# Wellmike Technology Co., Ltd.

# WM-E104 Controller Set User's Guide

#### Installation:

We suggest that our products be installed by professionals that are locally licensed by the authority having jurisdiction in gas piping.

This Model Certified by CSA International\* Meets: ANSI Z21.20-2014 &CSA C22.2 60730-2-5-14

#### !! WARNING:

Improper installation, adjustment, alternation, service or maintenance can cause injury or property damage. Read the installation, operating, and maintenance instructions thoroughly before installing or servicing this device.

INSTALLER: Leave this manual with the appliance. Consumer: Retain this manual for future reference.

# 1.0 General Information:

# 1.1) Contains:

- Controller x 1pc
- Valve Box x 1pc
- Power Adapter DC19V/6A, 110V-240V x 1pc (10ft)
- 3.5mm Audio Cable x 1pc
- 8-pin Data Transfer Cable x 1pc(3ft)

# 1.2) Features:

- Remotely control flame types/heights with Wifi technology
- Sound reactive fire systems
- Custom-made App for control through mobile phones.
- Multiple audio sources (include: Wifi, BT, USB, Line in)
- Line-out function can support 2.1CH speaker system (Maximum total: 100W)
  - \*w/Subwoofer (40hm 36W): R(60hm)+L(60hm)=24W+24W
  - \* w/o Subwoofer: R(4ohm)+L(4ohm)=36W+36W
- Support Hi-Fi audio source via Wifi
- Compatible with Bluetooth audio source with TWS, which enables music broadcasting on two fire pits
- Compatible with 30W RGB LED strip with multiple modes.
- USB 5V/1A output port for charging only .
- Circuit cut-off protection for safety in extreme conditions:
  - a). Voltage ≥23V; b). Current≥10A (continuous); 12A(surge); c). System Temp≥80°C

# 1.3) Apperance

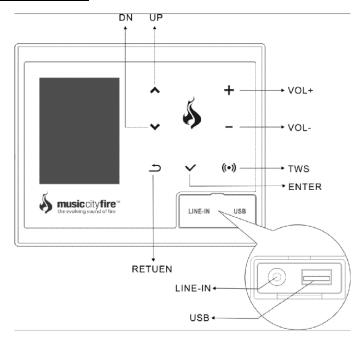


Fig. 1 (Front)

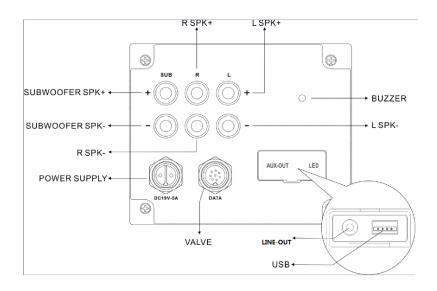


Fig 2 (Back)

# 1.4) Icon Lists

1). POWER ON/OFF:	•	5.ENTER:	V
2). UP:	^	6.VOL+:	+
3). DN:	<b>~</b>	7.VOL-:	_
4), RETURN	<b>5</b>	8.TWS:	((•))

# 2.0 Connecting System:

#### As shown in Fig. 3, 4:

- 2.1). Connect the LPG regulator hose/NG hose to the brass connector in the valve box. (Fig.3, 4)
- 2.2). Connect the "Out" connector in valve box to burner assembly with black flex hose. (fig.xx)
- 2.3). Connect Pilot Light output connector in valve box to Pilot Light fixture in the burner via the copper pipe.
- 2.4). Attach the wire with red mark to the ignition, the one with black mark to the thermocouple sensor respectively.
- 2.5). Connect the controller with valve box with the 8-pin data transferring cable. Screw back the Aerial protective head.
- 2.6). Plug in the LED strip to the LED slot in the back of controller by following polarity arrows.
- 2.7). Connect the Speaker to the Line-out Slot in the back of Controller by following correct polarities (Fig. 2, 4).
- 2.8). Plug in the AC/DC adapter(19V/4.74A) to the back power socket of controller
- 2. 9). When the connection is completed, check joints to make sure they're properly installed, especially for the gas pipes & joints to avoid risk of gas leakage. (Suggest using soap liquid to check pipes & connection)

