



# Quick Reference Card

## in.k450 keypads for in.xe spa systems

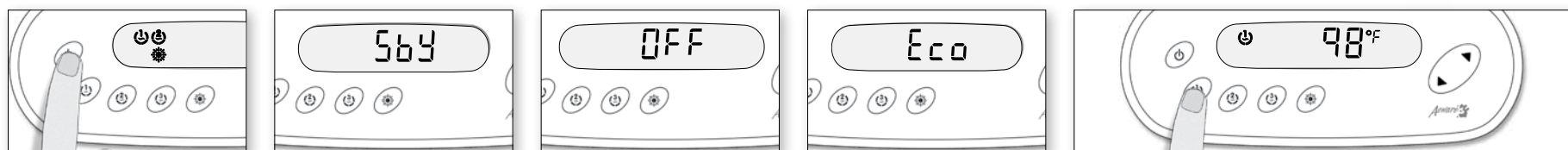


### in.k450

#### Compact full-function keypads for in.xe spa systems

The Quick Reference Card provides a quick overview of your spa's main functions and the operations accessible with your digital control pad. This QRC depicts a generic overlay, custom versions may vary.

#### Spa Functions



#### On/Off key

Depending on the spa manufacturer, this key may have one or a combination of the following functions: Standby and/or On/Off and/or Economy mode.

- The first mode activates/deactivates via a short press on the key.
- The second mode, if present, activates via a long press of 3 to 6 seconds and deactivates via a short press on the key.
- The third mode, if present, activates via a long press of 6 to 9 seconds and deactivates via a short press on the key.

**Standby Mode:** This mode allows you to stop all outputs and automatic functions with the exception of the heat request for 30 minutes. When active, the display will toggle between the "Sby" message, the clock and the water temperature. In order to restart the system before the expiration of the 30 minutes delay, make a short press on the **On/Off** key. The spa light will flash a few seconds before the end of the 30 minutes to warn you the system is about to resume its normal operation. When the system resumes its normal operation the display shows "On" for 3 seconds.

**On/Off Mode:** This mode allows you to stop all outputs including all automatic functions such as filter cycle, heat request and smart winter mode purge for 30 minutes to perform quick spa maintenance. When active, the display will toggle between the "OFF" message, the clock and the water temperature. In order to restart the system before the expiration of the 30 minutes delay, make a short press on the **On/Off** key. The spa light will flash a few seconds before the end of the 30 minutes to warn you the system is about to resume its normal operation.

When the system resumes its normal operation the display shows "On" for 3 seconds.


**Manual Economy Mode:** This mode allows you to save some energy by regulating the water temperature 20°F (11°C) below the actual set point. When active, the display will toggle between the "Eco" message, the clock and the water temperature. Make a short press on the **On/Off** key to exit the manual economy mode. When the system exits the economy mode the display shows "noE" for 3 seconds.

#### Pump 1/Off key

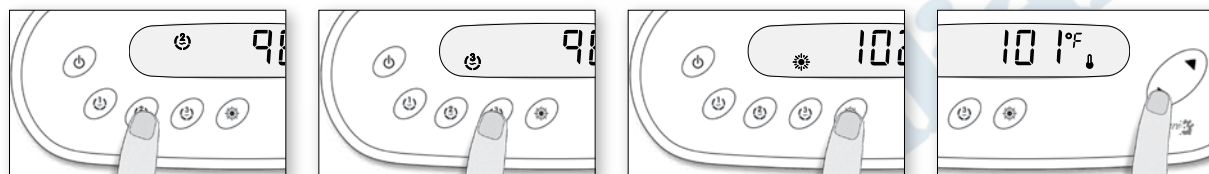
Press **Pump 1** key to turn Pump 1 on at low speed. Press a second time to turn pump to high speed (with a dual-speed pump\*). A third time turns pump off. A built-in timer automatically turns pump off after 20 minutes, unless pump has been manually deactivated first.

A long press of 5 seconds will enable the Off mode. This mode allows you to stop all outputs including all automatic functions such as filter cycle, heat request and smart winter mode purge for 30 minutes to perform quick spa maintenance. When the Off mode is active, the display will toggle between

the "OFF" message, the clock and the water temperature. Press either, **Pump 1**, **Pump 2**, **Blower** or **On/Off** key to restart the system before the expiration of the 30 minutes delay. The spa light will flash a few seconds before the end of the 30 minutes to warn you the system is about to resume its normal operation. When the system resumes its normal operation, the display shows "On" for 3 seconds.


 The "Pump 1" indicator lights up when Pump 1 is on. With dual-speed pump, indicator will flash when pump 1 is on at low speed.

\* If single speed pump: press Pump key to turn pump on. Press Pump key again to turn pump off.




