

USER'S MANUAL

Split System Air Conditioners and Heat Pumps

IMPORTANT SAFETY INFORMATION

WARNING:

To avoid possible equipment damage, fire, or death, the following instructions must be observed regarding unit maintenance and operational procedures.

Please read all information in this manual thoroughly and become familiar with the capabilities and use of your appliance before attempting to operate or maintain this unit. Pay attention to all safety warnings and any other special notes highlighted in the manual. Safety markings are used frequently throughout this manual to designate a degree or level of seriousness and should not be ignored.

WARNING indicates a potentially hazardous situation that if not avoided, could result in personal injury or death.

CAUTION indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

Keep this literature where you have easy access to it in the future. If a problem occurs, check the instructions and follow recommendations given. If these suggestions don't eliminate your problem, call your servicing contractor. Do not attempt to service this unit yourself!

- To achieve optimum performance and minimize equipment failure, it is recommended that periodic maintenance be performed on this unit. The ability to properly perform maintenance on this equipment requires certain mechanical skills and tools. Please consult your dealer for maintenance information and availability of maintenance contracts.
- The area around the cooling unit must be kept clear and free of combustible materials, gasoline, and other flammable vapors and liquids. Do not store or use flammable items such as paint, varnish, or strippers in the vicinity of the unit.
- Do not use the area around the unit as a storage area. This area must be kept clean and clear of loose or exposed insulation materials. Examine the unit's area when it is installed or when insulation is added, since some insulation materials may be combustible.
- Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the unit and to replace any part of the control system and any gas control which has been under water.
- Familiarize yourself with the controls that shut off the electrical power to the unit. If the unit needs to be shut down for an extended period of time, turn off electrical power at the circuit breaker. For your safety always turn off the electrical power before performing service or maintenance on the unit.

WARNING:

- **Under no circumstances should the appliance owner attempt to install and/or service this equipment. Some local codes require licensed installation / service personnel for this type of equipment. Improper service, adjustment, or maintenance may cause explosion, fire, electrical shock or other hazardous conditions which may result in personal injury or property damage.**
- **Read these instructions thoroughly before using the equipment. Follow all precautions and warnings contained within these instructions and on the unit.**
- **Improper installation, adjustment, alteration, service, or maintenance can cause personal injury or property damage. Refer to this manual. For assistance or additional information, consult a qualified installer or servicer.**
- **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**

DO NOT DESTROY. PLEASE READ CAREFULLY AND KEEP IN A SAFE PLACE FOR FUTURE REFERENCE.



**Refrigerant
Safety Group
A2L**

THIS SYSTEM CONTAINS A MILDLY FLAMMABLE REFRIGERANT. BECAUSE OF THAT, SOME ADDITIONAL CONSIDERATIONS ARE REQUIRED.

- Auxiliary devices which may be a potential ignition source shall not be installed in the duct work. Examples of such potential ignition sources are hot surfaces with a temperature exceeding 1292°F (700°C) and electric switching devices. Only a qualified installer or servicer should add auxiliary devices.
- Depending on the details of your specific installation then there may be additional restrictions on what can be installed now or at any time in the future in the same room that your furnace or air handler is installed in. Refer to the air handler or furnace installation instructions for details on how to determine what additional restrictions may apply in your case.
 - o **NOTE:** If the additional requirements DO apply to the room the furnace or air handler is installed in OR if you are not sure if they apply or not, then for as long as this system is installed in that room there cannot be any continuous operating open flames (e.g. an operating gas appliance) or other potential ignition source (e.g. an operating electric heater or hot surface) in that room. A flame-producing device (e.g. an operating gas appliance) may be installed in the same room only if it has an installed, effective flame arrest.
- The indoor portion of your system (e.g. the air handler or furnace) contains an A2L leak detector that will mitigate the risks associated with a possible refrigerant leak.
 - o If the leak detector detects a possible refrigerant leak then:
 - The leak detector may prevent your system from cooling and/or heating, even if the unit's blower motor is running such that you can feel air coming out of your vents. If you feel more air leaving your vents than usual AND the system is not cooling/heating your home then call a qualified installer or servicer.
 - The leak detector may cause your thermostat to display a "service needed" message, depending on if your specific thermostat has that functionality. If your thermostat displays this message and it doesn't seem to be a regularly scheduled message to replace your air filter, then call a qualified installer or servicer.