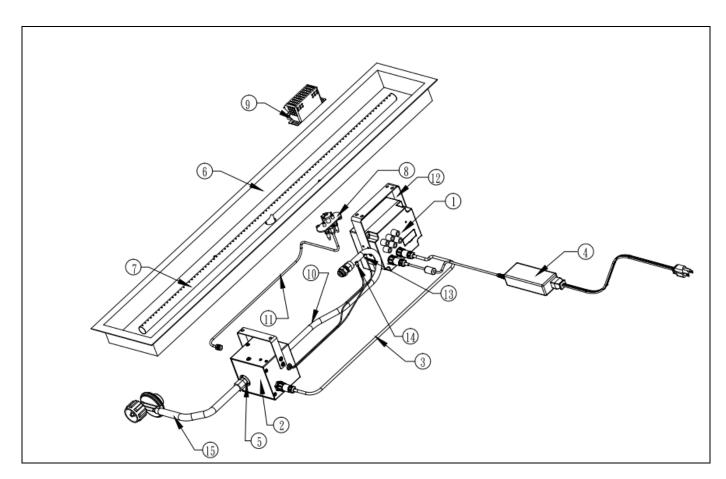


Fig 3-4

# 3.0 Hardware Operation:

# 3.1). Power-on the system

After installation of the "Sound Reactive Fire System", press the button for 2 seconds to power on the system. The flame logo will pop-out in the display, then followed by the main menu.



# 3. 2). Ignition & mode selection:

When the main menu appears in the display (Fig.7), the users can select modes & do settings by using △& ✓ buttons and press ✓/ENTER to save settings.

# Four Modes are available:

1) "REACTIVE": Flame reacts to music (Fig.8)



Fig. 8

3) "MUSIC": music only mode(Fig.10)



Fig. 10

2). "FIRE/MUSIC": Bi-mode, Fire/Music operates respectively



Fig. 9

4). "FIRE": fire only mode(Fig. 11)



Fig. 11

Note: Scroll ▲ to select mode. Press to save selection each time. Under "1.2.4" modes, press for the second time to ignite the fire pit. However, under mode "3", only music is available, no fire at all.

#### 3.3). Audio Source Selection

- 3.3.3.) In "AUDIO SOURCE" page, scroll ▲ & ▼ to select target audio source and press ▼ to confirm. For example, in Fig. 15, BLUETOOTH is selected. To return parent menu, press ► Or the screen will flash back to the Main menu in 10 seconds if no further setting is made.



# 3.4) . Audio Sources available:

3.4.1). BLUETOOTH



Fig. 16 3.4.3). AUX-IN (LINE-IN)



Fig.18

3.4.2). **USB** 

!!! For music in MP3 format only



Fig. 17

3.4.4). WIFI



Fig. 19

**Note:** Always press ✓ to save selection. To return parent menu, press ⊃ .Or the screen will flash back to the Main menu in 10seconds if no further setting is made.

#### 3.5 ). Audio Setting: (Default as seen in Fig.21-22)

- 3.5.1). In "AUDIO CONFIG" page, scroll ▲ ▼ to location "AUDIO SETTINGS". Press ▼ to enter. Scroll ▲ ▼ to select "TREMBLE" or "BASS". Press VOL+ ♣,VOL- to tune optimal sound effect.
- 3.5.2) . "TREMBLE" Setting (Fig. 21): Locate "TREMBLE". Press VOL+ to enhance or weaken tremble.

Note: The range of tremble is "-10db --- 0 db --- +10db"; "2db" each press.

Press "ENTER" to save setting.

3.5.3.). "BASS" Setting (Fig. 22).: Locate "BASS". Press VOL+ ♣, VOL- to enhance or weaken bass.

Note: The range of bass is: "-10db --- 0 db --- +10db"; "2db" each press. Press "ENTER" to save setting.

The screen will jump back to parent menu if no other settings are made in 20 seconds.



# 3.6). LED Setting

3.6.1). Turn on the LED.

The default for "LED" is "OFF". To turn on the LED, locate the "LED's" in the main menu(Fig.23).



3.6.2). LED Color Setting

In LED's menu, scroll ▲ & ▼ to reach "COLORS" (Fig. 26). To review LED's colors, use the VOL+,VOL- keys. Press ▼ to save selection.

**Note:** The color selection function only works under "Solid" pattern of LED display. The color scope is from "1" to "20".



Fig. 26

# 3.6.3). LED Pattern Settings

There are four types of patterns available:

Solid (Fig. 28),

Blinking(Fig.29),

Spectrum(Fig.30),

Breathing(Fig.31)".

Scroll ▲ & ▼ to select target pattern. Press ▼ to confirm selection.

Press D to return to parent menu.



