

# **HIGH EFFICIENCY SERIES**

## **OPERATION MANUAL**



**SINGLE ZONE MODELS**

**DUAL ZONE MODELS**

**TRI/QUAD ZONE MODELS**

## TABLE OF CONTENTS

User Instructions .....	3
Parts Identification .....	4
Multi Zone Features .....	5
Multi Zone Operation .....	5
Emergency Operation .....	5
Operation of Wireless Remote Control .....	6
Display Icons .....	6
Keypad Function .....	7
Remote Control Functions .....	7
• ON/OFF .....	7
• MODE .....	7
• SLEEP .....	7
• FAN .....	7
• CLOCK .....	8
• TEMP .....	8
• PURGE .....	8
• TURBO .....	8
• + / - .....	8
• DISPLAY ILLUM .....	8
• LOUVER UP / DOWN .....	8
• LOCK KEYPAD .....	8
• SELECT ° F or ° C .....	8
Replacing Batteries .....	9
Routine Care and Maintenance .....	9
Cleaning Air Filters .....	9
Troubleshooting .....	11
Error Codes .....	12
Technical Support – Warranty .....	13

### HIGH EFFICIENCY SERIES - SINGLE ZONE MODELS

Thermal Zone - Cool Only	Sea Breeze - Cool Only	SEER RATING
MS49A23115EA	9A423YIGX	23 SEER
MS412A22115EA	12A422YIGX	22 SEER
MS412A22230EA	12A422ZIGX	22 SEER
MS418A20230EA	18A420ZIGX	20 SEER
MS424A19230EA	24A419ZIGX	19 SEER
Thermal Zone - Heat Pump	Sea Breeze - Heat Pump	
MS49HP23115EA	9H423YIGX	23 SEER
MS412HP22115EA	12H422YIGX	22 SEER
MS412HP22230EA	12H422ZIGX	22 SEER
MS418HP20230EA	18H420ZIGX	20 SEER
MS424HP19230EA	24H419ZIGX	19 SEER

### HIGH EFFICIENCY SERIES - DUAL & QUAD ZONE MODELS

Thermal Zone - Heat Pump	Sea Breeze - Heat Pump	SEER RATING
MZG409HP16230EA	9MH46ZIGX	16 SEER
MZG412HP16230EA	12MH46ZIGX	16 SEER
MZG418HP16230EA	18MH46ZIGX	16 SEER

## USER INSTRUCTIONS

In this manual, you will find information on safe operation of your new Multi Zone Mini Split. For your safety and the safety of others, please read and understand this entire manual before proceeding.

### INSTALLATION

These units are not designed to be installed in the following locations:

- Areas where there is a possibility of combustible gases or fumes.
- Excessively damp or moist areas.
- Direct exposure to sea wind (salt spray).

### OPERATION

- Always turn the unit off with the remote control. Never use a circuit breaker or fuse as a means of turning the unit on or off, except in the case of an emergency.
- Do not operate this unit if you are wet or have wet hands, electric shock can occur.
- Do not spray insecticides, paints, or other flammable sprays or liquids into or around the unit.
- Do not put foreign objects into the unit.
- Do not hang or place items on the unit.
- Do not use harsh chemicals such as paint thinner, benzene, or polish to clean the unit.
- During cooling operation, shades, blinds, and curtains should be used to shade the room from direct sunlight.

