Swimming Pool Heat Pump
Instruction and Operation Guide
Owner/Service Manual

For Discontinued Models Manufactured Prior To 2003

1.707-776-8200 • Jandy Pool Products, Inc. • info@jandy.com • www.jandy.com

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Installation

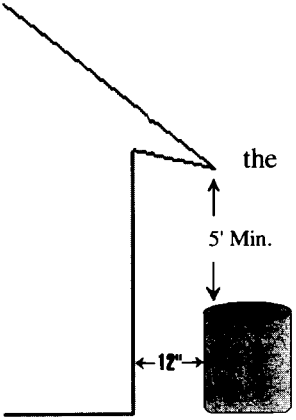
Operation

Operating Your Heater

INSTALLING YOU HEATER

Clearance

Allow a **minimum of 12 inches** clearance between the unit, walls, fences and shrubs. Also allow **a minimum of 5 feet** vertical clearance between the top of the unit and roof over hang.
Allow at least 2 ft. of open area in front of the main access panel for service.



Slab

Place the heater on a flat level surface, such as concrete or fabricated slab. This allows proper drainage of condensation and rainwater from the base of the pan.

Sprinklers

Make sure that there are **no sprinklers** directly hitting the heater. Redirect or cap if necessary.

Roof Run Off

Make sure the heater is not located where large amounts of water run off the roof and into the unit. A gutter or down spout may be needed to protect the heater.

Drainage

The bottom of the unit acts as a tray to catch rainwater and the normal condensation of water from the evaporator coil. Keep the drain holes, located at the base of the pan, clear of any debris to allow for drainage.

Beach Front

Keep out of direct spray of sand and salt.

PLUMBING

REMOVE BLUE PLUGS FROM UNIONS

Plumbing Sequence:
Pool – Pool Pump – Filter – Heat Pump – Check Valve – Hartford Loop – Chlorinator – Pool

Plumbing connections:
1. Filtered water IN on the Right front.
2. Heated Water OUT on the Left side.
3. Our threaded unions will accept 1½ or 2 inch fittings.
4. Unit is equipped with an internal by-pass drain. Exception Titanium
5. If this unit has a Titanium Heat Exchanger, make sure drain between water in and out is closed.

Refer to the plumbing diagrams for the proper installation based on the number of heaters to be installed.

Standard Plumbing 1 unit
Appendix A1

Multiple Units
1. All plumbing on multiple heater installations must be done in **PARALLEL**.
2. An equal flow of water to each heater is important for optimum operation.

It may be necessary to adjust water pressure switch if unit installed below water level.

2 units installation	*Appendix A2*
4 unit installation	*Appendix A3*
6 unit installation	*Appendix A4*
Dual pump	*Appendix A5*
Solar backup	*Appendix A6*

ELECTRICAL

Warning: Shut main power disconnect "OFF" before removing access panels.

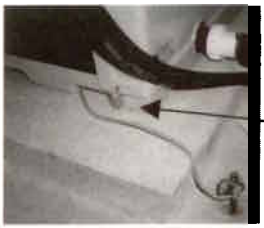
ALL NATIONAL AND LOCAL WIRING CODES MUST BE FOLLOWED ON INSTALLATION OF THIS HEATER

1. Use Liquid – Tite or other approved flexible conduit where applicable to codes. A minimum of two feet of flex conduit at the heater will allow the panels to be removed for service without disconnecting the conduit.

2. When connecting time clock override parallel circuit, (residential only) proper phasing must be maintained. **Use number 12 Ga. wire.**

3. Unit must be earth bonded and electrically grounded. Bond to pool equipment or a 7 ft. copper rod. *(See picture below)*

4. A disconnect must be in line of sight of the heater.



Failure to bond unit may void warranty

Bonding lug

Schematics for units with:

Single Therm. w/out Auto Heat	*Appendix B1*
Single Therm. w/Auto Heat	*Appendix B2*
Auto Heat Option -	*Appendix B3*
Dual Thermostat Option	*Appendix B4*
Remote Systems using units therm.	*Appendix B5*
Remote Systems using computers therm.	*Appendix B6*
Unit w/Digital Panel -	*Appendix B7*
Digital Panel -	*Appendix B8*
Remote System using units therm. *(Digital Unit)*	*Appendix B9*

START UP PRECAUTIONS

Compressor Warm-up ***for non-scroll units***
The compressor crank case oil must be preheated before running. The crankcase heater only works while the unit has power. To do this make sure you have electricity to the heater and the thermostat on the heater is turned as low as possible. During warm weather the heat up time should be about 2 hours, in colder weather 8 hours. Do not use the circuit breaker as an on-off switch unless you pre-heat each time. After preheat time, turn the thermostat back to your desired temperature.

Scroll Compressor
It is not uncommon for a unit equipped with a scroll compressor to require 2 or 3 starting attempts if the unit has not been operated for an extended period of time.

Pool Pump and Filter
Make sure the pool pump and filter are running and providing proper water flow before turning the heater on. A dirty filter will slow down water flow. It is normal for filter pressure to increase when heater is installed.

Time Delay
Please understand that there is a **5-7 MINUTE** time delay before the heater will start. This built-in time delay is a necessary safety factor to protect the compressor.

Water Flow
Make sure all valves to the heater are adjusted to allow maximum water flow. Make sure water level in the pool is at the appropriate level and the filter is clean. Turn off any waterfalls or fountains to speed up the heating time. Proper water flow is 55 gallons per minute.

SPA HEATING TIPS

When heating your spa, turn off all air blowers and spillovers if possible. This will decrease your heat loss and speed up the heating process.

OPERATING YOUR POOL HEATER

Congratulations, - you have just purchased the latest state of the art swimming pool heater. This unit should provide you with warm swimmable water throughout the heating season for many years. The maintenance should be minimal.

WHAT IS A HEAT PUMP AND HOW DOES IT WORK

A heat pump works by taking the heat from the air and transferring it to your pool water. It is the most efficient and cost effective method of heating your pool. If the air temperature gets to 45° or below the heater will shut itself off as a safety precaution to protect itself from icing, and start again when the temperature gets back to the low 50's.

INITIAL HEAT UP

When you run your heater for the first time you must allow the unit to run **continuously** for approximately 24-48 hours depending on conditions. This is to heat not only the water but also the walls of your pool. If you have the AUTO HEAT feature, put your heater in this mode. If you do not, you will need to temporarily override your pool pump time clock until the water has reached your desired temperature. Also while heating your pool turn off any fountains or waterfalls you may have to decrease heat loss.

CABINET

The top, front, and bottom are made from Space age (95% Ultra - Violet light proof) Plastic, which will last for years. No unsightly rust! Any dust or dirt may simply be removed by hosing the unit off and wiping with a cloth. The use of a product like Armor-All should create a like new luster. Grass clippings, leaves, etc. should be removed from the grill to allow free airflow throughout the system.

DRAINAGE

The bottom of the unit is literally a tray to catch the normal condensation of water from the evaporator coil. It is normal for water to flow from the drain hole located on the bottom of the unit. This is caused by condensation. The more humid the weather the more condensation will be created. Water created from condensation will dry up when the unit is off or has reached temperature satisfied.

You can also test the water for sanitizers to make this determination. It is important to keep the drain hole clean of debris to avoid a build up of water. A long thin screwdriver will accomplish this task.

WARRANTY CARD INFORMATION

Enclosed you will find a warranty card. Please fill this card out and return it to Air Energy Heat Pumps within 10 days to validate your warranty. Keep a copy for your records. Please write your serial number and installation date on the inside cover of this manual.

FACTORS EFFECTING THE PERFORMANCE OF YOUR HEATER

Size of your pool – You lose most of your pools heat through the surface of the pool. The larger the surface area the faster your pool cools off.

Ambient Air – The hotter it is, the less time your heat pump will have to run in order to bring your pool water up to your desired temperature. In cooler temperatures your unit will need to run longer to maintain the desired temperature.

Desired Water Temperature – This is the temperature at which you have set your heat pump. The greater the difference between the air and water temperature the greater the heat loss will be and the longer it will take to heat your pool.

Wind – When you are not using a pool cover the wind blowing across the surface of your pool water increases the heat loss.

Fountains, Waterfalls, Negative Edge Pools – These features also increase heat loss. Turn off any fountains or waterfalls during the heating cycle to improve your heater's performance.

Sun – The amount of sun your pool receives will be a factor in the heating process.

Cover – Pool covers will reduce the evaporative heat loss and run time of your heater. Saving you money.

GETTING FAMILIAR WITH YOUR NEW HEATER

Analog Units

All Models without a digital panel

Heat Sentry Panel

Auto Heat up position

Green Power

Blue Temperature Satisfied

Red Diagnostic Lights

Time Clock down position

Thermostat Knob for pool

If you have a single thermostat unit you will have only (1) thermostat knob

Switches between Pool and Spa Mode

for dual thermostat units only

Thermostat Knob for spa

for dual thermostat units only

Depending on the unit you purchased, this panel may be horizonal (like the one pictured) or vertical.

GREEN LIGHT

POWER ON LIGHT: This light indicates that power is available to the unit. If this light is OFF, this may mean there is no electric power available to the unit. Check the circuit breaker, flipping it OFF then back ON will reset the breaker and provide power to the unit so it will run! If the circuit breaker immediately clicks back OFF then this indicates an electrical problem and you should call for service.
CAUTION: Even though the Green light is out, you may still have power to the unit. Do NOT attempt to remove any access panels – Call for Service.

BLUE LIGHT

TEMPERATURE SATISFIED LIGHT: When this light is ON it indicates that the pool water is up to the temperature selected and the unit should NOT be running. As the pool water temperature drops below the desired set temperature, this blue light will go OFF and the heater will start running.

RED LIGHT

LOW WATER FLOW: This means that there is not sufficient water flowing through the heater. Make sure your pool pump is on and running properly. Check the filter to make sure it is not clogged or dirty. Also check the water level of your pool. If you have bypass valves make sure they are adjusted to insure maximum flow to the heater. Optimum flow is 55 gpm. Turn off fountains, waterfalls etc.

RED LIGHT

LOW AMBIENT: Heat pumps work by removing heat from the air. When the outside air temperature goes down to the mid 40's, the outside of the unit or evaporator coils may begin to ice-up which will effect the proper operation of the unit. The heater senses this cold condition and shuts off until the outside air warms up to the low 50's.

RED LIGHT

LOW PRESSURE: This means that the refrigerant pressure is low. This light sometimes comes on because of low ambient air. If the

outside air is warm or above 55 degrees then this light on reveals the need for more refrigerant. Call for service.

RED LIGHT

HIGH PRESSURE: This means that the refrigerant pressure is high. Check for proper water flow through the unit. The light will **stay lit only for a few seconds**. About 5 minutes later the unit will start and if the pressure goes too high again it will shut down! If increasing the water flow does not eliminate this problem call for service.

SETTING THE TEMPERATURE CONTROL

Locate the small control knob on the Heat Sentry panel and turn clockwise, to the highest number, indicating the desire for maximum temperature. When the pool water comes up to the temperature desired and while the unit is running, turn the temperature control knob counter-clockwise VERY SLOWLY just to the point that the unit shuts off. The Blue Temperature Satisfied light will come on. The temperature control is now set close to the desired temperature.

If you have the Dual Thermostat model for pool/spa combination follow the same steps using the spa knob.

Features and Options
AUTO HEAT / TIME CLOCK

(RESIDENTIAL MODELS ONLY) This patented feature allows the owner unique control of the heater with a built-in system NOT available on other swimming pool heaters. When the heater is in the **Auto Heat** position your heater will take over control of your pool pump and filter operation. The heater will monitor the temperature of your pool water 24 hours per day and when the temperature drops 1 degree or so, the unit will turn on your pump and filter, turn on the heater, and heat your pool water up to the desired temperature, thus maintaining your pool at the desired temperature 24 hours a day.

