TOTALINE® Star | **OWNER'S MANUAL** | **CPE230RF**

Commercial
Programmable Thermostat
Wireless Transmitter

Part Number P474-2300RF

CONTENTS

IMPORTANT: Read entire instructions before programming the thermostat.

GENERAL

The 7-day, commercial, programmable thermostats maintain room temperature by controlling the operation of your heating, cooling, and ventilation system. Separate heating and cooling set points and auto-changeover capability allow you to program schedules for energy savings.

All thermostats allow up to 4 time/temperature settings to be programmed per 24-hr period. Each thermostat stores programs for 7 independent days. Batteries are required for operation. During power interruption (batteries removed) the internal NEVERLOST™ memory stores configuration programs for an unlimited time. The clock will need to be reset every time power is lost (batteries removed).

The wall mounted or hand-held transmitter sends its signal to a receiver installed near the HVAC unit. Each paired transmitter and receiver can be given a separate house code for multiple thermostat applications. Up to 4 transmitters can send information to 1 receiver device.

If more than one transmitter is used with a single receiver, the transmitters must be given different Unit ID Numbers. Only the transmitter with Unit ID Number 1 may have a programmed schedule or be configured. All configuration parameters are taken from the transmitter with Unit ID Number 1. Transmitters with Unit ID Numbers 2, 3, and 4 cannot be programmed or configured (except for set points).

When more than one transmitter is used, the receiver will only accept commands from the transmitter that was last used (button pressed). All other set points and modes from other transmitters are ignored. If the transmitter with Unit ID Number 1 has a schedule and is in Program On mode, the receiver will revert back to following the programmed schedule when a time period change occurs, even if the transmitter with Unit ID Number 1 is not the current commanding transmitter.

IMPORTANT: The transmitter has a configurable security level. If certain functions are not available (changing set points, changing programming schedules), the transmitter security level may be configured to exclude those functions. Call the installer to reconfigure the security level.

CONFIGURATION

Transmitter Display — The transmitter display is located in the center of the transmitter. See Fig. 1. The following information can be displayed on the screen:

- mode (OFF, HEAT, COOL, AUTO, or PROGRAM ON)
- fan setting (FAN ON or blank)
- override indication
- room temperature
- desired temperature
- time of day
- day of the week
- schedule period (Occupied 1, 2, or 3; Unoccupied)
- setup indicator (used in programming mode)
- lock indicator
- start indicator (used in programming mode)

Transmitter Indicator — A transmitter indicator is located in the middle of the transmitter. See Fig. 2. The indicator will be lit if the transmitter is sending a signal to the receiver.
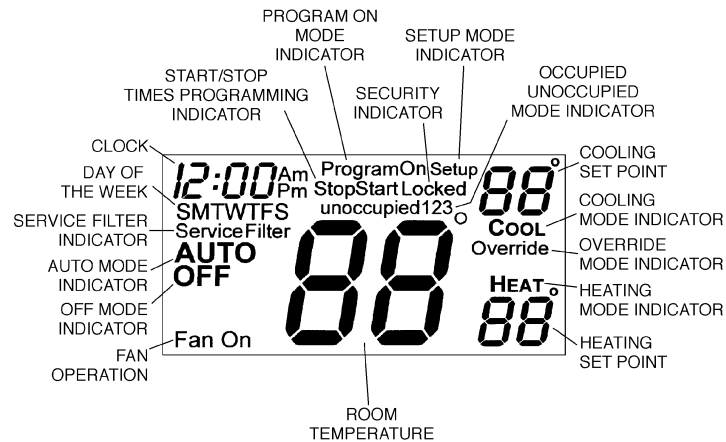
Fig. 1 — Transmitter Display

Transmitter Front Panel Buttons — The transmitter has buttons which are used to raise or lower the desired set point and change the mode. See Fig. 2.

SET POINT BUTTONS — The UP ARROW and DOWN ARROW buttons will raise or lower the current desired temperature set point. The thermostat will turn on heating or cooling to meet the heating or cooling temperature set point.

