



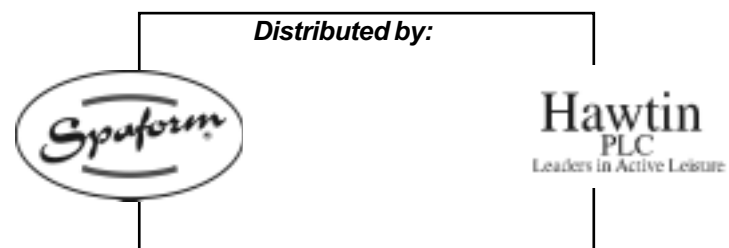
**PORTABLE HOT TUB  
OPERATION MANUAL**

**IMPORTANT  
READ THIS  
IMMEDIATELY**

**UK Sales Office**

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**STOP - BEFORE DOING ANYTHING !!  
YOUR SPA MUST BE TREATED WITH CHEMICALS  
IMMEDIATELY AS IT IS FILLING WITH WATER.**

**SAFETY**

Ensure that the installation has been carried out by a competent person and that any electrical works have been carried out by a qualified electrician to the current IEE regulations. The electrical isolator / connection must be 2 metres or more from the spa.

- The Hot Tub / Spa **must** be protected by a residual current device (RCD) with a 30mA trip and rated to handle the total current requirement of the Hot Tub / Spa.
- The Hot Tub / Spa must be maintained in accordance with the manufacturer's recommendations as set out in this manual.
- The Spa Care Manual must be read and the requirements followed exactly as set out - The Hot Tub/ spa cannot be used without referring to the Spa care manual.
- Failure to comply with these recommendations may void your Spaform Warranty.

**IMPORTANT:**

*To ensure maximum bather safety all spaform Hot Tub / Spas have pumps which are designed to draw the spa water from 2 linked anti vortex safety suction points. These are situated around the footwell of the Hot Tub / Spa and care should be taken to ensure loose clothing or hair are not allowed to be drawn into them. NEVER allow the Hot Tub / Spa to be used if the suction covers are removed or damaged.*

- People with high blood pressure, heart disease, expectant mothers or bathers receiving medication should take advice from their doctor before using the Hot Tub / Spa.
- Young children **must** be supervised at all times by a competent adult.
- **DO NOT** allow pets into the Hot Tub / Spa.

**CAUTION:**

*DO NOT use abrasive cleaner or wipe the Hot Tub / Spa with a dirty cloth, as these may scratch the Hot Tub / Spa surface. Avoid wearing any metal objects, i.e. belts with metal buckles in the Hot Tub / Spa. DO NOT allow anyone to play with metal or other sharp objects in the Hot Tub / Spa, as these may chip or scratch the surface which may be unrepairable. The shell surface may be damaged by elevated water temperatures, exceeding 45°C, the thermostats will only allow water temperatures up to 40°C to be set, any damage through excessive water temperatures will not be covered under warranty. The control will not allow the heater to elevate the water temp above 45°C however poor ventilation around the cabinet or installation into a very warm environment may cause the water temp to rise unpredictably. If the water temperature is rising above 40°C and the heating Icon is not displayed on the control panel take action to reduce the water temperature immediately. Reduce the ambient air temperature or increase the ventilation around the unit prior to restoring the spa activity.*



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## WARRANTY

On receiving your Hot Tub / Spa, check it over thoroughly to ensure that it is in accordance with your order and that it is in perfect condition. If there is anything missing or any damage has been sustained, note this on the delivery note or inform your dealer in writing within three days of delivery (see terms and conditions). All periods stated are from the date of original purchase.

*Full details of your Spaform warranty can be found in our Terms and Conditions of Trading. However, extracts from the warranty are as follows:*

- The integrity of the spa shell is guaranteed for 7 Years
- The shell surface is warranted that it will not crack, blister, shrink, delaminate or discolour for 1 year. Care and precautions for the shell protection as set out in these instructions must be followed. Failure to do so will invalidate the warranty.
- The Equipment: (Pumps - 3 years; Air Blowers - 2 years: Heaters, Control panels, Touch pads and ozone generators (excluding lamps) - one year.
- Plumbing - 1 year.
- The Wood cabinet and Gazebos - 1 year.
- Rigid Cover - 1 year (Conditional - see page 5).
- The Hot Tub / Spa must be maintained precisely in accordance with this manual.



**INTRODUCTION**

Congratulations on selecting a **Spaform** Hot Tub / Spa, you will obtain years of leisure and pleasure from its use which will be greatly enhanced by reading this manual carefully.

Your **Spaform** Hot Tub / Spa contains technically advanced equipment, which we have carefully selected to provide a unit which is as maintenance free as possible. However all mechanical equipment must be maintained to some degree and your new Hot Tub / Spa is no exception. **Spaform** has a policy of striving to produce the highest quality products delivered to the customer on time and to the specification requested. We pride ourselves on being able to produce a wide range of products as well as having the ability to manufacture to customers' special requirements. We welcome your comments on the service we give and ask you to send any direct to the Managing Director at the company's operational headquarters.

Your Spaform Hot Tub / Spa has been designed and manufactured to operate in a wide variety of locations, indoors and out. The cabinet is made of red wood which has been preserved and stained to enhance its looks and durability.

Please read the Spa Care Manual and this Manual fully prior to using the Hot Tub / Spa. They will help you to manage the day to day running of the Hot Tub / Spa, as well as giving advice on routine maintenance. If you have any queries on its operation, or you are experiencing any problems, please contact your local dealer or the Spaform Customer Services department.

If you would like to receive further information on any of our products, please either telephone us on (+44) 2392 313131 or write to us and we will be pleased to send you the information requested together with a list of our recommended dealers and stockists.

**SYSTEM DESCRIPTION**

Your **Spaform** Portable Hot Tub / Spa comprises the following:-

**Shell**

The main body of the Hot Tub / Spa is the shell which is vacuum formed from a single sheet of industry standard sanitary grade acrylic. This shell is specially reinforced and insulated.

**Cabinet**

The Hot Tub / Spa shell is fitted into a craftsman built Red wood cabinet which provides support for the shell and storage for the Hot Tub / Spas equipment, whilst providing a very attractive piece of furniture.

**Filtration Circuit**

To provide a safe and sanitary bathing environment the Hot Tub / Spa water must be sanitised and filtered. The range of Spaform Hot Tub / Spas are fitted with at least one twin speed pump which on low speed is used for the filtration requirements. The pump draws water from a surface skimmer, with combined cartridge filter, and low level suction fittings which are linked together for safety. The water is drawn through the filter, passed through the heater and returned to the Hydrotherapy jet circuit(s). A portion of the water flow is bled off to provide for the Ozone injection system. The continuous flow of water also provides the mixing action for the chemicals which are required to treat the Hot Tub / Spa.