When the heater is in the **Time clock** position your heater will operate like all other swimming pool heaters in that it will only run when your pool pump and filter are operating. The heater has to have water running through it to operate.

Note: This feature must be wired by your electrician. The Auto-Heat feature is not compatible when using a Remote Control System utilizing remote thermostats.

SETTING THE AUTO HEAT FEATURE

If your unit is so equipped, locate the toggle switch on the Heat Sentry Panel. Put the switch in the **UP** position for the Auto Heat mode or in the **DOWN** position for the Time clock mode.

DUAL THERMOSTATS *DT Models*

The Dual Thermostat control is designed for a pool/spa combination. It is equipped with TWO thermostats. One for the POOL and one for the SPA!

SWITCHING BETWEEN POOL AND SPA MODE

On the Heat Sentry Panel you will see a toggle switch located between the green pool light and the red spa light. To heat your pool, flip the switch toward the pool light. To heat your spa, flip the switch toward the spa light and the spa thermostat is now functional. **NOTE: When you flip the switch from pool to spa or spa to pool, it is necessary and most important that you rotate the flow control valves to the proper position before turning on your pool/spa pump. If you have the DTA model (dual thermostat with automatic valves) this will be done automatically for you.**

Chillers

If you have purchased the cooling option, place the toggle switch in the **COOL** position, to COOL your pool and adjust the temperature knob accordingly. **The lower the number the cooler the water.**

GETTING FAMILIAR WITH YOUR NEW HEATER

All models with a Digital Panel

Your heater may come with the following features:

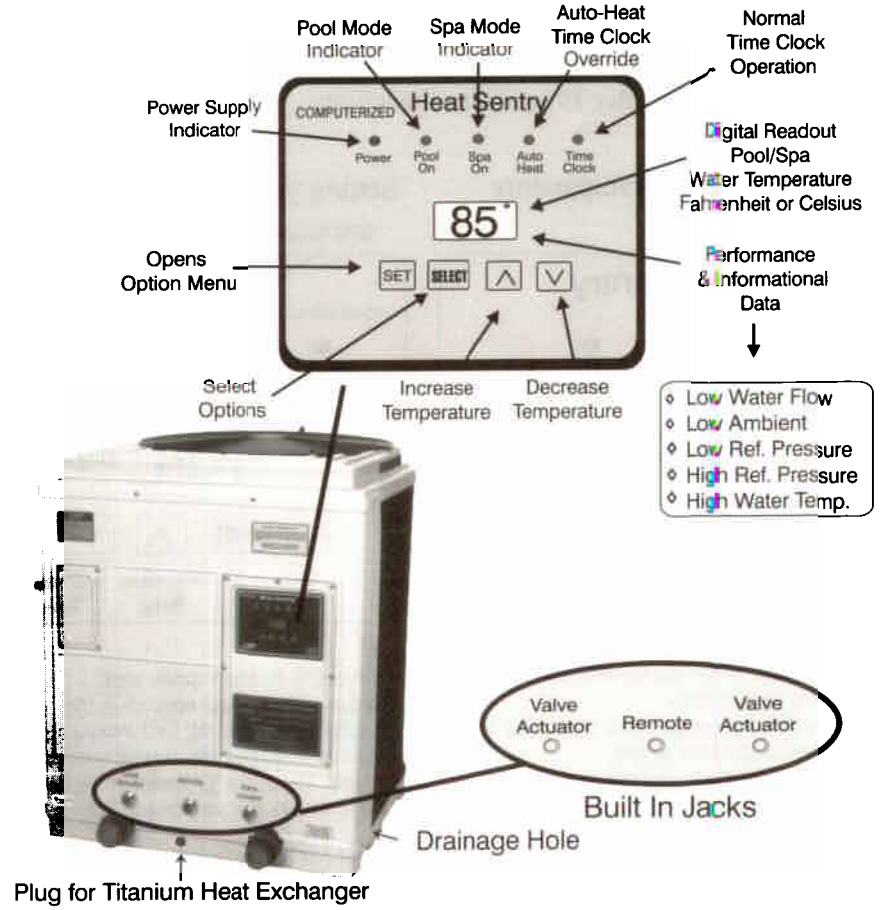
Digital Panel - Gives you a digital readout letting you know the temperature of your pool water.

Dual Thermostats - For Pool & Spa combinations

Auto Heat - Patented feature to maintain your desired pool temperature day and night.

Built in Jacks - Used for Pool/Spa auto valves, hard wire remotes, flow switches, remote control interface for computers such as Jandy, Compool Aquadyne, etc.

Titanium Heat Exchanger- Corrosion resistant, lifetime warranty.



SETTING THE TEMPERATURE CONTROL

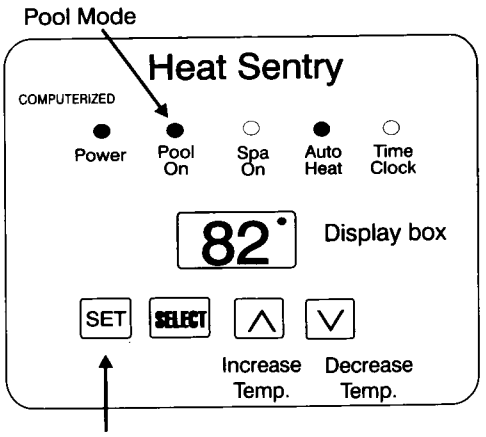
Pool Mode

The factory setting is 82°. To change the temperature setting for the pool, press the **SET** button, it will display **pt** (pool temperature). Press the **SET** button again and it will display the current temperature setting. Use the ∧ button to increase the temperature or the ∨ button to decrease the temperature. The control panel will automatically save the setting and return to the current pool water temperature display after 10 seconds of inactivity.

SPA Mode

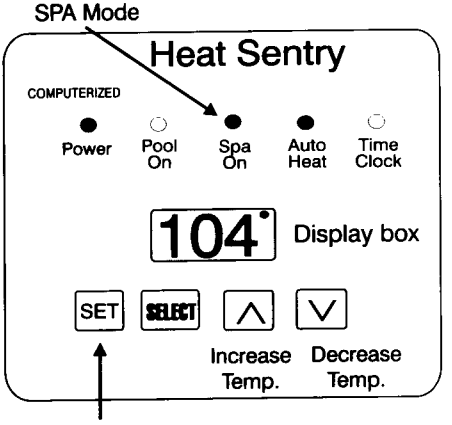
The factory setting is 104°. To change the temperature setting for the spa, press the **SET** button 4 times until **st** (spa temperature) is displayed. Pressing the **SET** button again will display the current spa temperature setting. Use the ∧ button to increase the temperature and the ∨ button to decrease. 105° is the maximum allowed temperature. The control panel will automatically save the setting and return to the current pool water temperature display after 10 seconds of inactivity.

Setting your Pool Temperature



Press SET button, the display box will change to Pt (pool temperature).
Press the SET button again and it will display the current temperature setting.
Use ∧ or ∨ button to increase or decrease desired temperature.

Setting your SPA Temperature



Press SET button 4 times, until St (spa temperature) appears in the display box. Press the SET button again and it will display the current temperature setting. Use ∧ or ∨ button to increase or decrease desired temperature.

The factory setting is 82 degrees for the pool and 104 degrees for the spa. The control panel will automatically save the setting and return to the current pool water temperature display after 10 seconds of inactivity.

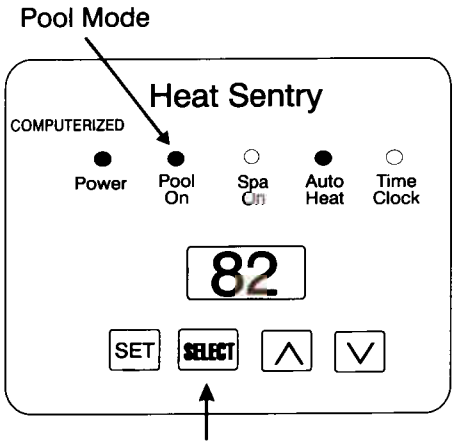
DUAL THERMOSTATS

This feature is standard on the Digital units. The Dual thermostat control is designed for a pool/spa combination. it is equipped with TWO thermostats. One for the **POOL** and one for the **SPA**.

SWITCHING BETWEEN POOL AND SPA MODE

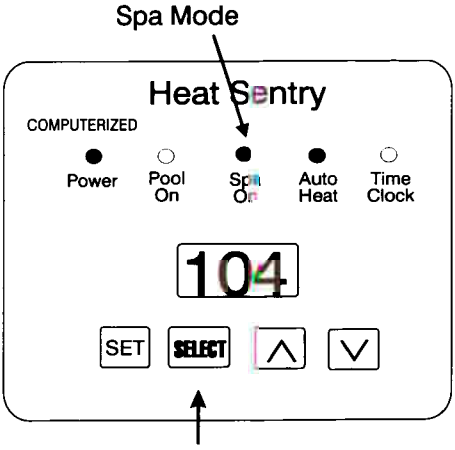
To heat your pool, you must be in the **POOL** mode and to heat your spa, you must be in the **SPA** mode. To change from one to the other, press the **SELECT** button.

Heater is in the Pool Mode



To change from Pool Mode to Spa Mode press and immediately release the **SELECT** button.
You will see the lights change from one mode to the other.

Heater is in the Spa Mode



To change from Spa Mode to Pool Mode press and immediately release the **SELECT** button.
You will see the lights change from one mode to the other.

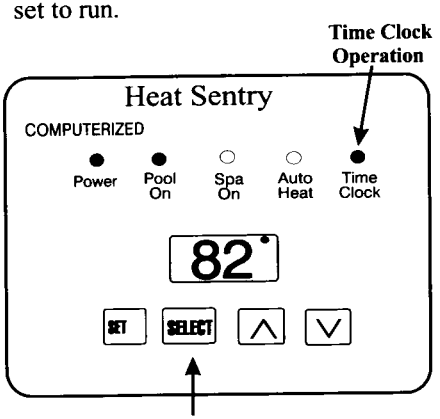
Features and Options
AUTO HEAT / TIME CLOCK

(Residential Models Only) This patented feature allows the owner unique control of the heater with a built-in system NOT available on other swimming pool heaters. When the heater is in the **Auto Heat** position your heater will monitor the pool temperature and automatically turn on the pool pump whenever the pool water needs to be heated, night or day. When the heater is in the **Time clock** position your heater will operate like all other swimming pool heaters in that it will only run when your pool pump is operating. **Note: This option must be wired by your electrician. The Auto Heat feature is not compatible with a Remote Control System utilizing remote thermostats.**

SETTING THE AUTO HEAT FEATURE

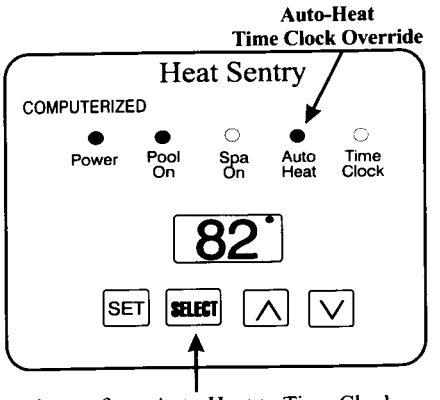
On the digital Panel locate the two lights labeled **TIME CLOCK** and **AUTO HEAT**. The one illuminated is the one selected. To switch from one to the other, locate the **SELECT** button, press and hold the **SELECT** button down for 10 seconds, then release. You will see the light change from one mode to the other. Factory setting is Auto Heat. **Note: Holding the SELECT button down less than 10 seconds may change your pool/spa mode instead of the Auto Heat/Time Clock mode.**

Heater is in the Time Clock Mode. In this mode your heater will only run when your pool pump and filter set to run.



