

# 20K ULTRASONIC GENERATOR (HC-CS2000C) OPERATE MANUAL

First of all, thank you for purchasing our ultrasonic industrial grade ultrasonic equipment.

Please read this manual carefully before use. Please keep it in a safe place for future reference.

## 一、 About this manual

1. Unless otherwise stated, all sample operations in this manual assume that the device uses the initial default settings.
2. The contents of this manual are subject to change without prior notice.
3. The displays and illustrations in this User's Guide (such as the initial values of each parameter) are for illustrative purposes only and may differ from the actual items indicated.



## Initialization of the generator

All initial parameters of this device have been set by the staff.

### ATTENTION:

lease operate this equipment by professionals person, otherwise it will cause irreparable damage.

1. High voltage will be generated inside the device. To ensure safe use, pay attention to the following warnings:

- Do not use this product when the housing is open.
- Do not excessively impact or crush the device.
- Use a grounded power supply to avoid possible electrical shock.
- Do not put your hand under the welding horn. The welding horn pressure and ultrasonic vibration will cause damage.
- Do not operate the equipment when the transducer and mold are not connected, to avoid unnecessary damage to the equipment.
- When replacing large molds, be sure to keep yourself safe.
- Before using, be sure to check if the mold is loose. Never operate the equipment with the mold loose.
- When an abnormal condition occurs, the fault is not resolved. Do not turn it on again to avoid the fault expansion.
- Due to the large number of electronic components inside, whenever you dispose of this device or replace internal parts, be sure to follow the laws and regulations in your area.

### Equipment work environment requirement.

- Maximum allowable environment temperature:  $-20^{\circ}\text{C}$  to  $40^{\circ}\text{C}$ . Exceeding the operating temperature may cause work error and fire.
- Maximum allowable air humidity: less than 70%. Excessive air humidity can condense water inside, Short-circuit the internal electronic components of the power supply, causing the device to operate abnormally.
- Maximum electromagnetic interference intensity: less than 120E. Larger than this standard can seriously interfere with the normal operation of the device and damage the device. Ultrasonic power supply itself is a large source of electromagnetic radiation. When there is a clear electromagnetic interference and multiple devices are tightly installed, all communication lines and energy output cables should be shielded and coaxial.



## POWER SUPPLY REQUIREMENT:

The power input standard is: single phase AC220V 50HZ/60HZ.

Input power supply voltage fluctuation range: <10%.

Input power grid harmonic content: <20%.

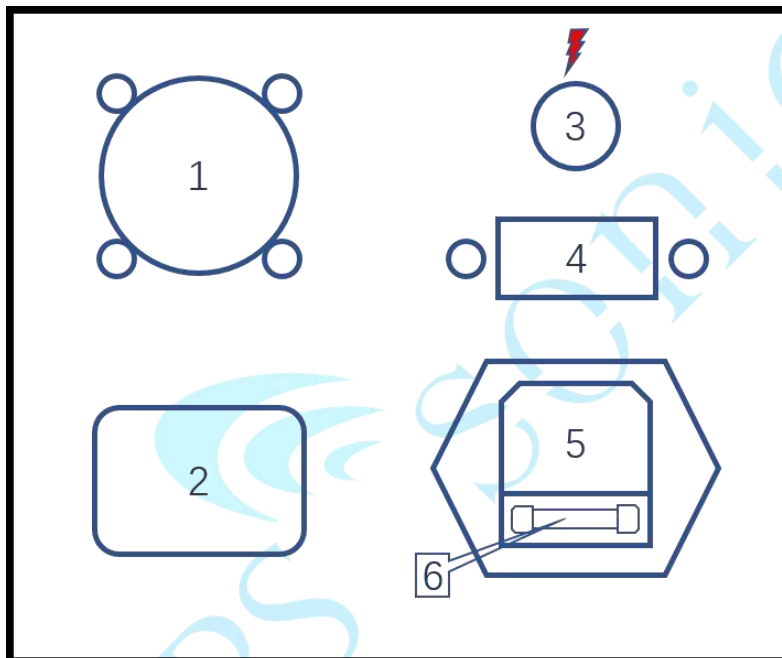
Input supply current: <20A.