# 3.6.4). LED's Sound Reactive Mode

Locate "MODE" in LED's submenu(Fig.32) . Press ✓ to enter and switch between "MUSIC"/Sound Reactive and "NON MUSIC"(Fig.33-34). The default is "MUSIC" when LED is turned on. Press ✓ to confirm selection. Press ⊃ to return to parent menu



# 3.6.5). Adjust brightness of LEDs

Press to return parent menu. Locate "BRI" (Fig. 35) to adjust the brightness of LED. Review the brightness by "VOL+, VOL-" buttons. The scope of brightness "BRI.{10}- BRI.{100}". Press ✓ to save settings.



Fig.35

# 3.7) Fire Pit Flame Settings:

# 3.7.1). In "FIRE ONLY" & "FIRE/MUSIC" Modes:

# 3.7.1.1). Flame Height Setting:

Return to the Main Menu. Locate "FLAME HEIGHT" (Fig. 36). Press 🔼 & 🗹 to select the flame height ("1"-minimum, "2"-medium, "3"-maximu, Fig37). Press 

✓ to confirm selection.

Note: Press To return to the main menu step by step or wait for 20seconds for system jumps back to main menu automatically.



Fig. 36 Fig. 37

# 3.7.1.2). Mini Flame Height Setting:

Return to the Main Menu. Locate "SETTINGS" (Fig.38). Press 

to enter. Scroll 

& 

to to locate "MINI. FLAME" (Fig. 41).

Click VOL+, VOL- to adjust Mini Flame Height. Press 

✓ to save adjustment.



Fig.38 Fig.39 Fig.40 Fig. 41

#### 3.7.2) In "REACTIVE" mode:

# 3.7.2.1). "RESTING" Flame Height Setting

Repeat steps as shown in Fig. 38-40. Locate "REACTIVE CONFIG" (Fig. 42) and press ✓ to enter. Two selective bars are available. Highlight "RESTING" (Fig. 43) via ⚠& ✓ buttons and press VOL+,和 VOL- to adjust flame height. Press ✓ to save setting.



# 3.7.2.2). "DYNAMIC" Flame Height Setting(Fig. 41)

Repeat steps as shown in Fig.38-40. Locate "REACTIVE CONFIG" (Fig.44.) Press ✓ to enter. Select "DYNAMIC" by 🎍 & ✓ buttons. (Fig. 45) (Caution: Music has to be paused for "DYNAMIC" settings). Click VOL+,和 VOL- to adjust flame height. Use 🗹 to save selection. (To achieve optimal sound reactive performance, remain the flame about one inch high.).



Fig. 44 Fig. 45

#### 3.8. Bluetooth Pairing and TWS Functions:

# 3.8.1). Bluetooth Pairing

- **3.8.1.1).** Locate "BLUETOOTH" in system through paths "SETTINGS---AUDIO CONFIG—AUDIO SOURCE". Press 

  to enter Bluetooth searching mode.
- **3.8.1.2).** Turn on "BLUETOOTH" in the cell phone and searching target Bluetooth device "MusicCityFirexxxx".
- **3.8.1.3).** Click the system icon to get connecting.

#### 3.8.2). TWS Functions:

Remotely control two Bluetooth devices via a cell phone. These two devices can be lined in TWS mode. One works as the LF speaker, and the other one stands for RL speaker.

#### How to Set TWS Mode: (Main & Slave)

- 1) Get two devices to connect properly with burners, valves, and power supplies.
- 2) Turn on both devices and choose Bluetooth as "AUDIO SOURCE" simultaneously.
- 3) Turn on "Bluetooth" in the cell phone and searching for devices. Twin BT IDs named "MusicCityFire" will be displayed in the lists.

- 4) Name one of the two devices as "Main". Press TWS ( icon for 5 seconds. The device is set to be "Main".
- 5) After 3-6seconds, only one ID "MusicCityFire" remains in the list, which means TWS setting is completed.
- 6) Click the "MusicCityFire" ID in the list to pairing the device with cell phone.
- 7) After pairing, the cell phone can play music through two BT simultaneously.