To change from Time Clock to Auto Heat, Press and hold the select button for 10 seconds, upon releasing the button the light will change from Time Clock to Auto Heat

The heater is in the Auto Heat Mode. In this mode the heater will turn your pool pump and filter on whenever necessary to maintain desired temperature.



To change from Auto Heat to Time Clock, Press and hold the select button for 10 seconds, upon releasing the button the light will change from Auto Heat to Time Clock.

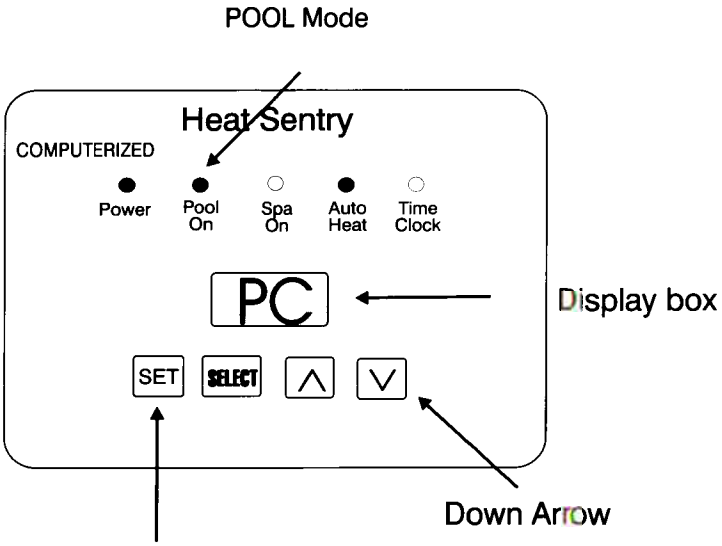
CHILLERS

Optional

If you have purchased the cooling option, push the **SET** button three (3) times, **PH** (pool heat) will appear in the display box. Then push the down arrow ⋁ once. **PC** (pool cool) will appear on the screen. The thermostat is now in the pool cool mode. Now you can adjust the temperature if necessary to cool your pool.

Changing to the COOL mode

This mode is used to cool your pool
in the hot summer months



Press the **SET** button (3) times, **PH** (pool heat) will appear in the display box. Then push the down ⋁ button once. **PH** will change to **PC** (pool cool).

Upgrade Kits for Digital Units

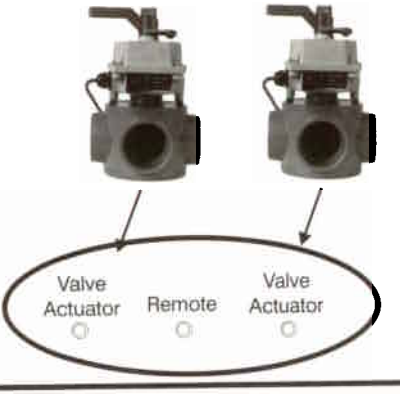
All our digital units come standard with the ability to add remotes, computer controls and/or valve actuators.

Auto Valve Package

For use in pool/spa combinations. This package takes the work and inconvenience out of manually changing the position of your valves from pool to spa.

Our actuator valves are pre-wired and plug into the jacks provided on the unit making the installation quick and easy. Eliminating the need for an electrician.

Built In Jacks →

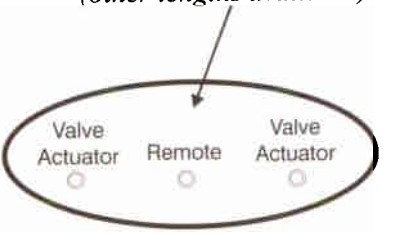


Umbilical Cord

For Easy Hook Up to Remote Systems
such as Jandy, Compool Auto Switch, Flow Switch etc.

Built In Jacks

Comes with 25' of cord
(other lengths available)

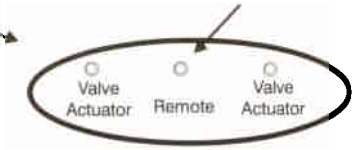


Hard Wire Remote Package

Comes with 50 ft. of cord

When used with the Auto Valve package, this remote allows you perform all pool/spa functions from a remote location, never having to go out to the pool equipment. The switch box can be mounted on a wall near your pool.

You simply plug it into the middle jack and program the heater using your digital panel (see diagram below)



Remote Plug Programming Instructions

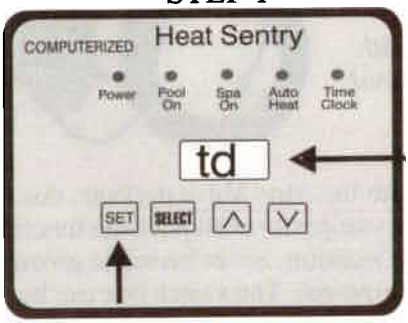
*for use with Hard Wire Remote & Controls **without** thermostats*

1. Press and hold the **SET** button for (10) ten seconds, release, **td** will be displayed in the display box.
2. Press the **SET** button (7) seven consecutive times until **dIS** (disable) is displayed.
3. While **dIS** is displayed, press the up arrow once until **ACt** (activate) is displayed.

Once **ACt** is displayed press **SET** to save and exit the program menu.

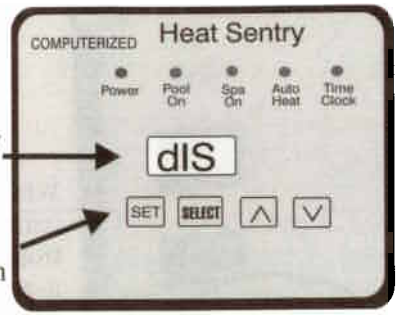
(see illustrations and diagrams on the following page)

STEP 1



Press and hold the **SET** button for (10) ten seconds, release, **td** will be displayed in the display box.

STEP 2

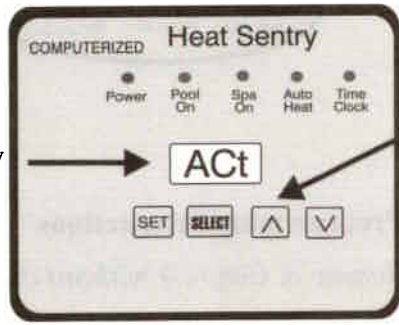


Display BOX

SET Button

Press the **SET** button (7) seven consecutive times until **dIS** (disable) is displayed.

STEP 3



Display BOX

Up Arrow

While **dIS** is displayed, press the **up** arrow once until **ACt** (activate) is displayed.

Once **ACt** is displayed press **SET** to exit the program menu.

Programing Instructions for Remote Controls equipped with thermostats

Digital Units

1. Press and hold the **SET** button for (10) ten seconds, release, **td** will be displayed in the display box.
2. Press the **SET** button (7) seven consecutive times until **dIS** (disable) is displayed.
3. While **dIS** is displayed, press the up arrow once until **ACt** (activate) is displayed.
4. Once **ACt** is displayed press **SET** to save and exit the program menu.

See diagram on previous page

5. Shut off the power to the unit and pool pump.
6. Gently Remove the Digital Panel (four screws).
   Do not touch the back of the panel or get it wet.
7. Locate the dip switch block on the back of the digital panel and switch the **number three** (3) to the **OFF** position

8. Re-Install the Digital Panel back onto the unit.
9. Turn on the power to the unit and the pool pump

The unit's remote plug is now activated for remote controls equipped with thermostats.

PROTECTING YOUR HEATER

The purpose of maintaining proper chemical balance is to allow you to swim comfortably and to protect your investment. Water chemistry plays an important role in the life of your pool. The proper balance of a few simple factors enables you to prevent irritated eyes and skin while enjoying your back yard environment. These simple factors also protect your pool finish as well as your pool equipment.

Remember water can eventually dissolve anything given the right conditions (pH, total alkalinity, Calcium hardness, total dissolved solids, some sanitizers and water temperature)

Chemical abuse is not covered by warranty!

Steps to insure your heater's longevity
1. Chlorinator must be down stream of heater. *(see plumbing sequence)*
2. Place Hartford loop and check valve between chlorinator and outlet of the heater.
3. Maintain proper water chemistry.
4. Unit must be bonded.

Proper water chemistry enhances many years of enjoyment while protecting your investment. **Note: Never put chlorine tablets directly in the skimmer.**

	Miniumum	Ideal	Maximum
Free Chlorine, PPM	1	1.0-3.0	3
Bromine, PPM	2	2.0-4.0	4
PH	7.2	7.4-7.6	7.8
Total Alkalinity, PPM	60	80-100	100-180
TDS (ppm)	300	1000-2000	3000

WEEKEND OR OCCASIONAL POOL USE

Heat pump pool heaters are NOT fast pool water heaters. During cool or cold weather with wind blowing across your pool the water temperature can drop 5 to 8 degrees overnight! If the heater is shut down only for a few days during these cool spells the concrete walls will also cool down. Upon start-up of the heater it will, again, be necessary to heat up the water and all of the concrete in the pool.
For weekend use, it is MORE ECONOMICAL to maintain the pool water temperature at or near your desired swimming temperature. If you plan NOT to use your pool for a month or more then you might choose to turn the heater off OR turn down the temperature control a few degrees so that the pool water is not calling for so much heat energy!
During cooler periods, after a prolonged shutdown, you should be aware that it might take a day or two for the pool to get back to swimming temperature!

SEASONAL SHUT-DOWN *SUMMERTIME*

During the warm summer months, when the heater is not needed, you can shut the unit off by either one of two ways. **1.** Turn the power off to the unit by flipping the circuit breaker to the off position. **2.** For non-digital units rotate the temperature control knob counter-clockwise to the lowest number. For digital units change your temperature setting to 60 degrees. This will keep the unit from running.

WINTERIZING, FREEZE AND HARD FREEZE PROCEDURES

When the weather report indicates freezing weather for a day or two you should protect your pool pump, your filter, and your heater. The easiest way to accomplish this short term freezing condition is to set your pump filter TIMER to run continuously. This passes warm water (at least above the freezing temperature) continuously through the pump, the filter, and the heater to keep them from freezing.
During a forecasted long term hard freeze you will need to totally drain the pump, filter, and heater and also disconnect the unions. If you have a Titanium Heat Exchanger you will need to open the petcock to drain

the heat exchanger. *(For location of the petcock, please see page 11)* Freezing water will therefore not damage the water-empty pump, filter, and heater! **Note: Failure to winterize could cause damage to your heater and will void the warranty.**

CALLING FOR SERVICE

For service dial (954) 971-0211 in Broward county or toll free 888 782-5922.
Before calling for service, please have your model and serial number available.
Unauthorized personnel working on your unit will void your warranty.

