MP31 PANEL QUICKSTART

SPA-TECH CONTROL PANEL



MP31 operation instruction:

Below guide is applied to Spa-Tech CA 100 / Spa-Tech CA 300 control panel only.

KEY	SYMBOL	FUNCTION
Power		Power on / Stand-by (The screen backlight turn on / off)
Jet1		Turn on / off pump1
Jet2		Turn on / off pump2
Blower		Turn on / off blower
Light		1. Turn on / off light 2. Press the button repeatedly to change the lighting mode
Mode		1. Setting up heating mode (Standard mode / Economy / Sleep), temperature unit. 2. Time setting and circulation filtration cycle
Time		1. Time display 2. Exit setting or time display
Up		1. Increase the temperature 2. Select modes (up)
Down		1. Increase the temperature 2. Select modes (down)
Up + Down	+	Panel Locked (PL) / Unlock panel
Time + Blower	+	Return to factory settings (Heating Mode / Setting temperature / Filtration cycle / Temp units / Time setting)
Mode + Jet1	+	The pump auto off time setting

Stand-by/Power on

Stand by: The SPA will automatically entry stand-by mode when the spa is properly connected with power. In the stand-by mode, no back light on the screen. The current water temperature will appear on the LCD screen, and the thermostatic function and filtration cycle will get started as per the default setting.

Note: In the stand-by mode, except "" button and "" button, no buttons are available.
Power on: Press the "" button, the screen will be illuminated and all the buttons on the panel will be effective.

Note: When leaving the spa run for one hour without pressing any panel's buttons. The system will automatically go into stand-by mode, and the screen light will be turned off.

Temperature setting (take 1℃ as a unit)
In the power on mode, the screen displays the actual water temperature. When "" or "" button is pressed, the screen showing the set temperature will flash, press "" or "" again to change the set temperature. After 5 seconds no operation, regain to display the current spa temperature, temperature setting complete.

The SPA comes with thermostatically controlled heater; set the temperature from the control panel, when the actual temperature is lower than the set temperature, the heater will automatically turn on to heat the spa water. When the actual water temperature rises to the set temperature, the thermostat stops automatically.
1. Only the spa equipped with heat pump has the cooling function.

2. To raise the set temperature press the "" button. To lower the set temperature, press the "" button. The temperature set point (set temperature) can be adjusted from 10° C to 40℃ .

Functional device on/off
Press "" or "" or "" or "" to turn on according device, press again to turn off according device.
1. If 'Jet1' is a single-speed pump, press "" to " turn on/off " this water-pump; If 'Jet1' is a double-speed pump, then is "turn on high speed/low speed " . (Pump1 double-speed pump is doing circulation pump function at low speed, control system control the low speed on/off.)

2. Press "" to start the lighting system , press "" again to close lighting system, repeat turn on and off lighting system, can switch to different lighting modes.

3. If your product has some functional devices that are not included, the corresponding function will not be available. Please ignore the related buttons on the control panel and the corresponding function description above.

Systemic time setting
Press "" button, the current time will be displayed. Program the clock by pressing the "" button and the digital display window will display a digital clock with the HOUR setting flashing. Use the "" or "" buttons to correct HOUR. When the HOUR is correct, press "" button to save changes and go to minutes setting. Use the "" or "" buttons to correct MINUTES. When the MINUTES are correct, press the "" button to save changes and complete the time setting.

Notes:
1. The time displayed on the screen is 12H/24H clock 【AM/PM】

2. If no operation for 5 second during time setting, will auto save and exit time setting.

3. The clock will remain ticking when the spa is turned off or powered off suddenly, no need to adjust the time when the spa is turned on again.

The filtration cycle setting
You should set the systemic time before setting the filtration cycle. (Refer to last paragraph 'Systemic time setting'). After setting systemic time, press "" , enter to "FILTER1, START TIME" . Select the hour by press "" or "" to set up the start time for 1st filter cycle, press "" to save and enter "FILTER1 END TIME" . Press "" or "" to set the " FILTER1 END TIME" for 1st filter cycle. Press "" save the 1st filter cycle and enter to the 2nd filter cycle setting. Select hour by press "" or "" to set the time. Press "" to complete the entire filtration cycle setting.

Notes:
1. Only the hours can be set for the filter cycle, the filtration cycle is set in 30 minutes increase / decrease.

2. If you don't want to change the setting, please press "" to exit. If it is stopped or no operation within 5 seconds during the setting, the system will exit the setting automatically. The setting is saved.

3. The filtration cycle will run only when the massage pump and blower stop running; In this case, the control panel will show "O_3" .

4. Two different period of flitration be conducted separately. If the time setting is the same, the filtration will be operated for just one time.

Heating mode setting

When screen display current water temperature, press "" to enter【Heating mode setting】, press "" or "" to choose 3 modes, "Standard", "Economy" and "Sleep", press "" to choose that mode.

Standard mode: Heater is always on to maintain the set temperature. The heater runs according to the current and set temperature. As long as the water temperature is lower than the set temperature, the heater is started.

