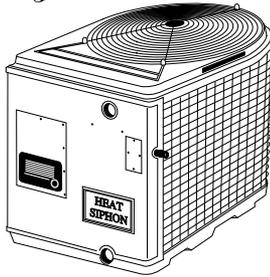


HEAT SIPHON®

Swimming Pool Heat Pumps

Made in Latrobe
Since 1983



Pennsylvania
U.S.A.

"WE PERFORM TO KEEP YOU WARM!!"

Owner's Manual

Digital Player Addendum

For Heat Siphon® Swimming Pool Heat Pumps

Heating Only Models:

Z250HP, Z375HP, Z575HP & Z700HP
Z250HP50, Z375HP50, Z575HP50
Z250HP3, Z375HP3, Z575HP3 & Z700HP3
Z250HPX, Z375HPX, Z575HPX & Z700HPX

Cooling Only Models:

Z575CP, Z575CP50, Z575CP3, Z575CP4, Z575CPX

Heat/Cool Reversing Models:

Z575HC, Z575HC50, Z575HC3, Z575HC4, Z575HCX

(See inside cover for Voltage codes)

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Heat Siphon Model

VOLTAGE CODES:

220Volt - 1 Phase - 60 Hz ONLY - All Models ENDING IN “HP” or “HC” or “CP”

220Volt - 1 Phase - 50 Hz ONLY - All Models ENDING IN “HP50” or “HC50” or “CP50”

220Volt - 3 Phase - 50/60 Hz - All Models ENDING IN “HP3” or “HC3” or “CP3”

380/460 Volt - 3 Phase - 50/60 Hz - All Models ENDING IN “HP” or “HC” or “CP”

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READING the PLAYER DISPLAY

The Display is a 7 segment 4 digit LED which is easy to see in daylight as well as at night. However, this does limit the words that can be displayed.

Only capital letters “O, A, E L, C, S, F and U” and small letters “b, d, o, l, i” are easy to represent & clearly understood.



We also chose to use a representation of the letters small “t, v, i and o” to broaden the number of words the Player can display but they are not as easily recognizable.

Here are the more confusing ones:

Heat

Set

Cool

Volt

On In

Soft (software version)

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The Player Display Info

Normally the Player continuously displays three bits of information - the MODE , the water temperature and the set point. For example, if your pool is 78°F and you have set the pool temperature to 88°F and you are in POOL mode, then following message is displayed:

Screen Message	Duration
POOL	(2 second)
78F	(2 second)
HEAT	(1 second)
SET.....	(1 second)
88F	(2 second)

If errors occur or event timers are active they take precedent. All common Error codes are listed on the decal along with their meaning.

One of the timers that you will see is the Off timer. This is a 240 second (4 minute) countdown that will occur anytime the Heat Siphon turns off either in the background or shown directly on the display. This is a safety feature that allows the internal pressures to equalize before restarting. You will see it as, OFF, 239, 238, 237, 236, OFF, 234, 233 etc.

Another timer you will see is the FLO timer. This is a 15 second timer that begins when the water pump turns on. This is to give the water pump time to push all the bubbles through the system and achieve good water flow before the Heat Siphon turns on. You will see it as, FLO, 14, 13, 12, 11, FLO, 9, 8, 7, 6 etc. Modes: (POOL, SPA, AUTO PIC, OFF)

LED STATUS Lights

The Player has 4 LED lights located just above the top of the 4 digit display window which are labeled from left to right :

BLUE LED - Wireless PumpJump™ flutters blue when a wireless accessory is attached and communicating to a PassPort OR is solid ON when timeclock over-ride is activated using a hardwired T type or S-Type POD (Pool Operating Device)

RED LED - Service blinks when an error is detected and service call is required or an error /warning requiring user intervention has been detected

GREEN LED - Signifies the Player is in POOL MODE or in AUTO-PIC Mode with POOL Selected and is heating your water to the POOL set point

YELLOW LED - signifies the Player is in SPA MODE or in AUTO-PIC Mode with SPA Selected and is heating your water to the SPA set point

The GREEN (pool) and YELLOW (spa) LED's also signifies what "state" the Player is in based on what they are doing:

LED ON SOLID that means the pool or spa is at temperature and READY to use.

LED is blinking slowly (1 second on/off) indicates that the Player is heating your pool or spa but has not yet reached temperature.

