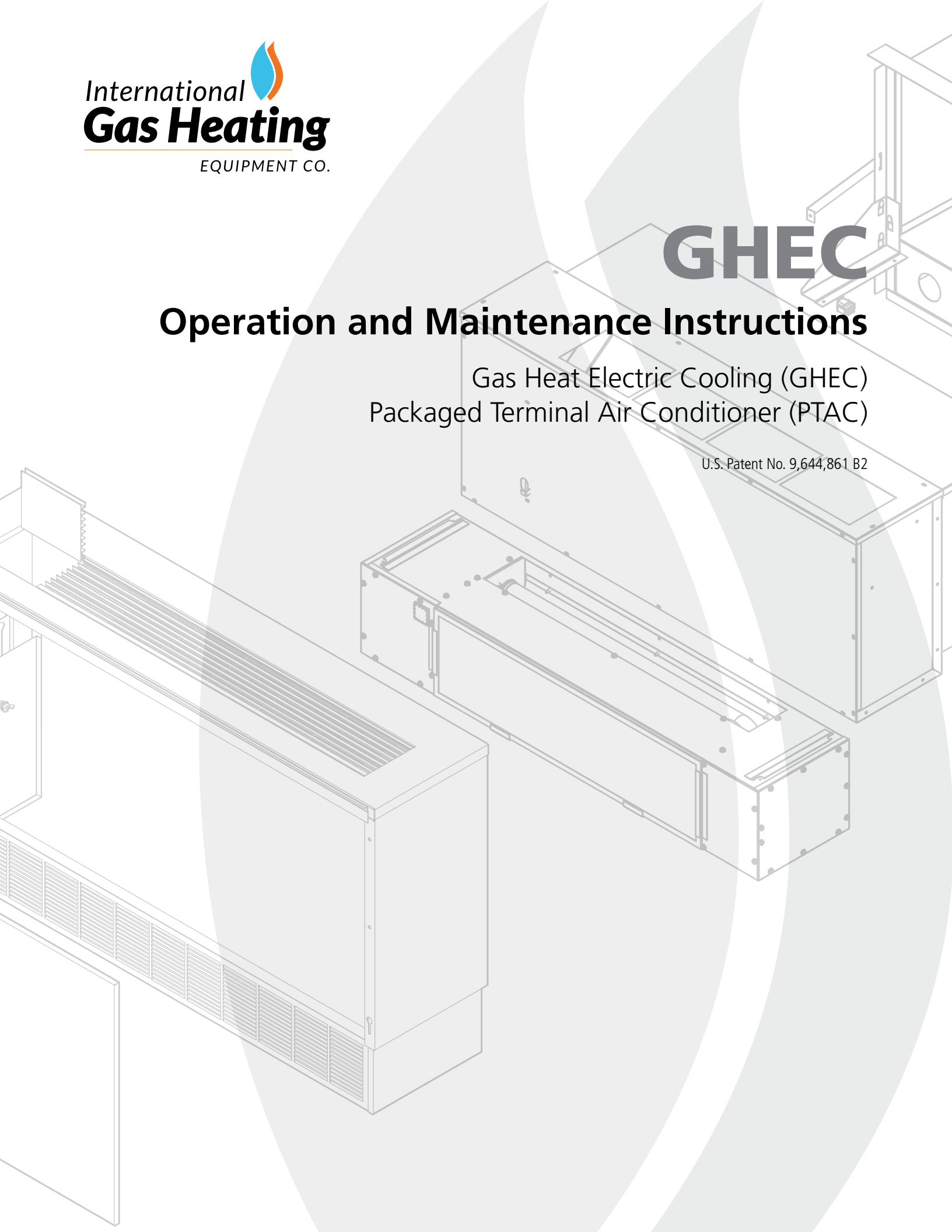
International Gas Heating EQUIPMENT CO.

GHEC

Operation and Maintenance Instructions

Gas Heat Electric Cooling (GHEC)
Packaged Terminal Air Conditioner (PTAC)

U.S. Patent No. 9,644,861 B2



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Contents

Welcome

Congratulations on your selection of the GHEC (Gas Heat Electric Cooling) Packaged Terminal Air Conditioner (PTAC). GHEC units are thru-wall combination cooling and heating units that provide an efficient, room-by-room source for comfort conditioning of your living environment.

GHEC units are built to a high standard of quality and reliability, employing commercial grade components and heavy duty, galvanized sheet metal casings. With proper maintenance and usage, GHEC units should provide many years of efficient, quiet and trouble-free comfort.

To enhance the use of your GHEC equipment, you will want to read and carefully follow all of the instructions contained in this Operating and Maintenance Manual. We recommend that you pay special attention to the Safety and Warning Information section at the beginning of this Manual, and to the various safety advisories throughout this Manual.