Economy mode: The thermostatic function is activated only when filtration cycle. During the filtration period, when the water temperature is lower than the target temperature, the heater will be on. In other times, only if the current temp is lower than the target temp minus 9℃, the heater will be turned on.

Sleep mode: Heater will be on only as soon as the water temperature is lower than 6℃. Water temperature higher than 12℃, heater will be turned off.

Setting temperature and time units

Press "" when display the current temperature; Enter to the Heating mode setting, press "" again, enter to temperature units setting, when temperature unit flashing, press "" or "" to choose '℃' or '℉'; Press "" again, enter to time units setting, 'time' flashing and time display base on current unit,press "" or "" switch to 12H or 24H; Press "" again finish setting.

Automatically turn off

If no buttons press for 15minutes (can be adjusted), the running pump1, pump2 and blowers will automatically turn off. Press the relevant button to start again.

Notes:

1. Press + for 5s, screen will display 'P "xx"' means success to reset the auto turn off time to "xx" min. Repeat above key combination, P15/P30/P60 will loop display after the device turn off automatically.

2. If the heater or the circulation filter is on working and the Jet1 is dual speed pump, then Jet1 will automatically turn to low speed, and it will not stop running until the heater stop.

Return to factory settings

Press + in the same time for 5s, the heating mode set by the user, the set temperature & filteration cycle start/stop time & temperature unit & time unit will return to the factory settings.

Digital diagnostics function

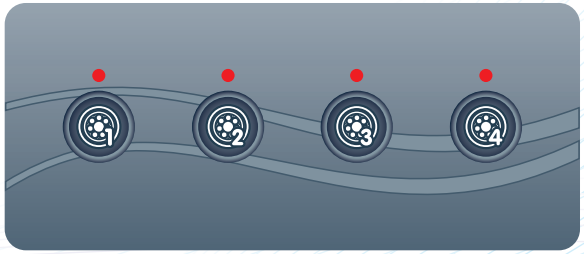
The control system will turn on related protective functions automatically after error message appear on the LCD display, you can refer to "Trouble shooting" in the final page to deal with these problems or provide these information to your dealer.

Plumbing (Hose and pipe) clearing cycle

The system will turn on air-blower and massage pump for 3~4 minutes to clean the hoses and pipes in every filtration cycle.

Memory function

The system will revert to the last setting after each power on.



Extension function

The control system can control not only the main control panel for standard equipment, but also can control auxiliary control panel. It can maximum control 4 massage pump through by the auxiliary control panel.

Note: The control system can control up to one auxiliary control panel.

Default setting

Temperature: 38℃.
Model: Standard model.
First filtration cycle (filter 1): (8:00-10:00).
Second filtration cycle (filter 2): (20:00-22:00).
The default automatic turned off time: 15 minutes.

PROBLEM SHOOTING

Protection/fault	Fault display	Reason	Problem shooting methods
Communication Malfunction	E0	The connection between the control panel and main PCB loosed.	1. Plug your control panel into main PCB socket "CON11". 2. Contact your dealer, replace the PCB or control panel.
Water temperature sensor 1 malfunction	E1	1. The connection between the temperature sensor 1 and main PCB loosed. 2. Temperature sensor 1 fault.	1. Plug the temperature sensor 1 into main PCB socket "CON18". 2. Replace the temperature sensor.
Water temperature sensor 2 malfunction	E2	1. The connection between the temperature sensor 2 and main PCB loosed. 2. Temperature sensor 2 fault.	1. Plug the temperature sensor 2 into main PCB socket "CON19". 2. Replace the temperature sensor.
High voltage or low voltage protection.	E5	1. Power supply voltage is higher/ lower than the spa rated voltage. 2. Voltage is high/low.	1. Cut off the power supply, check and make sure the power supply according to Spa rated power supply requirement. 2. If the problem persists, contact your dealer.
Abnormal water flow alert	E9	Inadequate water flow or abnormal water flow alert.	1. Check and make sure all the valves of circulating waterpipes are fully open. Cut off the power supply, unscrew the slip knot of the circulation pump or dual speed pump, drain out the blocked air in the plumbing, tighten the slip knot and power on again. 2. check if the heater sensors broken. 3. If there is no abnormality above, please disconnect the power and restart. 4. If the problem persists, contact your dealer.
Low temperature protection	C	1. Actual water temperature ≤ 6℃ . 2. Temperature sensor fault.	1. Heater will heat till the spa water temperature has arisen up to 12 ℃ ,then the letter "C" disappears. 2. If the actual temperature stays below 6℃ for long time, please contact your dealer.
High temperature protection	H	1. The current water temperature ≥ 43℃ . 2. Temperature sensor fault.	1. Shut off the power and wait till spa water temperature ≤ 41℃ . 2. If the problem persists, contact your dealer.
Over heat protection	HH	1. The current water temperature ≥ 47℃ . 2. The temperature sensor fault.	1. Cut off the power supply, wait the water cool down to ≤ 40 ℃ . 2. If the problem persists, contact your dealer for help.
Control panel locked	PL	The panel is locked.	Press the button "  " or "  " simultaneously to unlock the panel.