**Ozone Generator.**

All Spaform Portable spas are fitted as standard with an Ozone generator. These units are a recent innovation and have been designed and fitted specifically to assist the chemical treatment of the spa. The Ozone unit assists the chemicals within the spa water. Should your ozone unit stop working the spa will still be perfectly safe to use as long as the chemical levels are maintained correctly

**Jet Ring**

At least one of the hydrotherapy jet circuits will be powered by the twin speed pump, which will perform as a booster pump on high speed only. The booster circuit(s) use linked low level suction fittings for safety. The boosted water is fed directly from the pump to the Hydrotherapy jets fitted into the the Hot Tub / Spa. The jets are of a special design having water and air ports. When water is pumped through the jet a vacuum is created within the jet body. The jet has a seperate air circuit connecting the vacuum chamber to a control valve. Operation of this valve allows air to be drawn into the vacuum chamber and entrained into the water jet which increases the jet pressure considerably.



**CAUTION**

Please ensure that the fault finder is followed fully prior to requesting a service call. If a service call is initiated and one of the listed faults is found to be the cause then a charge will be made to cover all the expended costs for the visit.

Please refer to the foregoing instructions and have the details of the current panel readings to hand and be near the spa in order to perform routine checks essential for accurate diagnosis of the current status of your spa.

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FAULT FINDER

FAULT	POSSIBLE CAUSE	REMEDY
Nothing is working	No Mains Supply	Check the mains electric Check MCB, RCD and or Fuse. Reset or replace as necessary. If the item trips or fails again contact the dealer
Pump is running no water flow	Airlock or valve closed	TURN PUMP OFF IMMEDIATELY - permanent damage can result. Check gate valves are open, unscrew bleed valves and ensure there is water flow. Leave the valve open until water flows. Turn on the pump. If water still does not flow contact your dealer
Filter Pump not running	Incorrect Mode setting	Refer to touch pad display and check that spa is not in Econ or Slp Mode. If in standard mode check that temperature is not at SET POINT. Check filter times, these must be a minimum 1 hour but long enough to attain water temp setting. If none of the above contact your dealer.
Heater not Working	Thermostat set too low No water flow  Hi Limit OH displayed	Adjust Temperature setting. Ensure gate valves are open Ensure filters are not blocked or dirty. Ensure water level in spa is at correct level Water temperature is at or above 45°C. Remove the cover and allow water to cool. At 43°C the spa should reset, if it does not turn off and contact your dealer.
Water Loss	Natural evaporation  Water drag out Leaks	The spa will lose water due to natural evaporation, the higher the ambient air temp the lower the evaporation. Bathers will take water out as they exit the spa. Check all unions, these can work loose due to vibration.
Spa shut down	FLo	Water level low, Filters dirty. Neither of these contact your dealer.
Control Pad not responding Temperature adjustment cannot be made	LOC  LOC	Check that panel has not been locked, unlock and try again.  Check that panel has not been locked, unlock and try again.
No Ozone	Pump not running  Ozone Jet Blocked	Ozone will only be produced when the system is in a filter cycle. Ensure that nothing is blocking the ozone jet. Bathers can block this jet with a toe, only deliberate action to block the jet will result in damage to the ozone unit. Replacement units will be charged for.



**Air Ring** (where fitted)

A heated Air Blower directs air into the air channel in the seating, and on some models the footwell areas. On some models a VARIBOOST system is installed which consists of a valve allowing boosted air from the blower to be directed to the hydrotherapy jets or the air channel or a mixture of both. On non VARIBOOST systems air controller(s) are fitted, which control the air drawn into the jets via the venturi action.



**Heaven Scent -Essence Injector**

An innovative essence injection system is fitted to certain models within the Spaform Portable range. The range of essences are microengineered and encapsulated into plastic beads supplied in convenient disposable bags. They are manufactured specifically for Spa use simply place the bag into the air blower circuit via the dedicated essencer fitting. Warm air fed from the blower releases the discreet essence which infuses through the spa water before emerging as a gentle aroma at and above the water level.

**Diverter Valve**

The range of Spaform Hot Tub / Spas are fitted with a variety of hydrotherapy jet features within. Diverter valve/s are installed on some models which allows the selection of combinations of these jet features to be active whilst other jet features are inactive. It is a specific feature of these valves that a small portion of the water is allowed to flow in the de-selected circuits.



**Pillows**

The pillows/head rests fitted to your spa are manufactured from a synthetic foam which can be degraded by high levels of Chlorine/Bromine, and or low pH levels. Please ensure that when shock dosing or adding Chlorine or Bromine to the water that the pillows are not resting below or partly below the water level, if necessary remove the pillows until the Chlorine/ Bromine levels reduce. Pillows are not covered under the Spaform warranty.

**Rigid Covers**

The rigid cover fitted to your Spaform spa is designed to conserve as much heat as possible in the spa water. It is NOT a safety cover or a debris / snow cover. The cover will require additional means of support for occurrences of heavy rain / snow. DO NOT allow children or pets to sit or stand on the cover - it will NOT support their weight. Again poor water chemistry can degrade the rigid cover which will not be covered under the Spaform warranty.

**Important**

It is important for thorough sanitation of the spa that the DIVERTER and VARIBOOST valves (where fitted) are placed in the mid position when the spa is not in use. The control fitted to the Spaform range of Hot Tub / Spas will automatically run all pumps at the start of each filter cycle. The blower (if fitted) is also designed to run at the start of each filter cycle. This feature ensures total system water is mixed thoroughly together ensuring that Chlorine or Bromine residual reaches all areas of the spa.

**Siting the Hot Tub / Spa**

Careful consideration should be given to the eventual location of the Hot Tub / Spa. It should be sited preferably away from trees where falling leaves can quickly block the skimmer and filter. Where this is not possible make allowances and check the skimmer / filter more frequently. Site the spa if possible in an area which is naturally sheltered. Where shelter is not available consider using a Spaform Gazebo which will provide year round protection from the elements. Ensure that there are no overhead obstructions immediately above the spa, remember when using the steps that you may be as much as 1 metre higher than on the ground. DO NOT place the spa in close proximity to a boiler flue outlet.

The Spa must be located on a solid flat base capable of supporting the filled weight of the Hot Tub / Spa and any bathers who may be in the spa. A suitable electrical supply must be available and must be 2 metres or more away from the Hot Tub / Spa. The spa **MUST** be installed in accordance with the IEE regulations latest edition. A means of filling and draining the spa must also be available convenient to the



Hot Tub / Spa location. Please note that access to the control and equipment is essential for routine servicing and maintenance, this must never be obstructed by decking or other obstruction. Should the access be restricted service calls will be charged regardless of the fault reported.

**Filling the Spa**

Once the spa has been sited and connected to the electrical supply the spa may be filled with water, Chlorine or Bromine must be added as the spa is filling with water. It is absolutely essential that the Spa Care manual is read thoroughly and the requirements, especially levels of sanitiser and pH, are maintained precisely all the time the Spa is filled with water.

The Hot Tub/Spa can be filled through a garden hose, Drain or flush to waste any existing water from the hose prior to filling the spa. Fill with clean water to a level midway up the skimmer mouth. Details of the fill water quality and requirements for chemical treatment is detailed in the Spa Care manual. Follow the requirements exactly.

