Microplate Reader

Model No: CCL-801

Manual Book

User’s must-read

Dear users, Thank you very much for purchasing our products. This manual will tell you when using our products must be careful attention to the steps that may lead to abnormal operation might have on the enzyme analyzer or the risk of physical harm

By failure to observe the content of the requirements of this manual operation, a result of any anomalies or risk injury to the person and machine, the company does not undertake the security, reliability and performance guarantee,! Nor will such failure to give free maintenance!

Before using this product read the contents of this manual

CONTENTS

1 Instrument profile

1.1 Use of the microplate reader

ELISA enzyme-linked immunoassay analyzer that Miriam (ELISA Reader), is a professional enzyme-linked immunosorbent assay instrument, has been widely used in molecular biology, immunology, cytology, biochemistry, electrophysiology, high-throughput drug screening and other fields.The core enzyme analyzer is a colorimeter, which uses colorimetry to analyze the content of antigen or antibody.

1.2 CCL-801 Introduction

CCL-801-type is an 8-channel analyzer, the vertical light path, 96-well microtiter plate to measure the latest enzyme analyzer. The instrument can detect a single wavelength or dual wavelength absorbance value can be displayed to three decimal places to print.
CCL-801-type enzyme analyzer can use the keyboard to edit the program, set the read plate and analyze the conditions, choose to print the report type, and can be built-in thermal printer or external printer to print the results.
CCL-801-type enzyme analyzer with a built-in RS232C serial interface, allowing the enzyme analyzer operating software on the computer for analysis.
Chinese and English software (optional): enables printing single test report in English hospitals, quality control statistical analysis, and qualitative analysis, a simple quantitative curve fitting, statistical queries test data, patient information input and other functions. This software applies to the hospital clinical users.

1.3 CCL-801-type enzyme analyzer attachment information

The following parts only by the manufacturer or its agents to check or provide.
Catalog No. Description
R2006-1000 HR8 enzyme analyzer
R2006-1002 multi-branch beam lead
R2006-1005 PC cable
R2006-1006 halogen
R2006-1011 405nm filter
R2006-1012 415nm filter
R2006-1013 450nm filter
R2006-1014 490nm filter
R2006-1015 540nm filter
R2006-1016 550nm filter
R2006-1017 570nm filter

R2006-1018 595nm filter
R2006-1019 630nm filter
R2006-1020 650nm filter
R2006-1021 750nm filter
R2006-1031 HRP management software
R2006-1032 ELISA analyzer sports bracket

1.4 environment of the use

The electric shock rating: Ⅰ type;
Equipment category (overvoltage category): Ⅱ level
Pollution Degree: Pollution Degree 2
Power supply voltage: AC 220V ± 10%, 50Hz ± 1Hz, power 200W
Ambient temperature: 10 ℃ - 35 ℃;
Relative Humidity: 10% - 90%;

1.5 Specifications

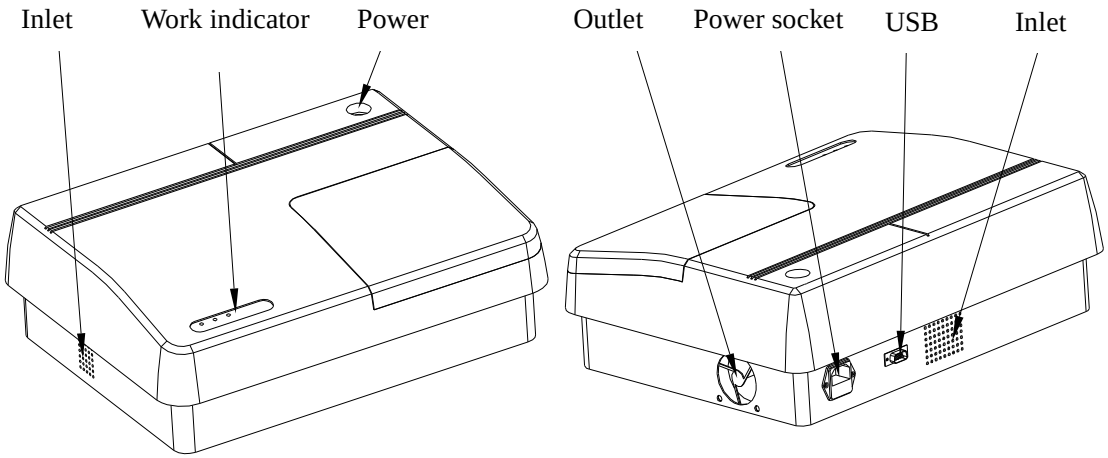
Specifications RS-232C computer interface
Type of report raw data, absorbance, concentration, threshold, limit of 15 kinds of reports
Applicable micro plate 96 "flat", "U", "V" at the end
Three mixing speed, time 0-200 seconds
5-minute warm-
Determination of single-mode, dual-wavelength
Self-filters, sample system, electrical system, memory
8-channel wavelength detector test silicon photodiode
The number 8 filter
Wavelength range 400-750nm
Standard 405nm, 450nm, 492nm, 630nm and 400-750nm in the special configuration
Interpretation board model speed fast read 5 seconds 10 seconds single-wavelength double-wavelength
Phase plate pattern 15 seconds read 30 seconds dual wavelength single-wavelength
Absorbance range of 0.000-4.000 OD.
Resolution of 0.001 OD.
Absorbance error of <± 0.03A
Linear correlation coefficient of linear error of r ≥ 0.999
Repeatability CV <0.3%
Differences between channels <0.03A
Drift tolerance <0.005A
Voltage AC 220V ± 22V, 50Hz/60Hz;