TROUBLE SHOOTING

Symptom	***Check***
Unit will not start. **Power light OFF**	Breaker or fuse may be blown or tripped. Reset or replace. Unit may be wired incorrectly by the electrician. Unit still does not run call for service.
Unit will not start. **Power light ON**	May not have waited the required 5-7 minutes for the time delay. Wait full 7 minutes. Do not adjust thermostat during this time. Check setting on thermostat, make sure on highest number if an analog unit or check the temperature setting on your digital panel.(see page 12) If digital unit make sure heater is not in **the pool cool mode.** (see page 15) and reverse instructions. Unit still does not run. Schedule service call.
Unit runs but does not heat.	If **cool** air is blowing out the top of your unit, it is heating. If the unit has just been installed it is necessary to run the unit **continuously** for 24-48 hours. **Or your circulating pump run time may have to be increased.** For units with **"auto**

	heat" make sure option has been wired to unit and unit is in **"auto heat"** position. If all verified, schedule service call.
Unit will not run. Low water flow light on.	Make sure pool pump is on. Make sure all valves in plumbing are in a position to allow more water flow to the unit. Clean your filter and skimmers. Check the water level in your pool. Turn off all fountains, waterfalls etc. All ok. Schedule service call.
Unit will not run. High pressure light is on.	Water flow to unit may be restricted. Make sure pool pump is on. Make sure all valves in plumbing are in a position to allow more water flow to the unit. Clean your filter. All ok. Schedule service call.
Unit will not run. Low pressure low ambient lights on.	Temperature may be too cold for unit to operate. Wait for temperature to get above 48 degrees. If unit does not turn on schedule service call.
Unit is leaking	Possibly condensation or plumbing leak. Turn unit off and pump on for at least an hour to see if water leak stops. If yes leak is normal condensation, if the leak continues after the unit is shut off call for service or you can test the water coming out of the unit for sanitizers. If the water has no chemicals, it is normal condensation.

TROUBLESHOOT INFORMATION

Digital Panel Indicators

LOH2O

Low Water Flow: Please check the following causes below:

Low or restricted water flow through the heater.

Dirty or worn filter or clogged pump basket.

Depending on the installation conditions, some automatic pool cleaners could restrict the water flow into the heater.

Bypass valve may be in the wrong position restricting water flow.

Pump motor may be undersized, optimum water flow is 55 GPM (gallons per minute) check with your installer.

The unit is plumbed backwards.

After (5) five attempts within (60) sixty minutes, the unit will shut off and not restart until the problem is solved, please call for service.

NOTE: If your heater is installed in a pool/spa application,

please start the heater in pool mode position and then switch to spa mode position. If the heater runs in one mode but not the other, it indicates that there is a water flow problem specific to the plumbing and not to the heater.

LOtP

Low Ambient Temperature: Heat pumps depend on removing heat from the outside air. When the outside air temperature gets down in the mid or low 40's F, the outside of the unit or evaporator coils may begin to ice-up which will affect the proper operation of the unit. The Heater senses this cold condition and shuts off until the outside air warms back up to the high 40's F.

LOPrE

Low Refrigerant Pressure: Refrigerant pressure is too low. An internal refrigerant valve adjustment may be necessary. This can also occur due to low ambient air; however, if the outside air is above 50°F your unit may need more refrigerant. After (5) five attempts within (60) sixty minutes, the unit will shut off and not restart until the problem is solved, please call for service.

HIPrE

High Refrigerant Pressure: Refrigerant pressure is too high. Proper water flow is necessary to maintain lower refrigerant pressures. There may not be enough water flowing through the unit. (Please see low water flow.) The high-pressure switch will reset and the unit will attempt to start in 5 minutes. After (5) five attempts within (60) sixty minutes, the unit will shut off and not restart until the problem is solved. If increasing the water flow to the unit does not eliminate this problem, please call for service. ***NOTE:*** If a unit does not run for a while, it is not uncommon for this message to appear upon startup.

HItP

High Water Temperature: This indicates that the water has reached its maximum allowable temperature. After (5) five attempts within (60) sixty minutes, the unit will shut off and not restart until the problem is solved, please call for service.

SE1	
Sensor 1:	This indicates that the unit's water temperature sensor is defective. (Please call for service)

SE2	
Sensor 2:	This indicates that the unit's air temperature sensor is defective. (Please call for service)

No Error Code But Unit Will Not Heat	Make sure Temperature Set Point is correct. This is the desired temperature setting.(See page 12) Make sure heater is in the **Pool Heat** mode not the **Pool Cool** Mode (See page 15 and reverse)

Aqua-Link/Compool Troubleshooting

Problem 1: Remote not turning on heater
Problem 2: Heating in Pool mode but not in Spa mode

First, Make sure the in house panel is programmed to call for heat. Go through the menu and check the existing program. If the red LED light in the outside panel is not lit showing heater, then the in house panel is not programmed for heat.

Second, determine that the heat pump is operational by disconnecting the heat pump cable from the #1 and #2 Remote Control terminals. If the heat pump has been programmed correctly, twisting the two wires together should make it come on after the 5-minute delay. If the heater starts, and you have a unit with an analog panel (a knob to control the thermostat) then the problem is with the Aqua Link, If you have a digital unit, program the digital panel to activate the remote cord according to instructions supplied with the cord.

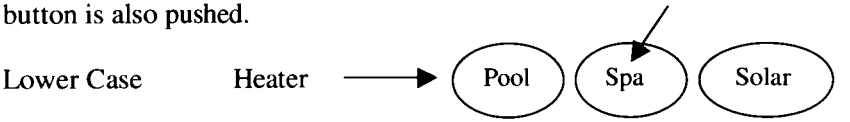
Third, The Remote Control has a LED light for every function that is called for. For example: the pump LED will light when the pump is activated. The LED for the heater must be on or else the heater will not come on. You can manually check if the heat pump is coming on in one of two ways. Manually pushing the pool heater button at the in house panel. The LED light should come on and the heater will also come on. This is the manual, one time only test. The second way is to put the outside Remote Control into the service mode and then push the heater button in the outside panel. The LED for the heater will light and the heater will then come on. Returning the panel to the auto mode will now switch off the heater light.

Once you have determined the heater is functioning properly there is only one thing to do. Get access to the inside unit and follow the instruction manual to program the heater run times as the pump is programmed but not the heater.

Push the menu button and review all programming and you will see the heater run times are not on the program. Program the heater run times as per manual.

#2 Heating in the Pool Mode but not in the Spa Mode

Homeowner pushes the upper case spa button, which will rotate valves but not control the heater until the lower case (Heater Spa) button is also pushed.



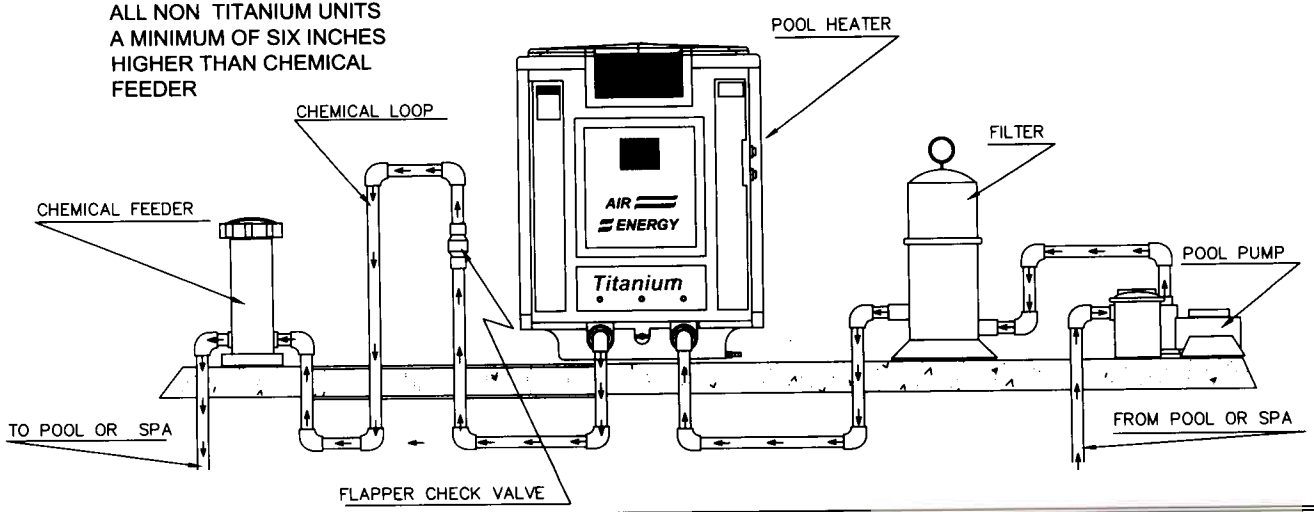
Some Remote Control installers do not program the heater to come on with the pool pump automatically because the homeowner does not want to heat the pool all of the time. Then, the only alternative is to push the in house heater button after the pool pump is already on to turn on the heater. A manual turn on must be done each day or whenever the spa is used.