Please retain this Manual for your future reference. We suggest that you retain it with other important documents and product manuals. If your unit has optional features, they will be explained in a separate instruction sheet specific to that option.

On behalf of International Gas Heating Equipment Company, and our network of distributors and dealers, we are happy to welcome you to our base of satisfied customers!

We recommend that you record the following information about your GHEC product(s).

Location	Model No.	Serial No.
Living Room		
Master Bedroom		
Bedroom		
Dining Room		
Other		

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Consumer Reference Information

For safe and optimal enjoyment of your GHEC unit, please read the following consumer safety and operating notes carefully before operating your equipment!

⚠ **RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.**

⚠ **WARNING:** GHEC will not be responsible for any injury or property damage arising from improper service or service procedures. If you install or perform service on this unit, you assume responsibility for any personal injury or property damage which may result. Many jurisdictions require a license to install or service heating and air conditioning equipment.

⚠ **WARNING HIGH VOLTAGE:** Disconnect all power before servicing or installing unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.

Safety Guidelines

Read this entire manual before operating the unit.

⚠ WARNING: This unit MUST be serviced only by professionally trained, qualified technicians. Do NOT attempt to maintain or service this unit on your own – severe injury and death can occur from electric shock, moving parts, and other hazards.

- Your GHEC unit must be properly installed and commissioned to operate correctly. Improper unit installation, adjustment or commissioning, and/or improper heating system installation and connection can lead to equipment malfunction and hazardous operating conditions, and may void your warranty. If you have any doubt about the proper installation of your GHEC unit, please contact your property manager at once to have a qualified technician inspect the equipment.
- Our GHEC units must each be wired on an individual, dedicated electrical circuit with the correct voltage and proper amperage (capacity) to match the unit nameplate requirements.
- Each unit's electric circuit must have a proper overcurrent protection device, employing an approved circuit breaker or fuse of the proper rating under NEMA and local building codes.

⚠ **WARNING:** Every unit contains refrigerant within a sealed and pressurized refrigerant system. This system must not be opened or tampered with and any refrigeration system repairs MUST be carried out by trained technicians. Refrigerant must be properly handled and recycled per EPA regulations and guidelines.

⚠ **WARNING:** Do NOT operate the unit with frayed, burnt or damaged line cords!

⚠ **WARNING:** Do NOT operate the equipment when in doubt – have it inspected first!

IMPORTANT: It is not the intent of this maintenance manual to correct any installation deficiencies. If you have any doubt about the proper initial installation (or re-installation after servicing) of your GHEC unit(s) – noisy or inefficient unit operation, frayed or damaged electrical connections, improper unit appearance, etc. – please contact a trained servicer or building maintenance staff immediately.

The following physical conditions must be maintained for proper unit operation:

Air flow must be unobstructed into and out of the unit room enclosure (cabinet). Therefore:

- Do not place any object directly in front of the discharge grille (at the cabinet top).
- Do not place plants, fabrics or objects in front of the air return access door.
- Have the unit filter properly cleaned and serviced to prevent air blockage from dirt and dust within the filter media.

Intended for indoor use only.

Proper installation and operating environment must be maintained. Therefore:

- Do not operate the unit in corrosive environments such as chemical plants, refineries or salt spray areas.
- Operate only with proper electrical service and protective circuit breakers or fuses in place.
- Operate only with all unit and enclosure sheet metal parts in place and properly installed.
- In areas of high concentrations of dirt, dust, pet dander or pollutants, clean the filter often (at least monthly). If these or similar pollutants are present outdoors, have the unit condenser coil cleaned by trained service personnel.
- Do not clean the unit with any solvents or cleaning solutions that may damage the equipment.
- Understand and follow the unit operating instructions before using your GHEC equipment.