Maximum power consumption 200VA
Size 54 × 47 × 35cm (W * D * H)
Net weight 10Kg, 12Kg load
Operating temperature 5 ℃ -40 ℃
Storage temperature -20 ℃ -50 ℃
Humidity 0-95%
Optional filter (405nm, 415nm, 450nm, 490nm, 540nm, 550nm, 570nm, 595nm, 630nm, 650nm, 750nm), Chinese software, halogen

1.6 Packing List

Packing the contents include the following components:
a. CCL-8-type enzyme analyzer to 4 standard filter, wavelength configuration: 405nm, 450nm, 492nm, 630nm
b. Power Line
c. Fuse
d. communication lines and computer
e. Manual
f. Warranty Card
Please check the transit instrument may cause external damage, and with the local representative

1.7 Appearance of a reader



O

⏻Power-off logo, press the said power, and then click pop-up that shut off the power.

From left to right, said the three power indicator light, work light, trouble light.
Power LED: Always turn the power, turn off the power turned off.
Working indicator: when the light during testing, standby off.
Fault Indicator: Flashing failure (can not find the bit filter, ELISA plate and can not find the place), no fault off.
Behind the logo:
RS-232 microplate reader and the computer's serial communication port

2 Install instrument

2.1 Quality Assurance Conditions

Manufacturers under the following conditions to ensure product quality.
2.1.1 Professional manufacturer specified adjustments and repairs.
2.1.2 Instrument the required power supply voltage and frequency to work according to the instructions to operate.

2.2 Instructions.

2.2.1 The instrument complies with international safety standard, but any electronic device has some security measures to ensure the safe use of equipment.
2.2.2 Read the instructions before use.
2.2.3 Make sure the power plug and the connection between the correct and reliable instrument, when the changes connected, first disconnect the power switch or unplug it.
2.2.4 Carry out routine maintenance before work, turn off the power, so you can use and save the lamp life.
2.2.5 There is a problem do not continue to use, should unplug professional treatment.
2.2.6 Do not open the case, there may be high voltage in the use of equipment to do other work when not at the same time, to avoid distraction.
2.2.7 Do not block ventilation window apparatus, the temperature is too high can damage the equipment.
2.2.8 Do not change the installation standards required by manufacturers to do.
2.2.9 Do not let electrical equipment exposed to rain or moisture.
2.2.10 If you do not follow the methods specified by the manufacturer to use the equipment, you may damage the protective equipment provided.
2.2.11 What is wrong with professional treatment.

2.3 Special attention

2.3.1 Do not place metal objects into the equipment to prevent electric shock.

2.3.2 Fortunately, electronic devices can not have the spare mental.
2.3.3 Safety stronger than anxious.

2.4 Safety measures

2.4.1 Do not damage the power cord, grasp the plug when unplugging, do not pull the power cord.
2.4.2 Do not open the cabinet, there is high voltage.
2.4.3 Do not place containers with water or small metal objects on the instrument, the edge of water to guard against the display, if not accidentally fall into the water or metal instrument, disconnect the plug off the power in time, to find experts treatment.
2.4.4 That smoke, abnormal sound or smell, disconnect the power in time, to find experts to repair.
2.4.5 Do not force the impact of equipment.
2.4.6 Ensure that equipment grounding is required.
2.4.7 Instruments should be placed in easily accessible location of the power cords.

2.5 Installation Notes

2.5.1 Do not place equipment on the poor ventilation, smoke, water, steam, dust and direct sunlight, instability at or near the strong magnetic field.
2.5.2 When the instrument is close to the audio equipment, the use of noise may occur when you should stay away from audio equipment.
2.5.3 Do not greater than 40 degrees Celsius at high temperatures or low temperatures below 5 degrees Celsius conditions.

2.6 Installation Preparation

2.6.1 Ground

CCL-801-type enzyme analyzer for precision electronic instruments, laboratory prior to installation to check whether the specific ground of medical equipment, require grounding resistance <0.5 ohms, if the conditions can not be detected by the ground resistance limit, check the firing line of three-wire power cord -- Ground, FireWire - zero line of the voltage difference should be less than 1V. If there is no specific ground was prepared according to the following:
Material: 80cm long 25cm thick steel pipe or steel bar a
Appropriate length of single strand copper wire (2.5mm) roll
One kg of salt
Suitable amount of ash
Methods: The steel to rust, one end welded to the copper wire at one end with a welding machine, lap solid; with a spade in the ground floor, a cool foot square pit dug 50cm deep; in the pits add water to become soft soil, After the tube into the hole in the pit down a pound of salt, ash amount of loose soil mixed with water to

dilute. Finally, single strand copper wire welded steel pipe end completely in the earth. Should periodically check for daily use at the burial ground is kept moist. Single strand copper wire can be connected the other end of the rear panel of the instrument-specific ground column.
Note: Not bad ground wire or ground will cause the instrument to become unstable.

2.6.2 Regulators

Power supply voltage instability adversely affects the work of the instrument, the installation before purchasing high-quality 500W power than a single regulator, and its access to ground voltage.

2.6.3 Working environment

Do not the instrument with the centrifuges, refrigerators, incubators and other high-power, large jamming equipment in a room with the release, or with the use of a power outlet; avoid direct sunlight.