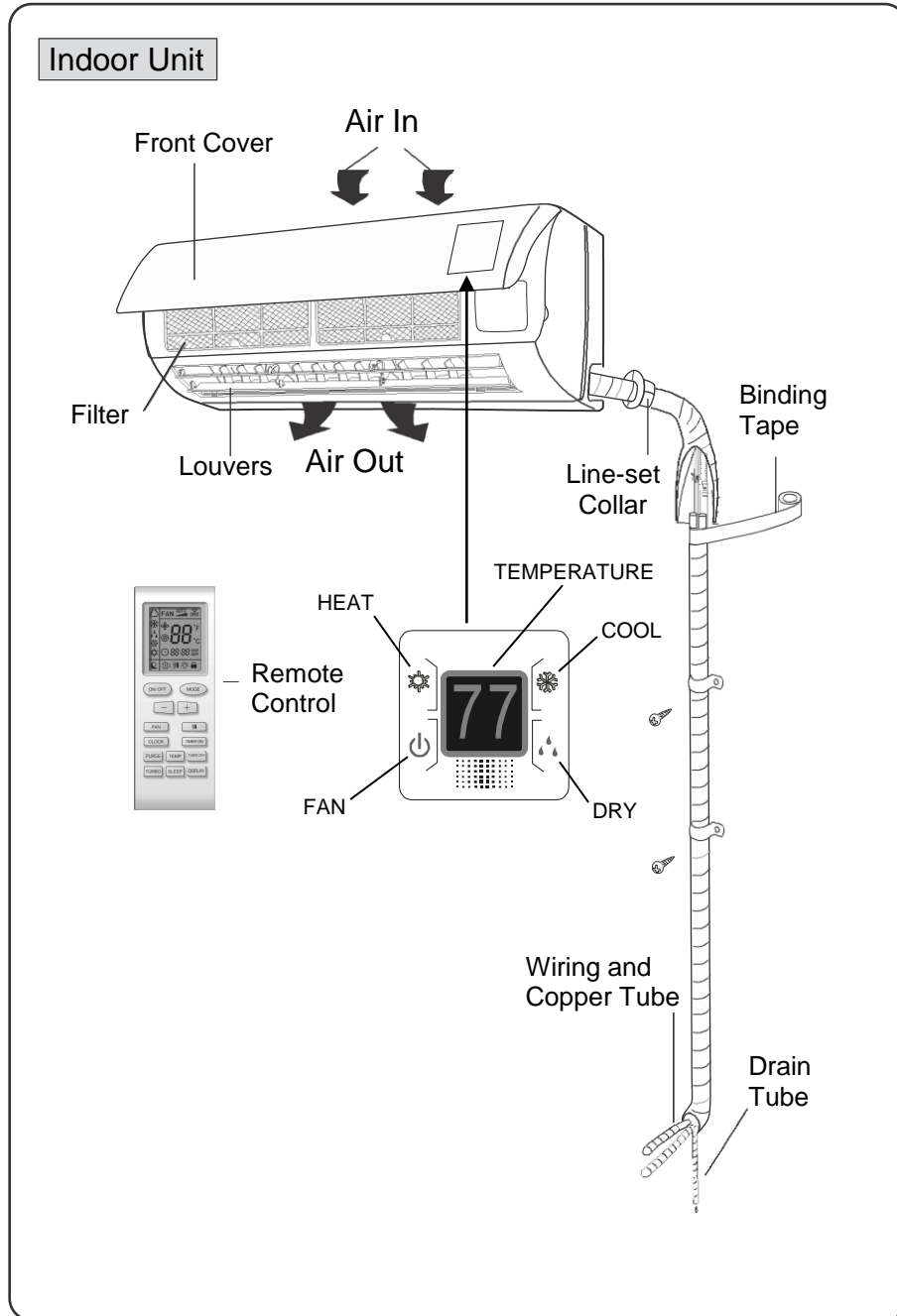
#### **To the installer:**

- **Explain operation and routine care to customer.**
- **This manual should be given to the customer for future reference.**



Do not dispose this product as unsorted municipal waste. Collection of such waste for special treatment is necessary.

# PARTS IDENTIFICATION



## MULTI-ZONE FEATURES

- The Multi-Zone has many sizing options:

### Quad Zone Configurations

2 INDOOR UNITS	3 INDOOR UNITS	4 INDOOR UNITS
9K + 9K 9K + 12K 12K + 12K 9K + 18K 12K + 18K	9K + 9K + 9K 9K + 9K + 12K 9K + 12K + 12K 9K + 9K + 18K	9K + 9K + 9K + 9K
The system matches below are not recommended if all indoor units may require simultaneous continuous duty at full efficiency.	The system matches below are not recommended if all indoor units may require simultaneous continuous duty at full efficiency.	The system matches below are not recommended if all indoor units may require simultaneous continuous duty at full efficiency.
18K + 18K	9K + 12K + 18K 12K + 12K + 12K 12K + 12K + 18K	9K + 9K + 9K + 12K 9K + 9K + 9K + 18K 9K + 9K + 12K + 12K