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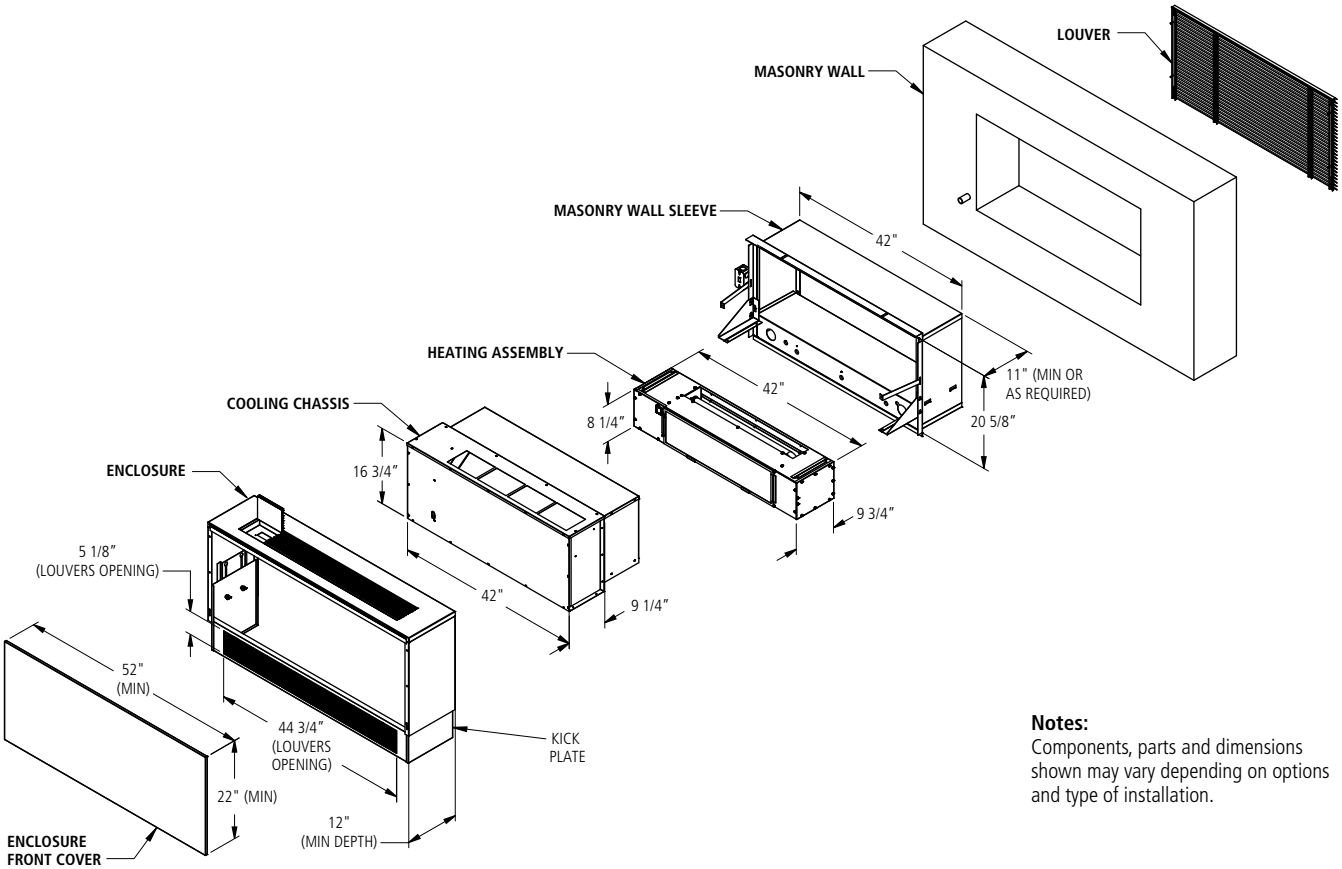
Components and Parts Exploded View

Enclosure and
Enclosure Front Cover

Wall
Sleeve

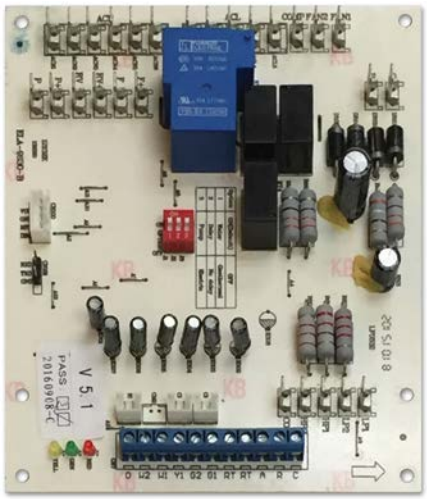
Louver



Notes:
Components, parts and dimensions shown may vary depending on options and type of installation.

Controls

All standard GHEC units are equipped with microprocessor control board ELA-9830 with the following thermostat options.



If your unit has 3rd party wall mounted or remote controls, see the separate operating instructions supplied with those controls.

7-Day Programmable (Optional)

- 5/2 or 7-day programs for highest efficiency
- Factory or field-set temperature limits
- Large clear display – in any lighting condition
- Auto changeover mode
- Easy to program

Wireless Thermostat (Optional)

- Easy programming
- Settings for morning, day, evening and night
- Clear backlit display readable in any lighting condition
- Auto changeover mode
- Optional remote temperature sensor

Nest "Learning Thermostat" (Optional)

- Programmable to save energy
- Remembers temperatures and time/day to create customized schedule
- Easy to install and program – self-learning technology
- Sleek, ultra-modern, efficient design
- Integrates with mobile devices/smart phones (Nest Mobile app)
- Clear backlit display readable in any lighting condition
- Auto changeover mode
- Optional remote temperature sensor

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LCD Programmable Operation

User Interface

Button	Press	Hold
▲	UP/Override mode	UP/Permanent Override mode
▼	DOWN/Override mode	DOWN/Permanent Override mode
ON/OFF	ON/OFF	--------
MODE	Set operation mode	Internal Setting
FAN	Set fan speed/Confirm	--------

The temperature reading that is on constant display is the ambient room temperature.