2.7 Instrument Host installation

Open the carton and specialty packaging equipment, carefully check the packing list and the box of instruments, accessories are fit and, if missing or damaged, please contact the supplier;
Inventory is correct, carefully remove the instrument, put in a solid flat work surface to prevent a strong vibration, to keep equipment clean and dust-free environment is very important optical path system;
Medical equipment will be terminated on the ground of a special grounding HR8 column after the panel;
Remove the instrument power cord, connected to the rear panel to the right of HR8 power jack, the other end has been installed at the ground three-pin socket; mouse port, keyboard interface, display interface, printer interface connected to the appropriate equipment, and connected power.
Enzyme with a communication cable analyzer and computer.
First open the rear panel of the host enzyme analyzer of the 'power switch', and then turn PC power switch, power began to POST to complete, save the self-test results.5 minutes after boot warm (room temperature is very low should be extended warm-up time).PC power is turned on inside the machine self-test, after the BIOS self-test through the load, load the operating system, the operating system is loaded into the correct log in ELISA analysis system software running.

3 Software Install

3.1 Operating system requirements:

No special requirements, as long as the windows system can be, but we recommend that you use the windows xp operating system, to get the best results.

3.2 Hardware requirements:

No special requirements, but at least should have a CD-ROM drive, COM interface, a printer, one Taiwan.

3.3 Installation methods and procedures:

(1) Insert the CD into drive.
(2) Double-click the desktop icon "My Computer", then double-click the drive where the drive letter, open the CD to find "immunity analysis software 3.0" folder to run "setup.exe" file. Follow the prompts to install. If you enter the serial number (serial number), enter "hkr", complete the installation.

3.4 Uninstall the software:

In the control panel to uninstall the software.
Note: Because the software installer does not support Simplified Chinese, in the Control Panel. Add Remove Programs, ELISA analysis software shows "VM-whirl," or related words.

3.5 Software Installation Considerations

1.Temporarily shut down before installing antivirus software.
2.Make sure your computer is equipped with two kinds of official script and italics font, if not, both from the installation CD to copy the font file to c: \ windows \ fonts directory, typically are installed automatically, if not installed automatically, please Select File \ Install New Font menu.
3.Caused due to a software version upgrade problem, you may guide the hands of the software on your computer is not exactly the same (in the details of the issue), if you encounter this problem, you can contact our technical department by calling HIGH CREATION phone, see HIGH CREATION company related materials.

4 Operations

4.1 software startup

Double-click the desktop, "ELISA analysis software" icon, enter the "Login" dialog box, enter a user ID (default password is blank), enter the password, click "Login" to enter the main interface.

4.1

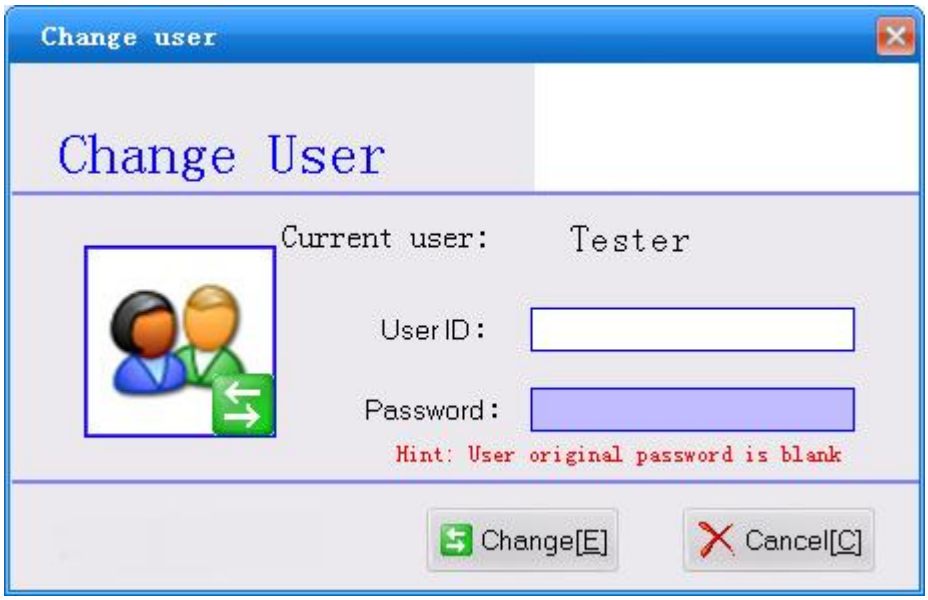
4.2

As shown, outside the big window is the main window for the overall management of the software, which is currently testing a small window, the content based on qualitative and quantitative testing will be different, maximized.