If the thermostat is in AUTO mode, pressing the UP ARROW or DOWN ARROW buttons will adjust both the heating and cooling set points.

Pressing the UP ARROW or DOWN ARROW buttons in Cooling mode will adjust only the cooling set points.

Pressing the UP ARROW or DOWN ARROW buttons in Heating mode will adjust only the heating set points.

The UP ARROW and DOWN ARROW buttons are also used in Programming mode.

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MODE BUTTON — The Mode button selects the operating mode of the thermostat.

• If OFF is selected, the thermostat will not enter Heating or Cooling mode.

• If HEAT is selected, the thermostat will only enter Heating mode (if the room temperature is below the heating set point). The thermostat will not provide cooling.

• If COOL is selected, the thermostat will only enter Cooling mode (if the room temperature is above the cooling set point). The thermostat will not provide heating.

• If AUTO is selected, the thermostat will enter Heating or Cooling mode based on the room temperature and the heating and cooling set points. The thermostat will provide automatic changeover from Heating to Cooling mode and Cooling to Heating mode when required. The thermostat will automatically switch to maintain the desired temperature setting. The thermostat does not need to be manually changed from heating to cooling or cooling to heating operation.

• If PROGRAM ON is selected, your daily schedule is enabled and the thermostat will follow the programmed daily schedule stored in its memory.

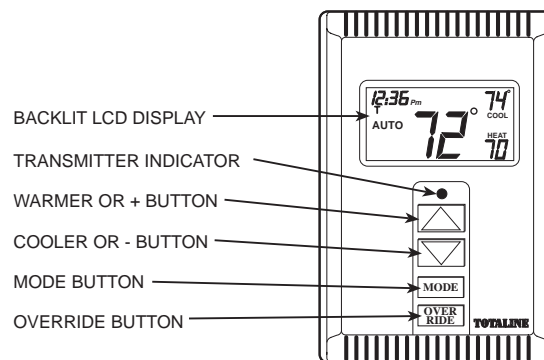NOTE: Only the transmitter with Unit ID Number 1 may have a programmed schedule.

BACKLIT LCD DISPLAY

TRANSMITTER INDICATOR

WARMER OR + BUTTON

COOLER OR - BUTTON

MODE BUTTON

OVERRIDE BUTTON

Fig. 2 — Thermostat Front Panel Buttons

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KEYPAD LOCK — The thermostat has a keypad lockout feature which will not allow anyone to change the settings of your thermostat unless the correct button sequence is pressed. To disable or lock the keypad, press and hold the Mode button. While holding down the Mode button, press the UP and DOWN ARROW buttons simultaneously. The ''Locked'' icon will appear on the display.

The thermostat is unlocked by performing the same procedure. Press and hold the Mode button. While holding down the Mode button, press the UP and DOWN ARROW buttons simultaneously. The ''Locked'' icon will be removed from the display.

PROGRAM — The Mode and UP ARROW buttons are used to set the daily schedules for the thermostat to follow. Refer to the Programming Thermostat Schedules section on page 7 for more information.

SET CLOCK — The Mode and Override buttons are used to set the thermostat time of day and day of the week. Refer to the Set Clock section on page 7 for more information.

OVERRIDE BUTTON — The Override button is used to force the thermostat from Unoccupied mode into the Occupied 1 mode comfort settings. The Override period will be set at 30 minutes. The thermostat will then return to Unoccupied mode. To increase the amount of time in Override mode, press the Override button again. Thirty minutes of override time will be added for each time the Override button is pressed up to a maximum of 4 hours. After the 4-hour limit has been reached, press the Override button again to cancel Override mode.

While in Override mode, the Override icon and the Occupied 1 icon will be displayed on the thermostat. The time of day and the minutes remaining in Override mode will alternate on the thermostat display.

The set points are adjustable with the UP ARROW and DOWN ARROW keys during Override mode.

NOTE: If the thermostat is in Occupied mode and the Override button is pressed, the thermostat will go into Unoccupied mode immediately. The thermostat will remain in Unoccupied mode until the next Occupied start time.