The Cool limit setting is 55°F to 95°F.
The Heat limit setting is 51°F to 91°F.

Feature List

- Operates on 2-stage Heat and 2-stage Cool
- 7 programs (Mo, Tu, We, Th, Fr, Sa, Su) or 5-2 programs (Mo-Fr, Sa-Su)
- 4 Separate Time and Temperature Settings for each mode
- Heat and Cool set points for each program
- EPROM stores Heat and Cool program settings
- Temporary Program Override
- Permanent Program Override
- Compressor Short Cycle Protection
- LCD Backlighting
- Low Temperature Protection
- Lockout Safety feature

Operating Specifications

- Temperature Measurement: 0°C ~ 40°C/32°F ~ 99°F
- Accuracy: ±0.5°C/1°F
- Voltage: 18-30VAC
- Temperature Controllable Range: 5°C~35°C/55°F ~ 95°F
- Resolution: 0.5°C/1°F
- Operating Temperature: 0 – 50°C/ 32 – 122°F
- Storage Temperature: 5 – 50°C/ 41 – 122°F

Operation

Normal Mode:

1. Press ON/OFF to turn on thermostat.
2. Press MODE to change the system mode.
3. There are three operation modes: Cool mode, Heat mode, Auto mode.

Cool Mode

1. To activate Cool mode, press the MODE button until COOL displays.
2. Press UP/DOWN arrow buttons to your desired temperature.
3. Compressor will cycle when temperature reaches the set point. After compressor stops, allow at least 3 minutes before restarting (this applies only if you have manually turned the unit off or reset the thermostat – during normal running conditions, the unit will automatically allow for the required restart delay).

Heat Mode

1. To activate Heat mode, press the MODE button until HEAT displays.
2. Press UP/DOWN arrow buttons to your desired temperature.
3. The unit will cycle until the set temperature is achieved and then will continuously cycle to maintain the set temperature.

Auto Mode

1. To activate Auto mode, press the MODE button until AUTO displays.
2. Press UP/DOWN arrow buttons to set desired Heat temperature.
3. Wait 5 seconds for COOL to appear.
4. Press UP/DOWN arrow buttons to set desired Cool temperature.
5. The unit will automatically cycle between Heat and Cool modes if unit exceeds desired set points. The temperature reading that is on constant display is the ambient room temperature.

Set Day and Time

Enter internal setting mode by pressing and holding MODE button for 5 seconds.

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Time Setting

Set Clock/Day is flashing

1. Press MODE button to select Edit Clock/Day.
2. Use UP/DOWN buttons to adjust hours (12 hr).
3. Press MODE to select minutes.
4. Use UP/DOWN buttons to adjust minutes.
5. Press MODE to select days.
6. Use UP/DOWN buttons to adjust days. Press FAN when complete.

Programming Your Thermostat

Enter internal setting mode by pressing and holding MODE button for 5 seconds.

Press ON/OFF to select Schedule (Schedule is flashing)

1. Press MODE button to select EDIT SET SCHEDULE.
2. Use UP/DOWN to select DAY.
3. Press MODE to edit.
4. Use UP/DOWN to select Time (adjustable in 10 minute increments).
5. Press MODE to edit Heat setting.
6. Use UP/DOWN to select temperature.
7. Press MODE to edit Cool setting.
8. Use UP/DOWN to select temperature.
9. Press MODE to set next time frame.
10. Follow the screen, and repeat steps 2 through 9 to adjust 7-day schedule programming.
11. Press FAN when complete.
12. If no button is pressed for 15 seconds, it will return to normal mode automatically.

Below is the default program. The default selection is 5-2 day program.

Days	Event	Time	Heat	Cool
MON-FRI	WAKE	6:00 AM	70° F (21° C)	78° F (26° C)
	LEAVE	8:00 AM	62° F (17° C)	85° F (29.5° C)
	RETURN	6:00 PM	70° F (21° C)	78° F (26° C)
	SLEEP	10:00 PM	62° F (17° C)	82° F (28° C)
SAT-SUN	WAKE	6:00 AM	70° F (21° C)	78° F (26° C)
	LEAVE	8:00 AM	62° F (17° C)	85° F (29.5° C)
	RETURN	6:00 PM	70° F (21° C)	78° F (26° C)
	SLEEP	10:00 PM	62° F (17° C)	82° F (28° C)

Changing Program Schedule and Temperature Limits

Enter internal setting mode by pressing and holding MODE button for 5 seconds.

