Version number: ver.1.1.3

SuperTest 1000 Universal Biological Sample Drug Analyzer

Operation Manual

Supervised by Jiangsu Superbio Testing Technology Co., Ltd.

CATALOGUE

Chapter I. Instructions For Use

Thank you for choosing the SuperTest 1000 Universal Biological Sample Drug Analyzer of Jiangsu Superbio Testing Technology Co., Ltd. This product is a time-resolved immunofluorescence detection system based on the principle of photoelectric detection. It can perform fast quantitative and qualitative tests on common drugs in biological samples including hair, so as to complete the fast screening of suspicious drug users by multiple means. The instrument can also be used in the field of sewage drug testing and drug inspection. This operation manual is applicable to Supertest 1000, and the actual interface operation shall prevail.

This operation manual describes the features and relevant information of the product in detail, and the schematic operation steps are convenient for your use. Please read the manual carefully before using this analyzer.

1.1 Instrument Summary

1. Model / Specification: SuperTest 1000

2. Size: 250mm (Length) × 245mm (Width) × 103mm (Height);

Weight: 1.35kg.

1.2 Software Summary

1. Name and version number of software

Name: Universal Biological Sample Drug Analyzer PC Software

Version number: V2.0

2. Software installation and operation environment

1) Hardware environment

- Minimum hardware requirements: Intel Pentium Ⅳ 1.0G CPU, 1.0G memory, 10G hard disk;
- Universal biological sample drug analyzer, SuperTest 1000 Universal Biological Sample Drug Analyzer.

2) Software environment

- Microsoft Windows XP or Windows 7
- Microsoft Excel 2007 or above

1.3 Scope of Application

SuperTest 1000 Universal Biological Sample Drug Analyzer adopts advanced time-resolved fluorescence immunoassay technology, it needs to be used together with sample drug reagents. No longer limited to urine detection, the SuperTest 1000 can be widely used in the detection of drug content in hair, blood, dry blood spots, sweat, saliva, urine and other biological samples, and can complete the fast screening of suspicious drug users by multiple means.

The detection sensitivity of the analyzer for morphine, methamphetamine, ketamine and other common drugs can reach 0.001ng/mg, which can play a strong role in the field of drug detection. By swabbing the samples, the media such as luggage, parcels, fingers, vehicle steering wheel, room door handle and exhaust fan that have been exposed to drugs can be quickly detected on site, so as to quickly lock the suspects.

Meanwhile, the SuperTest 1000 has strong specificity. It can complete on-site fast detection in the field of sewage drug monitoring. In a few minutes, the analyzer can quickly quantify the concentration of trace drugs in sewage, trace the source of drug pollution to the upstream, and provide case information clues in time.

Chapter II. System Components And Main Structure

After opening the package, please check whether the components are missing or damaged according to the following standard configuration list.

Note: if any missing or damaged components are found, please contact Jiangsu Superbio Testing Technology Co., Ltd. and local sales representative in time. For contact details, please refer to Chapter IX of this user manual.

2.1 Instrument Standard Configuration List

No.	Name	Quantity	Unit
1	Universal Biological Sample Drug Analyzer	1	Set
2	Power Adaptor	1	Set
3	Ultrasonic Cleaner	1	Set
4	Detection Reagents	3	Box

Chapter III. Instrument Basic Parameters And Service Conditions

3.1 Basic Parameters

Excitation light source LED

Excitation spectrum center wavelength λ_0=365nm

Receiving spectrum center wavelength λ_1=610nm

Interface USB

Printer Built-in thermal printer

Repeatability CV≤10%

Stability CV≤10%

3.2 Transportation and Storage Conditions

After being packaged, the SuperTest 1000 shall be stored in an environment of -10 ℃ ~ 40 ℃, relative humidity 20% ~ 90%, atmospheric pressure (86 ~ 106) kPa, no condensation, no corrosive gas, and good ventilation.

During transportation, attention should be paid to avoid moisture, shock and vibration.

3.3 Service Conditions

1. Positioning and placement requirements

1) The instrument shall be placed on a stable and horizontal workbench in a room without serious dust, direct sunlight and corrosive gas, and the worktable can bear a weight of more than 1.9kg.

2) There is no strong vibration source and strong electromagnetic field around.

3) The instrument should be placed in a well-ventilated place, and there should be more than 10cm space around the instrument to ensure the necessary space for operation and maintenance.