LED is flashing rapidly () indicates the Player is waiting to change state such as when a countdown timer is active but your Heat Siphon has not yet turned on.

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Changing Pool Temperature

Press the UP or DOWN arrow key at any time and you will instantly see the current water temperature set point displayed and it will begin blinking. Any additional key presses while it is blinking (within 3 seconds) will raise (up arrow key) or lower (down arrow key) the set point.

Simply change the set point by pressing the keys until the temperature you want is displayed

No key press for three seconds will store the displayed temperature as the new set point with a confirming “BEEP” If you made no changes then there will be no “BEEP” and after three seconds the display will continue to scroll through its normal messages

Changing Units (°F / °C)

Press and hold BOTH keys at the same time for THREE SECONDS you will hear a rapid beep-beep-beep etc.

Continue pressing until the right most digit displays “F” or “C” then IMMEDIATELY RELEASE BOTH KEYS and press up or down to change units. No key press for three seconds will change to the displayed units, “F” or “C” and the Player will BEEP confirming that it has accepted your change.

Player Operating Modes

The Player has FIVE MODES: POOL, SPA, AUTO-PIC, EC and OFF. Pool and Spa modes automatically heat and/or cool (with reversing or cooling only models) a Pool or Spa to a set temperature and will turn on only when water flow is available and turn off when the desired water temperature is reached.

No matter what MODE your Player is in, it will not allow your Heat Siphon to run if there are any safety switches tripped or errors. That means there must also be water flow and air above 45°F to 50°F.

Switching between any mode is normally not necessary or recommended unless you have a pool/spa combo and are using manual 3 way valves to switch from pool to spa or spill over mode.

Pool and Spa Mode

POOL and SPA modes are basically identical except that each has a separate temperature range and set point. Either mode will heat to the desired set point then shut off your Heat Siphon. Switching between them does not erase the other mode's set point.

The water temperature set point range for each mode are as follows:

POOL can be set from 50°F(10°C) to 98°F(36°C)

SPA can be set from 50°F(10°C) to 104°F(40°C)

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In POOL mode uses the green LED light to indicate what and the use of the word POOL in the water temperature display, ex. POOL 78F. HEAT SET 80F

Similarly, you can tell you are in Spa mode by the yellow LED light and the use of the word SPA in the water temperature display, ex. SPA 100F. HEAT SET 102F

AUTO-PIC Mode

AUTO or AUTO-PIC Mode is a way for the Heat Siphon to decide, on its own, what body of water you are heating (pool or spa) and then heat that body of water to the correct set point (pool set point or spa set point). This is a convenience feature and the goal is to allow you to simply turn your pump off, switch your valves to pool or spa, and turn your pump back on. The Heat Siphon will do the rest.

AUTO-PIC works the same as pool or spa modes except it also will automatically pick the pool or spa set point based on a learning algorithm.

AUTO-PIC Mode uses a learning algorithm to determine whether it is heating a POOL or a SPA and then automatically picks the POOL or SPA set point. The POOL and SPA set points are both displayed in the normal sequence and then the water temperature is displayed preceded by "Auto Pool", "Auto Spa" or just "AUTO-PIC" if neither set point has been chosen.

In AUTO-PIC mode every time the water pump turn on, the Heat Siphon begins the algorithm to decide what body of water it is heating. This usually takes approximately 5 minutes.

AUTO PIC LED lights and display

When the Player is in AUTO-PIC, or waiting to go into AUTO-PIC, both the green (pool) and yellow (spa) LED lights flash at the same time:

1 second on/off - if it is waiting for a timer to expire

0.5 sec on/off - once it turns on and starts AUTO-PIC

The message display loop will be as follows:

Mode not chosen.....	Duration
AUTO	(1 second)
HEAT	(1 second)
78F	(2 second)
POOL	(1 second)
SET.....	(1 second)
88F	(2 second)
SPA	(1 second)
SET.....	(1 second)
102F	(2 second)

Once POOL or SPA mode is chosen by the Player, it will stop flashing both lights and the message display loop will be as follows:

POOL chosen.....	Duration
AUTO	(1 second)
POOL	(1 second)
78F	(2 second)
POOL	(1 second)
SET.....	(1 second)

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88F	(2 second)
SPA	(1 second)
SET.....	(1 second)
102F	(2 second)
SPA chosen.....	Duration
AUTO	(1 second)
SPA	(1 second)
78F	(2 second)
POOL	(1 second)
SET.....	(1 second)
88F	(2 second)
SPA	(1 second)
SET.....	(1 second)
102F	(2 second)

In AUTO-PIC mode, you can change the set points for either POOL or SPA at any time, by pressing the up OR down arrow WHEN THE POOL or SPA SET POINT you wish to change is displayed.