NOTES

Apependix A

A1

NOTE:CHEMICAL LOOP MUST BE INSTALLED ON ALL NON TITANIUM UNITS A MINIMUM OF SIX INCHES HIGHER THAN CHEMICAL FEEDER



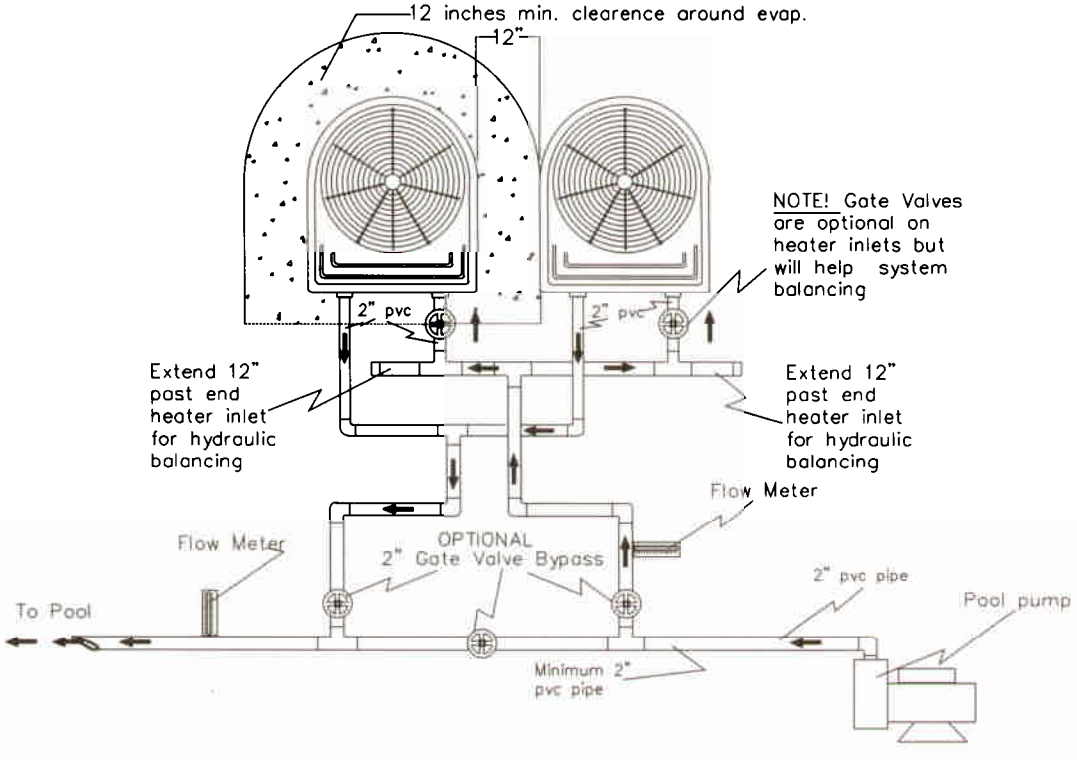
STANDARD PIPING LAYOUT

AIR ENERGY HEAT PUMPS INC.
ILLUSTRATION BY M.F.TUCCIARONE

REV.# DATE 3/28/03

A2

Note! each heater requires maximum flow rate of 80 GPM and minimum of 40 GPM

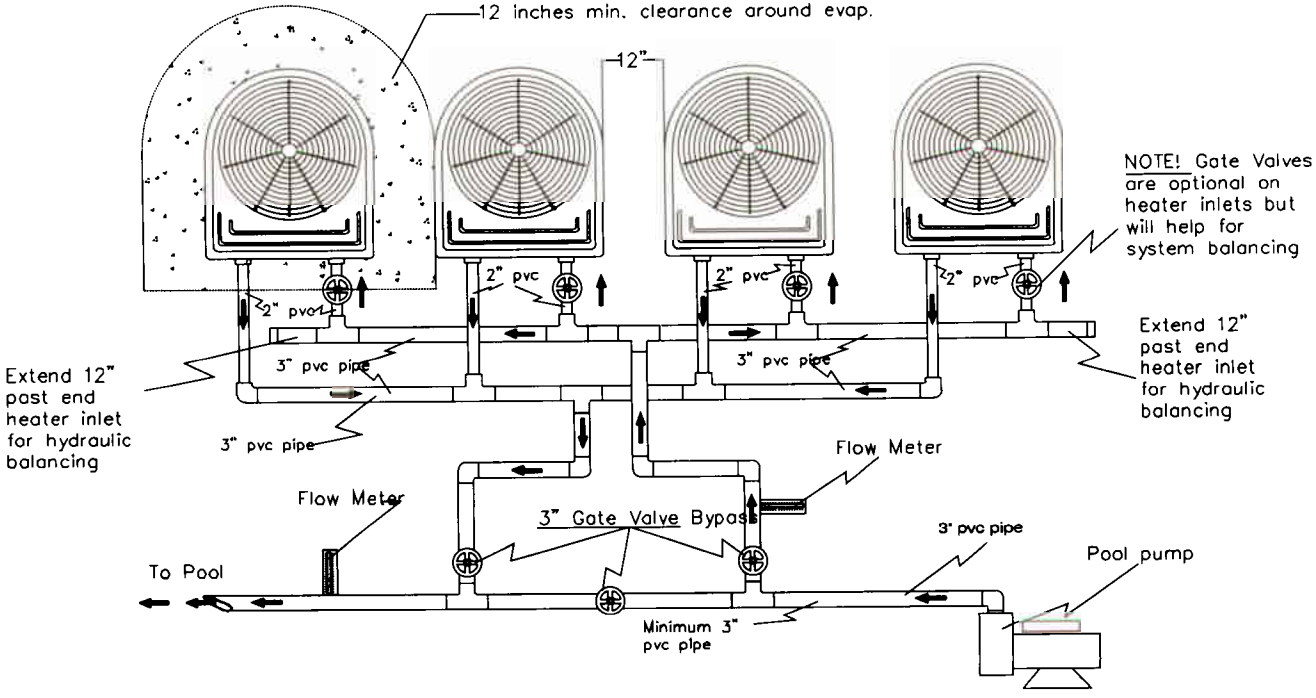


TWO HEATER INSTALLATION PLUMBING DRAWING

CAUTION: MAKE SURE THAT FLOW REQUIREMENTS AND POOL WATER TURN OVER RATES CAN BE MAINTAINED WITH THE ADDITION OF HEATERS AND PLUMBING RESTRICTIONS

REV. # DATE / /

Note! each heater requires maximum flow rate of 80 GPM and minimum of 40 GPM



FOUR HEATER INSTALLATION PLUMBING DRAWING

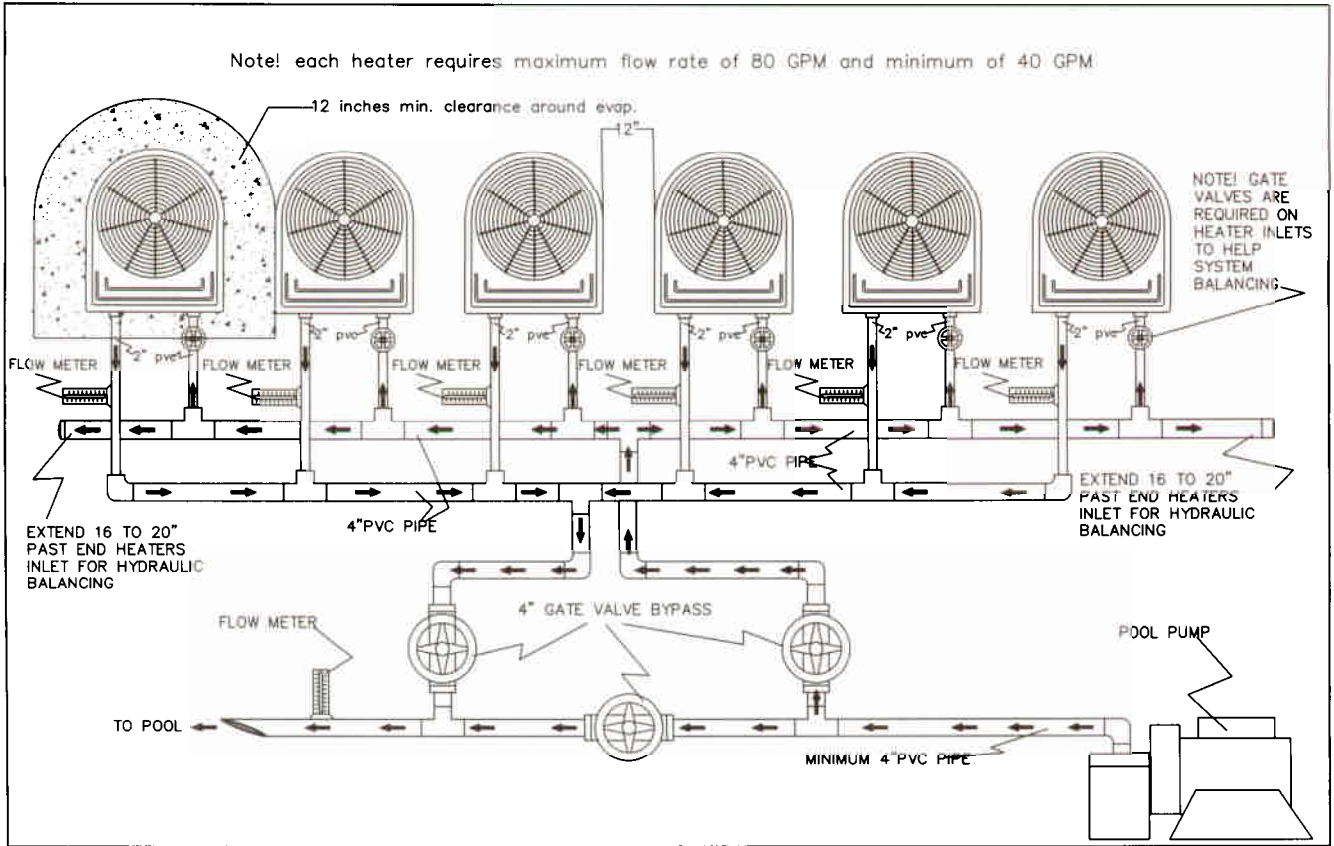
CAUTION: MAKE SURE THAT FLOW REQUIREMENTS AND POOL WATER TURN OVER RATES CAN BE MAINTAINED WITH THE ADDITION OF HEATERS AND PLUMBING RESTRICTIONS

AIR ENERGY HEAT PUMPS INC.
ILLUSTRATION BY M.F.TUCCIARONE

REV. # DATE /

A3

A4

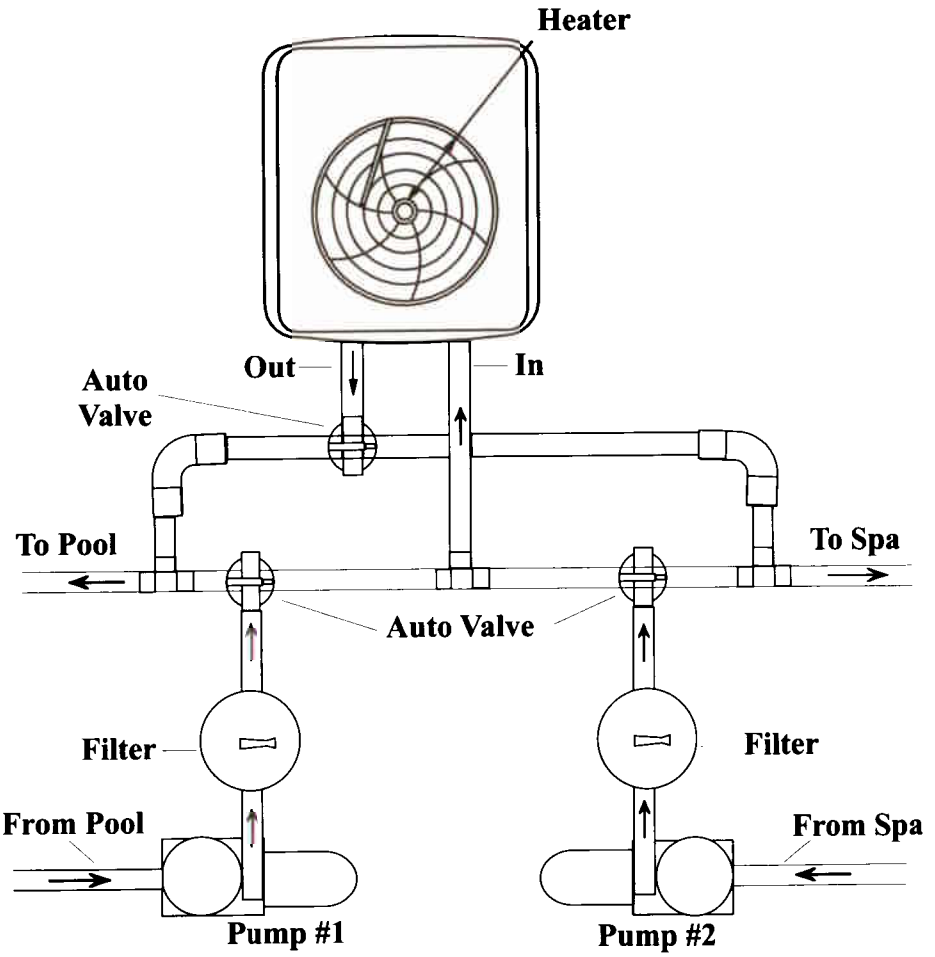


SIX HEATER INSTALLATION PLUMBING DRAWING

CAUTION: MAKE SURE THAT FLOW REQUIREMENTS AND POOL WATER TURN OVER RATES CAN BE MAINTAINED WITH THE ADDITION OF HEATERS AND PLUMBING RESTRICTIONS