Press ON/OFF twice to select Settings (Settings is flashing)

1. Press MODE button to select Edit "Settings."
2. Use UP/DOWN to select 7 Day or 5-2 Day.
3. Press MODE to edit Heat temperature limit.
4. Use UP/DOWN to set temperature. Default internal setting: Heat limit 90°F
5. Press MODE to edit Cool temperature limit.
6. Use UP/DOWN to set temperature. Default internal setting: Cool limit 60°F
7. Press FAN when complete. The Cool limit setting should be at least 4°F higher than the Heat limit setting.
8. If no button is pressed for 15 seconds, it will return to normal mode automatically.

Temporary Program Override

1. When thermostat is ON, the program set point can be temporarily overrode by pressing UP or DOWN. OVERRIDE icon will turn on. Press UP or DOWN to select the set point.
2. In Heat mode, Heat set point can be adjusted.
3. In Cool mode, Cool set point can be adjusted.
4. In Auto mode, Heat set point will be set first and press UP or DOWN to set the Heat set point. Press FAN to confirm the Heat set point. Cool set point will be set second and press UP or DOWN to set the Cool set point. Press FAN to confirm the Cool set point.
5. Temporary Override will be canceled if user changes the operation mode or the unit enters the next program time session.

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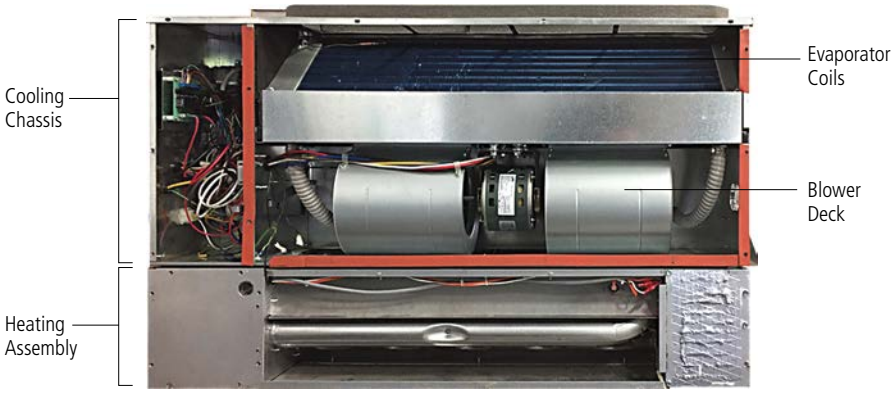
Maintenance

Your GHEC unit is designed to provide many years of efficient, trouble-free comfort conditioning service. To ensure equipment longevity and efficiency, please make sure that the following simple maintenance procedures are followed. This manual assumes that your unit has been installed by a qualified installation professional, and is operating properly prior to maintenance service.

Have your unit periodically inspected by a properly trained service professional or building maintenance staff person. The unit should be checked for the safe and proper functioning of all of its systems at least once a year. The following recommended maintenance procedures should be carried out only by trained personnel with strict adherence to the Safety Guidelines outlined at the beginning of this manual. These procedures MUST be followed to ensure your safety and the safety of the person maintaining the equipment!

Indoor Air Filter

All units are equipped with a washable/ reusable filter. It is recommended that you clean the indoor air filter after every 350 to 400 hours of unit operation – more frequently if the unit is running in an environment of high dust, pet dander or other pollutants in the indoor atmosphere.



Condenser Coil

Clean the condenser coil at least once a year, more frequently in an outdoor environment with high levels of pollution – including automobile traffic, smog or soot, etc. This procedure is critical to proper unit function and longevity. Clogged or dirty condenser coils will cause unit failure and may void any warranty coverage for the unit refrigeration system.

Condensate Drain Pan and Drain Hoses

Check the unit condensate drain pan and drain hoses annually to ensure proper condensate drainage. If any foreign matter build-up in the drain pan is found, clean the drain pan and drain hoses – frequency of cleaning depends on the level of dirt and pollutants that may be present in the indoor environment.

Evaporator Coil

Check and clean (if necessary) the unit evaporator coil annually.

Line Cord

Check unit line cord (power connection) for any fraying or deterioration of the plug and cord.

With these simple maintenance procedures carried out on a proper maintenance schedule, your unit should provide many years of trouble-free service. The procedures are covered in greater detail on the following pages and should be implemented by trained personnel. But, there are certain items that you, the apartment owner or tenant, can do to ensure proper unit function:

- Keep the area around your unit clear of objects that may block air flow into the unit – furniture, carpets and rugs, etc. may restrict air movement.
- Keep the top of your cabinet free of objects that may block air flow out of the unit – plants, paperwork and books, etc. should not be placed on or above the discharge grille area.
- Keep drapes, blinds and other window treatments clear of the air discharge area – any blockage of discharge air will have a negative impact on the unit and on its ability to properly condition the room.