### Dual Zone Configurations

2 INDOOR UNITS
9K + 9K
9K + 12K
12K + 12K

#### **Indoor Models Available:**

9K Indoor – MZG409HP16230EA, 9MH46ZIGX  
 12K Indoor – MZG412HP16230EA, 12MH46ZIGX  
 18K Indoor - MZG418HP16230EA, 18MH46ZIGX

- Variable speed inverter type compressors for increased efficiency and quiet operation.
- Automatic swing of vertical louvers for improved air flow (up/down).
- Manual adjustment of horizontal louvers to set air flow direction (left/right).
- Wireless remote control unit.
- Comfortable temperature range of 61 °F to 86 °F in Cool/Dry/Heat/Fan modes.
- TURBO fan mode in Heat and Cool modes for maximum air flow.
- Timer mode for automatic starting and/or stopping for a preset period.
- SLEEP mode for quiet energy saving operation during sleep periods.
- Individual temperature selection for each zone.

## MULTI-ZONE OPERATION

The Multi-Zone mini-split will operate each zone in either cooling or heating mode but not both. The unit will not operate as one zone cool and another heat. If this occurs, an E7 error will be displayed. To clear this error, make sure all indoor units are in the same mode either heat or cool. Each zone will control the room temperature at set-point and allow all normal fan, swing, turbo, timer, and sleep functions.

### Emergency Operation (Auto/Stop Switch)

In the event that the remote controls are misplaced, you can operate your inside unit by carefully raising the cover and pressing the emergency operation switch located under the lower right hand corner of the cover.

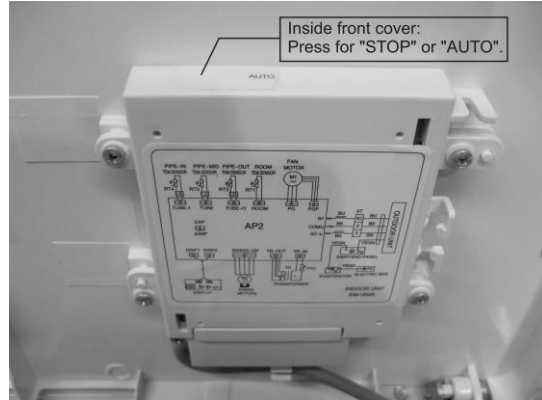
To open the front cover, place fingers in the bottom of the slots on the side of the indoor unit and gently pull outward. To close the cover, press down on each end and center of the cover to latch.



**DO NOT OVER EXTEND THE FRONT COVER.**

If the unit is off, pressing the Emergency push button will start the unit in the default AUTO mode. Press the button again and it will stop the unit.

Temperature is automatically set to 68 °F to 77°F and will switch between COOL, HEAT or FAN mode to maintain the temperature. If the temperature goes below 68 °F the unit switches to HEAT mode. If the temperature goes above 77 °F unit switches to COOL mode. If temperature is in between 68 °F to 77°F the unit runs in the FAN mode.