2. Power supply and voltage requirements

The instrument uses a 220 V/50 Hz AC power supply and the input voltage is 12 V DC. The power of the instrument is: 48VA. Care should be taken during use to avoid short circuits and electric shock!

Note: The file must be consulted in all cases marked with this symbol.

Instrument grounding instructions: Connect to the ground through an external power adapter.

Chapter IV. Instrument Installation

4.1 Instrument Installation

Please use the instrument under the service conditions. (Refer to 3.3 "Service Conditions" in Chapter III for details.)

1. Place the universal biological sample drug analyzer on a stable workbench.

2. Connect the power adapter with the power interface of the universal biological sample drug analyzer.

3. If it is necessary to connect to the computer, one end of the USB cable is

connected to the USB port of the computer, and the audio port is inserted into the corresponding interface at the back end of the host.

4. Turn the power switch to the "On" position and start the instrument.

Chapter V. Detailed Operation Steps

The analyzer is operated by finger operation of the touch screen of the universal biological sample drug analyzer. The detection time does not exceed 15min from pre-treatment to obtaining test results for hair samples.

5.1 Sample Processing Method

SuperTest 1000 Universal Biological Sample Drug Analyzer adopts advanced time-resolved fluorescence immunoassay technology. The analyzer can perform fast quantitative and qualitative tests on common drugs in various biological samples including hair, blood, dry blood spots, sweat, saliva, urine, so as to complete the fast screening of suspicious drug users by multiple means.

5.1.1 Hair Samples



Hair collection and extraction: The collection should start from the root of the suspect's hair to obtain a hair sample that is close to the current time. If a history of drug use is required, collect multiple pieces of hair, each about 1 cm, 50 hairs, as analogy above. The hair collected in the above steps shall be cut to pieces as much as possible with scissors, and it is better to cut to about 0.5-1 mm for each section. Cover the centrifuge tube containing the hair lysate and the chopped hair with a cap and place in an ultrasonic oscillator.

Reagent reaction and testing: After 5 minutes of ultrasonic vibration at room temperature, take out the centrifuge tube containing hair lysate and chopped hair. Take out the single drug detection reagent plate to be used, open the package, and take out the detection plate and the plastic dropper. Take out about 100ul of hair extract (equivalent to 5 drops), add to the sampling well of the detection reagent plate, and wait for about 10 minutes. Note: when the room temperature is lower than 10 ℃, the time is extended for 3 minutes.

On-machine testing: The procedures are described in 5.2.

5.1.2 Other Samples



Liquid biological sample: due to the high concentration of drugs in urine, blood and saliva, add a drop of liquid into the centrifuge tube containing the extract to mix and dilute, and carry out reagent reaction and test according to the second step of 5.1.1.

Dried blood spot and other solid samples: cut the filter paper or clothing debris with dried blood spots or other liquid residues into small pieces, put into the centrifuge tube containing the extract, immerse and mix for 1 minute, and then carry out the reagent reaction and test according to the second step of 5.1.1.

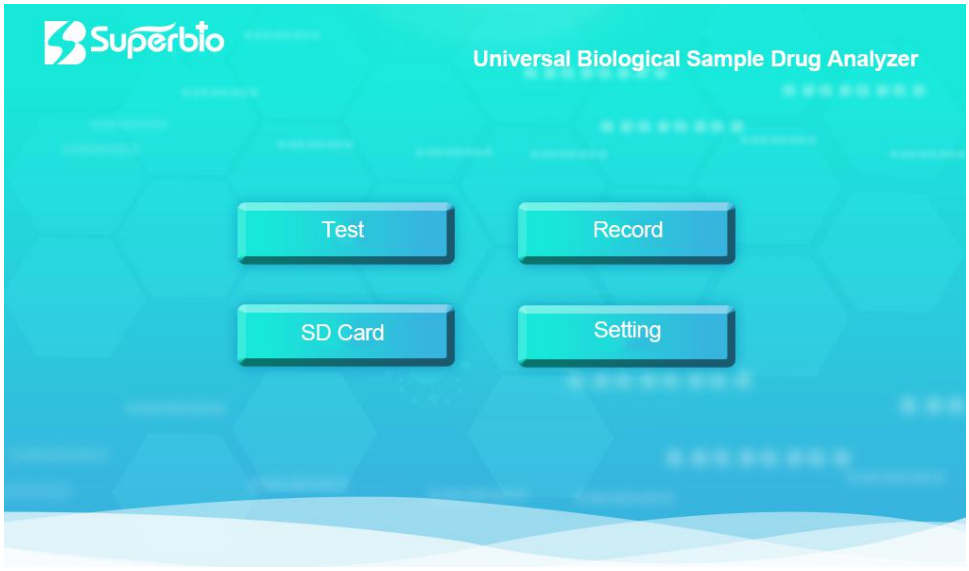
Drug contact medium: wet the cotton swab with clear water, wipe the concerned area, immerse the cotton swab in the centrifuge tube containing the extract , immerse and mix for 1 minute, and then carry out the reagent reaction and test according to the second step of 5.1.1.