AIR ENERGY HEAT PUMPS INC.
ILLUSTRATION BY
M.F.TUCCIARONE
DATE 8/10/98
 REV. DATE / /

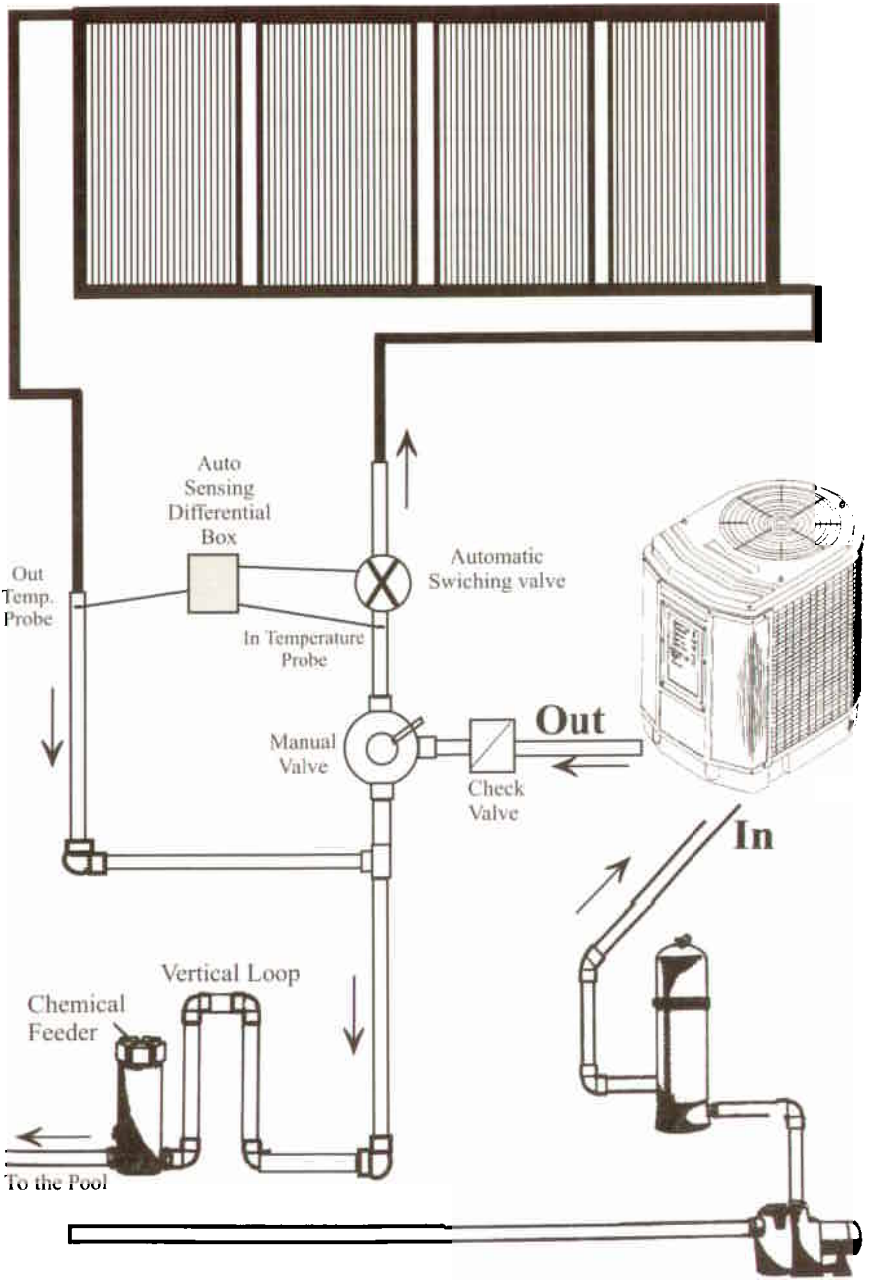
DUAL PUMP



Note: Valves above are positioned for pool heating.

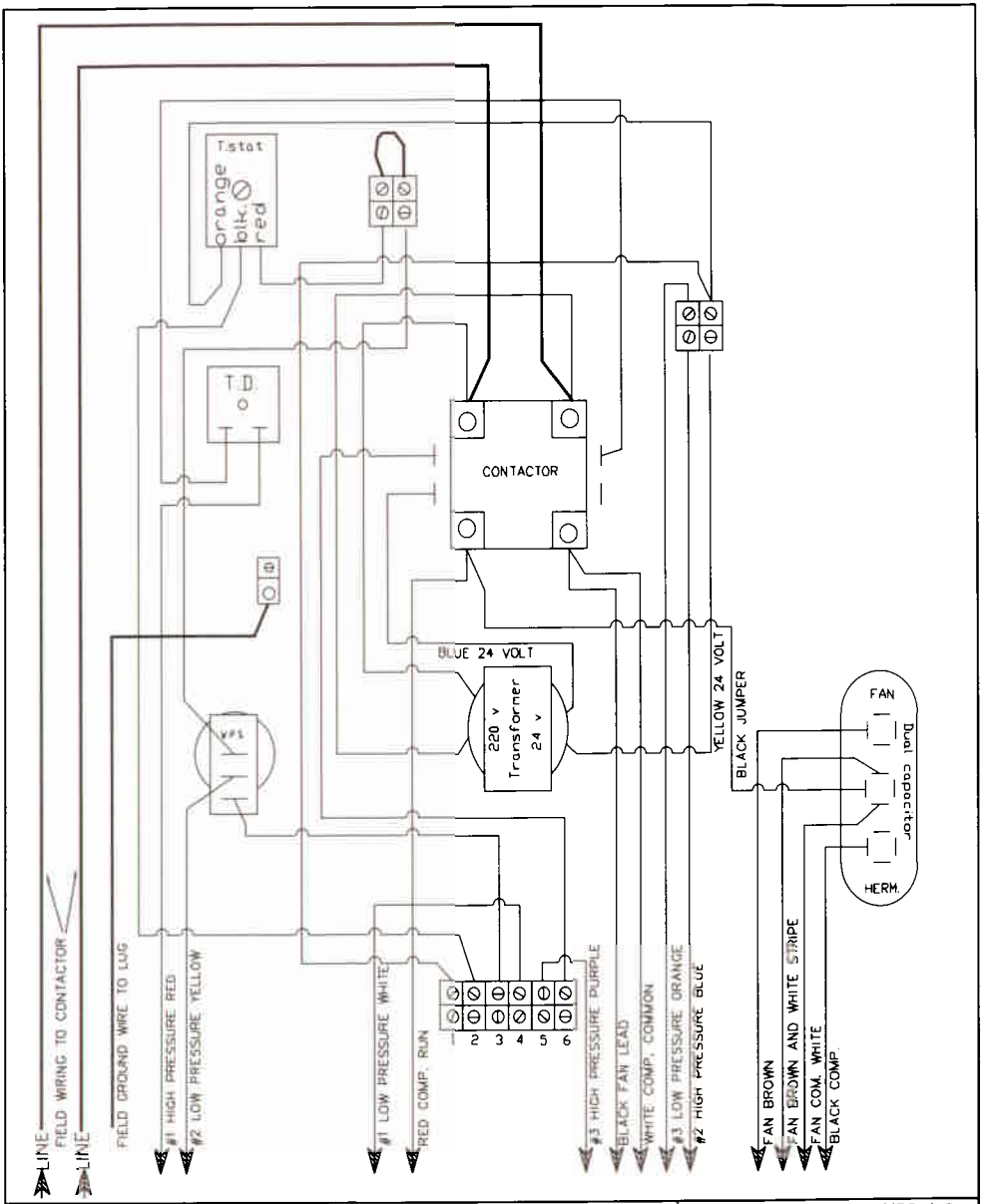
IMPORTANT: Valves must be positioned to avoid dead heading when turning.

Additional switch needed for 2nd pump



NOTE: Do not run water through the solar panels if there is no sun i.e. cloudy days or night time. This will cool the pool water and be counter productive.