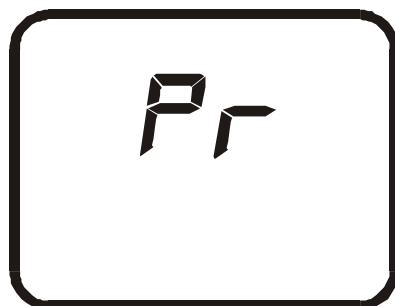
Immediately balance the Hot Tub/ Spa water as set out in the Spa Care manual. The Hot Tub/Spa must NOT be used until this has been achieved.

NOTE: to aid mixing of the chemicals use the filter pump and the blower (if fitted).

**Priming Mode (Not Applicable to Lite Leader Units)**

Once spa has been filled with water, vent air from the system by means of the bleed valves or unions.

**Check all Pump and Heater Unions are tight  
Check all Isolator valves are in the open position.**



Switch on the power to the system - The display will show **Pr** indicating the pump is in priming mode, **Set all pumps to high speed to achieve prime.** This will automatically run for 4 minutes.

**CAUTION** if the pumps have not primed, ie. water is not seen flowing from the jets, within 2 minutes turn off power at the mains and repeat priming process again by switching power back on to the system, this will initiate the priming process again.

**NOTE:** A pump must never be allowed to run without priming ie. water flowing, for more than 2 minutes.

Once the pump/s have primed turn off all pumps. Manually exit PR mode by pushing either of the temp buttons. If Pr mode is not exited manually it will terminate automatically after 4 minutes. Ensure all pumps have primed before proceeding to the next function. When PR mode has terminated whether manually or automatically, the display will briefly show the set temperature, then the system will display **--**. The system will not display the water temperature at this point, **this is not a fault**, The system will monitor the water flow and temperature for 2 minutes prior to displaying the water temperature. The filter pump shuts down for a further 4 minutes after which the blower will start. This priming cycle will occur each time the supply is disconnected from the spa.

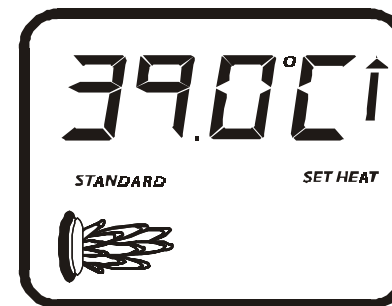
For details of setting the temperature, filter times and duration etc. please refer to the individual instructions under each control derivative.

**CONTROL SYSTEM**

There are 3 versions of the Spaform Portable Hot Tub / Spa, the 2000 Series, 3000 series and the top of the range 4000 Series. The control system fitted will depend on the model version, the 2000 Series is fitted with a Lite Leader control, the 3000 series has a Digital Duplex control and the 4000 series is equipped with the Deluxe Digital system.

The control system consists of 3 components, the control panel, the control touch pad and the power equipment.

The control panel and the power equipment are located under the Hot Tub / Spa behind the wooden



**SETTING HEATING**

Pressing the or for a second time will cause the heating bar icon to display with an arrow showing either above or below the bar to indicate whether the temperature is being raised or lowered. NOTE: If the temperature is set lower than the current water temperature the heater will turn Off, the filter pump will also stop if the system is not in a filter cycle.



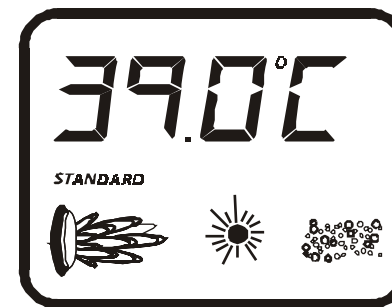
**NORMAL DISPLAY - NON FILTER CYCLE**

The JET symbol will show solid when the jets button is pressed to show the booster pump1 is running. If the second or 3rd pump button is pressed then further jet symbols will be displayed to indicate the booster pumps are running. Pressing the JETS button a second time will turn off the booster pumps.



**NORMAL DISPLAY - NON FILTER CYCLE**

The BLOWER symbol will show when the Blower button is pressed to show the blower is running. Pressing the blower button a second time will turn the blower off.

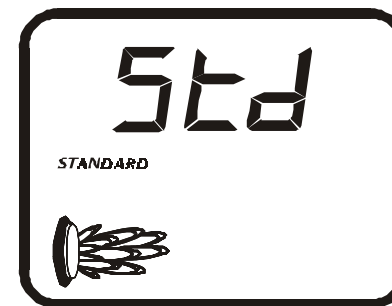


**NORMAL DISPLAY - NON FILTER CYCLE**

The LIGHT symbol will show when the LIGHT button is pressed to show the Underwater Light is ON. Pressing the Light button a second and third time will cause the light to dim to two further levels, press a fourth time to turn the light OFF.

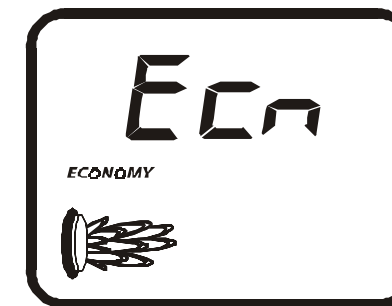
**SYSTEM MODE OPERATION**

Pressing the button will progress the mode through the following settings.



**STANDARD MODE**

The System will attempt to maintain the water temperature by turning ON the heater and running the pump even outside of a filter cycle.



**ECONOMY MODE**

Control will attempt to return the water temperature to "SET POINT" by turning ON the heater and running the pump during the filter cycle only.

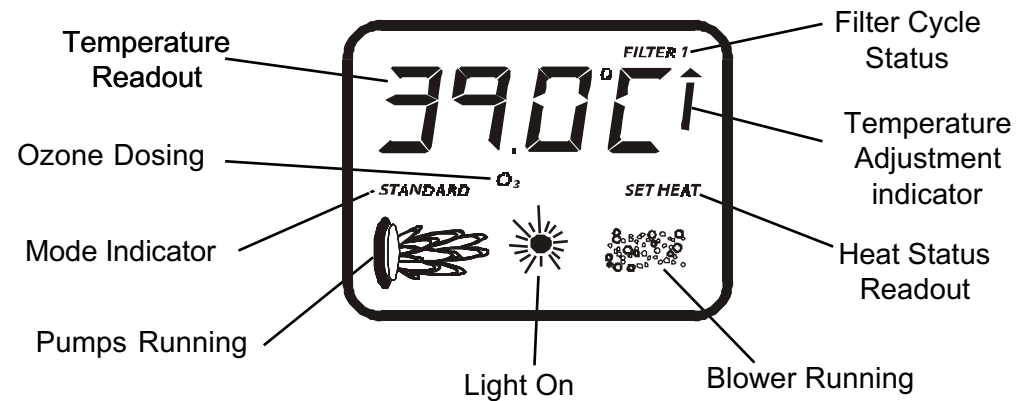


**SLEEP MODE**

Control will attempt to maintain the water temperature at 10 degrees below "SET POINT" by turning on the heater and running the pump during the filter cycle only.