Environmental sewage: directly add the collected sewage to the detection reagent plate, and start testing after 5 minutes of reaction.

5.2 Instrument Operation Method

Connect the power cord of the instrument, turn on the power switch at the back of the instrument, and start the instrument. The instrument is powered on and starts self-check.

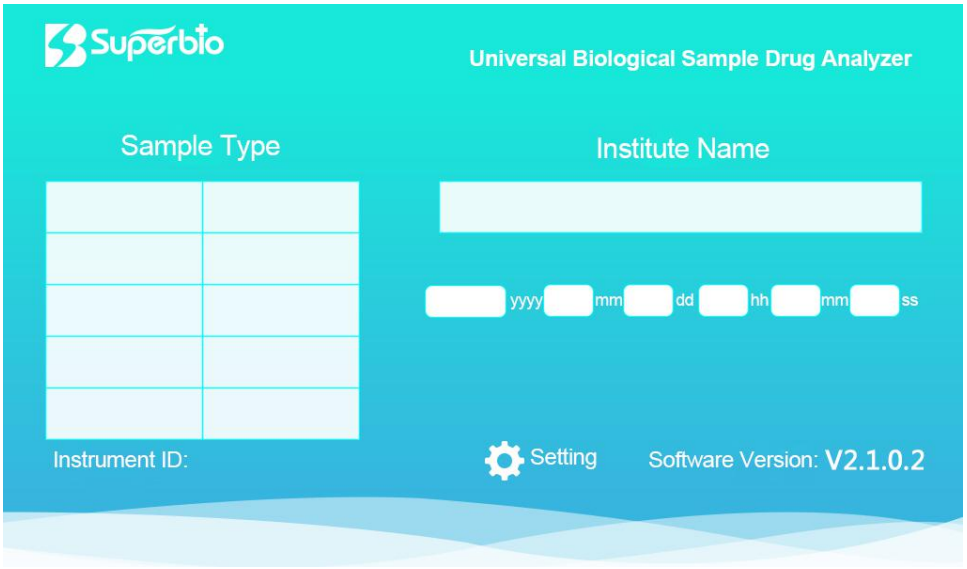
After the self-check is successful, this interface will be displayed.



Before using the instrument, please set the system according to actual needs. After the system setting is completed, users can perform fast test and standard test, and operate on historical records.

5.2.1 System Settings

Click [System Settings] to enter this interface.



5.2.1.1 System Function Settings

Compatible with the fast drug qualitative test of hair, blood, dried blood spot, sweat, saliva, urine and other biological samples: click the input box and the system will automatically pop up the keyboard. Enter the information and confirm to save.

Name of institute: enter the information and return to auto save.

Time setting: click the corresponding window to input the correct time information. Click the "Settings" button to save automatically. In case of shutdown, the time information will be automatically saved for one month. If the instrument is not started for more than one month, the time needs to be reset.

Suggestion: under normal use, the instrument should be powered on at least once

per month.

5.2.1.2 Test Item -- SD Card Management

Click "SD Card Management" to enter the following interface. Insert the ID card into the ID card socket at the front of the instrument, click “Read SD Card”, the instrument will automatically read the SD card and save the curve. and each reading will be updated to the latest data.

Select an item first, and then click “Delete” to delete the curve data of the current item .