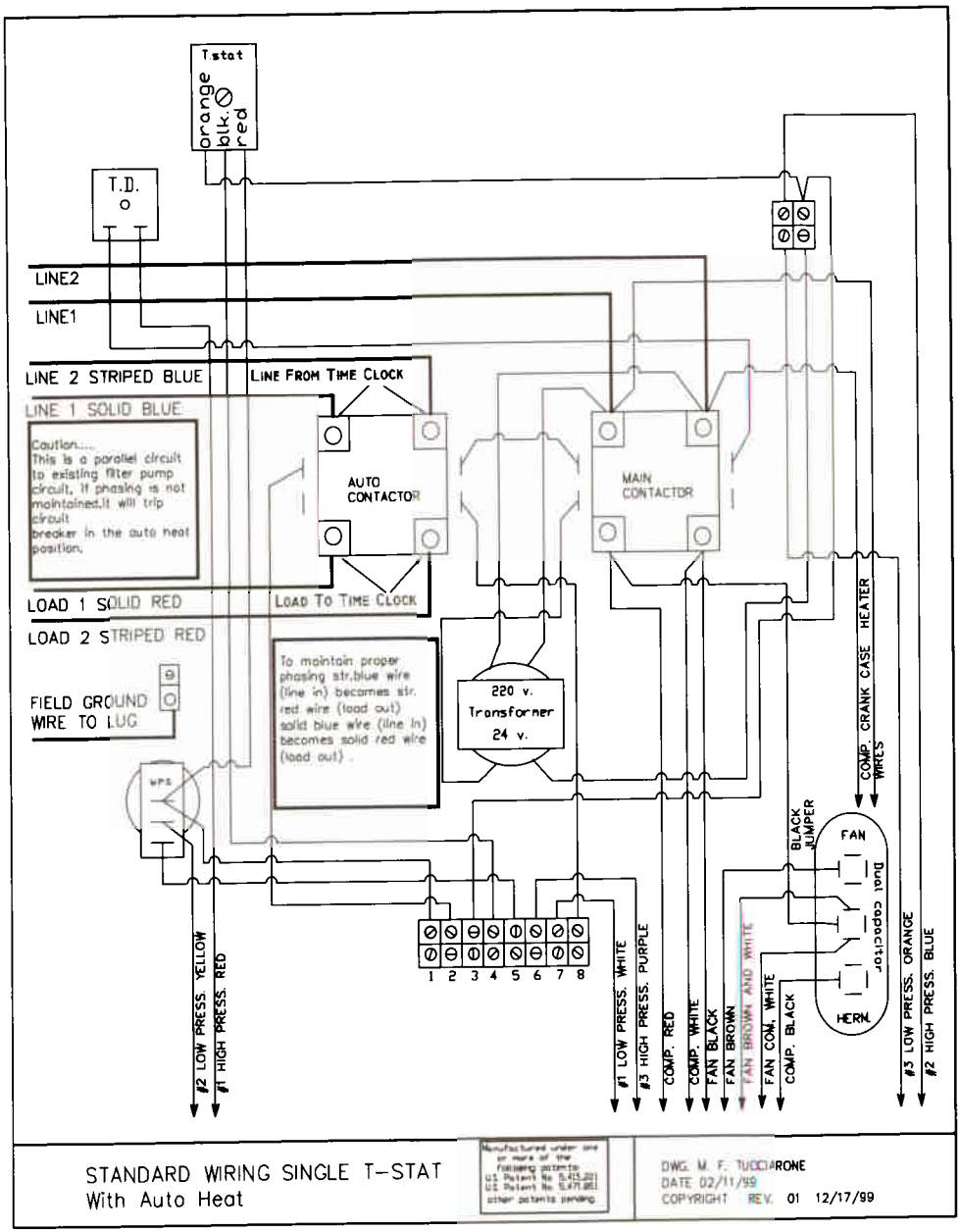
Apependix B



AIR ENERGY 2

STANDARD WIRING SINGLE T-STAT

AIR ENERGY HEAT PUMPS INC.
DWG. M. F. TUCCIARONE
DATE 02/08/99



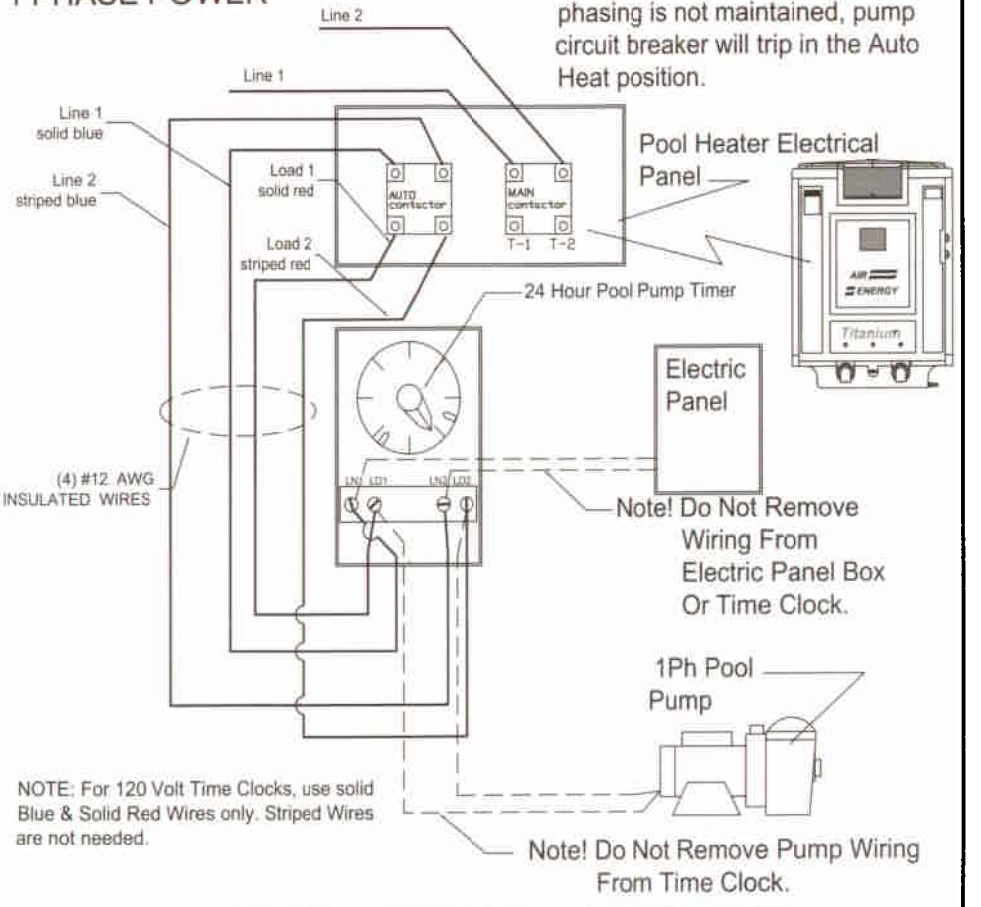
STANDARD WIRING SINGLE T-STAT
With Auto Heat

Manufactured under one or more of the following patents: U.S. Patent No. 5,475,291 U.S. Patent No. 5,471,851 other patents pending

DWG. M. F. TUCCIARONE
DATE 02/11/99
COPYRIGHT REV. 01 12/17/99

TIME CLOCK OVERRIDE
1 PHASE POWER

Caution! This is a parallel circuit to the existing filter pump circuit, if phasing is not maintained, pump circuit breaker will trip in the Auto Heat position.

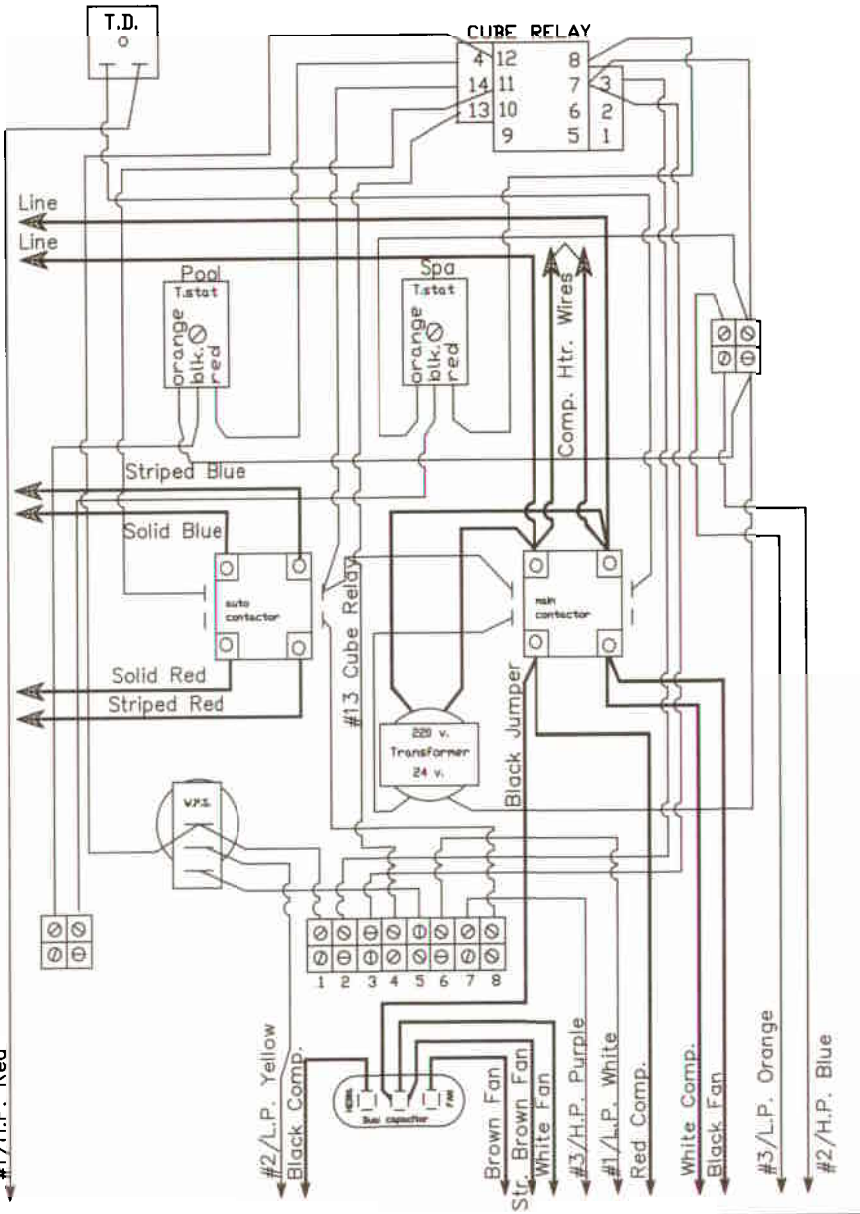


TIME CLOCK OVERRIDE
1 PHASE POWER

Manufactured under one or more of the following patents: U.S. Patent No. 5,435,201; U.S. Patent No. 5,471,852; other patents pending

AIR ENERGY HEAT PUMPS INC.
DWG. BY M.F. TUCCIARONE
DATE 9-22-98 REV.4-16-03

DUAL THERMOSTAT



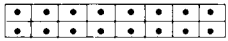
Air Energy Heat Pumps Inc.

Manufactured under one or more of the following patents:
U.S. Patent No. 5,415,854
U.S. Patent No. 5,471,850
other patents pending

Dwg. By M.F.Tucciarone
Date 10/16/98 Copyright
REV. 1 4 / 13 / 99

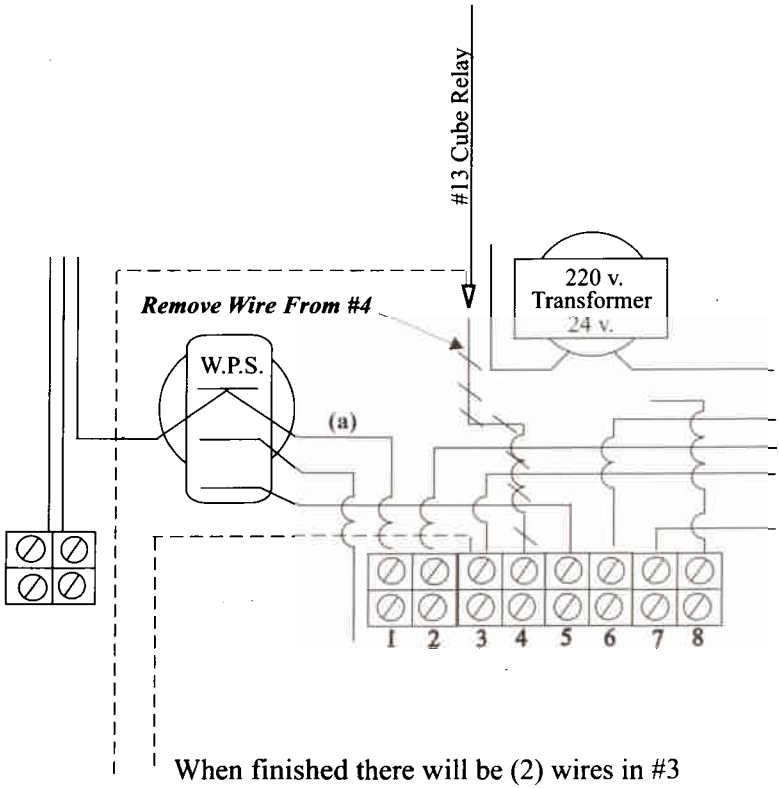
Remote Control Hook Up Using Units Thermostats For NON DIGITAL units with Auto Heat

Remote Controls such as the Aqua Switch, Flow Switch, Air Force etc. will have (2) wires to be installed into the heat pump. (Install to common & high terminals at remote panel)

1. Take off the light panel. On the back will be one or more terminal blocks. The one you need has (8) connectors  Locate #1 by finding the wire going to the top of the water pressure switch. (a) You need #3 and #4 wire terminals.

2. Put one wire from your remote into #3 along with the existing wire.

3. Remove #4 wire from the terminal block and wire nut #4 wire directly to your second remote wire.

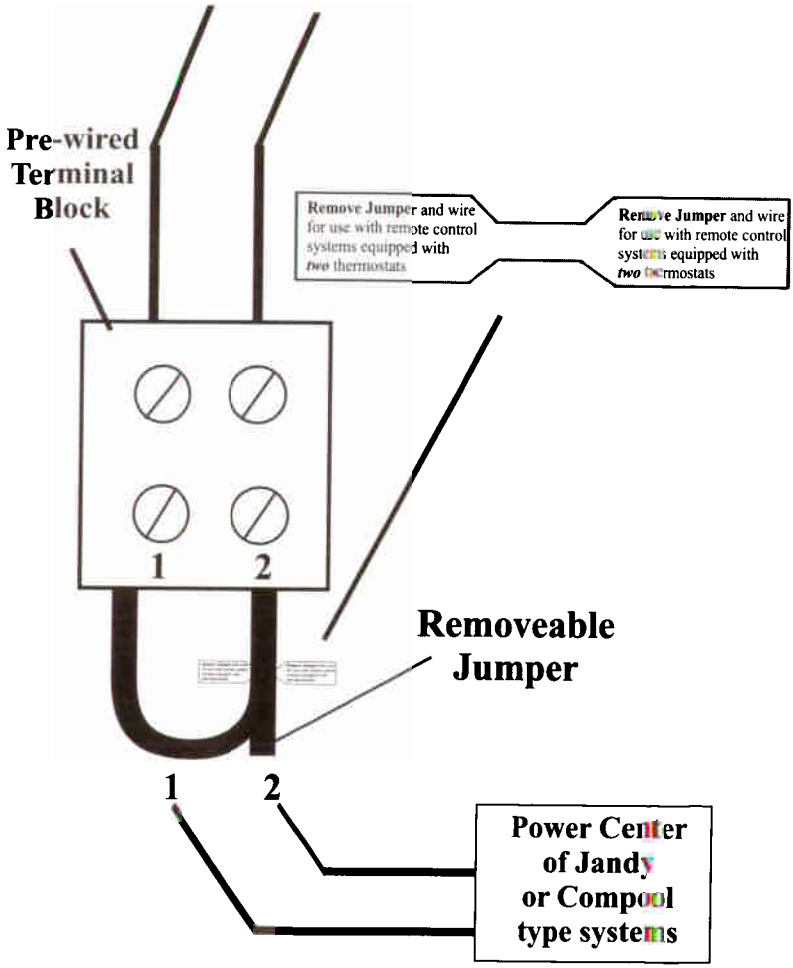


When finished there will be (2) wires in #3 and no wires in #4 on the terminal block.