# 4.0 Operation via APP

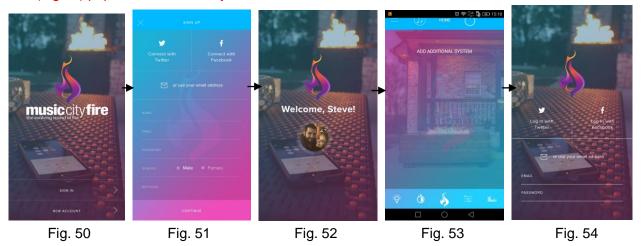
### 4.1 APP installation and Settings

4.1.1). Download Sound Reactive Speaker's APP, "MusicCityFire", through websites:

For Android: <a href="https://fir.im/6lnc">https://fir.im/6lnc</a>; For iOS: <a href="https://fir.im/8zp7">https://fir.im/8zp7</a>

Before APP is activated, please make sure that the mobile phone is properly connected with internet.

4.1.2). Locate "MusicCityFire" APP in the desktop of mobile phone and click to enter. The "SIGN IN" UI pops out (Fig. 50). Click "SIGN IN" to do registration (Fig. 51.) After completing registration, click "CONTIUNE" to enter the home UI (Fig. 52). In a couple of seconds, the screen jumps to "ADD ADDITIONAL SYSTEM" UI (Fig. 53). When open the APP for the second time, the home UI(Fig. 52) pops out automatically.

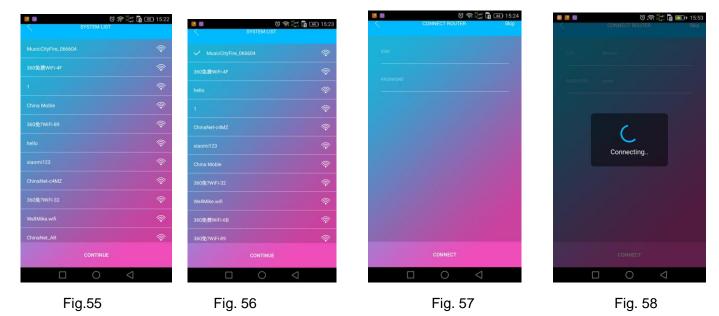


#### 4.2 ADD System

4.2.1). Click "ADD ADDITIONAL SYSTEM" to add the WIFI controlled devices. Scan the QR Code from the sticker, either put on the back of controller or inside the instructions bag in the mail box packaging. Locate the device, "MusicCityFire\_xxxx", in the mobile phone lists of accessible WIFI devices (Fig. 55). Tick it (Fig. 56) and click "CONTINUE" at the bottom to enter the next UI (Fig. 57).

Click on the SSID to search for all WIFI signals adjacently. Click on the accessible Router and then input the password. Click "CONNECT" to get connection and form the network of system, mobile phone and router. (Fig. 58)

4.2.2). "SYSTEM RESET" words flashes in the LCD screen of the Controller which means successful connection between system and mobile phone.



4.2.3.) After the system being connected successfully (Fig. 60), "EDIT SYSTEM" UI pops out, where consumers can name the Fire Pit devices. Click the "FINISH" button to continue. Wait 40seconds-60sconds for device warming-up. (During the waiting period, the Wifi is blocked to avoid being located by other mobiles.)

To pairing the device for the second mobile phone, press the "WIFI RESET" in the Controller in the path of "SETTINGS-WIFI REST". "WIFI RESET" flashes in the LCD and system restart automatically. Then repeat the WIFI setting process for adding the second mobile phone.

In case of connection failure, UI as shown in Fig. 61 can be seen.



Fig. 59



Fig. 60

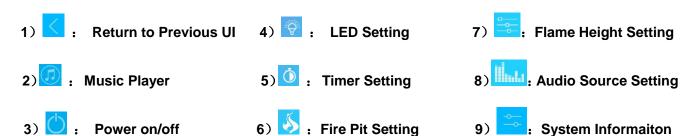


Fig. 61

#### 4.3 APP Functional Overview

After pairing successfully, click on the added system (Fig. 60) and the master UI pops out, where the

consumers can remotely control the device via mobile APP. Functional icons will be displayed as lists below:



Note: Except ignition to the fire pit, all the other functioned can be activated via APP.

# 4.4 System Setting via APP

System settings icons are in the bottom bar of the home UI(Fig. 63). From left to right, they are settings for "LED-TIMER-MODE-AUDIO-FLAME HEIGHT"

- 4.4.1). Fire Pit Mode Setting: Click to enter mode setting UI. There are four modes available (Fig. 63):
  - 1). SR: Sound Reactive Mode
  - 2). FM: Fire/Music Mode
  - 3). FO: Fire Only Mode
  - 4). MO: Music Only Mode



Fig. 62



Fig. 63



Fig. 64

# 4.4.2) Flame Height Setting

Click to start flame height setting (Fig. 64). In "FLAME HEIGHT" UI, the consumer can set the heights of flame in several ways:

- 4.4.2.1). In "FLAME Height" section, set the flame height for "FIRE ONLY", "FIRE/MUSIC" modes.