Input power cable diameter: >2.5MM<sup>2</sup>.

### Equipment wiring diagram:

There are two parts of this equipment that need to be wired by the user. The wiring is as follows:

Diagram one:



1, the fan.

2. Power switch.

3. Transducer interface (The transducer interface uses a single-core high-voltage RF interface, the center line is the positive end of the transducer, and the shield is the negative end of the transducer). (It is strictly forbidden to reverse!)

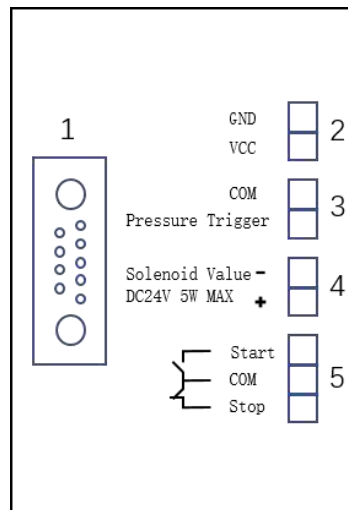
4, DB9 female interface, this interface uses the conventional DB9 core wire connection, the adapter board is attached to the random device, and the adapter board connection method is shown in the wiring diagram 2.

5, power socket (character type interface).

6, fuse holder (this device uses 15A, 250V fuse).



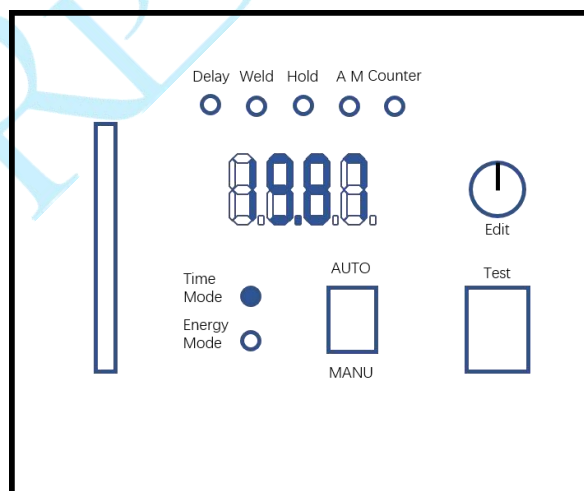
## Diagram two



- 1, DB9 female seat, this port is connected to the base of the power supply sound through the DB9 core wire.
- 2, 24V power supply terminal, this port provides a constant voltage of 24V, the maximum current of 100Ma.
3. This port is a pressure trigger port. This port is valid when the device works in pressure trigger mode.
- 4, Solenoid valve interface, can be connected to the voltage 24V, the maximum power of 5W solenoid valve.
- 5, Automatic operation start and emergency stop wiring port.