For all NON-DIGITAL units used with Remote Control Systems equipped with Thermostats such as Jandy, Aqua Link and Compool

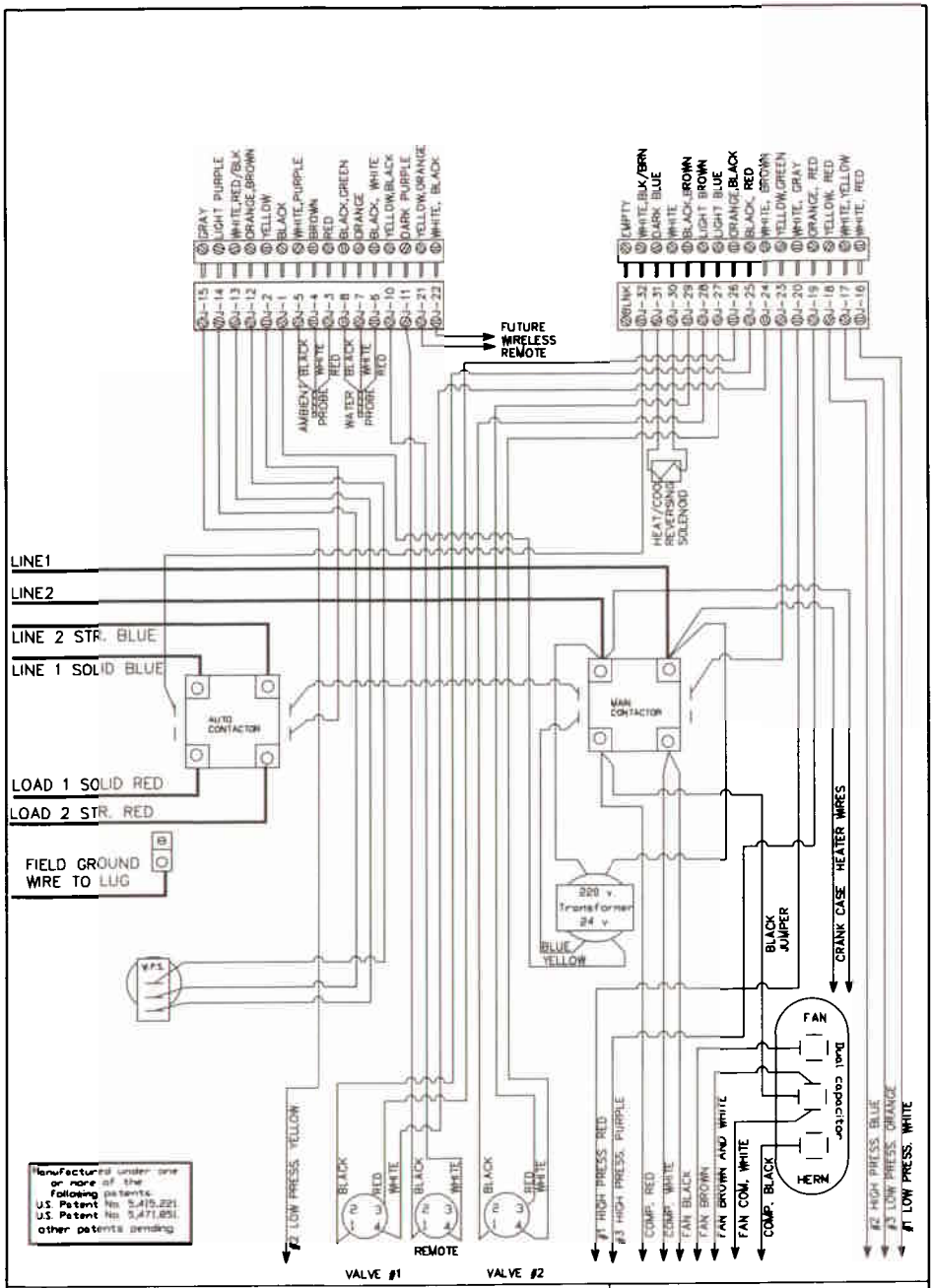
All non-digital units are equipped with a pre-wired terminal block for convenient hook-up to any Remote Control System equipped with 2 thermostats. (see simple instructions and illustration below)

Note: Terminal Block is located behind the Light panel



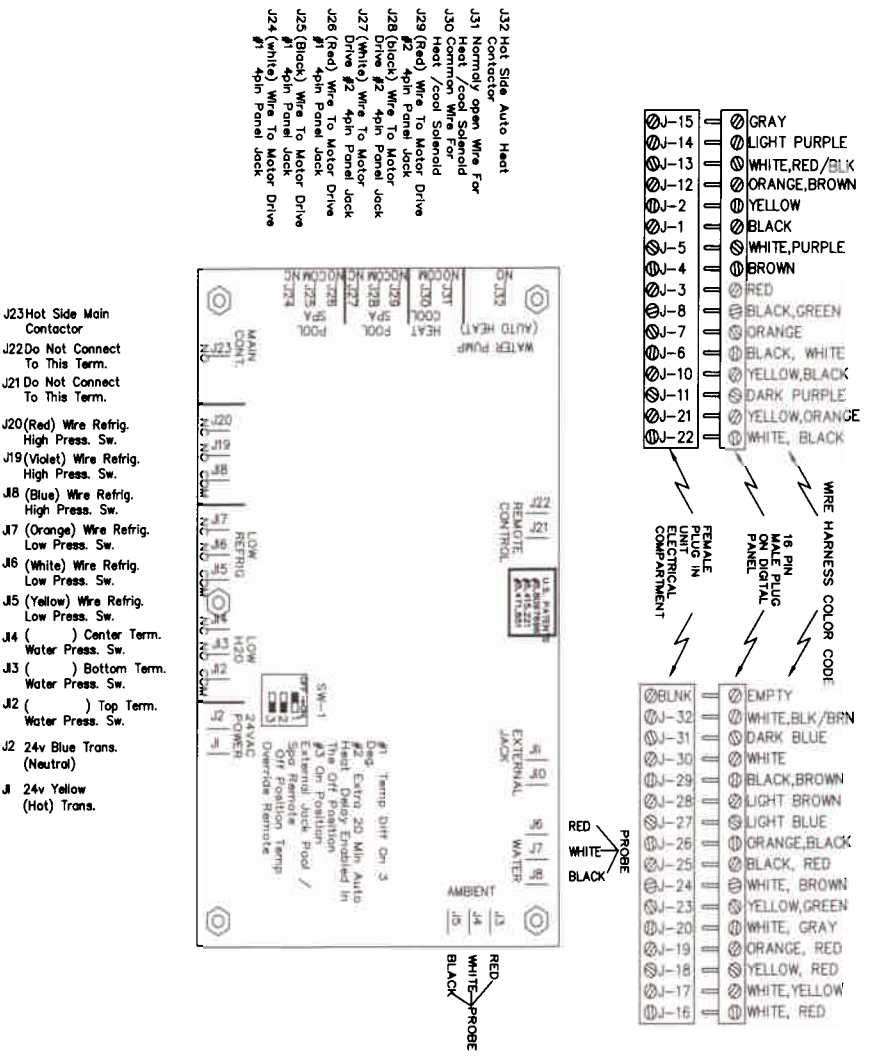
The Low Voltage wires from the Remote Control (high & common) now hook to the Terminal Block.

Turn heat pump thermostat to maximum setting to activate remote control.



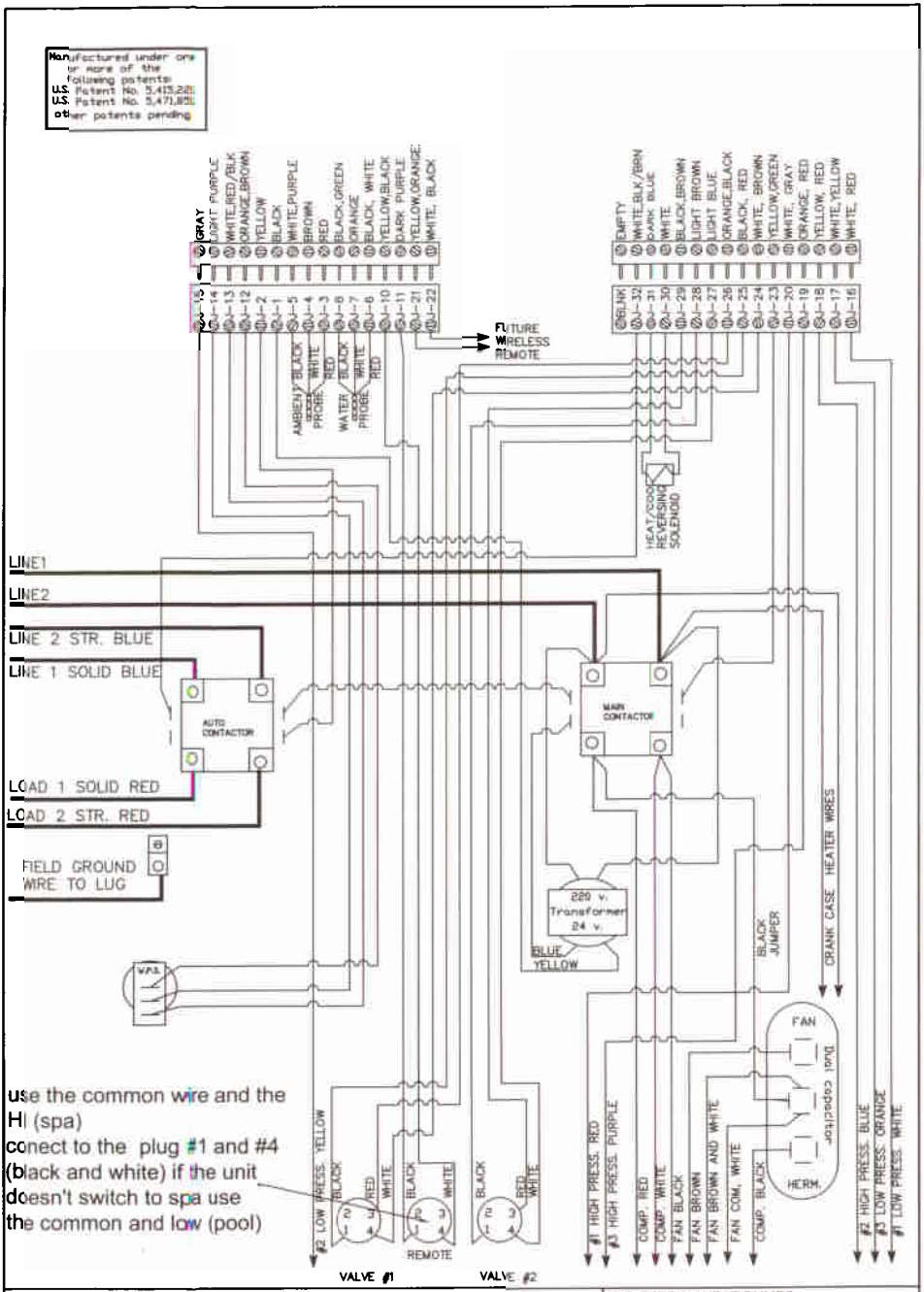
AIR ENERGY
STANDARD WIRING DIA. FOR DIGITAL PANEL

DWG. M. F. TUCCIARONE
DATE 07/04/99
REV. DATE / /



Air Energy Heat Pumps Inc.
Digital panel

AIR ENERGY HEAT PUMPS INC.
DWG. BY M. F. TUCCIARONE
DATE 1 / 28 / 99
REV. 5 07/05/99



AIR ENERGY Digital Units
wiring dia. for switching devices that use heater thermostats

AIR ENERGY HEAT PUMPS
DWG. M. F. TUCCIARONE
DATE 01-09-2002