Just like in Pool or Spa mode, three seconds after your last keypress your new set point will be accepted with an audible beep. OFF mode:

OFF Mode

The OFF mode is just that - your Heat Siphon will remain OFF no matter what the water temperature or set point and will not display anything other than “OFF” . Once any key is pressed, the Player will restart into the last known mode before OFF was chosen. And the 240 second Off timer will begin.

EC (External Control) Mode

If you elect NOT to use Heat Siphon Brand Digital / Wireless Pool/Spa Controller Accessories, using the EC mode, you can still interface your Heat Siphon’s Player Control Board with any other 3rd party pool/spa control systems.

For more information on how to install and wire 3rd party controller interfaces into the Player, see the EC MODE Instruction Sheet

EC mode which stands for EXTERNAL CONTROL will ONLY TURN ON your Heat Siphon IF there is water flow AND your 3rd party controller’s dry contacts are closed AND the MAX set point of the Player has not been exceeded.

It will stay on until either the MAXIMUM EC set-point is reached or your controller shuts it off.

ALL ERROR MESSAGES WILL STILL BE DISPLAYED. You set the MAX EC set-point on your Player with up/down keys.

Once you place the Player in EC mode it will continuously display “EC” and the water temperature or “OFF” if your Heat Siphon is not running.

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TEST Mode

WARNING

TEST mode is for factory authorized service personnel use only.
DO NOT ENTER TEST MODE. If the word test is displayed simply wait 3 seconds, it should auto-exit

If you accidentally enter test mode you should exit immediately by repeatedly pressing and releasing EITHER the up or down arrow key until the word TEST (tEst) reappears in the display. Then press and release both keys at the same time.

This will result in the Player rebooting to normal operation using the last selected MODE.

Switching Modes

Pool/Spa/Auto/Off

Press both keys when the MODE is displayed (POOL/SPA/AUTO) which will cause the current mode to blink for 3 seconds. Press and release EITHER up or down key while blinking to cycle to the next mode including OFF.

NOTE: EC Mode is not displayed in the normal MODE scrolling list. Entering EC mode requires additional steps - see next below for details.

At any time and from any mode, press BOTH arrow keys at the same time and the display will begin blinking showing the current mode. You now have 3 seconds to press the up (or down) arrow. Press and release the up (or down) arrow to scroll through the four different modes.

The modes are: POOL, SPA, AUTO PIC, and OFF.

Three seconds after your last keypress, the displayed mode will be accepted with an audible beep. Notice that the lights will change to match the mode.

Entering EC Mode

First, you must put your Player in the OFF mode using the "Switching Modes" instructions above.

From the OFF mode, press and release BOTH keys, which will cause "OFF" to blink for 3 seconds.

WHILE "OFF" IS BLINKING, press any key to display "On" then press BOTH keys to get "EC" to display. Done.

You should then see "EC" followed by the current water temperature constantly repeated.

Changing MAX EC set point

In EC Mode, if the water temperature reaches the MAX EC set point it will shut off your

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Heat Siphon and ignore the 3rd party controller until the water temperature goes back down below the MAX EC set point.

To display/change the MAX EC set point, press any key while in EC mode, which will cause the MAX EC set point to blink for 3 seconds. Any additional key presses while it is blinking will change the MAX EC set point the same as changing all other set points..

After any key has been pressed in EC mode, the MAX EC set point will be added to the display message using the words "HEAT" "SET" and the MAX EC set temperature.

This will continue for message three cycles, after which it will revert back to simply displaying "EC" and the current water temperature.

This will continue for message three cycles, after which it will revert back to simply displaying "EC" and the current water temperature.

Manual OFF in EC Mode

You can turn your Heat Siphon "OFF" manually while it is in EC mode so it will remain off and ignore any 3rd party controller by using the "Switching Modes" instructions above:

While in EC Mode - Press and release BOTH keys causing "EC" to display & blink, then press either key to display "OFF". When Blinking stops it is in EC Manual-OFF.

