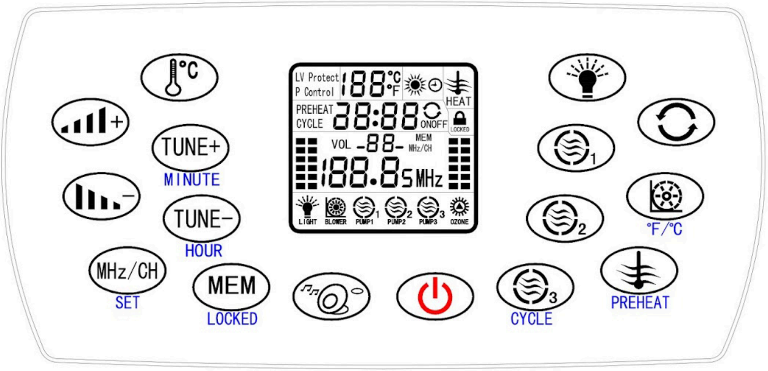
PROGRAMMING INSTRUCTIONS

1. Illustration to buttons



Fig．1：Sketch map of big massage bathtub

“TUNE+ MINUTE” Frequency up- searching / Minute	“⏻” System ON/ OFF & Enter
“TUNE− HOUR” Frequency down- searching/ Hour	“♫” Radio & CD Input ON/ OFF
“+” Audio Volume up	“°F/°C” Blower ON/ OFF & Temperature Mode Shift
“−” Audio Volume down	“💡” Light from the bottom ON/ OFF
“MEM LOCKED” Radio memory/ Key Lock	“1” Surf Water pump 1 ON/ OFF
“MHz/CH SET” Radio searching / Shift of Circulation or Preheat setting	“2” Surf Water pump 1 ON/ OFF
“⟳” Long Circulation Cleaning ON/OFF	“3 CYCLE” Setting Of circulation Cleaning & Surf Water pump 3 ON/ OFF
“PREHEAT” Preheat setting & Heater ON/ OFF	“°C” Temperature setting
Note： .Function of buttons with blue parts only works under the **Waitting Mode Status**。	

2. Function Summary

（1） Constant temperature，preset heater，and display and operation of water temperature。

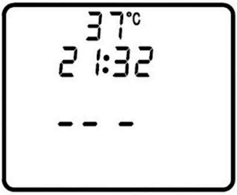
（2）Three surfing pumps，One circulation pump also，One blower。

（3）Color of Lights are change & changeless synchronization。

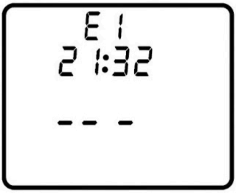
（4）CD frequency input。Display of radio frequency and storage for 10 channels。
（5）Display and 87 grades adjustment of volume。
（6）Long Circulation and Phase of time Circulation cleaning。
（7）Display and set of 24 hours model。
（8）Power loss memory for all setting。
（9）Fahrenheit & Celsiur temperature shift。
（10）Frozen preventing control。
（11）Light of Keys 。
（12） Lock of buttons of computer board。
（13）Selection of 110-120VAC or 220-240VAC，And Single-Phase or Three Phase Four line mode。
（14）Selection one AC power output when “CD” is working，This is using for DVD or TV。
（15）Selection POWER Controll。
（16）Selection electric current of all load are measure。

3. Operations

(1) When first turning on the power，the backlight will bright of halt， and the LCD will show the present time and temperature。It will show “E1” if the sensor is open/short circuit。When part of radio frequency showed “---”，it indicates that the status of the system is **“Waitting Mode”**，so as well as the pre-heat and circulation cleaning。



Fig．3：Normal temperature.



Fig． 4：Sensor open circui or short circuit

(2) Lock Operation ：

The lock will start work by pressing “MEM LOCKED” Button in the status of **“Waitting Mode”** or no-pressing operation lasting above 30 minute。In the status of Locked， press the button “MEM LOCKED” twice，the lock will be unlocked。and the word “🔒LOCKED” will disappear。

(3) Time setting operation：

In the status of **“Waitting Mode”** and the pre-heater and circulation cleaning are shut down，pressing “TUNE− HOUR” or “TUNE+ MINUTE” could start time setting。Signal of “：” doesn't flash but Minute and Hour flash at this time。It will add 1 hour when pressing “TUNE− HOUR” each time，and the hours could be added continually when pressing the “TUNE− HOUR” without stop。The hour adjustment range is 0~23。

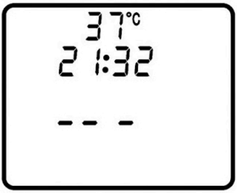
In the status of time setting，It will add 1 minute when pressing “TUNE+ MINUTE” each time，and the minutes

could be added continually when pressing the “ TUNE+ MINUTE ” without stop。the minute adjustment range of the minute is：0~59。

