles.

- **Entire Week** (Every day will have the same program)
- **Monday-Friday** (Monday-Friday will have the same program)
- **Saturday-Sunday** (Saturday-Sunday will have the same program)
- **Individual Days** (Each day will have a separate program)

Each day, or group of days, has four different time periods: **Morning, Day, Evening and Night**. Both the Heating and Cooling Programs are programmed the same way.

Keep the following guidelines in mind when planning your program:

- In Heating, lower temperatures will save energy.
- In Cooling, higher temperatures will save energy.
- If you plan on using auto-changeover, do not program your heating temperatures higher than your cooling temperatures.

Entering the Heating & Cooling Programs

(Entire Week program illustrated below)



Entering Heating Program

- On the **Main Menu**, highlight and enter **Heating Program**
- Highlight and enter **Entire Week**
- Press ▲ and ▼ to change the highlighted Time or Temperature to your desired settings
- Press ◀ or ▶ to highlight the next time or temperature
- Set all times and temperatures for all periods
- When you have completed setting all times and temperatures, press **Enter** to save and display the **Heating Program** menu. A checkmark appears to indicate the portion of schedule you have programmed

Entering Cooling Program

After entering Heating Program, press **▶** to highlight “**Switch to Cool Program**” and press **M**, or enter **Cooling Program** on the **Main Menu**.

Enter Cool program using same procedure.

If programming **Monday – Friday** and **Saturday – Sunday**, follow the above procedure.

Using Individual Days allows you to change the program settings of a single day or days. Highlight a day and press **M** to mark the box. Mark additional days you wish to have programmed the same. Press **Set** to begin entering the program for the selected day or days.






Alert Info Detail

If the control system senses trouble with a component of your system (the heat pump, air handler, furnace or air conditioner), or a maintenance reminder appears, an alert will be displayed on the Home screen. Details of any alert can be found on the **Alert Info Detail** menu in the **Main Menu**. Your installing dealer contact information may also be displayed on this screen.

There are two levels of alerts;

Maintenance Reminder. The maintenance reminder can be cleared and the timer reset by selecting **“Clear Alert Message and Reset Timer”** by pressing the .

Critical System Warnings. If a Red system alert appears, contact your qualified service technician to have your system serviced.





Reset Operation

If a voltage spike or static discharge blanks out the display or causes erratic operation of your control system, you can reset it.

To reset the control system, press ▲, ▼, and System button at the same time.

Note

When the control system is reset, the Control system Settings, time and date, and programming schedule will be reset to the factory defaults. Refer to the customized settings for your control system recorded on the back cover of this manual. Use this manual to help restore the desired settings before they were reset. For your convenience, the factory default settings are shown.

Notes

Record of Control system Options Selected

For your quick reference, below are the options selected by your installing dealer to optimize your equipment settings and your personal home comfort preferences. (Contractor to fill in value or check box. N/A = Not Applicable for your equipment or application.)

Control system Options Configuration Menu			Factory Settings
Air Filter Maintenance	___ Months		Off
UV Lamp Maintenance	___ Months		Off
Humidifier Pad Maintenance	___ Months		Off
Temperature Display	<input type="checkbox"/> °F <input type="checkbox"/> °C (Fahrenheit/Celsius)		°F
Beeper	<input type="checkbox"/> On <input type="checkbox"/> Off (Button Input Confirmations)		On
Energy Management Recovery	<input type="checkbox"/> On <input type="checkbox"/> Off		On
Maximum Heat Setpoint Temp.	___ (98° to 45°)		99°
Minimum Cool Setpoint Temp.	___ (46° to 99°)		45°
Humidity Display Adjust	___% (1 to 20%) <input type="checkbox"/> Hi (+) <input type="checkbox"/> Lo (-)		0%
Temperature Offset	___ (0, 1, 2, 3, 4, 5°) <input type="checkbox"/> Hi (+) <input type="checkbox"/> Lo (-)		0°
Continuous Fan Speed	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low (Fan-On Setting)		Medium
Keypad Backlight	<input type="checkbox"/> On <input type="checkbox"/> Off		On

If you need help adjusting the programmed time or temperatures in your control system, please call the **Homeowner Help Line** at 800-284-2925

For All Other Service, Please Call:

Installing Dealer: _____

Phone: _____

Date Installed: _____

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