## Operating instructions:

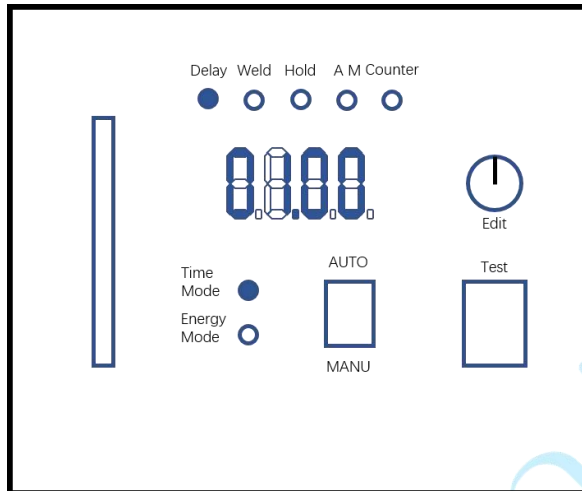
### Initial interface



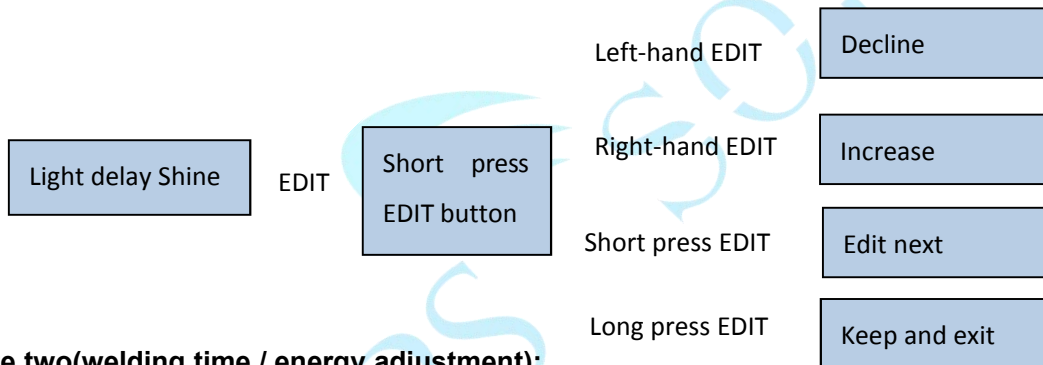
The digital tube displays the scanned frequency. The upper five LEDs are off, and the below two LEDs indicate the current time mode or energy mode. The ship type switch realizes automatic operation

and manual mode adjustment switching. The left led light bar shows the current power, and the right side spring switch realizes the sound wave detection. The upper right coding switch enables the selection and adjustment of parameters.

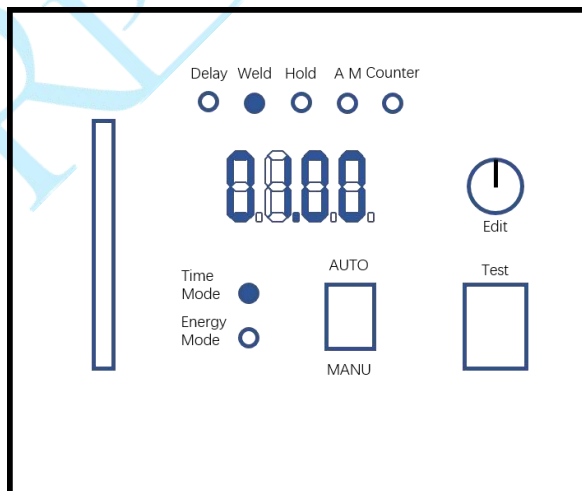
**State one (delay time adjustment):**



When the upper Delay light is on, it indicates that the current state is the delay time selected