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Maintenance (continued)

General Unit Inspection

Visually inspect unit at least once a month. Pay special attention to hose assemblies and connections. Repair any leaks and replace deteriorated hose immediately to avoid potential costly damage to your property due to component failure.

Roomside Component Cleaning

IMPORTANT: In addition to the air filter, the room side components can be cleaned without removing the PTAC chassis from the wall sleeve. The power cord MUST be disconnected from the electrical outlet before carrying out any of the following cleaning!

To access the components within the chassis of the unit:

1. Unit must be in OFF Position.
2. Disconnect unit from power source by unplugging the line cord.
3. Remove the unit front cover/access door by unscrewing the retaining screws that hold it in place. You will then have access to the unit components.

NOTE: Pictures of components and parts may vary depending on your model.

Air Filter

1. Remove Permanent Air Filter from slides at bottom of Cooling Chassis by sliding the filter towards you.
2. Wash Air Filter in warm water and biodegradable cleaner.
3. Rinse with clean water and allow to dry completely.
4. Replace Air Filter.
5. As an alternate cleaning method, the filter may be cleaned on both sides using a vacuum cleaner and a soft brush type attachment. On average, the filter should be cleaned out every 6 months. However this can vary with the presence of pets, carpet, usage or air intake properties.

IMPORTANT: Do not operate unit without filters.

Evaporator Coil

Check the coil for cleanliness and uniformity of fins. If the coil is dirty, vacuum clean with a soft brush attachment. This is the only form of cleaning that should be carried out within an apartment. If the coil requires additional cleaning, the unit must be removed and cleaned using compressed air and/ or washed. These operations MUST be carried out in a facility properly equipped to handle this type of work in a safe and professional manner.

Blower Deck – Evaporator Motor and Blower Assembly

If there is evidence of dirt or dust build-up in the evaporator motor or blowers, they should be cleaned either by vacuum cleaning (if working in an apartment) or by removing the unit to a workshop location and cleaning with compressed air.

⚠ **WARNING:** Always obey safety guidelines for using compressed air in this latter case.

Your GHEC PTAC RSNU has permanently lubricated motor bearings that do not require additional lubrication. Blowers and motor are factory assembled for quiet performance – if there is any excessive noise and vibration from this assembly, it should be serviced by a qualified technician.

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Troubleshooting

IMPORTANT: It is not the intent of this maintenance manual to resolve any problems with the operation of your IGHE unit. Please contact a trained servicer or building maintenance staff immediately if your unit fails to perform properly.

1. Contact a trained service technician to conduct full unit diagnostics and repair to equipment.
2. Record any unit that does not operate noting the unit serial number on your report.

Sequence of Operation Gas Heating, Single Stage (UT 1018-553)

1. Thermostat closes on a call for heat.
2. A 24V 60Hz signal is supplied to the "W" Terminal on the ignition control.
3. When the call for heat is recognized by the control the inducer is turned on for a 6 second pre-purge period and monitors the pressure switch until it closes.
4. Once this pre-purge period is complete the inducer is de-energized and the control begins the 15 second ignitor warm up period.
5. At the end of this period, with the Hot Surface Ignitor still on, the inducer is re-energized for final draft proving. This verifies that the pressure switch is open during the ignitor warm up period and then closes when the inducer is re-energized.
6. When the pressure switch closes on the final draft proving the control energizes the gas valve and the burners ignite and carryover.
7. The HSI is then shut off and the control enters a flame proofing period. If the control senses flame it enters a steady heat mode, if not the control will purge the system for 6 seconds then proceed with a retrial of the ignition. If the ignition attempt fails a second time then the control purges the system for 30 seconds before a third and final ignition trial after which the control will lockout if no flame is sensed.
8. In the steady heat mode the control continuously monitors the flame sense and pressure switch circuits. If the pressure switch circuit drops out during a steady heat operation then the inducer will come on until the pressure switch circuit closes. If this fails three times in the same call for heat then the control goes into a 1hr soft lockout.
9. When the call for heat is removed the control shuts off.

LED Flash Code Key

Steady On	All conditions are normal
1 Flash	Pressure Switch Stuck Closed
2 Flashes	Pressure Switch Stuck Open
3 Flashes	Failed Ignition Lockout/ Runaway Flame
4 Flashes	Flame Sense Hardware Fault
5 Flashes	Short Cycle (Flame loss in first 45 sec of steady heat)
6 Flashes	Weak Flame
Fast Flash	Missing L1 Connection
Slow Flash	Retry Delay

1. If the flame is lost during a call for heat, the control de-energizes the gas valve and counts the flame loss. If the burner fails to light or prove flame a total of three times, the control will lockout.
2. Any time the high temperature limit switch opens; the control will run the inducer continuously and de-energize the gas valve. After three failed re-ignition attempts in the same call for heat the control will enter a soft 1hr lockout.
3. If the flame is sensed for longer than 3 seconds when the gas valve should be closed, the control will enter lockout. The control will turn on the inducer while the flame signal is present.