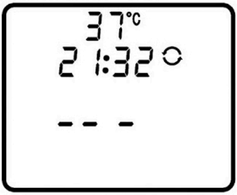
The system will quit the time-setting status automatically after 6 seconds without pressing。

(4) Operation to circulation-cleaning settings：

Circulation-cleaning only works one times every day。 The LCD can show clearly about whether circulation-cleaning setting is startup or not。See following Fig． 5-6。

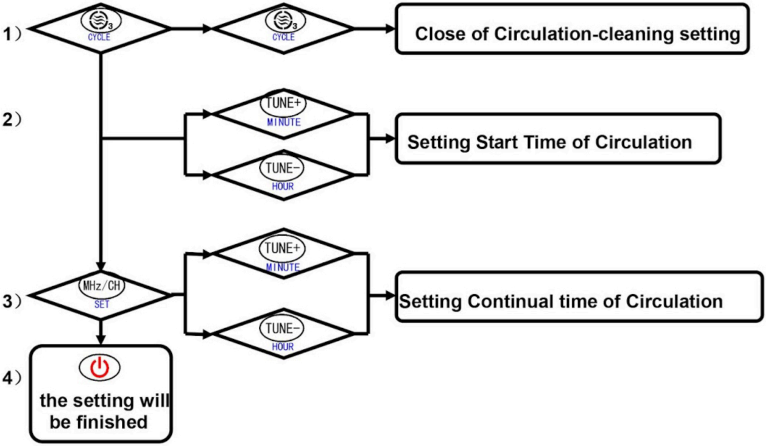


Fig．5： Circulation-cleaning off



Fig．6：Circulation-cleaning on

Circulation-cleaning setting must be in the **“Waitting Mode”** status and the LCD display “---”。


1）
CYCLE
CYCLE
Close of Circulation-cleaning setting
2）
TUNE+ MINUTE
TUNE− HOUR
Setting Start Time of Circulation
3）
MHz/CH SET
TUNE+ MINUTE
TUNE− HOUR
Setting Continual time of Circulation
4）
the setting will be finished

1）、Press “ CYCLE ”，and enter to Circulation-cleaning setting status, and “ ⟳ ” of the LCD display，Mark of “CYCLE” is flasfed，In the same time，The Circulation-cleaning start time setting is oning。

Press “ CYCLE ” again，The Circulation-cleaning setting will quit in without save。

2）、Press “ TUNE− HOUR ” and “ TUNE+ MINUTE ” can change the start working time of Circulation-cleaning ：

It will add 1 minute when pressing “TUNE+ MINUTE” each time and the minutes could be added the continually when pressing the “TUNE+ MINUTE” without stop。The adjustment range is 0~59。

It will add 1 hour when pressing “TUNE- HOUR” each time，and the hours could be added the continually when pressing the “TUNE- HOUR” without stop。The adjustment range is 0~23。When you set up well of the start time , you could go on to the next step。

3）、Press “MHz/CH SET” to continual working time setting of Circulation-cleaning， it will show the minimum continue time is 5 minutes on the LCD， and this time will not flash。 It will add 5 minutes by pressing “TUNE+ MINUTE” each time，And add 1 hour by pressing “TUNE- HOUR” each time。please note that the maximum of continual time is 19 hours and 55 minutes。 When you set up well of the continual time , you could go on to the next step。

4）、When everything is setting well，Press “⏻”， the system will quit the Circulation-cleaning setting status with save。

***** Notice *****

1、all setting of Circulation-cleaning must be in Waitting mode status。

2、 Circulation PUMP and OZONE are not working while all setting time。

(5) Pre-heating setting：

Only one pre-heating setting is allowed each day。The LCD can show clearly in the following figures about whether pre-heating setting status are ON or OFF。