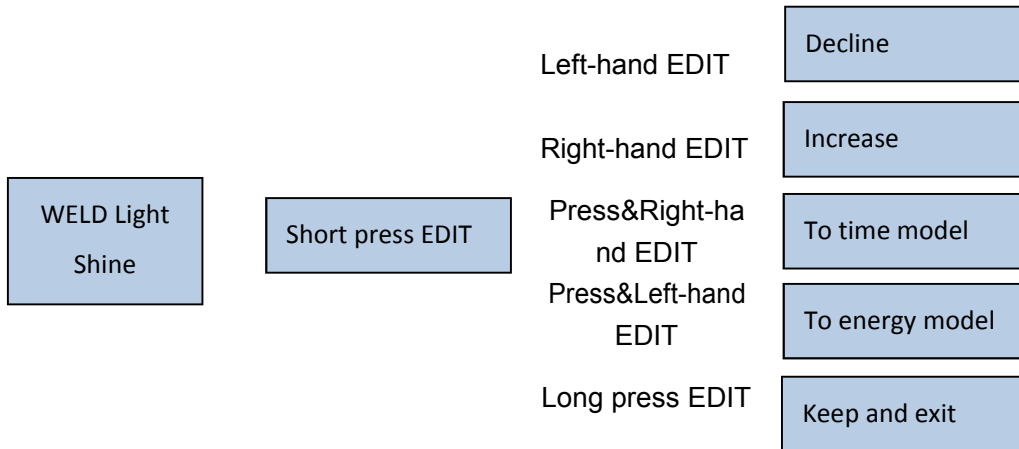


**State two(welding time / energy adjustment):**

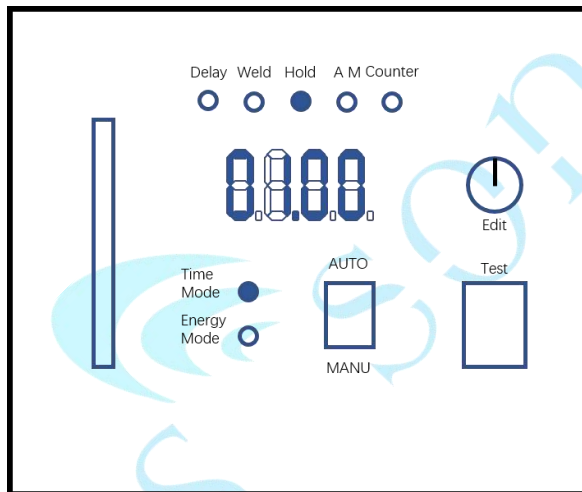


When the upper weld light is on, it indicates that the current state is the welding time/energy selected

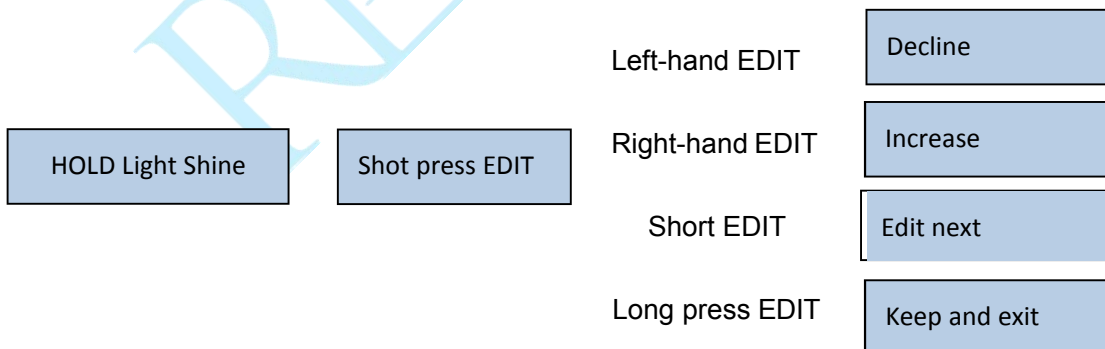




**State Three (Holding time adjustment):**

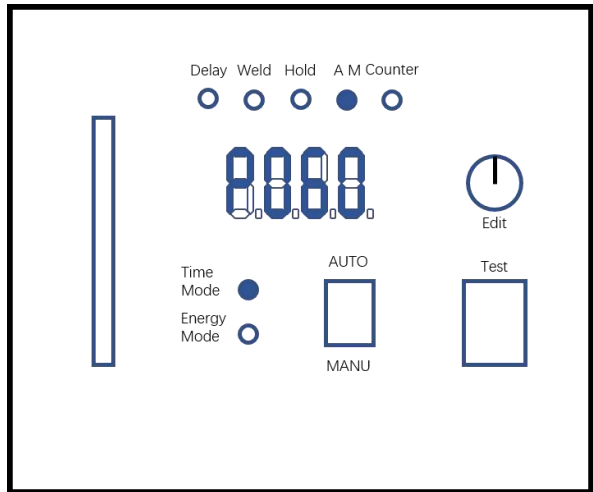


When the upper Hold light is on, it indicates that the current state is the holding time selected