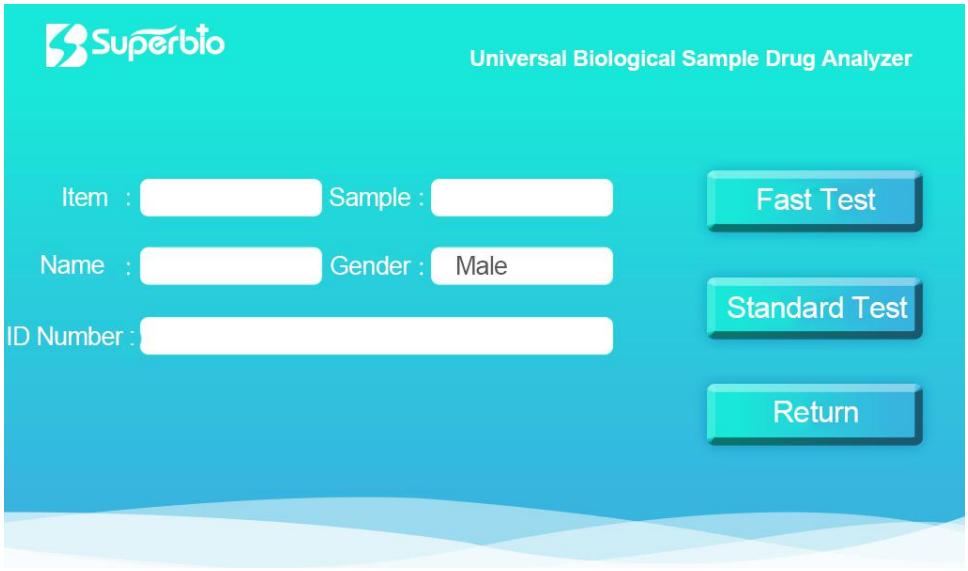
Up to 32 test items are supported.

Click "Return" to return to the parent directory.

5.2.2 Fast Test

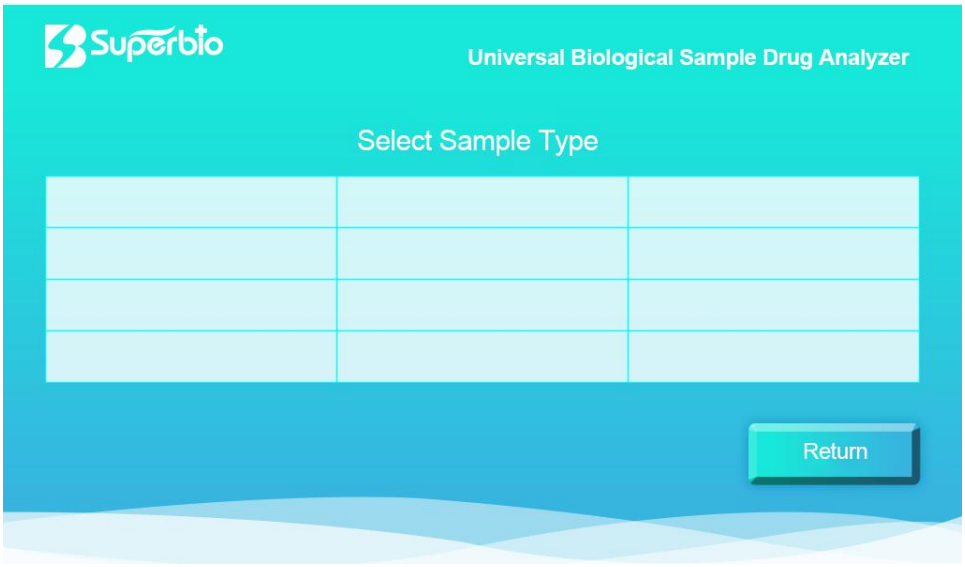
Step 1. Install the instrument, turn on the power switch and start the instrument.

Step 2. Click “Test” to switch to the following interface.