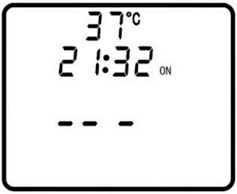


Fig . 7：Pre-heat ON

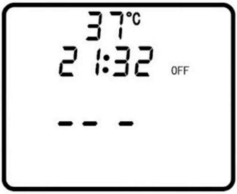


Fig . 8：Pre-heat OFF

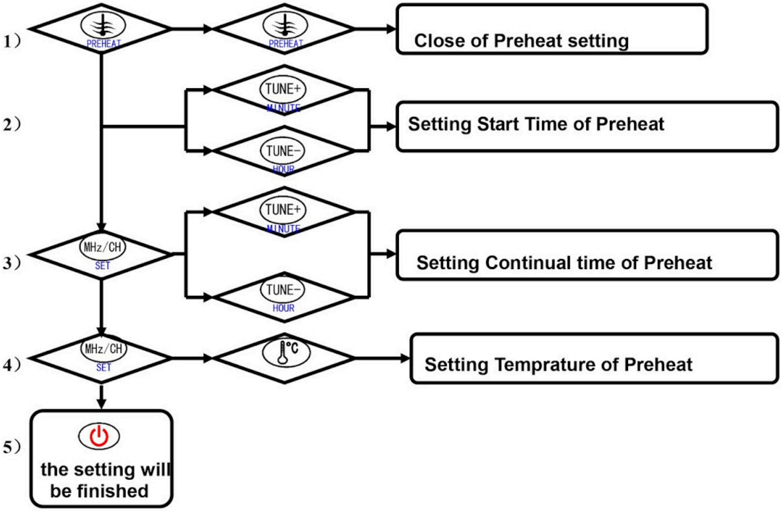
Pre-heating setting is in the **“Waitting Mode”** status and the LCD display “- - -”。

1、Press “PREHEAT”，and enter to Pre-heating setting status，“ON” of the LCD display，The “PREHEAT” mark is flashed，In the same time，The Preheat start time setting is oning。Press “PREHEAT” again，The Preheat setting will quit in without save。

2）、Press “TUNE- HOUR” and “TUNE+ MINUTE” can change the start working time of Preheat ：

It will add 1 minute when pressing “TUNE+ MINUTE” each time and the minutes could be added the continually when pressing the “TUNE+ MINUTE” without stop。The adjustment range is 0~59。

It will add 1 hour when pressing “TUNE- HOUR” each time, and the hours could be added the continually when pressing the “TUNE- HOUR” without stop。The adjustment range is 0~23。When you set up well of the start time , you could go on to the next step。


1）
PREHEAT
PREHEAT
Close of Preheat setting
2）
TUNE+ MINUTE
TUNE- HOUR
Setting Start Time of Preheat
3）
MHz/CH SET
TUNE+ MINUTE
TUNE- HOUR
Setting Continual time of Preheat
4）
MHz/CH SET
°C
Setting Temprature of Preheat
5）
the setting will be finished

3）、Press “MHz/CH SET” to continual working time setting of Preheat, it will show the minimum continue time is 5 minutes on the LCD, and this time will not flash。 It will add 5 minutes by pressing “TUNE+ MINUTE” each time，And add 1 hour by pressing “TUNE- HOUR” each time。please note that the maximum of continual time is 19 hours and 55 minutes。 When you set up well of the continual time , you could go on to the next step。

4）、Press “MHz/CH SET” to set setting temprature of Preheat。It will add 1℃ when pressing “°C” and the temperature could be added continually till 45℃ when pressing the “°C” without stop。At this time , when pressing “°C” angin, and the temperature could return 15℃ 。The range of adjustment is
15~45℃

5）、When everything is setting well，Press “⏻”, the system will quit the Preheat setting status with save。

***** Notice *****

1、 all setting of pre-heating must be in Power OFF status, just connect the spa with

the power supply. and the LCD display “---”。

2、please note that it shows "on" or "off" on the LCD, "on" means pre-heating is turn on, when the time of pre-heating is the same as currently time, the heater will start working. "off" means the heater can't start-up anytime。

3、Circulation PUMP and HEATER are not working while all setting time。

(6) Pre-heating：

When the time of real time and pre-heating time is consistent， meanwhile， there is water in the bathtub and the pre-heating button is “on”， the system will start the pre-heating and circulation pump and auto-constant temperature system will work at the same time。 Then LCD will show count down time （the two middle spot will not flash any longer） and corresponding working status。 In the pre-heating process， till cont down time finished。 the pre-heating will be turned off automatically by system or by pressing the “PREHEAT” key intentionally。

***** Notice *****

1、 When setting temperature is lower or equal water temperature，Even the Pre-heating is working but the circulation PUMP and HEATER are not working。

2、 When the HEATER is “I” frame，The power of circulation PUMP must reach 750W。

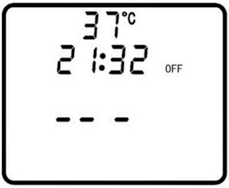
3、 Answer for condition of “2”，and the HEATER is not working，Please short the line of water press switch。

(7)circulation-cleaning:

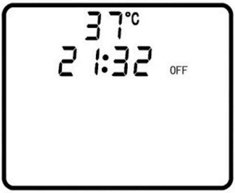
When the time of real time and pre-heating time is consistent, meanwhile, there is water in the bathtub and the circulation-cleaning button is “on”， the system will start the circulation-cleaning， and the circulation pump and ozone(If it is on) will work at the same time。 Then LCD will show count down time。 In the circulation-cleaning process， till cont down time finished the circulation-cleaning will be turned off automatically by system or by pressing “⟳” key intentionally。

(8) Operation to Power ON/ OFF

Pressing the key ⏻ will enter from ON to “**Waitting Mode**” or “**Waitting Mode**” to ON。 At the same time， the LCD will show whether the power is on or off。