Set Clock — The Mode and Override buttons allow you to change the time and day displayed on the thermostat.

To set the clock, press and hold the Mode and Override buttons for 2 seconds. See Fig. 3. The display will show the Setup annunciator. The current time will blink on and off. Press the UP ARROW or DOWN ARROW buttons until the correct time is shown. Hold down the buttons to quickly move through the time display. Hold down the Override button while pressing UP or DOWN ARROW to change the time by hours. The AM and PM annunciators will automatically change. To ensure the schedules are properly followed, make sure that AM or PM is correct for the time chosen.

When the correct time is shown, press the Mode button to modify the day of the week. The current day will blink on and off. Press the UP ARROW and DOWN ARROW buttons until the correct day is shown. Press and hold the Mode and Override buttons for 2 seconds again to exit the Set Clock mode.

The transmitter will return to normal operating mode after 60 seconds if no buttons are pressed.
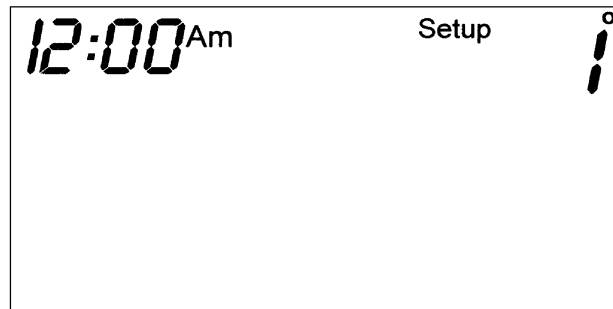

Fig. 3 — Setting the Clock

Programming Thermostat Schedules — Before programming the thermostat, plan the thermostat daily schedule. The schedule is divided into 7 days (Monday through Sunday). Each day can have 2 (Occupied 1, Unoccupied), 3 (Occupied 1, Occupied 2, Unoccupied), or 4 (Occupied 1,

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Occupied 2, Occupied 3, Unoccupied) time periods. Each occupied time period has a start time, stop time, heating set point, and cooling set point. The unoccupied time period has a heating set point and a cooling set point. The unoccupied time period is active whenever an occupied time period is not active. Fill in Table 1 on page 12 as an aid to programming the daily schedules.

PROGRAMMING MODE — To program the daily schedules, perform the following procedure:

1. Enter programming mode by pressing the Mode and UP ARROW buttons at the same time. The Occupied 1 annunciator will appear on the thermostat display. See Fig. 5. Use the UP ARROW and DOWN ARROW buttons to set the maximum number of Occupied periods available. The thermostat can be set to 1, 2, or 3. After the number of Occupied periods has been selected, press the Mode button.

2. The cooling set point for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the cooling set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (1 to 37 C). Press the Mode button to continue. See Fig. 4.

Fig. 4 — Setting Occupied 1 Set Points

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3. The heating set point for Occupied 1 will be displayed. Use the UP AR-ROW and DOWN ARROW buttons to raise or lower the heating set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (1 to 37 C). Press the Mode button to continue. See Fig. 4.
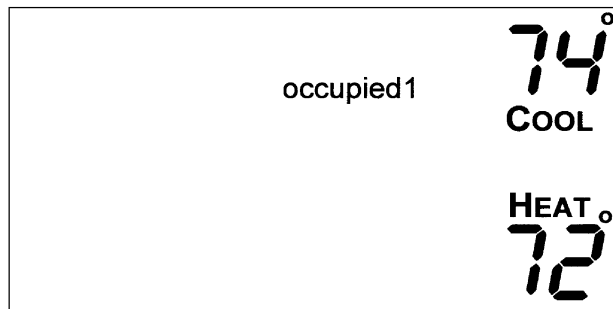
4. The cooling set point for Unoccupied will be displayed. Use the UP AR-ROW and DOWN ARROW buttons to raise or lower the cooling set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (1 to 37 C) or ''OF''(no unoccupied cooling). To set the value to ''OF'', press the UP ARROW button when ''99'' is displayed. Press the Mode button to continue.