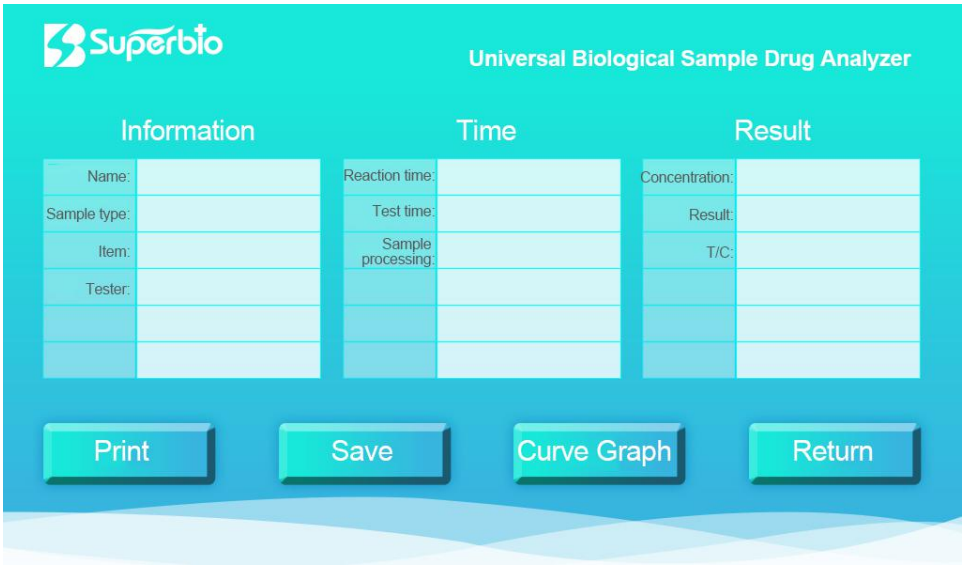


Step 3. Enter the basic information of the suspect and select the type of "Test Item". All the optional test items will be displayed. Select the test type of the corresponding test strip, and select the type of "Sample Type". All kinds of items that can be selected will be displayed. After selecting the corresponding type, the system automatically return to the test interface, and click the "Fast Test" button to start.

Note: for the items of "Sample Type", you can select the types set in advance, or click on the "Sample Type" and enter manually.



Step 4. After the test, the results will be displayed.



Step 5. Operation of test results

After the sample is tested, the information will be automatically saved to the memory card and uploaded to the PC (if the PC software is running at this time, the information of the sample will be received).

Click on the "Print" button to print the test results through the micro printer.

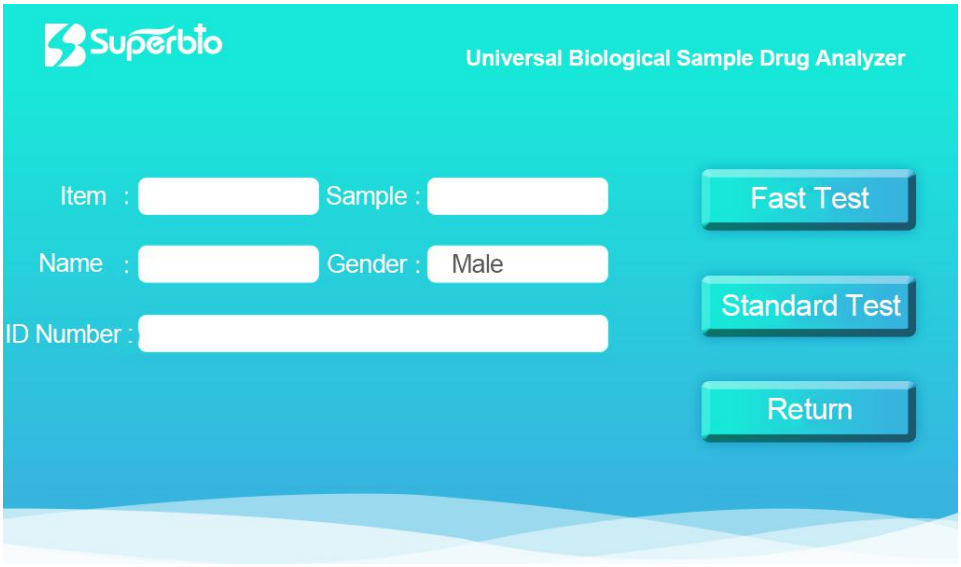
Click "Return" to return to the main interface.