4.2 Software features

4.2.1 System menu functions

4.2.1.1 Switch User



4.3

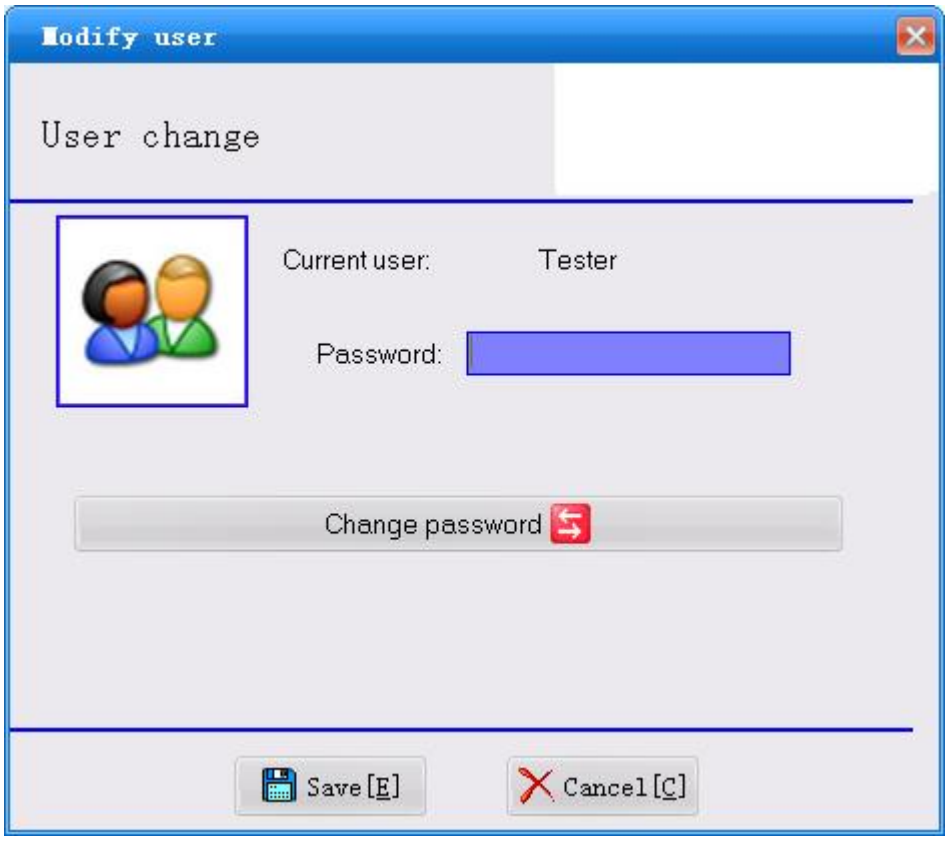
In the case of non-exit system to switch to another user, other users to operate the machine easily. Figure 4.3, enter the user ID and password and click "switch" to switch to another user, the subsequent operation.

4.2.1.2 Lock

Users do not want to let other people go out to the operating software, you can lock the system, the system locked, can only enter the user password to unlock.

4.2.1.3 the user to modify

Users can modify their own passwords and basic configuration. Figure 4.4



4.4

Users first enter the user password in the secret code before the original change your password.

Select the default input method input method the user habits, in other parts of the system automatically switches the input information to the user selected input method.

Click to change your password there is a two-way side of the arrow, the system automatically displays the new password and re-enter the secret box, enter the new secret code and press "Save", the user's new password is accepted, the next time you log in you must enter the new password to access the system.

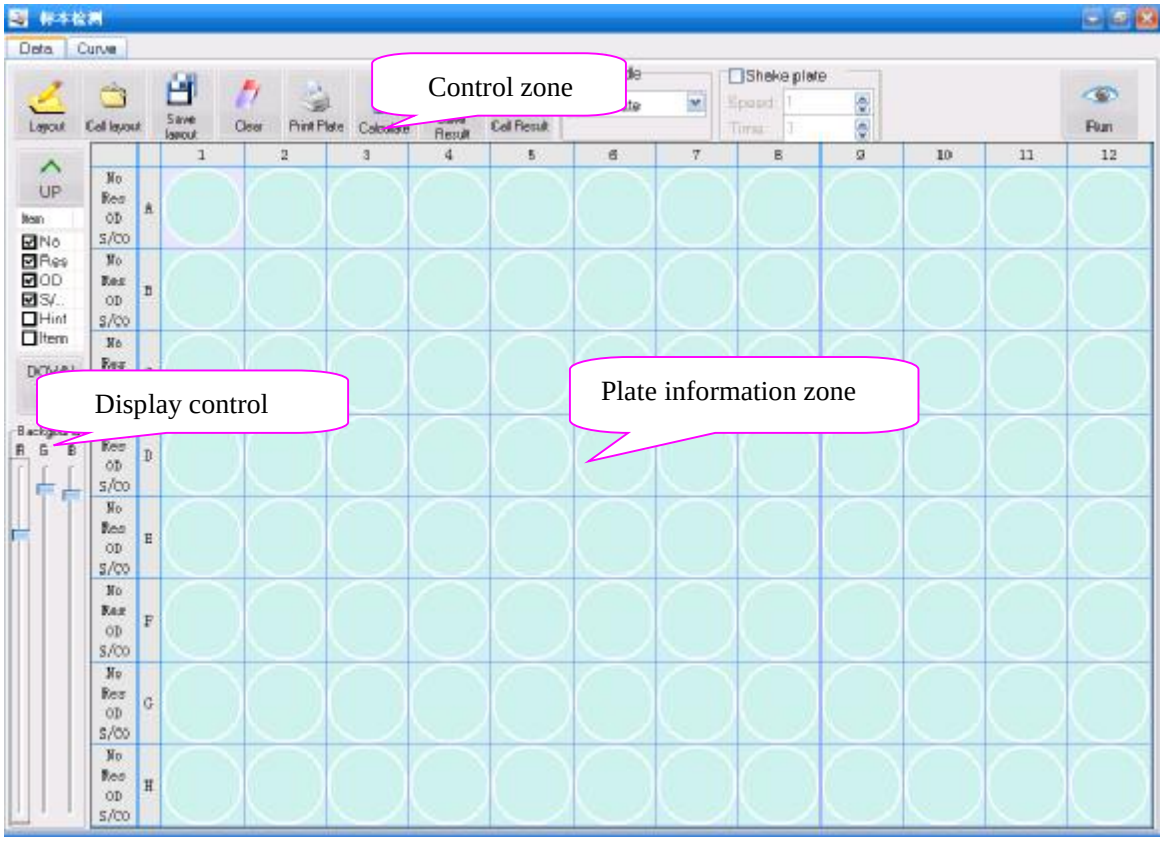
4.2.1.4 Exit the System

Press "exit system" to exit the microplate reader detection system.