To turn EC mode back on from this "manual off" EC state, simply repeat the process - Press and release BOTH keys causing "OFF" to start blinking, then press either key to display "EC".

Exiting EC Mode

If you have either accidentally entered EC Mode or wish to return to your regular Heat Siphon Player Controller mode, you must EXIT EC Mode by performing the same sequence of key presses as used to enter EC mode:

First, you must put your Player in the OFF mode by Pressing & releasing BOTH keys to make "EC" blink then press either key to display "OFF" - wait until it stops blinking before proceeding.

From the OFF mode, press and release BOTH keys, which will cause "OFF" to blink for 3 seconds.

WHILE "OFF" IS BLINKING, press any key to display "EC" then press BOTH keys to get "On" to display. Done.

You should then see the PLAYER REBOOT and go through a normal startup sequence.

Locking the Player

To lock the Player, press and hold both arrow keys until you see LOC on the display (six seconds), then release both keys. Three seconds after you release, LOC will be accepted with an audible beep. Your keys are now locked. The display will continue to show the current Temperature/set point loop and continue to heat your pool or spa as needed, however any keypress will show LOC on the display.

To unlock the Player, simply press and hold both arrow keys for six seconds until you hear a beep, then release both buttons and the Player is now unlocked

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For Heat/Cool Units Only -

Switching Modes HEATING/COOLING/AUTO

Press the UP or DOWN ARROW KEY to make the temperature set-point blink.

WHILE the TEMPERATURE is BLINKING, press and release BOTH keys at the same time . The display will be blinking either HEAT or COOL or AUTO.

Press and release EITHER up or down key while blinking until the desired mode is displayed.

If you are in COOL mode the lower right-hand corner of the display will have a red dot on all the time to show that you are in COOL mode.

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Player Software Revisions

<i>Version</i>	<i>Date Issued</i>	<i>Description of Revision</i>
1.226	09-11-06	<i>Fixed Easy Pic board holding memory issue</i>
1.225	08-25-06	<i>Finished off Easy Pic board</i>
1.224	08-15-06	<i>Software for use with new Easy Clock board</i>
1.223	07-11-06	<i>Update waveform determination to fix 50 Hz issue</i>
1.222	06-26-06	<i>Added set point for EC mode</i>
1.221	06-19-06	<i>24 volt AC or dry contacts for EC</i>
1.220	06-13-06	<i>Add remote mode, new flow circuit, low voltage delay if you turn output on</i>
1.213	03-17-06	<i>Fixed water temperature instability</i>
1.212	03-07-06	<i>Change to "tPod"</i>
1.211	10-13-05	<i>Non-exclusive pump jump and ext. switch</i>
1.210	10-13-05	<i>Add clock board functionality</i>
1.202	07-22-05	<i>Fix Lockout disable</i>
1.201	07-06-05	<i>Easy Pic mode</i>
1.200	05-23-05	<i>Old/new boards</i>
1.100	05-23-05	<i>Auto Pic blue LED correction</i>
1.090	05-12-05	<i>Auto Pic (timer added, pump jump removed)</i>
1.080	05-09-05	<i>Auto Pic configuration changes changed hi volt limit from 20% to 30%</i>
1.070	02-16-05	<i>Pump jump not toggled if pool/spa/auto changed</i>
1.060	02-15-05	<i>Pump jump toggled on double key press</i>
1.050	02-15-05	<i>Fixed flow sensor error</i>
1.040	02-14-05	<i>Run to 0.4F past and then 1.5F hyst. Key press trumps hyst.</i>
1.030	02-02-05	<i>Change HS to OFF, add 5 min delay at beginning</i>
1.020	01-06-05	<i>Continue to blink red light if PJ flow is not the only error</i>
1.010	01-05-05	<i>Low flow alert, voltage cycling, remove PJ count, hiccup delay</i>
1.000	12-16-04	<i>Released for USTA review</i>
0.018	12-15-04	<i>Multiple errors and test routine</i>
0.017	12-14-04	<i>Added scroll screens, countdowns, auto pick chill</i>
0.016	11-22-04	<i>Released for heat/cool Portugal unit</i>

Notice: For more information visit the Heat Siphon Website: www.HEATSIPHON.com