#### Pump 2 key

Press **Pump 2** key to turn Pump 2 on at low speed. Press a second time to turn pump to high speed (with a dual-speed pump\*). A third time turns pump off. A built-in timer automatically turns pump off after 20 minutes, unless pump has been manually deactivated first.

 The "Pump 2" indicator lights up when Pump 2 is on. With dual-speed pump, indicator will flash when pump 2 is on at low speed.


#### Blower key

Press **Blower** key to turn Blower on. Press a second time to turn Blower off. A built-in timer automatically turns blower off after 20 minutes, unless blower has been manually deactivated first.

 The "Blower" indicator lights up when blower is on.


#### Light key

Press **Light** key to turn light on. A second press turns light off. A built-in timer automatically turns light off after 2 hours, unless it has been manually deactivated first.

 The "Light" indicator lights up when light is on.

#### Up/Down keys

Use **Up** or **Down** key to set desired water temperature. The temperature setting will be displayed for 2 seconds to confirm your new selection.

 The "Set Point" icon indicates that the display shows the desired temperature, NOT the current water temperature!

#### Programming Steps



#### Program menu

Depending on the keypad configuration, the program menu will be accessible via either the Program key (check mark) or the Light key. A long press of 5 seconds will allow you to enter the program menu. In the program menu, the following parameters can be set: the clock, the filter cycles or the purge cycles, the economy mode and the temperature units. While you are in the program menu, use the Up or Down keys to adjust

the parameters and use the **Program** or **Light** key to jump to the next parameter. The changes will be saved after the confirmation of the last parameter only. If there is no key press for 10 seconds, the system will exit the program menu without saving the changes.

#### Setting the clock

Enter the program menu by holding down the **Program** or **Light** key for 5 seconds. The display will show the current clock setting, the minutes will be on solid and the hours will flash.

Depending on factory settings your system may be set to a 24-hour military notation or a regular 12-hour notation.

**Setting the hour:** Use the **Up** or **Down** keys to adjust the hours (AM/PM). Press the **Program** or **Light** key to jump to the next parameter, the minutes.

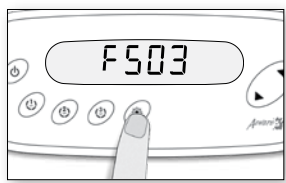
**Setting the minutes:** Use the **Up** or **Down** keys to adjust the minutes. Press the **Program** or **Light** key to jump to the next parameter, the filter or purge start time (FS).

#### Programming the filter/purge cycles

Depending on system configuration your spa will perform either a filter or a purge cycle. The filter cycle menu consists of the following parameters: the start time (FS), the duration (Fd) and the frequency (FF). The purge cycle menu consists of the following parameters: the start time (FS) and the frequency (FF).

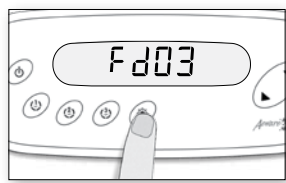
A filter cycle consists of starting all the pumps and blower in high speed for 1 minute (purge step) then, the pump associated with the filter will run in low speed for the remaining duration of the filter cycle (clean step).

A purge cycle is used when the spa is equipped with a 24 hour circulation pump which provides a continuous clean step. It consists of starting all the pumps and blower in high speed for 1 minute.



### Setting filter cycle start time

The display will show FSxx, "xx" representing the starting hour of the filter cycle. Use the Up or Down key to adjust the hours. Use the Program or Light key to jump to the next parameter, filter duration (Fd).

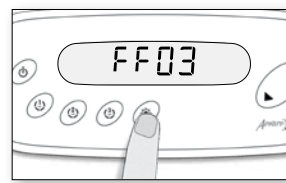


### Setting filter cycle duration

The display will show Fdxx, "xx" representing the duration in hour of the filter cycle. Use the Up or Down key to adjust the duration. Use the Program or Light key to jump to the next parameter, filter frequency (FF).

0 = no filtration  
24 = continuous filtration

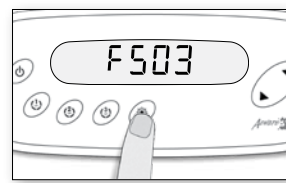
It's not recommended to set this to "0".



### Setting filter cycle frequency

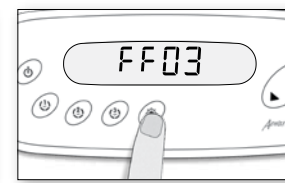
The display will show FFxx, "xx" representing the number of filter cycles per day. Use the Up or Down key to adjust the frequency. Use the Program or Light key to jump to the next parameter, economy mode (EP).

!!! The "Filter cycle" indicator lights up when filter is on. Flash when suspended.



### Setting the purge cycle start time

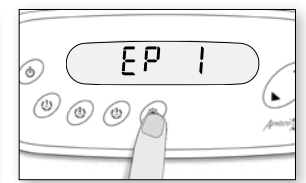
The display will show FSxx, "xx" representing the starting hour of the purge cycle. Use the Up or Down key to adjust the hours. Use the Program or Light key jump to the next parameter, purge frequency (FF).