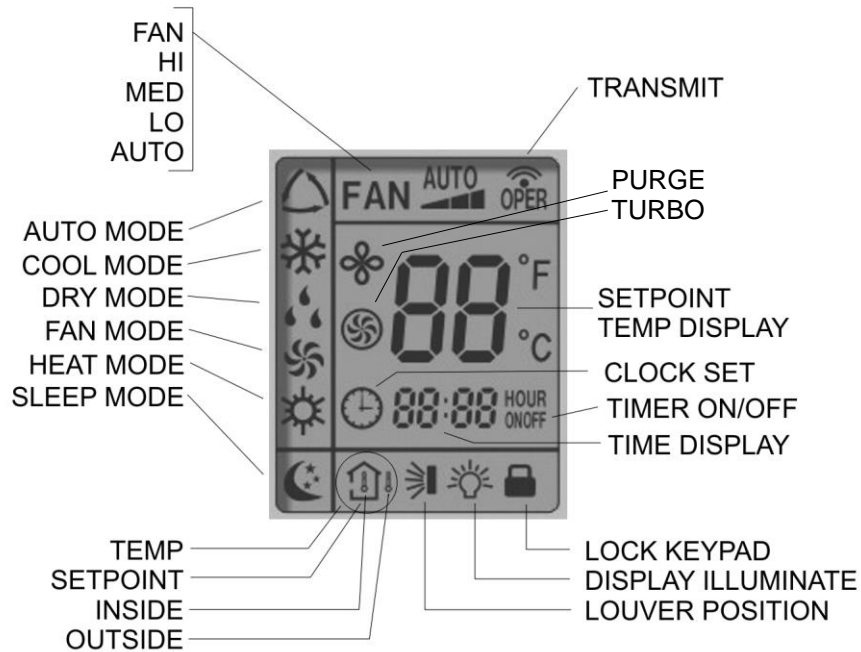


**Notes:**

1. Indoor fan does not turn off in the cooling mode when temperature set point has been satisfied. It will continue to run to keep the room temperature consistent.
2. Indoor fan will turn off in heating mode when temperature set point has been satisfied.
3. Unit may require several minutes to confirm the condition of temperature set point and system functions.

**OPERATION OF WIRELESS REMOTE CONTROL**

**REMOTE CONTROL DISPLAY**





## KEY PAD FUNCTIONS

- ON/OFF – Turns unit on or off.
- -/+ - Raise, Lower set point.
- FAN – Set fan speed, hi, med, lo, auto.
- LOUVER – Set louver swing.
- CLOCK – Set clock.
- TIMER ON – Set timer on time.
- PURGE – Extended on time for fan.
- TEMP – Set point, inside, outside, temperature display.
- TIMER OFF – Set timer off time.
- TURBO – Maximum fan speed.
- SLEEP – Toggle on/off SLEEP mode.
- DISPLAY – Turns display on wall unit on or off.
- LOCK KEY PAD – No changes can be made.
- ° F or ° C – Select ° F or ° C.

## REMOTE CONTROL FUNCTIONS

Note: Be sure there are no obstructions between the remote control and the receiver. Remote control units are interchangeable, and are not assigned to a particular indoor unit. Indoor controller will beep each time it receives a command from the remote control. Keep the remote control away from moisture and excessive heat. TIP: Each remote will control any or all the indoor units.

**ON/OFF** -Turns the unit on or off. There is a 3 minute compressor delay when the unit is turned on.

**MODE** – Pressing the MODE button will select between AUTO, COOL, DRY, FAN, or HEAT.

- AUTO mode - Set point temperature will not be shown on the remote control display and cannot be changed. Temperature is automatically set to 68 °F to 77 °F and will switch between COOL, HEAT or FAN mode to maintain the temperature. If the temperature goes below 68 °F the unit will switch to HEAT mode. If the temperature goes above 77 °F unit switches to COOL mode. If temperature is in between the temperatures it runs in the FAN mode.

On rare occasions while running in the AUTO mode with other zones activated there may be an “E7” error code. “E7” error code occurs when 2 or more units are set to run in different modes, such as HEAT and COOL. In the AUTO mode the unit automatically switches between HEAT, COOL or FAN. If other zones are set to HEAT or COOL while the AUTO is running in an opposite mode an “E7” will occur. To rectify this condition you must set all the indoor units to the same mode, either HEAT or COOL, or leave the unit alone and when the temperature returns to the point where the unit switches back to the correct mode (as the other indoor units) and all zones are in the HEAT or COOL mode, it will clear itself and begin to run again.

COOL mode – Unit cools room to set point temperature. Set point temperature can be set from 61 °F to 86 °F. Outdoor unit will operate in outside temperatures of +4 to +118 °F in the cooling mode. Indoor fan does not turn off in the cooling mode when temperature set point has been satisfied. It will continue to run to keep the room temperature consistent.

- HEAT mode - Unit heats room to set point temperature. Set point temperature can be set from 61 °F to 86 °F. Outdoor unit will operate in outside temperatures of -5 °F to +75 °F in

the heating mode. Indoor fan will turn off in heating mode when temperature set point has been satisfied.