5. The heating set point for Unoccupied will be displayed. Use the UP AR-ROW and DOWN ARROW buttons to raise or lower the heating set point until the desired temperature is shown. The range of acceptable values is 35 to 99 F (1 to 37 C) or ''OF'' (no unoccupied heating). To set the value to ''OF'', press the UP ARROW button when ''99'' is displayed. Press the Mode button to continue.

6. The day of the week will be shown. Use the UP ARROW and DOWN ARROW buttons to change the day of the week until the desired starting day is shown. Possible choices are M (Monday) through S (Sunday). Press the Mode button when the desired day is shown.

7. The Start Time for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the time until the desired Start Time is shown. Press the Mode button to continue. See Fig. 5.

8. The Stop Time for Occupied 1 will be displayed. Use the UP ARROW and DOWN ARROW buttons to raise or lower the time until the desired Stop Time is shown. Press the Mode button.

9. The On/Off icon will be displayed. Use the UP ARROW to turn the Oc-cupied 1 period ON for this day. Use the DOWN ARROW to turn the Occupied 1 period OFF for this day. If the schedule is set to OFF, the thermostat will follow the Unoccupied set points.

10. Repeat Steps 2 through 9 to program the remaining schedule for occu-pied periods 2 and 3 (if selected in Step 1).

11. The Copy command can be used to copy the previous day's schedule if the schedules are the same. The copy command becomes available after all the occupied periods are programmed in a day. Use the UP ARROW to change the copy command to YES. Use the DOWN ARROW to change the copy command to NO. Press the Mode/Next button when the choice has been made. See Fig. 6.

   If NO was selected, the schedule will automatically change to the next day and the user must enter the occupied and unoccupied schedules for that day.
   NOTE: Occupied 1 schedule heating and cooling set points are the same for each day. Occupied 2 and 3 set points may be set to different values for each day of the week.

   If YES was selected, the schedule will be copied to the next day. The schedule copy may be repeated until Sunday is reached. The Sunday schedule cannot be copied to Monday.

12. After all the times and set points for each day have been entered, press the Program button to finish entering the schedule.

NOTE: The thermostat will continue to follow the schedule until a new one is entered.

• If only one occupied schedule is selected, the Occupied 2 and 3 schedules are skipped.

• If the start time is set later in the day than the stop time, the program will run from midnight of that day to the stop time and then from the start time to midnight.

• If the same start and stop times are programmed for an occupancy schedule, the thermostat will be in Occupied mode for 24 hours.

• If one occupied period starts or stops within another occupied period, the lower numbered schedule has priority. For example, if schedule Occupied 3 is running for 24 hours and occupied schedule 2 comes on from 1 to 3 PM, the set points from Occupied 2 are in effect from 1 to 3 PM.

OVERRIDING THE SCHEDULE — The schedule can be overridden during operation by pressing the UP or DOWN ARROW buttons to change the desired temperature. The thermostat will use the new set point until the next scheduled time period starts.
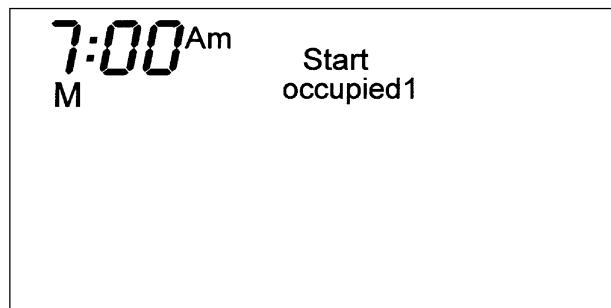
Fig. 5 — Start Time Display
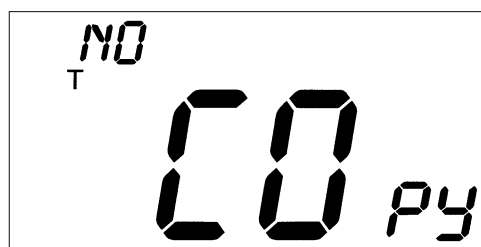
Fig. 6 — Copy Command Display