### Setting purge cycle frequency

The display will show FFxx, "xx" representing the number of purge cycles per day. Use the Up or Down key to adjust the frequency. Use the Program or Light key to jump to the next parameter, economy mode (EP).

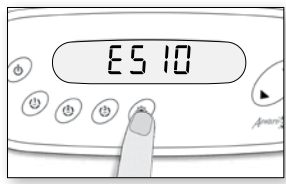
!!! The "Purge cycle" indicator lights up when purge is on. Flash when suspended.



### Setting economy mode

This mode allows you to lower the temperature set point of the spa by 20 °F (11 °C) during a certain period of the day.

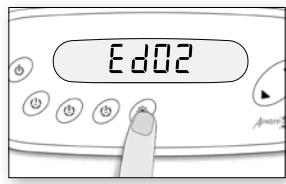
The display will show EPx, "x" representing the state of the programmed economy (0 = disable, 1 = enable). Use the up or down key to set the program economy to enable or disable. Use the Program or Light key to jump to the next parameter, economy start time (ES).



### Setting economy start time

The display will show ESxx, "xx" representing the hour at which the economy mode will become active. Use the Up or Down key to adjust the hour. Use the Program or Light key to jump to the next parameter, economy duration (Ed).

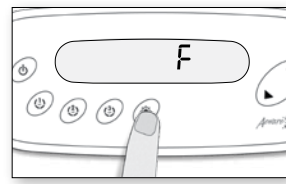
When the Economy mode is ON, the display will toggle between the "Eco" message and the water temperature.



### Setting economy duration

The display will show Edxx, "xx" representing the duration in hour of the economy mode. Use the Up or Down key to adjust the hour. Use the Program or Light key to jump to the next parameter, temperature unit.

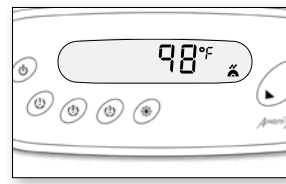
0 = no economy  
24 = continuous economy



### Setting temperature unit

Water temperature can be displayed in either Fahrenheit (°F) or Celsius (°C). The display will show F or C.

Use the Up or Down key to change the setting. Use the Program or Light key to save all the parameters.



### Smart Winter Mode

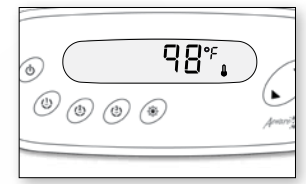
Our Smart Winter Mode protects your system from the cold by turning pumps on several times a day to prevent water from freezing in pipes.

!!! The "SWM" indicator lights up when a freeze condition is detected and flashes when the purge is active.



### Cooldown

After heating the spa water to the desired Set Point, the heater is turned off, but its associated pump (Pump 1 Low-speed or CP) remains on for a predetermined period of time to ensure adequate cooling of the heating element, this prolongs its useful life. The heater icon flashes during this time.



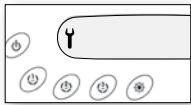
### Water temperature regulation

In a regulation cycle, the system first generates water flow through the heater housing and the plumbing, in order to ensure accurate water temperature readings as well as avoiding heater activation in dry conditions. After verifying pump activation and taking a water temperature reading if required, the system automatically turns the heater on to reach and maintain water temperature at Set Point.

!!! The "heater" indicator lights up when the heater is on.

!!! Indicator flashes when taking water temperature reading.

## Troubleshooting section



Should an error occur, the display will show a wrench icon (on the left of the screen) and one of the following error messages will toggle with the clock and the water temperature.

### in.xe error codes

### Description



**Hr**  
An internal hardware error has been detected in in.xe. Contact dealer or service supplier.



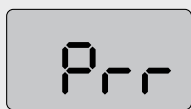
**HL**  
The system has shut the heater down because the temperature at the heater has reached 119°F (48°C). Do not enter the water! Remove the spa cover and allow the water to cool down, then shut power off and power your spa up again to reset the system.



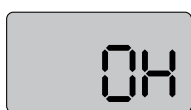
**AOH**  
Temperature inside the spa skirt is too high, causing the internal temperature in the in.xe to increase above normal limits. Open skirt and wait until error clears.



**FLO**  
The system does not detect any water flow while the primary pump is running. Check and open water valves. Check for water level. Clean filter. If the problem persists, call your dealer or service supplier.



**Prr**  
A problem is detected with the temperature probe. Call your dealer or service supplier.



**OH**  
The water temperature in the spa has reached 108°F (42°C). Do not enter the water! Remove the spa cover and allow the water to cool down to a lower temperature. Call your dealer or service supplier if problem persists.