- DRY mode – Set point temperature can be set from 61°F to 86°F. Unit cools at 90% capacity while the FAN runs in LOW speed only (FAN speed cannot be changed).
- FAN mode – Selects fan only operation. Set point temperature can be set from 61 °F to 86 °F. Fan speed can be set to AUTO, HIGH, MEDIUM or LOW.

**SLEEP** – In the COOL mode adjust the set-point temperature to a comfortable setting, and then press the SLEEP button. After 1 hour, the set-point will increase by 1.8 °F (1 °C). After 2 hours have passed temperature is increased by 3.6 °F (2 °C). Temperature will never increase more than 3.6 °F (2 °C) from set-point or beyond 86 °F (30 °C). The temperature will stay at this setting until the unit is turned off or the SLEEP function is disabled.

In the HEAT mode adjust the set-point temperature to a comfortable setting, and then press the SLEEP button. After 1 hour the set-point will decrease by 1.8 °F (1 °C). After 2 hours have passed temperature is decreased by 3.6 °F (2 °C). Temperature will never decrease more than 3.6 °F (2 °C) from set point or below 61 °F (16 °C). The temperature will stay at this setting until the unit is turned off or the SLEEP function is disabled.

The SLEEP mode does not work in the FAN or AUTO modes and is deactivated when the unit is turned off or power is lost. On power up, the SLEEP mode must be turned on again if needed. Press the SLEEP mode button to toggle SLEEP mode off and return to normal operation.

**FAN** – Press this button to change fan speeds, AUTO, HIGH, MEDIUM or LOW, while in the HEAT, COOL, FAN modes. When in the AUTO setting, the fan will run faster the further away from the set point it gets. On the other hand the closer it gets to the set point the slower it will run.

**CLOCK** – Press the CLOCK button, the clock ICON will start to blink. It will only blink for 5 seconds. While blinking press and hold down the + or - keys to adjust the 24H time of day clock to the correct time. You must immediately press the CLOCK button to set the time. If the CLOCK button is not pressed within 5 seconds, the clock time will revert back to the original setting and clock will have to be set again.

#### **TEMP** –

Blank – Displays set point

Empty house – Displays set point

House with thermometer inside – Displays set point

House with thermometer outside – Displays set point

**PURGE** – When in the COOL or DRY mode and the PURGE function is enabled, the fan will continue to operate for 10 minutes after the unit is turned off. This function dries the evaporation coil to prevent mold and mildew. The PURGE function will remain enabled in DRY and COOL unless power is interrupted or is disabled by the button. PURGE will not work in AUTO, FAN or HEAT modes.

**TURBO** – The TURBO function will only run while in the HEAT or COOL mode. TURBO increases indoor fan speed (more than high fan speed).

+ / - Raises or Lowers the set point temperature. Holding the button down for more than 2 seconds will cause the set point to auto increment or decrement. This does not function in the AUTO mode since the temperature set point can not be changed.

**DISPLAY** – Turns the display on or off on the indoor unit. None of the lights will be illuminated when off is selected.

**LOUVER UP AND DOWN** – Pressing the LOUVER positioning button slowly, (more than 2 seconds) will start and stop the louver swing. If the button is pressed to turn on swing and then pressed again to turn it off, the louvers will remain in that fixed position until it is turned on again.

Pressing the button quickly, (less than 2 seconds) will step through 5 different stationary positions



and then on to 3 different swing positions, similar to the ICONS.

Right to left louvers can be manually adjusted. **CAUTION:** Before adjusting the horizontal louvers turn the unit off. Make the adjustments. Turn the unit back on. This will prevent possible personal injury and or damage to the unit.

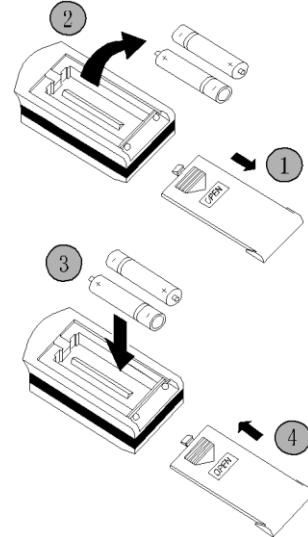
**LOCK KEYPAD** - Pressing the + and - buttons simultaneously will lock or unlock the keypad. If the remote control is locked, the LOCK icon will be displayed. If a button is pressed while the keypad is locked, the LOCK icon will blink three times, nothing will happen. If the keypad is unlocked, the LOCK icon will not be displayed.