ABOUT THE SYSTEM

This split system unit has been designed and built to provide many years of safe and dependable comfort, providing it is properly installed and maintained. With regular maintenance, this unit will operate satisfactorily year after year. Abuse, improper use, and/or improper maintenance can shorten the life of the appliance and create unsafe hazards. A regular service and maintenance schedule should be established to ensure efficient and safe operation of the unit.

OPERATING INSTRUCTIONS

Thermostat styles vary. Some models may not include the AUTO mode and others will have the AUTO in place of the HEAT and COOL. Others may include all three. Please refer to the thermostat's User Manual for detailed programming instructions.

The thermostat should be mounted about 5 feet above the floor on an inside wall and not on an outside wall or other location where its operation may be adversely affected by radiant heat from fireplaces, sunlight, or lighting fixtures, and convective heat from warm air registers or electrical appliances.

Cooling Operation

1. Set the thermostat's system mode to COOL or AUTO and change the fan mode to AUTO. See Figure 1.
2. Set the temperature selector to the desired temperature level. The outdoor fan, compressor, and blower motor will all cycle on and off to maintain the indoor temperature at the desired cooling level.

NOTE: If the temperature level is re-adjusted, or the system mode is reset, the fan and compressor in the outdoor unit may not start immediately. A protective timer circuit holds the compressor and the outdoor fan off for approximately 5 minutes following a previous operation or the interruption of the main electrical power.

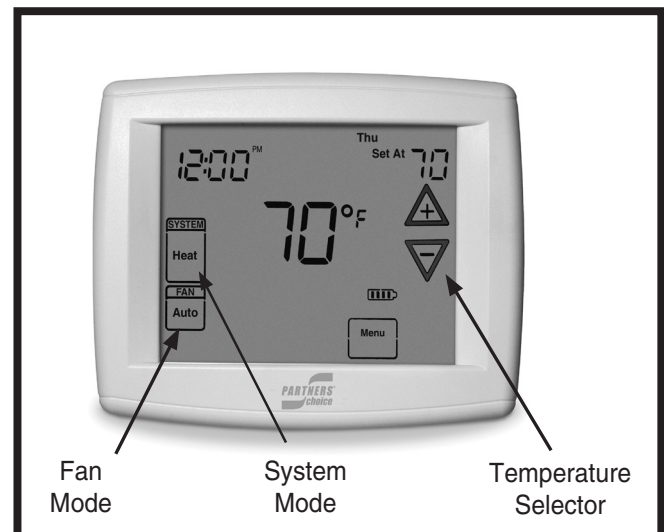


Figure 1. Digital Thermostat

Heating Operation

1. Set the thermostat's system mode to HEAT or AUTO and change the fan mode to AUTO. See Figure 1.
2. Set the temperature selector to the desired temperature level. The heat pump (if applicable) and/or optional heating equipment (furnace or electric heat) will cycle on & off to maintain the indoor temperature at the desired heating level.

NOTE: (Heat Pump Systems Only) If the temperature level is re-adjusted, or the system mode is reset, the fan and compressor in the outdoor unit may not start immediately. A protective timer circuit holds the compressor and the outdoor fan off for approximately three minutes following a previous operation or the interruption of the main electrical power.

Emergency Heat (Heat Pump Systems Only)

Some thermostats may include a system mode called EM HT or AUX HT, etc. This is a back-up heating mode that should only be used if a problem is suspected. With the mode set to EM HT, etc., the compressor and outdoor fan will be locked off and supplemental heat (electric resistance heating) will be used as a source of heat. Sustained use of electric resistance heat in place of the heat pump will result in an increase in electric utility costs.

Defrost Operation (Heat Pump Systems Only)

During cold weather heating operation, the outdoor unit will develop a coating of snow and ice on the heat transfer coil. This is normal and the unit will defrost itself. This unit features Adaptive Demand Defrost that monitors ambient and coil temperatures to regulate the defrost function accordingly. At the beginning of the defrost cycle, both the outdoor condenser fan and compressor will turn off. After approximately 30 seconds, the compressor will turn on and begin to heat the outdoor coil causing the ice and snow to melt.

NOTE: While the ice and snow are melting, some water vapor may rise from the outdoor unit as the warm coil causes the melting frost to evaporate. When defrost is completed, the outdoor fan motor will start, and the compressor will turn off again. In approximately 30 seconds the compressor will start up again and continue normal operation.