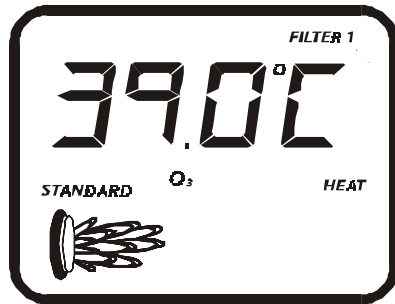
**M7 Elite DISPLAY INFORMATION**



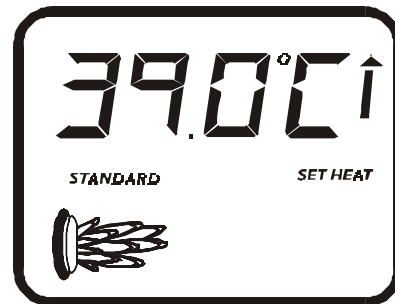
**NORMAL DISPLAY - NON FILTER CYCLE**  
This shows the Spa in Standard Mode outside a Filter Cycle.



**HEATING - NON FILTER CYCLE**  
The jet symbol will flash and the HEAT icon will be displayed to indicate the control is automatically regulating the water temperature to the SET POINT. The current water temperature will be displayed on the screen.



**HEATING - FILTER CYCLE**  
The jet symbol will flash and the HEAT icon will be displayed to indicate the control is automatically regulating the water temperature to the SET POINT. The FILTER cycle icon and the O<sub>3</sub> symbol will be displayed to indicate that OZONE is being dosed into the water.



**SETTING HEATING**  
Pressing the or will cause the SET HEAT icon to display.



panelling. Access is via a removeable panel which must not be obstructed under any circumstances. The control panel accepts the incoming electrical supply and has the switch mechanism to control the pumps, heater and blower (where fitted), by means of the rim mounted touch pad display panel.

**CONTROL TOUCH PADS**

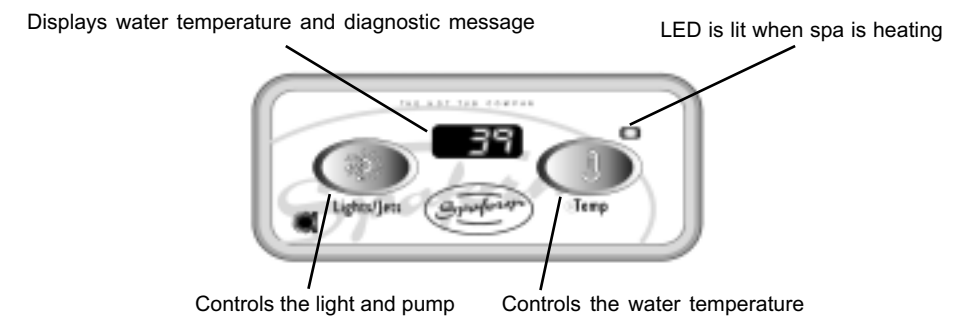
Note: All of the Spaform Portable Spas are made to the same high quality. The 2000 series is a fully featured spa but has been designed without an air channel and therefore has no air blower.

Operation of the spa is controlled by means of the rim mounted touch pad. There are distinct differences in the manner of control therefore please refer to the following for precise instructions:

**LITE LEADER - 2000 Series Spas**

**Initial Start-up**

Your Spaform Lite Leader control has been specifically designed so that by simply connecting the spa to its properly earthed supply, the control will automatically heat the water to the set temperature.



**Temperature Adjustment (26°C - 39°C)**

Temperature adjustment is controlled by pushing the set temperature pad. The display shows the actual water temperature unless the pad is pressed. When the pad is pressed, the display will show the set temperature. Pressing the pad a second time will cause the set temperature to increase or decrease depending on what direction was last chosen. Each successive press will change the set temperature in the desired direction.



**Light and Pump Control**

Press the control pad to turn on the spa light. Press the pad again and the low-speed pump and light will operate. Press the pad a third time and the high-speed pump and light will run. Press the pad again and only the high-speed pump will run.

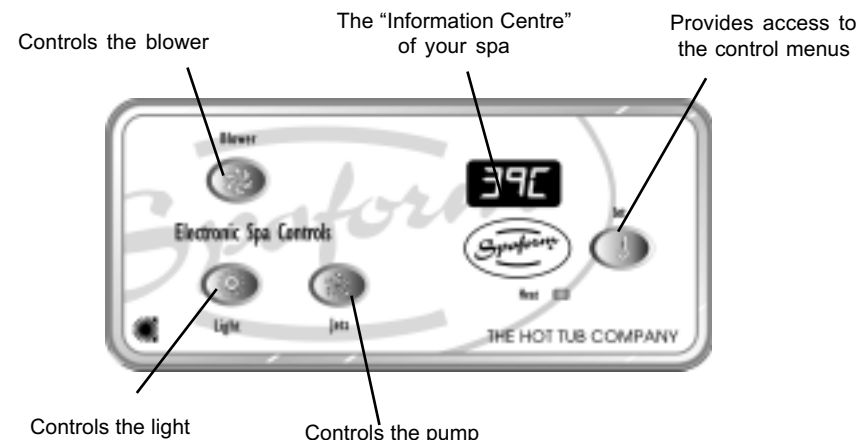
Press the pad a final time to turn off all the functions. The light will automatically turn off after 4 hours of operation. The low-speed pump turns off after 2 hours, and the high-speed pump turns off after 15 minutes of operation. The low-speed pump starts automatically when the heater is turned on. If automatically activated, the low-speed pump cannot be turned off with the function pad; however, the high speed pump may be started.

The digital display is your indicator of the status of your spa. Typical system messages are shown on the following pages.

Refer to pages 12-13 for details of fault messages



DIGITAL DUPLEX M7 CONTROL - 3000 Series Spas.



Initial Start-up

Your Spaform Digital Duplex M7 will enter Priming Mode Pr on initial startup. Follow the instructions for priming as set out on page 6.



Temperature Adjustment (26°C - 39°C)

The startup temperature is set at 37°C. The last detected temperature is displayed on the panel. Press the temp button to display the "SET POINT" temperature, the setting will flash on the display. After a few seconds the display will stop flashing and the display will show the current temperature. Pressing the temp button a second time will alter the "SET POINT" temperature either up or down depending on the direction of adjustment the last time the "SET POINT" was adjusted. If the adjustment is in the wrong direction release the button, wait until the current temperature is redisplayed and then press the button again, this time the direction will be opposite to the previous setting.



Jets 1

The operating sequence for this pump is low speed, high speed, then off. If left running, the low speed will turn off automatically after 4 hours; the high speed after 15 minutes. The low speed runs when the heater is turned on, when a filter cycle is activated, or when a freeze condition is detected. When the low speed turns on automatically, it cannot be deactivated from the panel; however, the high speed may be started.



Light

Press the pad to cycle through spa light settings from dimmest to brightest. A final press will turn the light off. The light automatically turns off after 4 hours of operation.