  "1-2-3" stands for "Low-Medium-High"
- 4.4.2.2). "MINI FLAME HEIGHT" Setting is for the height of the "Low" flame under "FM" & "FO" modes. Before setting, please make sure the flame level is "1". (Fig. 66) Then drag the control bar to adequate level.

Note: For safety sake, the overall flame height is limited. Therefore, the higher the "Low" flame, the less difference can be spotted when switched among "1-2-3" flame levels. (The setting is processed under "FM", "FO" modes exempting "SR" or "MO"



Fig. 65



Fig. 66

### 4.4.3.) Dynamic Flame Setting

- 4.4.3.1). Under "SR" mode, the dynamic flame height can be adjusted (Fig. 67). The adjustable range is 1-20. The smaller the number, the higher the mini flame height, oppositely the flame reacts more sensitively to the music, vice verse. The logical of dynamic flame setting in APP is in compliance with the setting in touch panel of Controller.
- 4.4.3.2). Please make sure to keep the basic dynamic flame at proper height. Too sensitive setting/ too tiny original fire will fail to response to weak music signal. In another way, if the original dynamic flame is set too high, almost no variation will the flame display to responding to the music, like a fire wall.

The best performance can be achieved when the dynamic original flame is kept about half an inch high.

# 4.4.4.) Resting Flame Height Setting (Fig. 68)

4.4.4.1). The adjustment is conducted under "SR" mode. The system will enter into "resting" automatically in 5 seconds after music stops. (This feature is designed to avoid flameout in time of music interval to ensure the safety of using the fire pit.) The adjustable range is: 1-15 and the default is "12". The customer can do custom-made settings. However, please keep the flame at the proper height. The logic is the same as the RESTING settings through the touch panel of Controller.





Fig. 67

Fig. 68

# 4.5 Play Music via APP

In home UI (Fig 62), click on the top left to enter "MUSIC PLAYER" UI to play music through APP. (Fig. 69)

#### 4.5.1). Play Music via WIFI

After entering the music playing UI, system will search for the local music lists automatically. Click the music output icon on the top right, switching the music output device from mobile phone to "MusicCityFire" WIFI system (Fig. 69). Click on the target music from the lists (Fig. 70). Music is played in the system. Music information runs in the UI and the speaker icon lights up in front of music name. (Fig. 71).





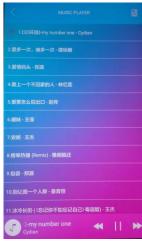


Fig. 69

Fig. 70

Fig. 71

#### 4.5.2) Playing Music via Bluetooth

- 4.5.2.1) Firstly, turn on the Bluetooth in the mobile phone. And locate "MusicCityFire" BT device. Click the device icon to get connected.
- 4.5.2.2) Next return to "MusicCityFire" APP. Locate "MUSIC PLAYER" UI(Fig.72) by clicking on clicking on locate "MUSIC PLAYER" UI(Fig.72) by clicking on locate "MUSIC PLAYER"

Press on top right to switch the output device to Phone(Fig.73).

4.5.2.3) Afterward, return to the Home UI to do Audio Settings(Fig.74). Click on "icon to enter "AUDIO SETTING" UI(Fig. 75). Choose "BLUETOOTH" as the audio source and "BT" icon lights up in the bottom bar (Fig. 76).











Fig. 72

Fig. 73

Fig. 74

Fig. 75

Fig. 76

# 4.6 Audio Settings

4.6.1) Audio Settings: (from Fig. 74 to Fig. 76)

VOLUME: Adjust the audio volume (range: -38.75db to 0db)

TREBLE: Set the tremble of system(range: -10db to +10db)

BASS: Set the bass of system (range: -10db to +10db)

- 4.6.2) Audio Sources: (from left to right in the bottom bar)
  - Bluetooth Input

🛜 : WIFI Input

. Aux-in/ Line-in

USB Input (USB Thumb in FAT formats; MP3 Music formats)

: Resume default settings

Exit current UI and return to Home UI

# 4.7 LED Settings:

In home UI, click icon(Fig.77) to enter "LED SETTINGS" UI. (Fig. 78)



Fig. 77

Fig. 78

# 4.7.1) LED Adjusting Buttons:

Range: 1-20, 20 colors can be selected from color wheel.