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Troubleshooting (continued)

Board Error Codes

LED Code	System	Description	Actions
Steady On	Normal	Normal Operation	24VAC is applied to control. Unit operating normally.
LED off	Lockout	Unit will not fire	1) Check 230V is supplied to the sub-base. 2) Check to see if 24V is supplied to the ignition Control; if not, change transformer.
1 Flash	Lockout	PS Stuck Closed	1) Check PSI and PSO terminals on the Ignition Control board for proper connection. 2) Check pressure switch function. 3) If pressure switch remains closed replace pressure switch.
2 Flash	Lockout	PS Stuck Open	1) Check pressure hose connection between draft inducer and pressure switch. 2) Check for open high temperature limit. 3) Check for open mating switches. 4) Replace pressure switch.
3 Flashes	Lockout	Failed Ignition Lockout	1) Verify that gas inlet pressure is adequate. 2) Verify that gas valve wired correctly. 3) Verify that manifold pressure is adequate. 4) Check Hot Surface Igniter is wired correctly, and look for cracks on igniter heating element. 5) Check that flame sensor is wired correctly. 6) Check that control board is grounded properly.
	Inducer on continuously	Runaway Flame	1) If flame is present shut off gas. 2) Check wiring connections on gas valve. 3) Check for 24V signal from ignition control. 4) Check wiring connections to flame sensor.
4 Flashes	Self clearing	FS Hardware Fault	1) Check flame sensor for debris. 2) Check wiring to flame sensor. 3) Replace flame sensor.
	Lockout	Gas Valve Fault	1) Check for debris blocking gas orifices. 2) Check for proper inlet gas pressure. 3) Check for 24V signal to gas valve. 4) Replace gas valve.
5 Flashes	Temporary Lockout	Short Cycle	1) Check high temperature limit for proper operation. 2) Check for blockages over the air inlet or outlet. 3) Clean air filter. 4) Check thermostat location in room. Adjust if necessary.
6 Flashes		Weak Flame	1) Check gas manifold pressure. 2) Check flame sensor. 3) replace flame sensor if necessary.
Slow Flash		Retry Delay	1) Ignition retry, no problems
Fast Flash		Missing L1	1) Check 230VAC is supplied to unit, connect if missing. 2) Replace ignition control.

(continued on next page)

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Troubleshooting (continued)

Board Control Timings & Action

Pre-Purge Time	6 sec	
Inter Purge 1	6 sec	
Inter Purge 2	30 sec	
Warm up 1, 2, & 3	15 sec	
Flame Establishing	5 sec	
Flame Proving	2 sec	
Purge/ Warm Up	No	
Iginition Trials	3	
Ignition Lockout	Hard	
PS Open Recognition	2 Line Cycles	
PS Losses/Lockout	Note #1	A pressure switch loss during the flame establishing period returns the control operation to the final draft proving mode, and is counted as a failed ignition attempt.
Open PS bypass Time	N/A	
PS Closed Display Time	15 sec	
PS Closed Lockout/ Action	15 sec/ Self Clearing	
PS Open Display Time	10 sec	
PS Open Lockout/Action	10 sec/Soft Lockout	Note #2 During initial draft proving, a soft lockout occurs after a 60 second period. If the pressure switch opens during steady heat, there is a draft proving period of up to 60 seconds. If the pressure switch does not close, the inducer turns off for 60 seconds, and then another 60 second draft proving period is present before a soft lockout.
Runaway Flame Response Time	3 sec	
Runaway Flame Response Action	Self Clearing/ Inducer On	
Gas Valve Fault Response Time	3 sec	
Gas Valve Fault Response Action	Hard Lockout	
Flame Sense Hardware Fault Action	Self Clearing	
Auto Lockout Reset Time	None	
Diagnostic LED	Display	
Normal Operation	Steady On	
PS Stuck Closed	1 Flash	
PS Stuck Open	2 Flash	
Failed Ignition Lockout	3 Flashes	
Flame Loss Lockout	N/A	
PS Losses Lockout	N/A	
Runaway Flame	3 Flashes	
Weak Flame	6 Flashes	
Missing L1	Fast Flash	
FS Hardware Fault	4 Flashes	
Gas Valve Fault	4 Flashes	
Retry Delay	Slow Flash	
Short Cycle	5 Flashes	

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Limited Warranty

Twelve (12) Month Warranty of International Gas Heating Equipment Co. (IGHE) units, herein referred to as IGHE, warrants to the original owner that the entire unit is free from defects in material and workmanship for a period of twelve (12) months from the date of delivery. Any part of portion thereof which becomes defective under normal use during the period of this warranty will be repaired or replaced provided IGHEs examination shall prove to its satisfaction that the part was or became defective under normal use. IGHEs obligations under this warranty are limited to: (a) Repairing the defective part or (b) furnishing a replacement part provided the defective part is returned to the factory, without shipping damage, transporting charges prepaid. No reimbursement will be made for expenses incurred in making field adjustments or replacements unless specifically authorized in writing by the Company.