5.2.3 Standard Test

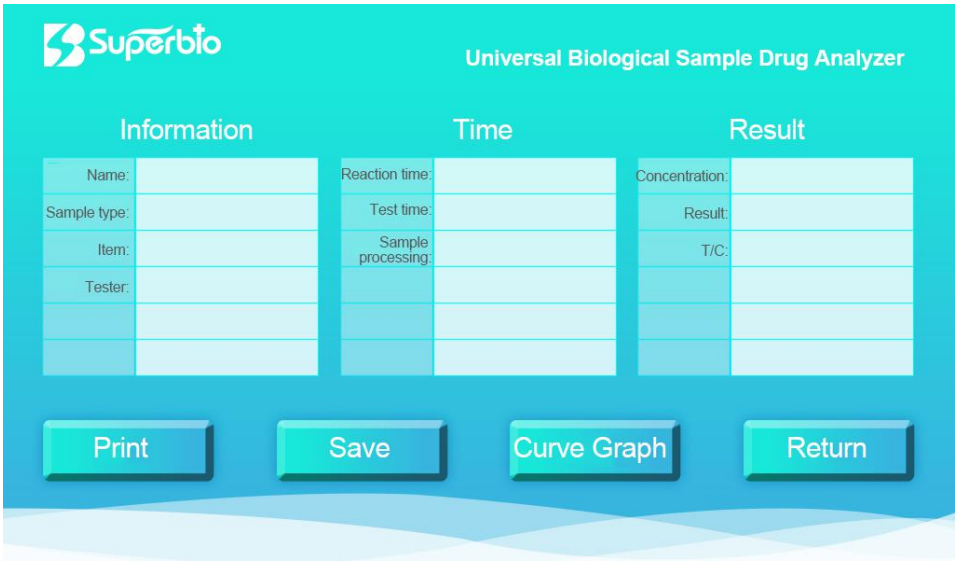
Note: this instrument is not recommended to use standard test, and the waiting time is long, which has an impact on the interpretation of the results.

Step 1. Install the instrument, turn on the power switch and start the instrument.

Step 2. Click “Test” to switch to the following interface.

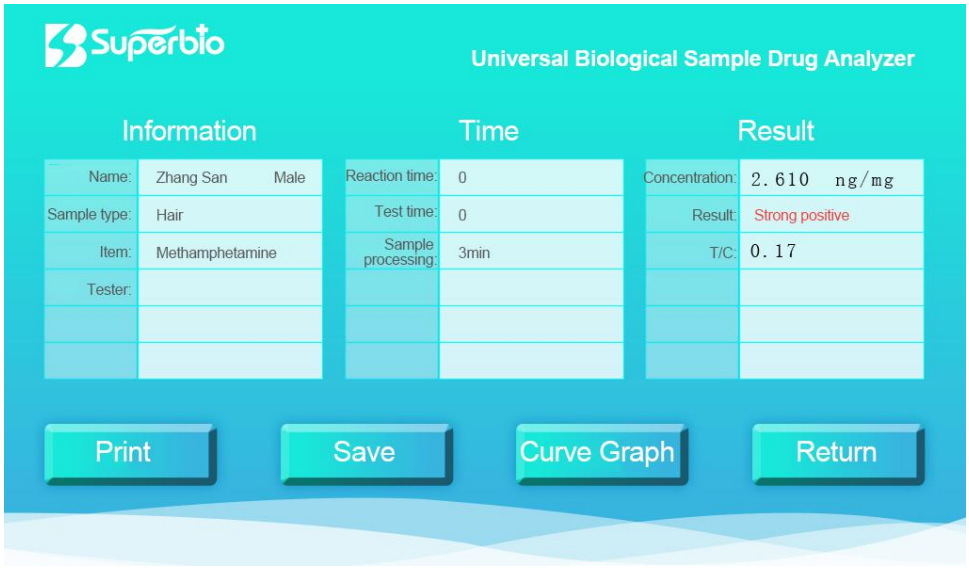


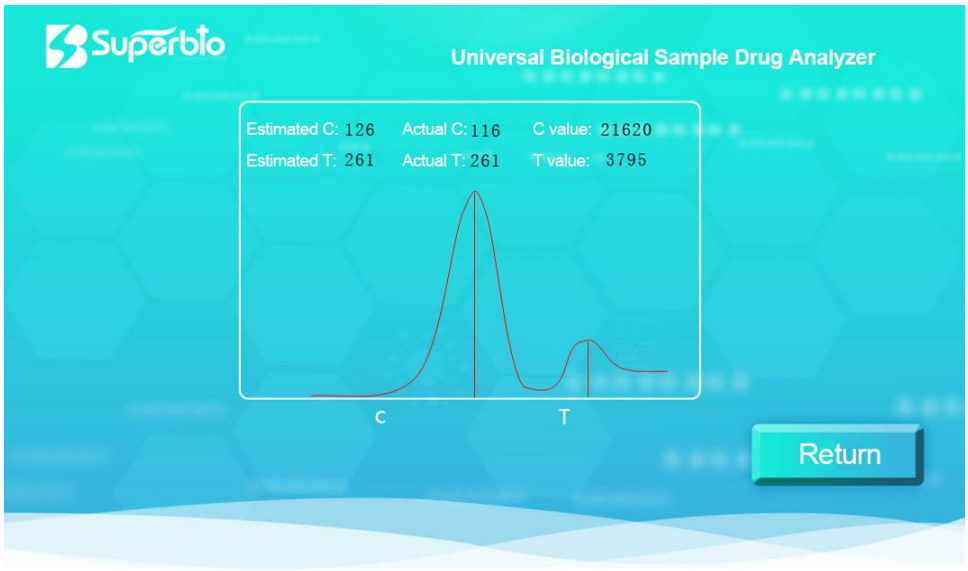
Step 3. Input the basic information, select the test item, click "Standard Test" to enter the test interface. Meanwhile, the instrument starts counting down and waits for the incubation time.