UP icon for previous color, same function as "+" in the touch panel of Controller

.....

Down icon for following color, same function as "-" in the touch panel of Controller

BRIGHTNESS: Range: 10%--100%

# 4.7.2) LED Patterns:

SOLID: Fixed LED color and brightness. LED stays on.
BLINKING: Fixed LED color and brightness. LED blinks.
SPECTRUM: LED alters in multiple colors and brightness.

BREATHING: LED varies in brightness with one color.

ON: LED Power on OFF: LED Power off

# 4.7.3) LED Modes:

REACTIVE: LED strip reacts to music.

NORMAL: LED strip has no connection with music.

#### 4.8 : Timer Setting

In home UI, click on icon to enter "TIMER" UI (Fig. 79)



Fig. 79

- 4.8.1)Timer can be set by Hours/Minutes. Press and button to do adjustment. Press "START" button to count down time. (The maximum duration is 12Hours). When the timer counts down to "0", the system will stop all ongoing tasks and enter into "STANDBY" status. The status words pops out in the LCD of Controller.
- 4.8.2) During the course of operation, press "END" button in "TIMER" UI to cancel the setting of timer.
- 4.8.3) Note: When the timer counts down to "0", the system will enter into "STANDBY" status automatically.

  Press any button in APP will awake the system. The system's setting remains the same as previous operation. However, APP can not ignite the fire pit. Press Power on button on the Controller to ignite the fire pit.

Remarks: The above mentioned operation is based on a LAN network via router.

# 5.0 Networking:

- **5.1) Create network through Router** (Refer to: "4.2.1" & "4.2.2" under "ADD SYSTEM" column)
- **5.2) WIFI Point to Point Operation** (Using mobile phone's WIFI)

After Sound Reactive System is added to "MusicCityFire" APP, in case no internet is accessible, the system can be remotely controlled by mobile phone WIFI.

Following are steps:

- 5.2.1) Open WLAN of the mobile phone's and locate the MusicCityFire\_xxxx system in the lists. Click to get connected.
- 5.2.2) Open "MusicCityFire" APP
- 5.2.3) Click the "MusicCityFire\_XXXX" system in the home UI to remotely control it.

Note. The mobile phone acting as the hotspot can't stream down internet music source by itself. To improve it, use multiple mobile phones to create LAN by sharing Hotpot. (Refer to: "WIFI Hotpot Sharing Operation")

# 5.3) WIFI Hotspot Sharing Operation

In condition that no internet is accessible, local network can be created by multiple mobile phones and systems. Use one mobile phone as the hotspot to share WIFI signal with other mobile phones and systems.

The networking process is the same as "5.1", but replace the Router ID/password with the that of the mobile phone acting as the hotspot.

# 6.0 CAUTIONS:

- The water resistant grade is IP55 for the housing. Don't drop the product to water to avoid permanent damage.
- Don't expose the system to direct sunshine.
- Please always use attached Power Supply: Switching Power 19V/6A. Input: 110V-240V; Output: 19V/6A
- To create network with the second mobile phone, it's necessary to press "WIFI RESET" in the controller in path of "SETTINGS-WIFI RESET". (The device's WIFI signal will be blocked after networking successfully for the first time. So "WIFI REST" is required)
- It takes about 35-60 seconds for "WIFI RESET" processing before the system operate properly. Or it might take longer. (depends on the quantities of fire pit added to the list)
- USB Port is mainly for charging 5V/1.0A external device. For music playing, the USB device should be disconnected firstly after system resetting.
- APP sends information to backstage every 20sconds, when it returns to home UI simultaneously. It
  normal that this happens during the course of APP control. But for touch panel operation, this won't
  happen.
- The working distance of Bluetooth/WIFI varies with neighborhood surroundings and mobile phones.
   Bluetooth: 7-15 meters

WIFI: 15-30meters

- In case music distortion occurs, turn down the volume to improve. Always tune the volume to proper level to avoid distortion.
- Unplug the power supply if system is not in use for a period of time.
- The "DEFAULT" in APP is for volume setting only. Return to the controller's touch panel to default the whole system.
- The setting in APP can't reflected by Controller's LCD display.
- To reignite the burner system, please make sure the system come back to "REACTIVE" in the main menu.
- Don't use USB when the system pairs with AUTO-OUT devices.

# **FCC Warning Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- · Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

To comply with FCC RF exposure compliance requirements, this grant is applicable to only mobile configurations. The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.