Blower

Press the pad to turn on the blower press again to turn the blower off. The blower will automatically deactivate after 15 minutes of operation.



Mode Selection

Mode is altered by pressing the temperature button, then pressing the light button.

**Standard Mode** is programmed to maintain the "SET POINT" temperature even outside a filter cycle.

**Economy Mode** is programmed to heat the water only during a filter cycle.

**Sleep Mode** is programmed to heat the water to within 11°C of the "SET POINT" only during a filter cycle. **NOTE:** in Economy and Sleep Modes the water will only attain the required temperatures if



WATER TREATMENT

The principle of water treatment for a Spa is the same as for a swimming pool, that is, in its simplest terms, an acceptable level of pH & sanitiser should be present in the water at all times to ensure that the water is safe to bathe in.

The information contained here is not intended as an expert guide to water treatment, for more detailed information refer to the **SPAFORM SPA CARE MANUAL** or consult your supplier of pool and Spa chemicals for detailed advice. Alternatively our Spa care manual is published on our web site [www.spaform.co.uk](http://www.spaform.co.uk), and advice can be sought from your dealer. **DO NOT FILL** the spa until you have read the Spa Care Manual.

The water is circulated through the filtration system which is designed to take out only suspended solids and to circulate the water and chemicals. The filtration and chemical treatment are greatly assisted by reducing the entry of unnecessary debris into the water and by employing a regular water treatment regime rather than remedial measures when the water goes out of condition.

An Ozone Generator is fitted to all models to provide the oxidisation requirements of the spa water. Ozone does not remain in the Spa water and therefore a sanitiser must be used to provide a residual during periods of no filtration.

The primary sanitiser for spa water is Bromine or Chlorine and either may be introduced by manual hand dosing or by a chemical feeder to maintain a residual of FREE Bromine or Chlorine in the water to treat algae and bacteria. Sanitiser tablets may be put into the skimmer basket where they will be eroded into the spa water. **DO NOT** mix Bromine and Chlorine together.

A good quality test kit suitable for Bromine/Chlorine and pH, should be used to test the water and determine the levels of chemicals present.

**Bromine/Chlorine**, test daily and, by trial and error, establish the dosage required. Remember that heavy use, dirt and high temperatures can combine to use up the sanitiser more quickly and variances in the pH level will affect the efficiency of the sanitiser.

**pH** It is important that the pH balance of the water is kept within a range of 7.2 to 7.8 to enable the sanitiser to work properly - two chemicals pH+ (Alkali) and pH- (Acid) are used to control this. Normally, only one or the other will be needed depending on the local water conditions. Take care to use a small amount or you may be simply correcting your own overdosing!

Once a week the spa must be superchlorinated -shock dosed with chlorine granules to a level of 10 mg/l. If the water is cloudy and does not clear easily even after a shock dose add a clarifier- eg. Spa Bright 'n Clear and run the air blower (if fitted) along with all the spa pumps for 30 minutes. This together with a clean filter will burn out impurities and produce sparkling clean water.

Every 4 - 6 weeks - the spa should be drained down and the water replaced. Draining of the water will be required more frequently in a heavily used spa. This will be evident as the water will appear dull & lifeless and it will be difficult to attain and or maintain chemical levels. It should be remembered that four people in a hot spa are the equivalent of several hundred in a large swimming pool, therefore water treatment is essential for clean safe water.

**SYSTEM MESSAGE CENTRE**

The information as to your Spa's status is displayed on the LCD panel and provides visual confirmation of the current state of the Spa operation. Please note that the control will check the water flow condition and the water temperature following any control adjustment. There may be a delay before the system is seen to respond to any input, this is normal and not a malfunction. Make adjustments and wait at least 2 minutes for the system to respond before making any adjustments.



To remove the filter elements, first switch off the filter pump. Reach into the skimmer mouth and rotate the weir flap (1.) forward into the spa. The skimmer face plate (2.) is removed by sliding upwards off the skimmer body. Reach into the skimmer mouth, take hold of the basket and slide forward out of the skimmer.

The two filter elements can now be removed by unscrewing anti clockwise and lifting out of the skimmer. Replacement is the reverse of this procedure, remember to rotate the weir flap back into the skimmer mouth before restarting the filter pump.

**BLOCKED FILTERS OR DEBRIS IN THE SKIMMER BASKET ARE THE MAIN CAUSE OF HEATING RELATED PROBLEMS. - SERVICE CALLS WILL BE CHARGED FOR IF BLOCKED FILTERS OR DEBRIS ARE THE CAUSE - CHECK BEFORE CALLING.**

**Cartridge Element Cleaning**

1. The cartridge elements need cleaning on a regular basis.
2. To remove the elements, switch off the pump power and remove the the filter element as detailed under each skimmer type.
3. Immerse the elements in **SPA CARTRIDGE CLEANER** solution and allow to soak for approximately 12 hours. (It is advisable to purchase spare cartridge elements ).
4. Remove the elements and use a hose or pressure washer to rinse the elements to remove the remaining residue.
5. Put the elements in a convenient place to dry.
6. When dry, lightly brush over with a small, hard brush.
7. Reassemble filters as described under each skimmer type.

**WINTERISING**

The acrylic Spa is designed to operate in all weathers. For a spa situated outdoors that is to be used all year round, the water must be filtered and heated every few hours to prevent the water temperature dropping below freezing. The Balboa Control has a frost stat. built into the control to protect the unit from freezing. When frost is detected the equipment will operate to keep the water circulating thus preventing freezing. The equipment will continue to operate all the time the temperature remains at or below freezing. For Spas sited outdoors that are to remain unused during the Winter and subject to low ambient temperature conditions, Spaform recommend that the spa should be fully drained.

**Full Drain Down**

- i) Add chlorine to achieve a level of 10 mg/l to the water and circulate fully using all pumps. Operate the blower if fitted for a few minutes and allow the water to drain back into the air track.
- ii) Connect a garden hose to the drain port, open the drain cock and drain the water completely out of the spa and pipework - tilt the spa to remove any water from the jet & air tracks if possible.
- iii) Using a wet & Dry Vacuum unit remove any remaining water. This can be aided by turning on the air blower which will push any remaining water out of the air track.
- iv) Wipe dry.
- v) Remove the pumps and drain all water from the wet end, a drain valve may be fitted to facilitate draining, and place them in a dry area away from any potential of freezing.
- vi) Cover the spa completely to prevent further ingress of water.

To recommision the spa replace the pumps and follow the instructions for first use. Note: check that the spa has not had any water ingress in the shell or in the cabinet. Flush out the shell by adding water and draining again if there is evidence of ingress in the shell. Mop out any water found within the cabinet and dry out completely.

***CAUTION: ADVICE OR TECHNICAL ASSISTANCE SHOULD BE SOUGHT FROM YOUR LOCAL SPA DEALER IF YOU ARE CONCERNED ABOUT WINTERISING THE SPA AND EQUIPMENT.***



the filter cycle duration is long enough for the heater to recover the heat lost whilst outside the filter cycle.

