SHOWVEN®

USER MANUAL
SPARKULAR® II

V1.1

2024/07/02

Showven Technologies Co., Ltd.

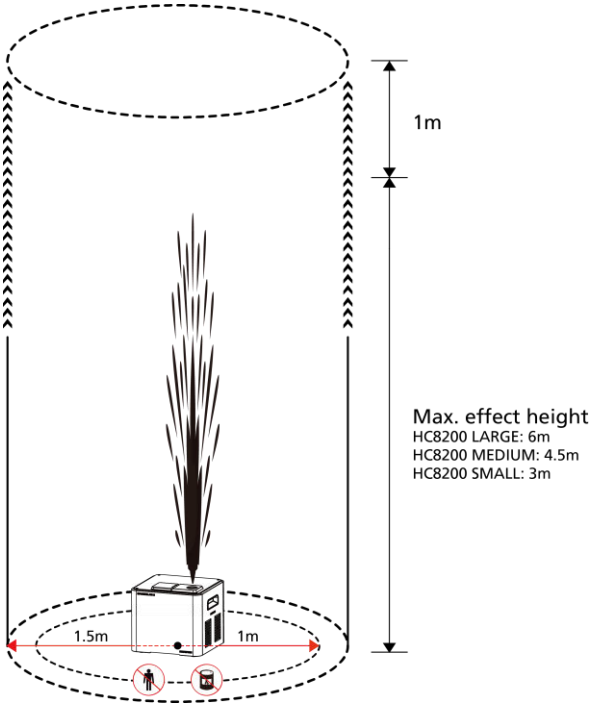
Thanks for choosing SPARKULAR® II , we wish it will sparks up your show.
Please read the following manual carefully before operating this product.

Δ Safety Instructions

\ Unauthorized repair are prohibited, it may cause serious incident.
\ SPARKULAR® II can be used in rain, but please keep it dry after use and when storing it.
\ Make sure lid of feeding hopper are well covered when use SPARKULAR® II
\ Accidentally burning of consumable can only use sands to extinguish.
\ Consumable should keep away from moisture and stored in a dry sealed environment.
\ Check whether there is consumable aggregate in the output nozzle both before and after each show, if any, please clean it up, or it will affect the firing effect, damage machine, even cause serious incident.
\ There will be some sparks drop to ground, make sure there are no flammable objects such as carpet on the ground within the safety radius of the machine.
\ Suggest to use HC8200 MEDIUM or SMALL for indoor events.
\ The SPARKULAR® II power supply cable maximum allowed cascade of 6pcs (220V version) / 3pcs (110V version), exceed connecting may result in damage or even cause fire.
\ For better heat dissipation, block the air intake and air outlet is prohibited.
\ Cover the output nozzle of SPARKULAR® II is forbidden, inspect the machine before each show, making sure no objects or material will block the output nozzle.
\ Never touch the nozzle of SPARKULAR® II danger of getting burnt.
\ Never touch the sparks which shooting out from the nozzle.

Safety Distance

\ Keep audience and flammable material at a minimum distance of 1m (when use HC8200 SMALL and MEDIUM) or 1.5m (when use HC8200 LARGE) from SPARKULAR® II.
\ Make sure sparks shoot out from SPARKULAR® II can NOT touch any objects. And keep a clearance with minimum 1m from the setting maximum effect height.
\ In windy environment, increase the safety distance according to the wind direction and speed.
\ The safety zone area shifts accordingly when machine installed in tilt position. Please increase the safety distance in the direction which machine tilt.
\ Sparks and consumables from the machine can lead to serious eye injury. Always wear safety goggles when enter the safety zone.



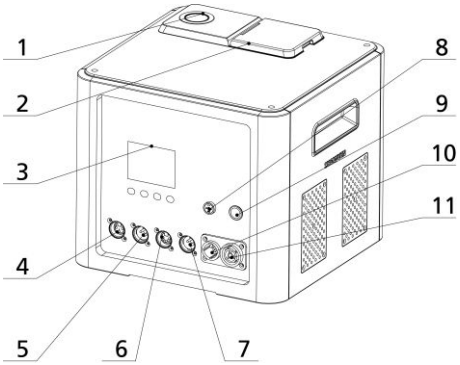
Δ Description

SPARKULAR® II is a brand new upgrade based on patented SPARKULAR® platform combined with valuable feedbacks from our customers, latest technologies and our years of experiences,. Comparing with the SPARKULAR®, SPARKULAR® II with effect up to 6m, much lower noisy, more powerful feeding structure and real time motor status monitoring ensure less stuck and safer firing. 3.2" LCD color screen, touch keypad, flat structure design etc modern features makes it more user friendly when operating the system. It is an ideal choice for circumstance where low noisy output and higher spark effects are preferred.