**°F or °C** - Turn unit off, press MODE and (-) buttons simultaneously to switch °C or °F.

### **REPLACING BATTERIES**

Slightly press down on the arrow on the battery cover and slide in the direction of the arrowhead.

Remove old batteries. Insert two new AAA 1.5V batteries, paying attention to the polarity. Re-install the back cover of wireless remote control.



### **NOTE:**

Do not use the old, different, or rechargeable batteries.

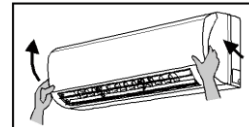
If the wireless remote control will not be used for a long period of time, remove the batteries.

If the wireless remote control does not operate properly, remove the batteries for 30 seconds and re-install (resets the remote).

## **ROUTINE CARE AND MAINTENANCE**

### **CAUTION**

- Turn main power off before cleaning air conditioner.
- Never spray water into the indoor or outdoor unit for cleaning.
- Volatile liquids (e.g. solvent, gasoline, etc.) will damage the air conditioner. Wipe the unit with a dry soft cloth, or a cloth slightly moistened with water.



Carefully unsnap the sides and raise the cover up in the direction of arrows. Raise the cover until it is fully extended and it will lock and hold in the up position. Now the unit can be cleaned and serviced. Do not over extend the cover. Damage to the cover hinges will result.

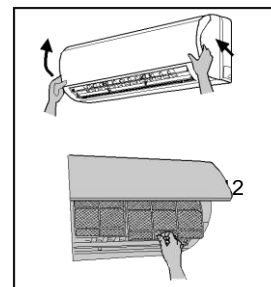
Wipe the unit with a dry or slightly dampened cloth. Do not remove the front cover from the unit.



### **Cleaning the Air Filters** (Recommended once every three months)

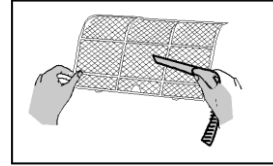
**Note:** If the unit is installed in an abnormally dusty area it is advised the filters be cleaned more often.

Remove the air filters. Raise the cover until locked in the up position. Pick up on the front of the filter and slide forward to remove.

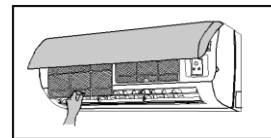


To clean the dust adhering to the filters, you can either use a vacuum cleaner, or wash them with warm water and dry it in the shade.

NOTE: Do not use water above 113 °F to wash filter, it can deform the filter.



Reinstall the filters and close the cover. Turn power on, unit is ready for use.



**NEVER OPERATE THE UNIT WITHOUT FILTERS!**

Outdoor unit to be cleaned and routine maintenance performed annually by a trained Technician.

**Problem**

**Troubleshooting**

The unit does not run.	<ul style="list-style-type: none"> <li>• Is the power off?</li> <li>• Is the circuit protection device tripped?</li> <li>• Is voltage too high or low? (Tested by a professional)</li> <li>• Is the Timer on?</li> <li>• A 3 minute delay occurs before each compressor start.</li> </ul>
Cooling and or Heating efficiency is not good.	<ul style="list-style-type: none"> <li>• Is temperature setting correct?</li> <li>• Are the inlet or outlet vents obstructed?</li> <li>• Is the filter clean?</li> <li>• Are windows and doors closed?</li> <li>• Is fan set to low speed?</li> <li>• Is there a heat source in the room?</li> </ul>
Wireless remote control is not working. (See Note 3)	<ul style="list-style-type: none"> <li>• Reset unit. Disconnect main power for 30 seconds then reapply.</li> <li>• Is it within receiving range? Is it obstructed?</li> <li>• Replace the batteries.</li> <li>• Is remote control damaged?</li> </ul>
Water leaking into room.	<ul style="list-style-type: none"> <li>• The air humidity is excessively high. Check to see if all windows and doors are closed.</li> <li>• Call service Tech if not corrected by the above action.</li> </ul>
Water leakage in outdoor unit.	<ul style="list-style-type: none"> <li>• When the unit is running in Auto Defrosting mode, ice will thaw and drip into pan.</li> <li>• When the unit is running in HEAT mode, the water adhered to the condenser coil drains into pan.</li> </ul>
Noise from indoor unit emitted.	<ul style="list-style-type: none"> <li>• When defrosting is started or stopped, it will make a sound. This is due to the refrigerant flow reversing directions.</li> <li>• Normal refrigerant flowing in unit.</li> </ul>