Fig．9：WAITTING MODE



Fig．10： ON

(9) Operation to Temperature setting

In the status of “Power-on” and “HEATER” is working ，The temperature setting can operate。 only key “°C” are available， It will add 1℃ when pressing “°C” and the temperature could be

added continually till 45℃ when pressing the "°C" without stop。At this time , when pressing "°C" angin，and the temperature could return 15℃ 。The range of adjustment is 15~45℃ 。

(10)Operation Radio & CD:

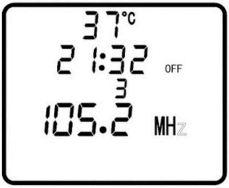


Fig . 11: Radio frequency is 105.2 MHZ，Save the present frequency to channel 3 (Save channel) or Exchange the frequency form channel 3 to the present (Searching channel)

Ⅰ)、Key ♫ is the ON/OFF key for radio and CD。and it is only available in the status of power on. The first pressing is turning on the radio，the second pressing will turn off the radio and turn on the CD at the same time，and the third，will turn off the radio and CD simultaneous。

Ⅱ)、LCD will show present frequency and volume of the radio after turning on the radio。

Ⅲ)、In the working of radio， The volumle of the present radio frequency can be changed by pressing "TUNE+ MINUTE" & "TUNE- HOUR" 。

Ⅳ)、Pressing the key "MHz/CH SET" will take out the memorized radio frequency，Pressing the key "MHz/CH SET" continually will take out the memorized radio frequency from channels will be saved at present channel by pressing this key continually。If none of the channel， LCD will display "---"。

Ⅴ)、Press the key "MEM LOCKED" could memorize the present radio frequency， Pressing the key "MEM LOCKED" continually will memorize the present radio frequency in different channel。 The channel of max is 10，Name of channel is 0-9。

Ⅵ)、The volume can be changed by pressing key "+" & "−"。

(11)Operation to Pump :

KEY of "Pump1/2/3" are control surf pump1/2/3。

(12) Operation to Long Circulation：

Press the key "⟳" to turn on/off the Long Circulation。 After the startup of Long Circulation，The surf PUMPs and BLOWER will work once in 30 minutes，They will work 30 seconds； The OZONE will work once in 30 minutes，They will work 15 minutes。

When one of the surf PUMPS or BLOWER is working，The ozone will be turned off automatically。

(13) Operation to Bottom lamp：

"💡" controlling the ON/OFF of the lamp in the bottom of the bathtub。

Press "💡" for the first time，The LIGHTS are ON，and the color of LIGHTS are changing；Press "💡" again，the current color are changeless；Press "💡" at the third times，all LIGHTS will OFF。

(14) Operation to Constant temperature heating：

1)、When the pre-heating time is up （If the pre-heating has turned on） or press the " PREHEAT " will also start constant temperature heating system。

2)、After the startup of constant temperature heating， circulation pump will be running all the while。

3)、For example：if the temperature is set at 35℃， when the water temperature reaches or exceeds 36℃， the heater will be turned off automatically and the circulation pump will stop after 5 second（If PUMP3 is turn off）。 However， when the water temperature reach or lower than 34℃， the heater will start up。

4)、 When the temperature sensor is open/short (LCD shows "E1")， the auto temperature control system will not be available， Turning on/off the constant temperature system will turn on/off the heater。

(15) Operation to blower：

there is a key " BLOWER °F/°C " controlling the on/off of blower。

(16)Fahrenheit & Celsiur temperature shift：

In the status of**"Waitting Mode"**, pressing the key" BLOWER °F/°C " can change the mode of Fahrenheit & Celsiur temperature 。

(17) When there is no water in the bathtub， water pumps、 blower and constant temperature system will not start up。 However， the corresponding signal on the LCD will flash。

(18) Frozen preventing control：

The heater & circulation pump will on when water temperature is under 5℃，And will off when up 10℃。The function is effective when power on。

4.Electric parameters

(1) Performance index：

Rated voltage： 220VAC/50Hz（110VAC/60Hz）。
Voltage-resistance： 1250V/1 minute without penetration。
Water resistance grade： IPX5。

Maximum working current： 60A（100A/110V）
Isolative resistance ：>=200MΩ
Electric shock resistance： first grade

(2) Output loading index

Heater： AC220V/6KW. 。
（AC110V/3KW）
Surf+Circulation water pump： AC220V/1HP。
Hot tub under water lamp： AC12V/10W。
Radio： 1) Frequency Range： FM： 87.0~108.0MHz
2) Maximum Output Power： 20W
3) Speaker：8Ω damp proof speaker

Surf Water pump： AC220V/3 HP
（AC110V/2HP）
Blower： AC220V/1HP
Ozone： AC12V/15W