Δ Technical Specifications

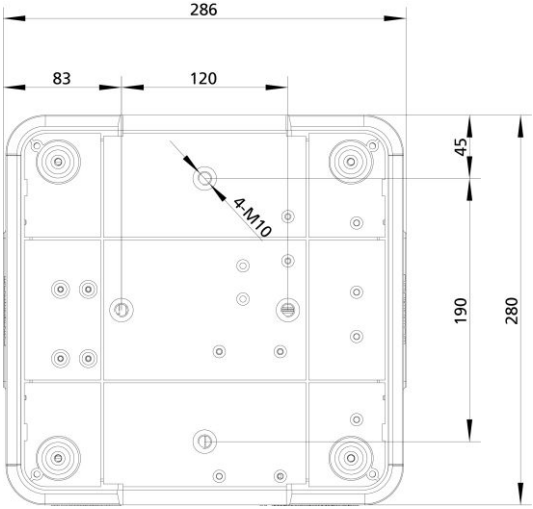
\ **DIMENSION:** 286×280×258mm
\ **WEIGHT:** 9kg
\ **VOLTAGE:** AC200-240V / AC100-120V, 50/60Hz
\ **WORK POWER:** 500W
\ **EFFECT HEIGHT ADJUSTBLE:** YES
\ **INTERFACE:** 3-pin and 5-pin XLR, POWER IN/OUT
\ **CONTROL:** 2 DMX channels
\ **WORK TEMP.**: -20℃~40℃
\ **CONSUMABLE AND EFFECT HEIGHT:** LARGE (3-6m), MEDIUM (2-4.5m), SMALL (1.5-3m)

Δ Structure of SPARKULAR® II



1. Output Nozzle
2. Feeding Hopper Lid
3. LCD Screen
4. 3-PIN DMX IN
5. 3-PIN DMX OUT
6. 5-PIN DMX IN
7. 5-PIN DMX OUT
8. Fuse
9. Power Switch
10. Power IN
11. Power OUT

Diagram of Bottom Panel



Δ Operation Panel

1. Keypad area:

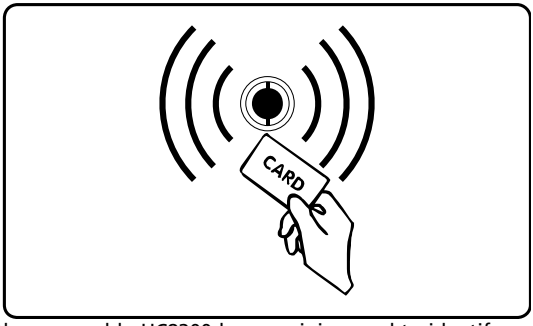
MENU: Press enter setting interface

UP: Parameter up

DOWN: Parameter down

MONI: Status monitoring of main part inside machine

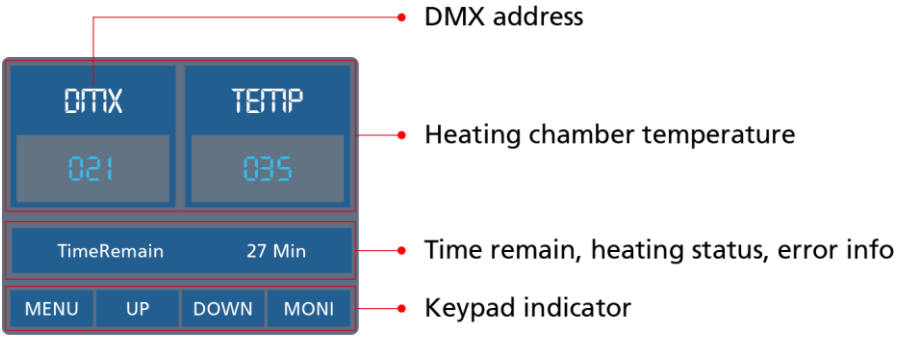
2. RFID area:



RFID card come with consumable HC8200 bags, swiping card to identify parameters and types of granules. The RFID card is disposable, one card can only use one time. Each card can increase single machine 20min working time, the maximum recharge time for SPARKULAR® II is 30min

Δ Display Interface

1. Main Interface:



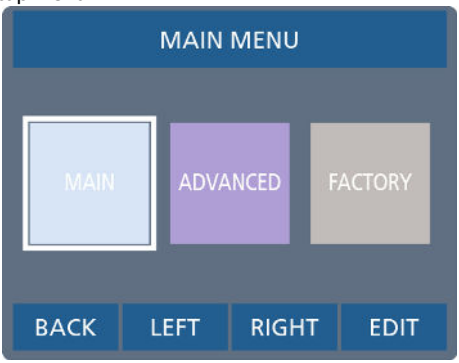
Background color of DMX area: red means DMX connected.
Background color of TEMP area: red means heating chamber temp. reached setting temp. machine is ready for firing.
Indicator light status on power switch: flash means machine is heating up, long on means machine is ready for firing.

2. Error information

Error information	Explanation
E0 System IC	Systematic error
E1 Motor condition	Blower motor, shaft motor or feeding motor error
E2 Temp. Sensor	Temperature sensor is not connected or damaged
E3 P Temp. Over	Machine shutdown due to chassis over temperature
E4 Time Remain	Firing time is insufficient, please swipe RFID card
E5 K Temp. Over	Machine shutdown due to heating chamber over temperature
E6 Heat Fail	Heating fail, problem on heating PCB or mainboard
E7 Tip Over	Tilt sensor activated when machine slant over 45 degrees

3. Menu

Press “MENU” enter setup menu.



MAIN: main menu

ADVANCED: advanced menu

FACTORY: factory menu (for manufacturer use only).

BACK: back to main interface

LEFT: switch to left option

RIGHT: switch to right option

EDIT: edit the selected item

4. Main Menu

Choose MAIN at menu interface, press EDIT enter main menu interface.

Options	Range	Default	Explanation
Set DMX Address	1-512	1	Set DMX Address
Set Safety Address	1-512	3	Safety address under 3CH-P channel mode
DMX Channel Mode	2CH-N/3CH-P	2CH-N	2CH-N: 2 channel mode 3CH-P: 3 channel safety channel mode
Jet Mode	Normal / Silent	Normal	Silent Mode with lower noisy while height will be lower
Fountain Height	1-10	5	Manual firing height adjust, for test purpose.
Manual Heat	ON/OFF	OFF	Auto heating up ON/OFF
Manual Fountain	ON/OFF	OFF	Auto preheat function switch after turn on machine ON: machine heat up automatically after power on. OFF: machine won’t heat up after power on.

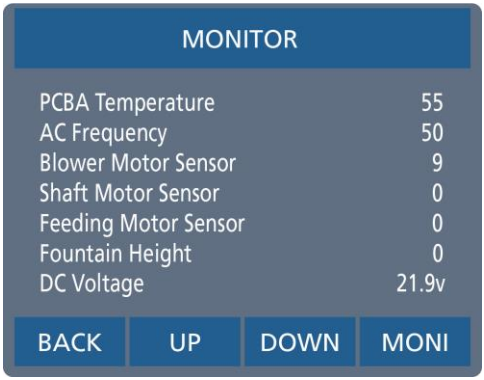
5. Advanced Menu

Options	Range	Default	Explanation
Set Temperature	400-620	580	Setup SPARKULAR® heat chamber temperature
Wireless Control	ON / OFF	OFF	Wireless function
Density	70-100	100	Feeding amount
Motor Protect	ON/OFF	OFF	Motor protect function, default setting is OFF
Tip Over	ON/OFF	ON	Tilt function switch, when machine slant over 45 degree it will stop working.
Standby Switch	ON/OFF	OFF	When ON, the machine can firing only when heating up was finished
Default Parameter	ON/OFF	OFF	Parameters reset to default setting
Mode Selection	Factory Mode User Mode	User Mode	Factory mode is for engineer only. When in Factory mode machine can't controlled by DMX console
LCD Backlight	ON/OFF	ON	LCD Backlight ON/OFF
Auto Clear Delay	0.1-0.9s	0.1s	Automatic clear material time setting
Key Sound	ON/OFF	ON	Key pad sound ON/OFF switch
DMX Lock	ON/OFF	OFF	ON: parameters setting disable when there is DMX signal; OFF: parameters setting enable when there is DMX signal.