Operating the AC for Automatic Cooling & Heating

1. Set the thermostat system mode to AUTO and the thermostat fan mode to AUTO. See Figure 1.

NOTE: Thermostats will vary. Some models will not include the AUTO mode, and others will have the AUTO in place of the HEAT and COOL, and some will include all three.

2. Set the thermostat temperature selector to the desired temperature level. The thermostat will maintain the desired temperature level by switching between either the outdoor cooling unit or the indoor heating unit (furnace or electric heat) automatically.

Operating the Indoor Blower Continuously

The continuous indoor blower operation is typically used to circulate the indoor air to equalize a temperature unbalance due to solar loads, increased occupancy loads, or mechanical equipment operation. Set the thermostat fan mode to ON (Figure 1). The indoor blower starts immediately, and will run continually until the fan mode is reset to AUTO.

NOTE: The continuous indoor blower operation can be obtained with the thermostat system mode set in any position, including OFF.

Turning the Split System Off

Change the thermostat's system mode to OFF and the fan mode to AUTO (See Figure 1). NOTE: The system will not operate, regardless of the temperature selector setting.

SYSTEM MAINTENANCE

WARNING:

This refrigerant circuit contains liquid and gaseous refrigerant under pressure. Installation and servicing should only be attempted by qualified, trained personnel thoroughly familiar with the equipment and safe responsible refrigerant handling procedures. Failure to comply with this warning could result in equipment damage, personal injury, or death.

WARNING:

To prevent electrical shock, personal injury, or death, disconnect all electrical power to the unit before performing any maintenance or service. The unit may have more than one electrical supply.

CAUTION:

DO NOT touch any of the internal electrical components while cleaning the unit.

Proper maintenance is important to achieve optimum performance from the split system. The ability to properly perform maintenance on this equipment requires certain mechanical skills and tools. If you do not possess these skills, contact your dealer for maintenance. Consult your local dealer about the availability of maintenance contracts. Routine maintenance should include the following:

Regular Cleaning

CAUTION:

DO NOT touch any of the internal electrical components while cleaning the unit.

- The area around the unit and the vicinity of any other appliances must be kept clear and free of combustible materials, gasoline, and other flammable vapors and liquids. Do not store or use flammable items such as gasoline, paint, varnish, or strippers in the vicinity of the unit.
- Keep the outdoor unit clean. Hose off periodically and keep unit fins clear of leaves and grass clippings. **Be careful not to damage the aluminum fins.** Clean the outdoor coil and fins as necessary using a mild detergent and water. Rinse thoroughly with water.
- Keep the outdoor unit clear of obstructions. **DO NOT** obstruct airflow with tall plants or shrubs. Check for and remove any obstructions such as twigs, sticks, etc.
- Inspect the condensate drain and outdoor coil at the beginning of each cooling season. Remove any debris.
- Annually inspect the physical support of the unit to ensure that it is physically sound without sagging, cracks, gaps, etc.

Air Filters

WARNING:

Never operate the unit without a filter in the return air system. Dust and lint in the return air can build up on the internal components, resulting in loss of efficiency, equipment damage, and possible fire risk.

- Inspect and clean or replace air filters at the beginning of each heating and cooling season, or more frequently if required. A clogged filter could cause airflow related problems and reduce the overall efficiency of your unit. **Always replace disposable filter(s) installed in your system only with the same size dimensional filters that are being replaced.**
- Never operate the appliance without a filter installed in the return air duct. Inspect filters frequently and replace when necessary with filter of same dimensional size.

TROUBLESHOOTING

Before you call a Technician, check the following:

- Check the thermostat setting. Make sure the system mode and temperature settings are correct.
- Check the electrical panel for tripped circuit breakers.
- Check the filters for dust accumulation.
- Check the unit and make sure it is clean and not covered with grass or leaves.
- If the items above don't resolve your problems, then call your nearest service technician.

WARRANTY INFORMATION

A warranty certificate with full details is included with the equipment. Carefully review these responsibilities with your dealer or service company. The manufacturer will not be responsible for any costs found necessary to correct problems due to improper setup, improper installation, adjustments, improper operating procedure on the part of the user, etc.

Some specific examples of service calls which are not included in the limited warranty are:

- Correcting wiring problems in the electrical circuit supplying the equipment.
- Resetting circuit breakers or other switches.
- Adjusting or calibrating of thermostat.



HRAI
YOUR ENVIRONMENT • OUR EXPERTISE
MEMBER COMPANY