4.2.2 Detection of menu functions

4.2.2.1 test specimens

Mainly testing patient specimens or absorbance detection. Figure 4.5



4.5

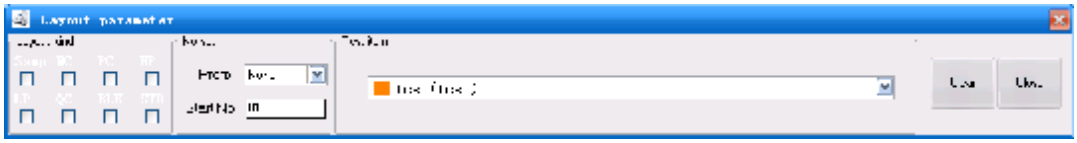
Information display area can display the layout information, sample information and results information. Display control area is used to control how and where information is displayed. ELISA test measures the control area.

Information display area can display the sample number, OD value, the result, S / CO, tips, project information, need to display what the user can set up their own.

Project settings in the display, the display if the tick, the appropriate information will be displayed, there is no check there is no display. Background information used to adjust the display to the background color. Drag the red, blue, green slider to set the background color.

Control button for the detection of control.

Layout used on the ELISA plate layout, press the "layout" dialog box appears when layout shown in Figure 4.6:



4.6

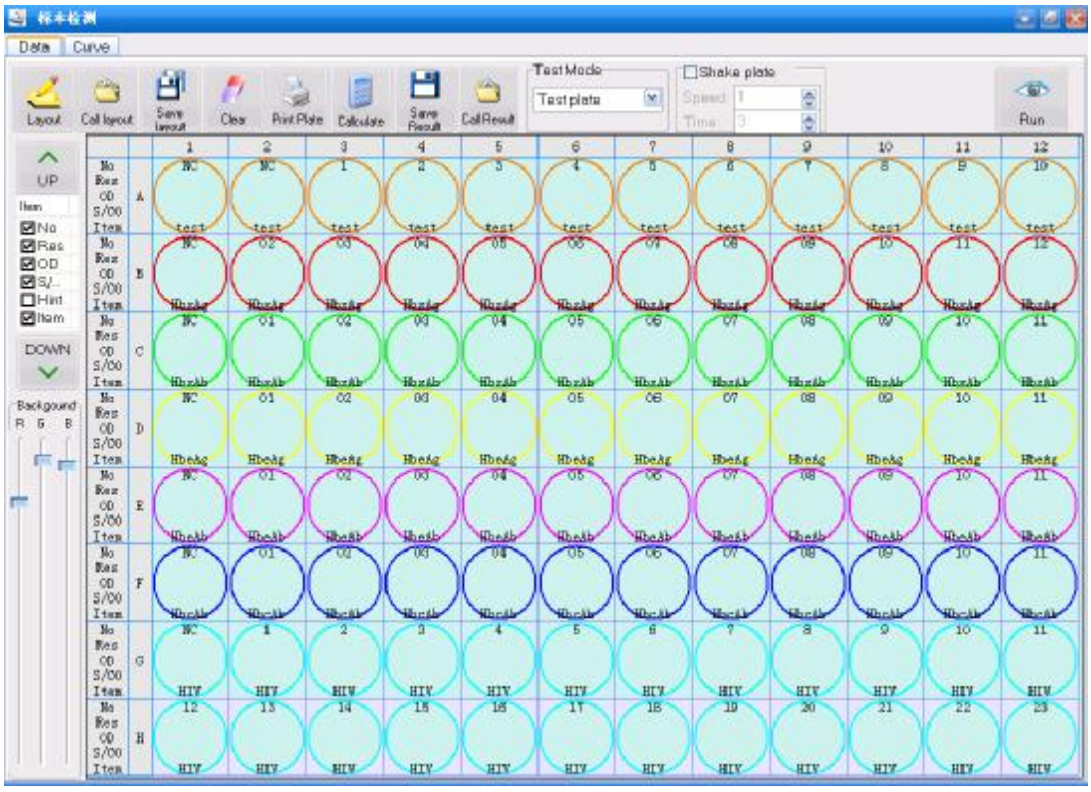
Type of layout settings can be selected: the sample, negative, positive, strongly

positive, weakly positive, quality control, blank, standards, layout process can select only one type of operation,

When you first select a layout test items, such as hepatitis B surface antigen and selected input samples after the project start number, start number if you enter a start number from 1 to start number if you enter 01, the latter also added all the numbers in front of 0.For some sample code in front of the hospital is the date when the characters in the leading character to select the appropriate format. For example, sample 01, number is 10032001, meaning 10 March 20 01 samples. Users can choose anything in it.