*For better performance of SPARKULAR® II, please don't change the default value without permission from SHOWVEN®.

6. Monitor Interface

Show the parameters of motor etc. main part inside machine. If there is any error it will show on main interface.



7. DMX Channel Mode

2CH-N mode. SPARKULAR II occupies 2 operational channels. First channel is for effect height, second channel for effect trigger and clear material etc.

First Channel	Function
0-15	Fountain Off
16-39	Fountain Height 1
40-63	Fountain Height 2
64-87	Fountain Height 3
88-111	Fountain Height 4
112-135	Fountain Height 5
136-159	Fountain Height 6
160-183	Fountain Height 7
184-207	Fountain Height 8
208-231	Fountain Height 9
232-255	Fountain Height 10
Second Channel	**Function**
60-80	Clear Material
20-40	EMERGENCY STOP
0-10	Pre-heat OFF (disabled when auto-heat ON)
240-255	Pre-heat ON (disabled when auto-heat ON)

3CH-P mode. SPARKULAR II occupies 2 operational channels and a separate safety channel (this channel is independent from operational channel, can be shared with other machine).

First Channel	Function
0-15	Fountain Off
16-39	Fountain Height 1
40-63	Fountain Height 2
64-87	Fountain Height 3
88-111	Fountain Height 4
112-135	Fountain Height 5
136-159	Fountain Height 6
160-183	Fountain Height 7
184-207	Fountain Height 8
208-231	Fountain Height 9
232-255	Fountain Height 10
Second Channel	**Function**
60-80	Clear Material
20-40	EMERGENCY STOP
Safety Channel	**Function**
50-200	Pre-heat ON
0-40, 201-255	Pre-heat OFF

8. Wireless Control Mode:

When use remote controller, please disconnect DMX cable connection, set machine to Wireless Control ON status. Match machine with remote controller by Press "A" on remote controller when machine at Wireless Control interface.

A: OFF / SET, Firing OFF, SET means match machine with remote controller.

B: High Effect

C: Low Effect

D: Clear Material.

Please replace the battery when the indicator light on remote controller is weak.

Δ Operation Guide

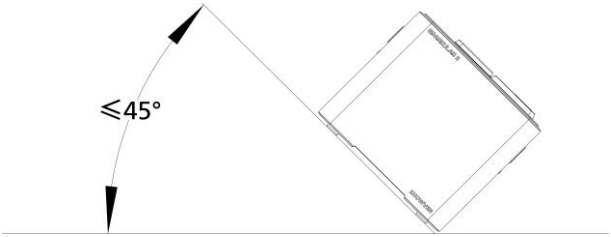
1. Install SPARKULAR® II

a) Horizontal installation is preferred for SPARKULAR® II. If need to installed SPARKULAR® II in angles, please turn the Tip over to OFF status first, maximum firing angle is 45 ° and can only be angled to the right side as below picture.

b) Make sure the machine is securely installed to avoid tipping.

c) The safety zone area shifts accordingly when machine installed in tilt position. Please increase the safety distance in the direction which machine tilt.

d) Check carefully the output nozzle of each machine, make sure the output nozzle is in good shape and there is no powder aggregate.



2. Fill SPARKULAR® II

a) Open powder bags and fill the feeding hopper. Hopper capacity of SPARKULAR® is 325g.

b) Choose correct consumable according to the application scenario. SPARKULAR® II can only use HC8200 LARGE, MEDIUM and SMALL.

c) Please be noted that there may sparks or remains fall to the ground. Make sure no flammable material on ground in the safety zone.

d) Maximum effect height: HC8200 LARGE is 6m, HC8200 MEDIUM is 4.5m, HC8200 SMALL is 3m.

e) Make sure the lid of hopper is locked tight after filling.

3. Connect Power / DMX cable

a) Connect a power cable to the POWER IN socket of SPARKULAR® II. Connect the other end of power cable to the power source. Make sure power supply in consistent with the rated voltage of the equipment, and the socket must well grounded.

b) If connect machine in sequence, please connect a power link cable to the POWER OUT of previous machine, connect the other end of the power link cable to POWER IN of the next machine.

c) The SPARKULAR® II power supply cable maximum allowed cascade is 6 units (220V version) / 3pcs (110V version). Do not connect exceed units to a single electrical circuit.

d) Power ON all SPARKULAR® II.

e) Assign DMX address for each unit of SPARKULAR® II. If use SHOWVEN host controller or FXcommander to control the machine please allocate a unique DMX address for each unit of machine.