**PRESET FILTER CYCLES - Digital Duplex M7**

Spaform Portable Spas are equipped with factory preset filter cycles which will activate automatically twice a day. The low speed of the twin speed pump and the Ozone generator will operate for the duration of the filter cycle.

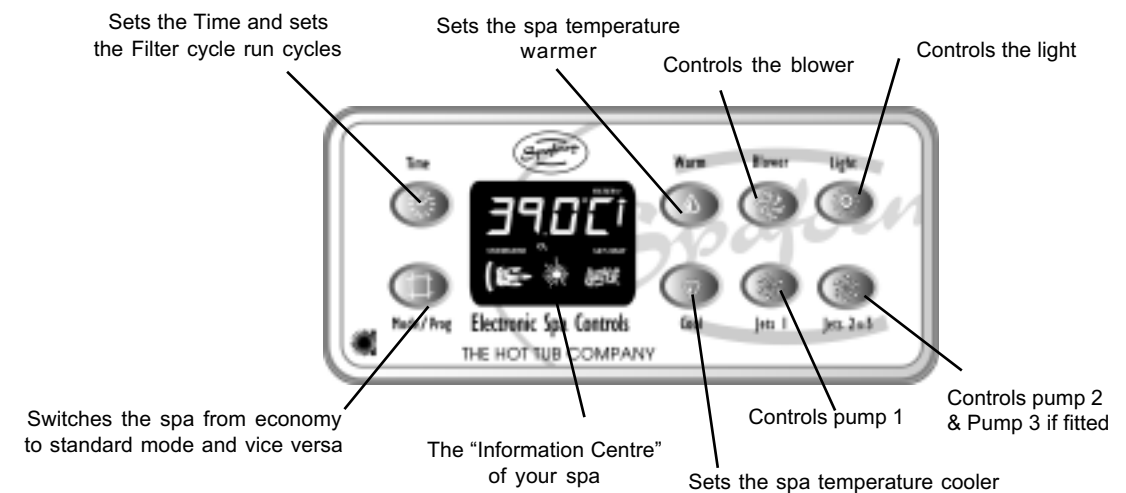
The first filter cycle is factory set to run 6 minutes after connection to the supply and the second 12 hours later. Filter cycle duration is programmed for 2,4,6,8 hours or for continuous filtration indicated by (FC)

The default filter cycle time is 2 hours. To change press the Set button the jets button. Press the Temp button to adjust. Press the Jets button to exit programming.

**NOTE**

The blower will run for 30 seconds at the start of each filter cycle and all pump/s will operate on full power for 10 minutes to ensure that all the water is circulated and mixed to flush sanitiser to all areas.

**ELITE M7 CONTROL - 4000 Series Spas.**



**Initial Start-up**

Your Spaform Elite M7 control has been specifically designed so that by simply connecting the spa to its properly earthed supply, the spa will function properly and safely at 40° C. When your spa is first actuated, it will begin operating in Economy mode. This setting is designed for periods of little or no spa use, but the spa will continue to filter twice a day to maintain the water quality. Press the button to switch the spa to standard mode which will automatically heat and maintain the water at 37.5° C or your desired set temp.



**Temperature Adjustment (27°C - 40°C)**

Press either pad once, and the LCD will display the set temperature, as well as the words "SET HEAT". Each time either of these pads is pressed again, the set temperature will increase or decrease. After three seconds, the LCD will automatically display the current spa water temperature.



**Jets 1**

The operating sequence for this pump is low speed, high speed, then off. If left running, the low speed will turn off automatically after 4 hours; the high speed after 30 minutes. The low speed runs when the heater is turned on, when a filter cycle is activated, or when a freeze condition is detected. When the low speed turns on automatically, it cannot be deactivated from the panel; however, the high speed may be started.



**Jets 2 & 3**

Touch the pad once to activate pump 2. If there is a third pump, touch the pad again to turn pump 3 on. Press the pad again to turn off pump 2. A final press will turn off all pump(s). The pump(s) will automatically deactivate after 15 minutes.



**Blower**

Press the pad to turn on the blower press again to turn off. The blower will automatically deactivate after 15 minutes of operation.



**Light**

Press the pad to cycle through spa light settings from dimmest to brightest. A final press will turn the light off. The light automatically turns off after 1 hour of operation.



**Liquid Crystal Display**

Continually displays the spa temperature, as well as the various monitoring functions and any fault status.



**Mode Selection**

The spa may be switched from economy to standard to sleep and vice versa by pressing the "Mode" pad. When in economy mode, the display will alternately flash **ECON** with the current temperature, and maintain 10° C below the set temperature. When in standard mode, the spa will maintain the set temperature. In sleep mode temperature will be held at 10 deg below set point whilst in filter cycle.



**Setting the time**

When the spa is first powered up the words "SET TIME" will flash on the display. To set the time press the above buttons in order. Pressing either or will begin changing the time in one-minute increments. Press either button again to stop the time changing. Press Mode button to enter the correct time into the system.



**Filter Cycle Programming (Optional)**

The filter cycles may be left as the factory default setting, however the cycle times and duration can be set from the control panel if desired. [ **NOTE: The control will allow the setting of filter cycle times as low as 1 minute, however the spa MUST not be set to filter for less than 2 hours per day** ]. If the filter cycles are to be adjusted press the above buttons in order within 3 seconds. "SET START FILTER 1" will appear on the display. Pressing either or will alter the filter start time.

When "SET HEAT" is shown on the display, press (on) to warm the water during filtering, or press (off) to disable the heater.

Pressing will show "SET STOP FILTER 1" on display, pressing or will allow adjustment of the filter end time.

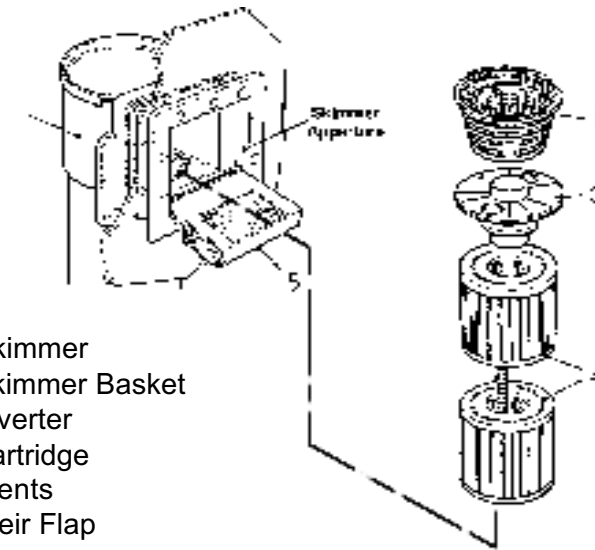
Press to show "SET START FILTER 2" on display, and proceed in the same manner as setting filter 1 times.

Pressing will enter the new filter cycle times into the system and the current temperature will be shown on the display.