The Company is not obligated under this warranty for field labor such as service for inspection, removing, packing and/or reinstalling unit, nor for the return transportation charges.

OPTIONAL Extended Refrigeration Circuit Warranty

The Optional Extended Refrigeration Circuit Warranty MUST be purchased from IGHE within thirty (30) days from date of delivery to be valid. The hermetically sealed refrigeration circuit (consisting of the motor, compressor assembly, evaporator coil, coaxial/condenser coil and interconnecting tubing) is warranted to the original owner for four additional years from date of the expiration of the Twelve Month Warranty. Components under this warranty will be supplied at IGHEs expense provided the failed component is returned to the factory. This optional warranty does not include any other parts of the equipment such as fans, fan motors, controls, cabinet parts, electrical relays, capacitors, protective devices, or wiring. IGHE is not obligated under this warranty for field labor such as service for inspection, removing, packing, and/or reinstalling the refrigeration circuit, nor for return transportation charges. IGHE reserves the right to make a handling and inspection charge in the case of parts or equipment improperly returned as defective and/or as being in warranty.

To obtain assistance under the parts warranty or to purchase the optional extended warranty, simply contact IGHE Customer Service at 80 Hartford Avenue, Mount Vernon, New York 10553. Telephone: **914-668-4700**.

The Twelve Month and the OPTIONAL Extended Refrigeration Circuit Warranty (which must be purchased separately) constitute the buyer's sole remedy. They are given in lieu of all other warranties. There is no implied warranty of merchant-ability or fitness for a particular purpose. In no event and under no circumstance shall IGHE be liable for incidental or consequential damages, whether the theory is breach of this or any warranty, negligence, or strict tort.

No person (including any agent, salesman, dealer or distributor) has authority to expand IGHEs obligation beyond the terms of these express warranties, or to state that the performance of the product is other than that published by IGHE.

General Conditions

The warranties are void if IGHEs equipment has been damaged, misused, subjected to abnormal use or service or its serial number has been altered, defaced, or removed, or payment for the equipment is in default. IGHE is not responsible for service to correct conditions due to misapplication, improper installation, inadequate wiring, incorrect voltage conditions or unauthorized opening of the refrigeration circuit, nor for consequential damages. In case IGHEs equipment is installed in conjunction with cabinets, grills, louvers, controls or other parts manufactured by others, these warranties shall apply only to IGHEs manufactured portion of the equipment. The conditions of the standard warranty plan are effective for 18 months from TCO. IGHE reserves the right to make a handling and inspection charge in the case of parts or equipment improperly returned as defective and/or as being warranty.

Important

The following are the responsibility of the user. They are not manufacturing defects, and are therefore not included in the warranty plan.

1) Failure of unit to operate satisfactorily due to improper amount of air on evaporator coil or air supply to air cooled condensers.
2) Damage to unit or unsatisfactorily operation due to improper cleaning of evaporator coil or use of unit in corrosive atmosphere locations such as chemical plants, refineries, or salt spray areas.
3) Damage to unit from unsatisfactory operation due to blown fuses, inadequate or interrupted electrical service, use of improper electrical protective devices or operation of unit on power supply other than covered by nameplate rating of unit.
4) Damage due to failure to properly maintain unit.
5) Damage due to transportation or handling prior to and during installation.
6) Damage due to accident or from alteration, improper installation, tampering.
7) Filter cleaning or replacement.
8) Misapplication.

Check, Test and Start

Check, Test and Start of the air conditioners by an experienced person is the responsibility of the installing contractor. This consists of physically confronting each unit operating in both heating and cooling modes and correcting any minor deficiencies noted. After the equipment leaves the factory, it may become damaged or maladjusted during transportation or on the job. Sometimes wires are disconnected accidentally, or fan motors move on their bases due to rough handling, causing fans to strike; a component(s) may be inoperable. The correction of such conditions is part of the Check, Test and Start. Note that unless otherwise specifically agreed to in writing, IGHE includes no field labor, Check, Test, and Start (or the like) in the price of its equipment.

Installation

IGHE is not responsible for the design, execution and performance of the installation method or any of the accessory items used during installation such as seals, caulking, weatherproofing, supporting structures, attachment means, louvers and frames supplied by others.

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