Notes:

- 1) If E7 error code occurs, see the AUTO mode section on page 7.
- 2) If an error other than E7 is being displayed on the temperature display, it will be necessary to call a service Tech for repair.
- 3) An audible beep will be heard, when a button is pressed, if the remote control is communicating with the receiver.

**INDOOR UNIT ERROR CODES**

<b>Malfunction Name</b>	<b>Display</b>	<b>Running LED</b>	<b>Heating LED</b>	<b>Cooling LED</b>
System Overload	H4		4 Flashes	
Compressor Overload Protection	H3		3 Flashes	
IPM Protection	H5		5 Flashes	
Condenser Fan Motor Error	L3			
High Pressure Protection	E1	1 Flash		
Anti-Freezing Protection	E2	2 Flashes		
Exhaust Protection (Temperature)	E4	4 Flashes		
Over Current Protection	E5	5 Flashes		
Mode Conflict	E7	7 Flashes		
Communication Malfunction	E6	6 Flashes		
Defrost or Oil Return Heat Mode	H1		1 Flash	
Indoor Ambient Sensor Malfunction	F1			1 Flash
Indoor Tube Sensor Malfunction	F2			2 Flashes
Outdoor Ambient Sensor Malfunction	F3			3 Flashes
Outdoor Tube Sensor Malfunction	F4			4 Flashes
Outdoor Exhaust Sensor Malfunction	F5			5 Flashes
Startup Failure	H7		7 Flashes	
PFC Malfunction	HC		6 Flashes	
Demagnetizing Protection for Compressor	HE		14 Flashes	
Zero Crossing Detector	U9			
Frequency Drop for Overload	F6			6 Flashes
Frequency Drop for Over Current Protection	F8			8 Flashes
Frequency Drop for Exhaust Protection	F9			9 Flashes
Frequency Drop for Heating High Temperature Protection	H0		10 Flashes	
Anti-Cold Protection	E9	9 Flashes		
Oil Return in Cooling Mode	F7			7 Flashes

## **WARRANTY**

**INTERNATIONAL REFRIGERATION PRODUCTS** warrants the accompanying split air conditioner or heat pump system to be free of defects in material and workmanship for the applications specified in the operation manual and installation manual for a period of one (1) year on parts and five (5) years on compressor, valid from the date of original retail purchase in the United States or Canada. **Labor is not covered under warranty.**

If the unit exhibits a defect in normal use and is determined to be within the warranty period, **INTERNATIONAL REFRIGERATION PRODUCTS** will, at its option, either repair or replace the unit free of charge within a reasonable time after the unit is returned.

This warranty DOES NOT cover:

- Damage, accidental or otherwise, to the unit while in possession of the consumer that is not a result of a defect in material in workmanship.
- Damage caused by consumer misuse, tampering, or failure to follow all care and maintenance instructions in the manuals.
- Damage to the finish of the case or other parts caused by water.
- Damage caused by repairs or alterations to the unit by anyone other than a qualified technician.
- Filter.
- Freight and Insurance cost for the warranty service.

***Warranty Activation Card must be completed and sent in to activate the warranty for the accompanying unit.***

## **TECHNICAL SUPPORT**

**If you need technical support please call 704-504-8590 M-F 8:00am to 4:30pm ET. When calling, please have your unit model numbers and serial numbers available.**

**Electronic warranty activation and product information [www.irproducts.biz](http://www.irproducts.biz) .**

**International Refrigeration Products Inc., 700 Corporate Dr.  
Toms River, NJ 08755**