As a quick check remove the filter elements. If they are dirty they may be restricting the flow of water to the pump, causing the flow switch to operate turning off the heater. If the blocked filter element was the cause, the heater will now operate and the fault message will disappear. Clean or replace the elements. It is beneficial to have two sets of cartridge elements so that whilst one set is in use the other set can be cleaned. Use a proprietary filter cleaning solution, dry and brush off the cartridges before storing ready for future use. Ensure the vacuum plate is removed from the skimmer before using the spa.

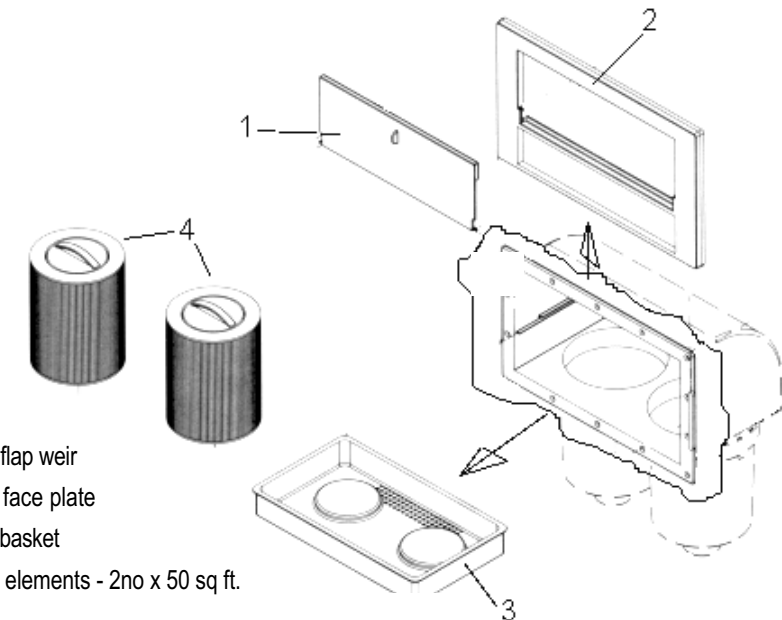
**Front Access skim filter - 35 Sq Ft.**



- 1. Skimmer
- 2. Skimmer Basket
- 3. Diverter
- 4. Cartridge Elements
- 5. Weir Flap

With outdoor spas, wind blown debris, leaves etc. will block the filter very quickly and cause a restriction to the water flow. This reduced flow will cause the heater not to operate, even when the thermostat is calling for heat. To remove the filter element, first switch off the filter pump, reach into the skimmer and rotate the weir flap forward into the spa. Reach into the skimmer mouth and lift out the basket, along with any coarse debris. Reach down into the skimmer and lift out first one and then the second element. Replacement is the reverse of this procedure, remember to rotate the weir flap back into the skimmer mouth before restarting the filter pump.

**Front Access skim filter - 100 Sq Ft**



- 1. Skimmer flap weir
- 2. Skimmer face plate
- 3. Skimmer basket
- 4. Cartridge elements - 2no x 50 sq ft.



### THE WATER PUMP/s

The spa pumps require no maintenance apart from when winterising or closing the spa for extended periods for storage. If the spa is full of water and the motor is running but the water is not circulating, check the Gate Valves are open. If the valves are open and water is still not flowing the pump may be air locked. Stop the pump and locate the pipe coming out of the top of the pump where a black air bleed valve will be seen. Open the bleed valve slightly to allow the air to escape, as soon as water begins to flow close the bleed valve and restart the pump.

### THE HEATER

M7 is the latest technology designed specifically to protect the heater and ensure proper heater operation. The heater will be disabled if low or no water flow is detected and it will also be protected from Hi-Limit conditions. M7 is the sensing technology that monitors water temperature on the suction and discharge sides of the heater assembly, enabling the system to:

- Detect presence of water
- Check for proper water flow
- Detect heater malfunctioning
- Detect sensor malfunctioning
- Provides redundant Hi-Limit detection (both sensors have Hi-Limit capability).

The heater is protected by overheat high temperature thermostats, and by a unique water flow detector, if the heater fails to operate a message will possibly be displayed - refer to page 12 - 13 for messages. The standard system is designed to operate from a domestic electrical supply and may take upwards of 24 hours to heat the spa to the correct temperature. To maintain the spa water temperature the control will automatically run the filter pump under the control of the heater thermostat. This is in addition to the preset filter cycles. Heating times will vary depending on the model, whether installed indoors or out and the type of insulation cover used.

### CARE OF YOUR ACRYLIC SPA

The surface of the spa is very durable. It will not stain or suffer from osmosis, which can be the case with fibreglass Spas, it also requires a minimal amount of maintenance. To clean the acrylic surface, use a non-abrasive cleaner and warm water. Once the Spa surface has been cleaned, rinse off to remove the soap or detergent, then once a week polish the spa with a recognised spa polish.

***NB DO NOT polish the step or floor area, as this will render the surface slippery and may cause an accident.***

If limescale develops it may be removed by use of a mild acid solution. (Talk to your local spa dealer for advice). Take great care to rinse and remove any contaminated water from the spa before refilling. For this operation, always use gloves, keep solutions away from face and eyes and avoid splashing onto exposed skin.

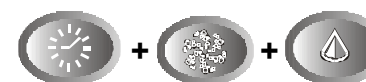
***Do not leave the spa empty and uncovered in ambient temperatures above 36°C or below 0°C when a residue of water in the air track might freeze and damage the spa.***

### THE CABINET

Your cabinet has been made of red wood containing natural oils which provides its very high water resistance qualities. The wood has been treated with a water based stain, which unlike varnish, will not blister, flake or peel after a period of time, and allows the wood to breathe naturally. To keep the cabinet in prime condition, we recommend that the wood be lightly sanded and a coat of finishing oil or water based stain is applied, at the start of each season.

### THE FILTER

The spa filter cartridge elements are conveniently located in the skimmer body on the suction pipework to the pump. The filter elements should be removed and cleaned at regular intervals, normally every one to two weeks, but in extreme conditions, more regular cleaning might be necessary. An indication that the filters need cleaning will be a message appearing on the control panel display along with a failure to maintain the set temp - refer to page 12 - 13 for messages.



### Locking the Panel

Press the above buttons within three seconds to lock the panel. When locked, the display will show the temperature which has been set, along with the lock symbol. All input via the panel is now locked out except for the button.



### Unlocking the Panel

Press the above buttons within three seconds to unlock the panel. The lock symbol will disappear and input via the touch panel will function again. Do not touch any buttons whilst the symbol is displayed.



### Locking the Temperature

Press the above buttons within three seconds after pressing or whilst setting the temperature to lock the temperature setting. The lock symbol will display along with the spa water temperature.



### Unlocking the Temperature

Pressing or then the above button in order within 2 seconds will unlock the temperature adjustment facility. Do not touch any buttons whilst the symbol is displayed.



### Invert Display

To Invert the display (ie read from inside the spa) press the Warm button followed by the Jets1 button.