Step 4. When the countdown is over, the instrument starts test.

Step 5. After the test, the results will be displayed.





Step 6. Operation of test results

After the sample is tested, the information will be automatically saved to the memory card and uploaded to the PC (if the PC software is running at this time, the information of the sample will be received).

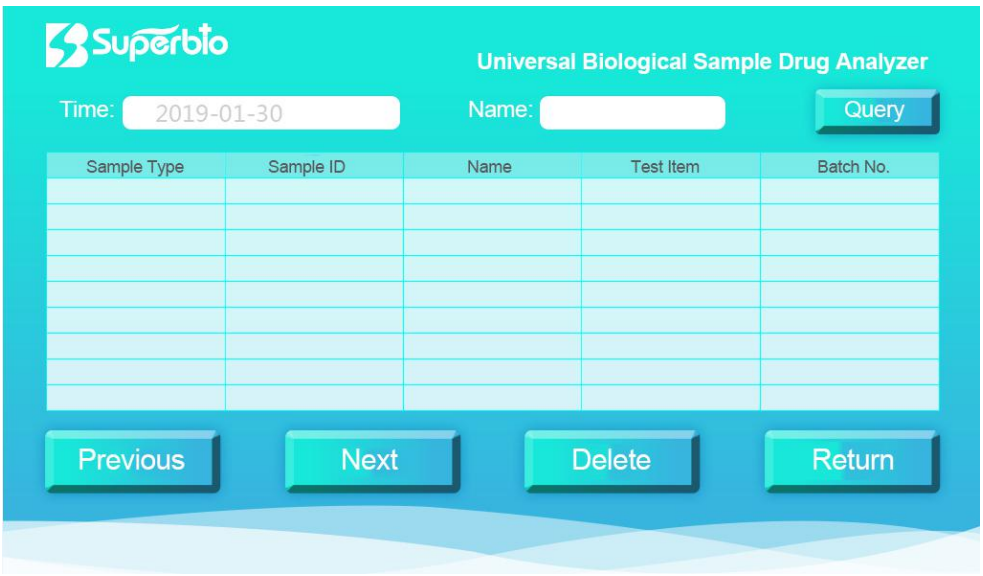
Click on the "Print" button to print the test results through the micro printer.

Click "Return" to return to the main interface.

5.2.4 Historical Records

Click on the "Record" button on the main menu page to switch to the following

interface. Users can browse and manage the records. The interface displays 10 records, which can be displayed by turning pages up and down.