Table 1 — Daily Schedule Planner

DAY OF THE WEEK	SCHEDULE			
	Occupied 1	**Occupied 2**	**Occupied 3**	**Unoccupied**
	Start / Stop / Heat / Cool	**Start / Stop / Heat / Cool**	**Start / Stop / Heat / Cool**	**Heat / Cool**
Monday	/ / /	/ / /	/ / /	/
Tuesday	/ / /	/ / /	/ / /	/
Wednesday	/ / /	/ / /	/ / /	/
Thursday	/ / /	/ / /	/ / /	/
Friday	/ / /	/ / /	/ / /	/
Saturday	/ / /	/ / /	/ / /	/
Sunday	/ / /	/ / /	/ / /	/

NOTE: The cooling temperature set point must be higher than the heating temperature set point.

OPERATION

The Mode button selects the operating mode of the thermostat. If OFF is selected, the thermostat will not enter Heating or Cooling mode. If HEAT is selected, the thermostat will only enter Heating mode (if the room temperature is below the heating set point). If COOL is selected, the thermostat will only enter Cooling mode (if the room temperature is above the cooling set point). If AUTO is selected, the thermostat will enter Heating or Cooling mode based on the room temperature and the heating and cooling set points. If PROGRAM ON is selected, the stored schedule is enabled and the thermostat will follow the time period schedules stored in its memory.

Auto-Changeover — When the thermostat mode is set to AUTO, the thermostat will provide automatic changeover from Heating to Cooling mode and Cooling to Heating mode when required. The thermostat will automatically switch to maintain the desired temperature setting. The thermostat does not need to be manually changed from heating to cooling or cooling to heating operation.

Electric Heat — When the Electric Heat DIP switch at the receiver is set to ON, the thermostat will turn on the fan immediately any time there is a heat demand. This feature should only be used on electric heating applications. Do not use with gas heat.

Dry Contact Switch/External Device — A dry contact switch is provided to allow an external device to force the thermostat into Unoccupied mode.

Two-Stage Operation — The second stage of heat or cool is turned on when the first stage has been on for a minimum of 2 minutes and the temperature differential from the set point is equal to or greater than the set point plus the deadband plus 2 degrees.

Fan Operation — If Fan On is selected, the fan will run continuously during occupied schedule (except when Mode is switched to OFF). The fan will be off during unoccupied schedule except during heating or cooling operation.

If Auto is selected, the fan will only operate during heating or cooling operation.

TOTALINE

Replacement Components Division
Carrier Corporation

ALL PRODUCT
LIMITED WARRANTY

ONE-YEAR WARRANTY – This CARRIER CORPORATION (herein after referred to as "COMPANY") 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 COMPANY'S sole option, to replace any defective part will be provided without charge for the part itself; PROVIDED the defective part is returned to our 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 THE 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 COMPANY 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 COMPANY.

5. Parts not supplied or designated by the COMPANY, or damages resulting from their use.

6. COMPANY 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 limitation may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.
Effective on products manufactured after January 1, 1996. Supersedes any other warranty certificates supplied with the product.

CATALOG NO. 997.960040-1

Replacement Components Division
Carrier Corporation

TOTALINE

IF YOUR UNIT DOES NOT WORK, FOLLOW THESE STEPS IN ORDER:

FIRST: Contact the installer. You may find his name on the product or in your Homeowner's Packet. If his name is not known, call your builder if yours is a new residence.

SECOND: Contact the nearest TOTALINE distributor. (See telephone yellow pages.)

THIRD: Contact:
  CARRIER CORPORATION
  Consumer Relations Department
  P.O. Box 4808
  Syracuse, NY 13221
  Telephone: 1-800-227-7437

Unit Model No. _____

Unit Serial No. _____

Date of Installation _____

Installed by _____

Name of Owner _____

Address of Installation _____

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TOTALINE ®

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Your Assurance of Quality

ALL Totaline products are backed with a one-year warranty by Carrier Corporation, the world's largest manufacturer of air conditioning, heating, and refrigeration products.