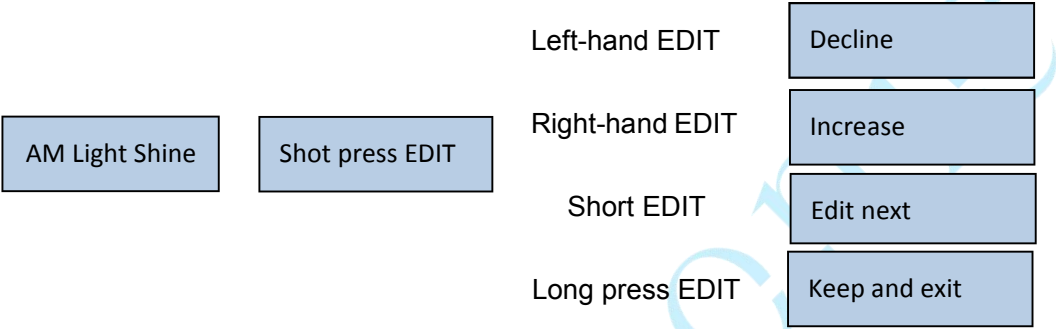


**State Four(AM adjustment):**



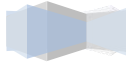
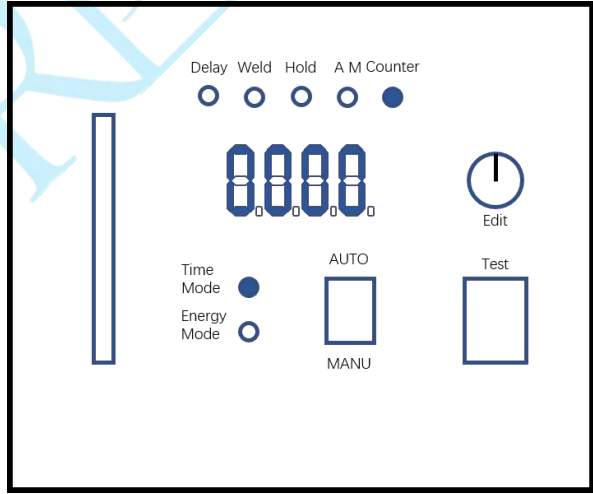


When the upper AM light is on, it indicates that the current state is the amplitude selected



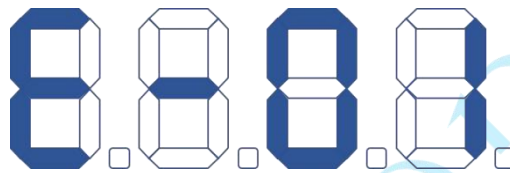
**State Five(Counter adjustment):**

When the upper AM light is on, it indicates that the current state is the amplitude selected



Counter Light Shine	Short press EDIT	Left-hand EDIT	Check the front NO.
		Right-hand EDIT	Check the behind NO.
		Press&Right-hand EDIT	No meaning
		Press&Left-hand EDIT	Clear AS 0
		Long press EDIT	Keep and exit.

## Fault protection display and solution



When the 4 lamps on and alarming, the generator into Protection status.

The screen will show the error code

**E-01:** Power over loading.

**E-02:** Frequency out range

**E-03:** Frequency too low

**E-04:** Equipment operation fault

**E-05:** Parameters read failed

**E-06:** loading error

### **E-01: Power over loading.**

How to solve: Reduce the amplitude or reduce the loading (such as reducing the pressure );

Replace a larger ultrasonic generator.

### **E-02: Frequency out range**

How to solve: Cooling the mold; Check mold connection and transducer



**E-03:** Frequency too low

**How to solve:** Check mold connection.

**E-04:** Equipment operation fault

How to solve: Check mold connection and transducer

**E-05:** Parameters read failed

How to solve: close the equipment and open after one minute.

**E-06:** loading error

**How to solve:** check the transducer, change or connect again.

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