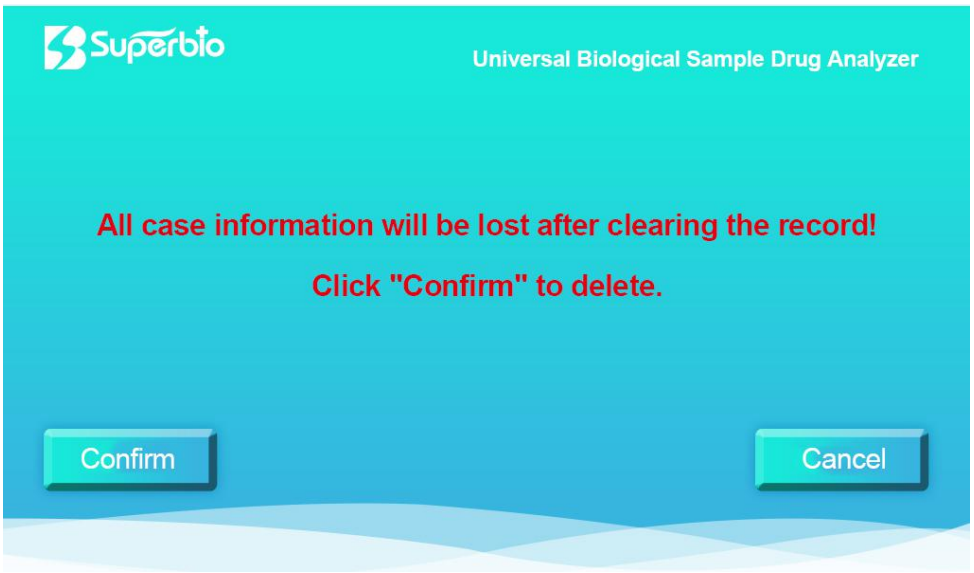


5.2.4.1 Record Browsing

Click "Former Page" and "Next Page" to view all the checked records.

Click "Previous" or "Next" to browse the test records;

Click "Delete" to clear all test records.



Click the specific record to view the detailed specimen information.

Chapter VI. Instrument Maintenance

6.1 Maintenance

The universal biological sample drug analyzer only needs to keep the exterior clean.

External cleaning and maintenance method: use wet cloth and 70% ethanol to clean the external surface of the instrument, and do not use strong bleaching agent (≥ 0.5% solution), because the oxidant and solvent may damage the outer case and touch screen. Take care not to clean any internal parts or internal surfaces.

Before cleaning the instrument, turn off the power switch to ensure that the power cord plug is disconnected and avoid short circuit and electric shock!

6.2 Maintenance Plan

1. The instrument needs to be cleaned every day.

2. The instrument shall be subject to quality control once a week.

6.3 Precautions For Instrument Use

1. Do not place the instrument where it is difficult to operate or disconnect the device.

2. Except for the reagent cards provided by the manufacturer, do not put any other items into the test strip holder.

3. If the test sample of reagent card has potential infectivity, please use protective gloves or other protective measures to avoid skin contact with the sample adding port of reagent cards.

4. The used reagent cards should be disposed of in accordance with the

Regulation on the Administration of Medical Treatment Wastes.

5. Please use the instrument in strict accordance with the instructions provided by the manufacturer. Otherwise, the protection provided by the instrument will be destroyed.

6. Instructions for data storage and recovery procedures: The instrument can save the calibration curves related to the items and batches imported by the manufacturer as well as the detection records. When the manufacturer imports the calibration curves through ID card or the master computer transmits directly, the instrument will save automatically. The instrument can save calibration data of up to 32 items at the same time. The test results during normal use will be automatically saved to the instrument in the form of records, and the instrument can save up to 8,000 records. The saved data can be recovered automatically after power failure, and will not be lost.

7. The personnel who use and operate the PC software supporting the universal biological sample drug analyzer need to have relevant knowledge: be familiar with the use of Windows XP and Windows 7 operating systems, and the installation and uninstallation of the software package on Windows XP and Windows 7.

Chapter VII. Troubleshooting Guide

7.1 Handling Steps For System Crash

When clicking the button on the interface or the instrument button does not respond, the machine crashes. Please restart the instrument according to the following steps:

Turn off the power switch;

Re-connect the power cord;

Turn on the power switch.

If the PC software does not respond and continues to crash, please restart the software as follows:

Use Ctrl-Alt-Del to open the Windows Task Manager to end the task and turn off the PC software;

Restart the PC software;

If the PC software is not working properly, restart the computer that controls the instrument and then run the PC software.

Chapter VIII. Service, Repair and Destruction

As long as the instrument is kept clean and the printing paper is replaced, the universal biological sample drug analyzer generally does not need special maintenance. For service or repair, please call the company.

If for some reason, the user needs to destroy the universal biological sample drug analyzer, it is recommended that the user destroy it according to the regulations of Class B electronic instruments.

The technical support and maintenance provided by the company for the software include functional maintenance, corrective maintenance and software error change or upgrade.

The company declares that the above service guarantee can be obtained only when the manufacturer's operation instructions are fully complied with. The company will not be responsible for any other damages.

Chapter IX. Contact Information

Manufacturer: Jiangsu Superbio Testing Technology Co., Ltd.

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Postal code: 261000