Note: Each change of a test project to start automatically changed to the 1st number

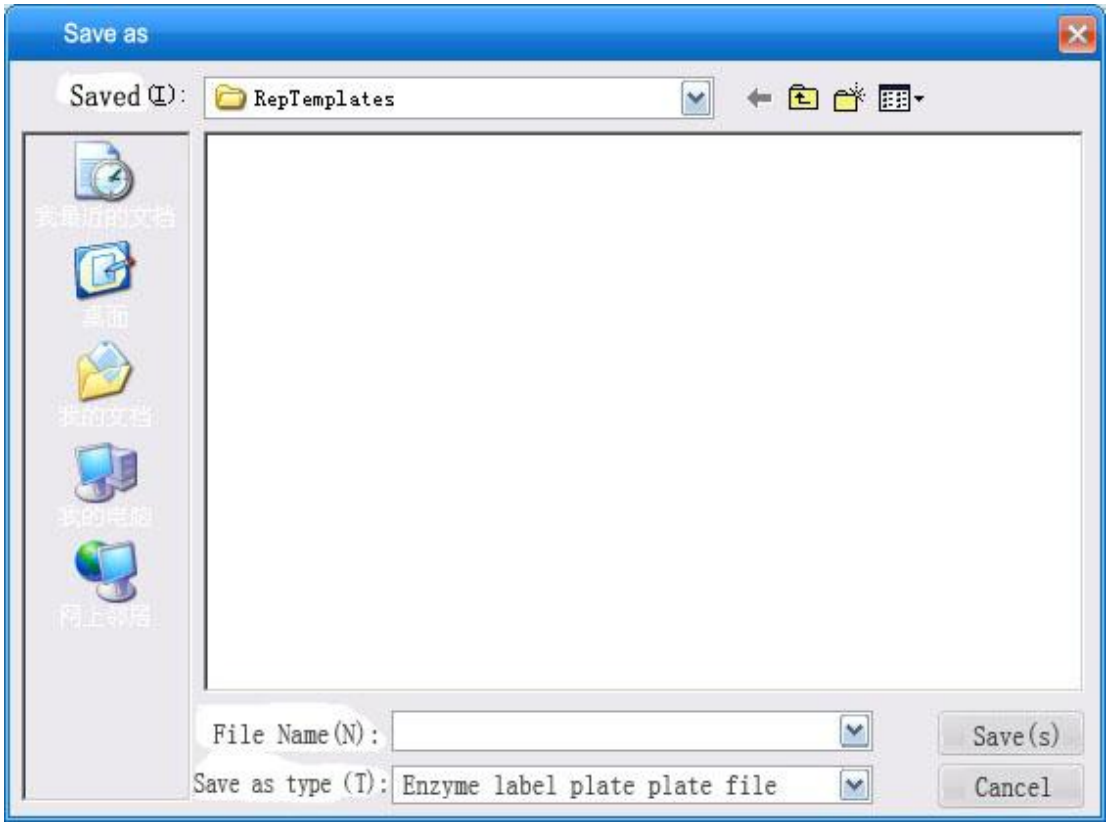
No selected items and then select the type of testing. Can choose only one, for example, select the hepatitis B surface antigen negative control, we can put a negative control board can be placed anywhere in the plate negative control, mouse, display area on the microplate to put away the click of a negative control If the continuous release more, you can not let go by pressing the left mouse button, drag the mouse right or down, the number of pre-selected, release the left mouse button, then select the panel hole to cloth on the negative control. The same method can be cloth samples, negative, positive, strong positive, weak positive, quality control, blank and standard. Different projects will be displayed in different colors, the project's color settings set in the project settings, refer to the project settings. The figure is more than one item at a board and the samples cloth example.



4.7

The figure, A-line 1,2 Combs hepatitis B surface antigen negative control, A-line

3,4 Combs positive control of hepatitis B surface antigen, A-line and B rows 1-12 5-12 hole measurement sample placed No. 01-23hepatitis B surface antigen.
1,2 Combs C line of hepatitis B surface antibody negative control, C Combs line 3,4 hepatitis B surface antibody positive control, C and D lines 5-12 01-23 1-12 hole placed measuring hepatitis B surface antibody sample No.
E Line 1 of the hepatitis B e antigen Combs negative control, E line 2 of the hepatitis B e antigen Combs positive control, E-line place 01-20 5-12 hole measuring hepatitis B e antigen in the sample number.
Line 1 hole F of hepatitis B e antibody fabrics negative control, F line 2 Combs control of hepatitis B e antibody-positive, F-line sample No. 5-12 hole placement measurement of hepatitis B e 01-10 antibody.
G Line 1 hole HIV antibody negative control cloth, F line 2 holes HIV antibody positive control, cloth, F placed on the line 5-12 hole samples No. 01-10 HIV antibody measurement.
Note: The fabric of the board must be consistent with the actual ELISA plate, samples and items to correspond, otherwise the test results unpredictable.
After the microtiter plates can be stored in cloth, according to "keep plate number" stores the current ELISA plate layout, the layout of storage after the microtiter plates could be released after use without having to re-layout, user-friendly operation. The figure is the storage interface board number:



4.8

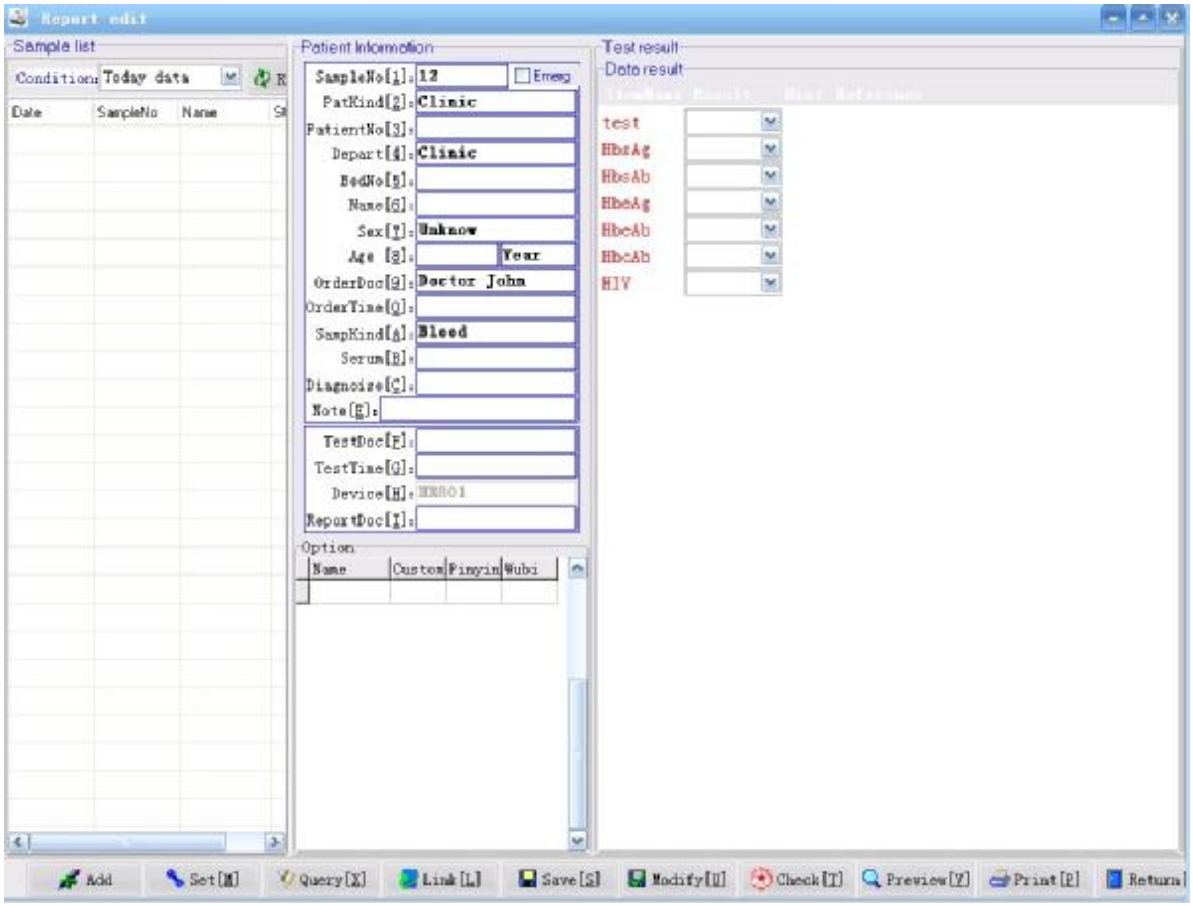
File name can enter a user name easy to remember, so easy to find when the next call. Enter the name and press "Save" button to save the current board layout.
Click "No Palette" brings up a previously saved board, if done the same day, you

can save a plate number, and then transferred out of every day use, saves layout time.
"Clear all" to clear the board all the information fabric, easy to re-layout.
"Clean project" to remove all items of cloth board.
"Clear results", clear the board all the measurement results.
"Weight basis" to recalculate measurements.
"Save" to save the measurement and calculation results to a computer database.
"Measurement" can choose the way of measurement and calculation, select the "entire board measure" must be cloth boards, cloth finished boards before measurement. Select "OD value of the measurement" do not need to fabric panels, direct measurement, generally used for non-clinical testing or after the first measurement of the case layout.
"Measurement of vibration plate before" selection you can choose the speed and time of vibration plate, speed selectable 1-10, 1-100 seconds selectable time. If some items need to vibration plate, in this tick, and then enter the speed and time of vibration plate. The enzyme will be measured before the vibration plate.
"Test wavelength," only not "according to board measure" can be selected, that is not measured at the layout when the non-clinical testing will only appear if it is measured according to board when the wavelength is in the project to set up good, no further selection. When measured by plate can have up to four wavelengths measured simultaneously. Otherwise, select the wavelength measurement can choose up to 2 months.
By "reading" the micro plate reader start by setting the parameters measured, single-wavelength measurement of about 5 seconds to complete, up to 4 wavelengths of 20 seconds to complete. Measurement is completed, the information display area displays measurement results and calculation results. Click "Save" put the results saved to the database.
The system also supports manually modify the results or the sample number. Double click to edit to wells, you can modify the code, OD values, modifying at "re-calculation", the system recalculates the value of all the results of ELISA holes.

4.2.3 Report of menu functions

4.2.3.1 Edit Report

Microplate measurement is completed, the results can edit the save after save to print patient reports. Figure 4.9



4.9

List on the left box lists the results have been detected in patients and save online. The patient information can also be modified. Right click the list box of the patient, the patient in the middle of patient information and test results will be displayed on the right mouse click to edit the content, modify, modify, and click Save to save the results after modification.

For the day of the new test results, patients need basic information in the middle of the sample number, type have been detected and preserved specimens complete number, then enter the other information in order to enter patient information after press the "online" button, the system automatically to the grab sample test results test results came in on the right display, and the results can be modified, and then click "save" the patient information and test results to be saved. If the results confirm the correct patient information and can also press the "Audit" means the record is no problem.