### Revert Display

To Revert the display (ie read from outside the spa) press the Jets1 button followed by the Warm button

### Freeze Protection

If the high limit sensor detects water temperature as low as 4°C at the heater, then all equipment will be automatically activated to ensure the water will not freeze. This is a normal spa function; no corrective action is required. The equipment will continue to operate until the sensor detects water temperature of 7°C at the heater. Freeze protection is enabled regardless of the status of the spa. In colder climates, an optional additional freeze sensor may be added to protect against freeze conditions. Use a good heat insulation spa cover to preserve the heat. Failure to use a cover may prevent the spa heating to normal working temperature especially in outdoor locations and will be very costly in terms of electricity used. Spaform recommends the use of a rigid insulation cover when the spa is located outdoors.

### PRESET FILTER CYCLES - Elite M7

Spaform Portable Spas are equipped with factory preset filter cycles which will activate automatically twice a day. The preset cycles can be adjusted by referring to the Filter cycle programming details shown opposite. The low speed of the twin speed pump and the Ozone generator will operate for the duration of the filter cycle.

#### FILTER 1

The first filter cycle is factory set to run at 8:00 PM and will operate the low speed of pump1 and the Ozone generator until 10:00 PM. Again, if the heat enable feature is on, the spa will heat to the set temperature in the economy mode.

#### FILTER CYCLE 2

The second filter cycle is factory set to run at 8:00 PM and will operate the low speed of pump1 and the Ozone generator until 10:00 PM. Again, if the heat enable feature is on, the spa will heat to the set temperature in the economy mode.

#### NOTE

The blower will run for 30 seconds at the start of each filter cycle and all pumps will operate on full power for 10 minutes to ensure that all the water is circulated and mixed to flush sanitiser to all areas.



**DIAGNOSTIC MESSAGES - Digital Duplex M7/ Lite Leader**

**No Message**

No message on display. Power has been cut to the spa. Restore power to the spa. Settings will be preserved for 30 days.

-- **Temperature Unknown**

After the spa has been running for 2 minutes the temperature will be displayed

**HH Overheat Protection (Spa is deactivated.)**

DO NOT ENTER THE WATER. The spa has shut down. One of the sensors has detected 48° C at the heater. Remove the spa cover to cool the water. When the heater cools to 43° C, press any button to reset the spa. If the spa will not reset, then shut off power to the spa and call your dealer or service organization.

**OH Overheat Protection (Spa is deactivated.)**

DO NOT ENTER THE WATER. The spa has shut down. One of the sensors has detected 43° C in the spa water. Remove the spa cover to cool the water. When the heater cools to 42° C, The spa should automatically reset, if the spa does not reset then shut off power to the spa and call your dealer or service organization.

**IC Ice - Freeze Protection**

Auxiliary Freeze sensor detects potential freeze condition, the pump is automatically activated. No corrective action is necessary. Freeze protection is enabled regardless of the spa's status.

**Ed Cold Water**

Sensor detects potential freeze condition, Freeze protection has initiated as described above. No corrective action is necessary. Freeze protection is enabled regardless of the spa's status.

**SA Sensor A (Spa is deactivated.)**

The sensor nominated A is not functioning properly, (this may appear temporarily in an Overheat situation). If the problem persists call your dealer or service organization.

**Sb Sensor B (Spa is deactivated.)**

The sensor nominated B is not functioning properly, (this may appear temporarily in an Overheat situation). If the problem persists call your dealer or service organization.

**Sn Sensors are out of balance (M7). Hi-Limit or Temp sensor not working (Lite Leader)**

If alternating with spa temperature, condition may be temporary. If flashing by itself spa is shut down. If the problem persists call your dealer or service organization.

**LF Flow (Lite Leader only)**

A flow / Pressure switch is not working. This is normally associated with dirty filters. Remove elements to ascertain if the FL message is corrected. If the problem persists call your dealer or service organization.

**HL High Limit**

A significant difference between sensors has been detected, this could indicate a flow problem. Check water level and filters, correct if necessary. Check pumps are primed. If the problem persists call your dealer or service organization.

**LF Low Flow**

Persistent low flow problems, Heater is shut down, but other spa functions will operate normally. Follow actions for HL message. Turn spa off, then on again to restore heating capability.

**dr Dry**

Possible low water level, poor flow or air detected at heater. Spa is shut down for 15 minutes. Check water level and correct if necessary, check pumps are primed. Press any button to reset. Message will automatically reset after 15 minutes. If the problem persists call your dealer or service organization.

**dy Dry**

Inadequate water detected in heater (displays on third occurrence of "dr" message) Spa is shut down. Follow action for "dr" above. Spa will not automatically reset. Press any button to reset.



**DIAGNOSTIC MESSAGES - Elite M7**

**No Message**

No message on display. Power has been cut to the spa. Restore power to the spa. Settings will be preserved for 30 days.

-- **Temperature Unknown**

After the spa has been running for 2 minutes the temperature will be displayed

**OHH Overheat Protection (Spa is deactivated.)**

DO NOT ENTER THE WATER. The spa has shut down. One of the sensors has detected 48° C at the heater. Remove the spa cover to cool the water. When the heater cools to 43° C, press any button to reset the spa. If the spa will not reset, then shut off power to the spa and call your dealer or service organization.

**OHS Overheat Protection (Spa is deactivated.)**

DO NOT ENTER THE WATER. The spa has shut down. One of the sensors has detected 43° C in the spa water. Remove the spa cover to cool the water. When the heater cools to 42° C, The spa should automatically reset, if the spa does not reset then shut off power to the spa and call your dealer or service organization.

**ICE Ice - Freeze Protection**

Auxiliary Freeze sensor detects potential freeze condition, the pump is automatically activated. No corrective action is necessary. Freeze protection is enabled regardless of the spa's status.

**SnH Sensor - Hi-Limit (Spa is deactivated.)**

The sensor nominated as Hi-Limit is not functioning properly, (this may appear temporarily in an Overheat situation). If the problem persists call your dealer or service organization.

**Snt Sensor - Temperature (Spa is deactivated.)**

The sensor nominated as temperature sensor is not functioning properly, (this may appear temporarily in an Overheat situation). If the problem persists call your dealer or service organization.

**SnS Sensors are out of balance**

If alternating with spa temperature, condition may be temporary. If flashing by itself spa is shut down. If the problem persists call your dealer or service organization.

**HFL High Limit**

A significant difference between sensors has been detected, this could indicate a flow problem. Check water level and correct if necessary, check pumps are primed. If the problem persists call your dealer or service organization.

**LF Low Flow**

Persistent low flow problems, Heater is shut down, but other spa functions will operate normally. Follow actions for HL message. Turn spa off, then on again to restore heating capability.

**dr Dry**

Possible low water level, poor flow or air detected at heater. Spa is shut down for 15 minutes. Check water level and correct if necessary, check pumps are primed. Press any button to reset. Message will automatically reset after 15 minutes. If the problem persists call your dealer or service organization.

**dy Dry**

Inadequate water detected in heater (displays on third occurrence of "dr" message) Spa is shut down. Follow action for "dr" above. Spa will not automatically reset. Press any button to reset.