If use remote controller to control SPARKULAR® II wirelessly, please set machine to wireless ON status and match machine with remote controller. For DMX cable control please execute below operations (f to h).

f) Connect a DMX cable to the DMX IN socket of first unit of SPARKULAR® II, connect the male connector end of DMX cable to your DMX controller (FXcommander, HOST CONTROLLER, light console etc).

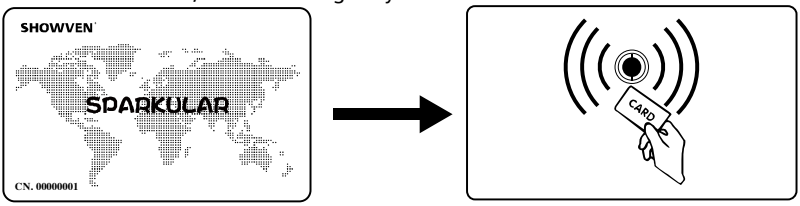
g) Connect a DMX cable to the DMX OUT of previous machine, and the other end of to the DMX IN of next machine. Connect all devices in series in this way.

h) Suggest to plug in a DMX terminator into the DMX OUT in last unit of machine to improve signal reliability. Signal amplifier is required for long distance (>200m) DMX signal transmission.

4. Activate SPARKULAR® II by swipe RFID card

a) Swipe an RFID card. Read the card as show below. SPARKULAR® II shows time remain if read successfully. SPARKULAR® II report E4 when remaining time is less than 10 minutes.

b) Please note each RFID card come with 200g package HC8200 can increase single machine 20min working time, the maximum recharge time for SPARKULAR® II is 30min, when time remain reached 30min, it can't recharge anymore RFID card.



5. Programming and Firing

a) Programming SPARKULAR® II, set the firing height, firing sequences etc.

b) Heating up, it takes around 5min, it varies according to the voltage and environment temperature.
c) Make sure the prescribed safety zone is clear.
d) Suggest to clear material before firing.
e) Firing. In order to prevent overheat in the heating chamber and protect machine, the maximum continuous firing time for SPARKULAR® II is 30s.
f) The operator should always have a clear view of the device, so that he/she can stop the show immediately when there is danger.
g) Clear material for SPARKULAR® II for 5s after show, clear material will remove the remaining particles from heating chamber. For angled installation, please elongate clear material time.

6. Turn Off and clean up

a) Power off SPARKULAR® II, allow SPARKULAR® II to cool down.
b) Disconnect all POWER and DMX cables.
c) Empty the remaining HC8200 in hopper, and store the remaining HC8200 in a dry sealed bottle for next time use. Never touch the output nozzle of SPARKULAR® II when empty the hopper. DANGER OF GET BURNT!
d) Operators can use handheld vacuum cleaner to empty the feeding hopper. Do make sure the machine was cool down when clean it. Do NOT use high-power vacuum cleaners to avoid hot consumables being sucked into the vacuum cleaner from the heating chamber and cause fire.
e) Clean the surroundings to remove powder residues.

Δ Maintenance

a) Empty the feeding hopper before shipment of machine.
b) Empty the feeding hopper if long time not use, for high humidity environment we suggest to empty feeding hopper after each show.
c) Clear material both before and after the show.

Δ Warranty Instructions

\ Sincere thanks for your choosing our products, you will receive quality service from us
\ The product warranty period is one year. If there are any quality problems within 7 days after shipping out from our factory, we can exchange a brand new same model machine for you
\ We will offer free of charge maintenance service for machines which with hardware malfunction (except for the instrument damage caused by human factors) in warranty period. Please don't repair machine without factory permission

Below situations NOT included in warranty service:

\ Damage caused by use other type of consumable which is not originally from SHOWVEN®.
\ Damage caused by improper transportation, usage, management, and maintenance, or damage caused by human factors;
\ Disassemble, modify or repair products without permission;
\ Damage caused by external reasons (lightning strike, power supply etc.)
\ Damage caused by improper installation or use;

For product damage not included in warranty range, we can provide paid service.
Invoice is necessary when applying for maintenance service from SHOWVEN®.

SHOWVEN®

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