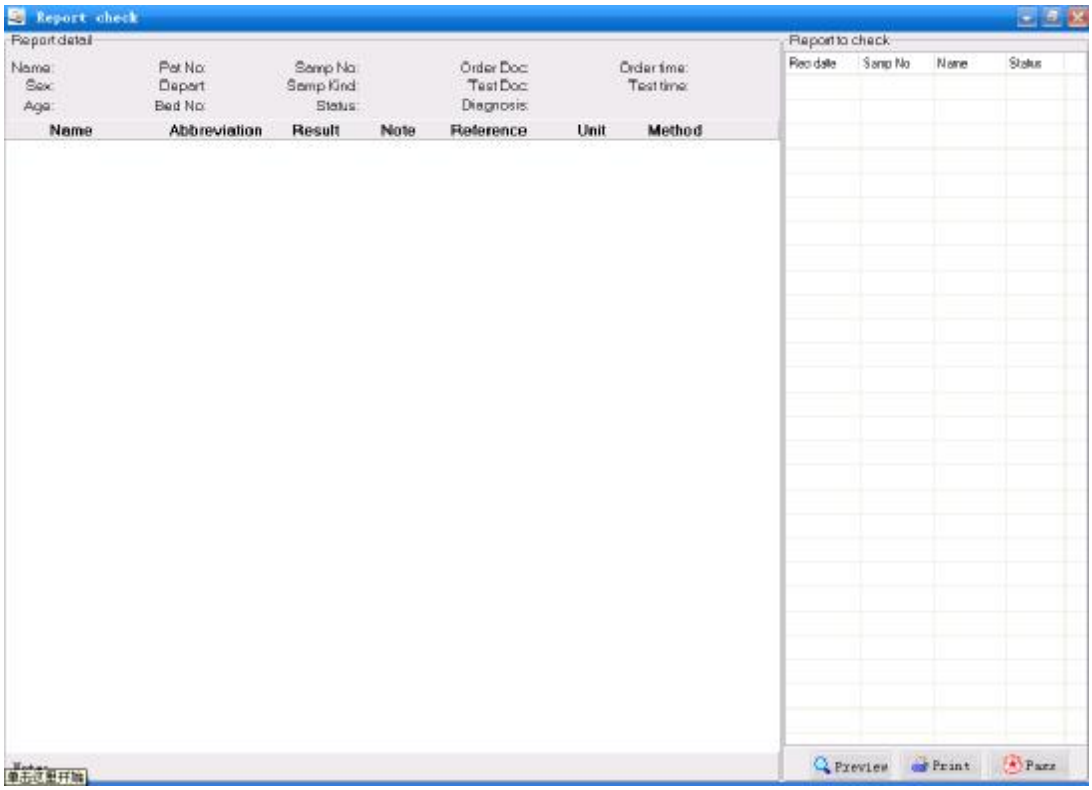
In the left list box to select one or more patients, according to "preview" or "Print" to print preview the report or the patient reports.

Select a number of patients in two ways, first, first select one, then hold down "Shift" key and mouse click to select the last patient, the patient from the first click to the last one click on all the selected patients in. Another way is by pressing

"ctrl" key and mouse click on a patient, the patient was clicked on is selected, this way you can choose not consecutive patients.
"Back" button to return to the main menu.

4.2.3.2 Audit Report

Medical audit review inspection reports are correct, if the patient information and test results are normal, according to "pass" button, indicating that the audit report be approved. As 4.10

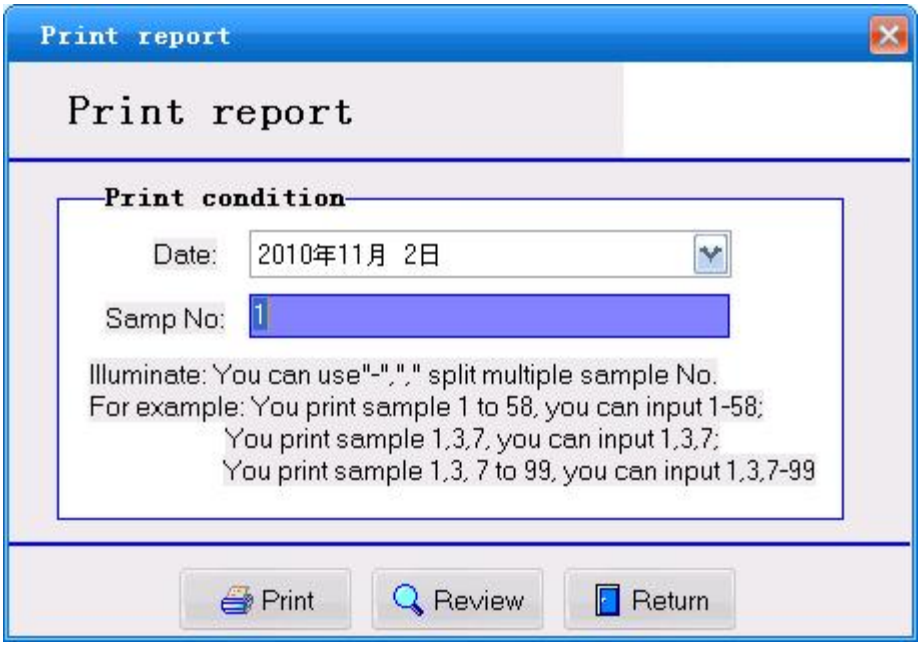


4.10

Audit reports can also preview and print. Many patients can choose and print preview.

4.2.3.3 Print report

To directly print a previously saved report, using the print reporting. As shown



4.11

Conditions in the printing of a day where you can choose to preview or print the report, all reports can be printed one day, you can also enter part of the preview or print samples

4.2.4 Report of menu functions

4.2.4.1 Test Report Query

Check all the inspection reports done. Query according to query, can be accurately queries and fuzzy queries. Enter all patient information searches or enter any of the information queries.

"Re-fill data", re-fill query data.

"Exact Search" the data in the query results and query to find out just exactly match the display.

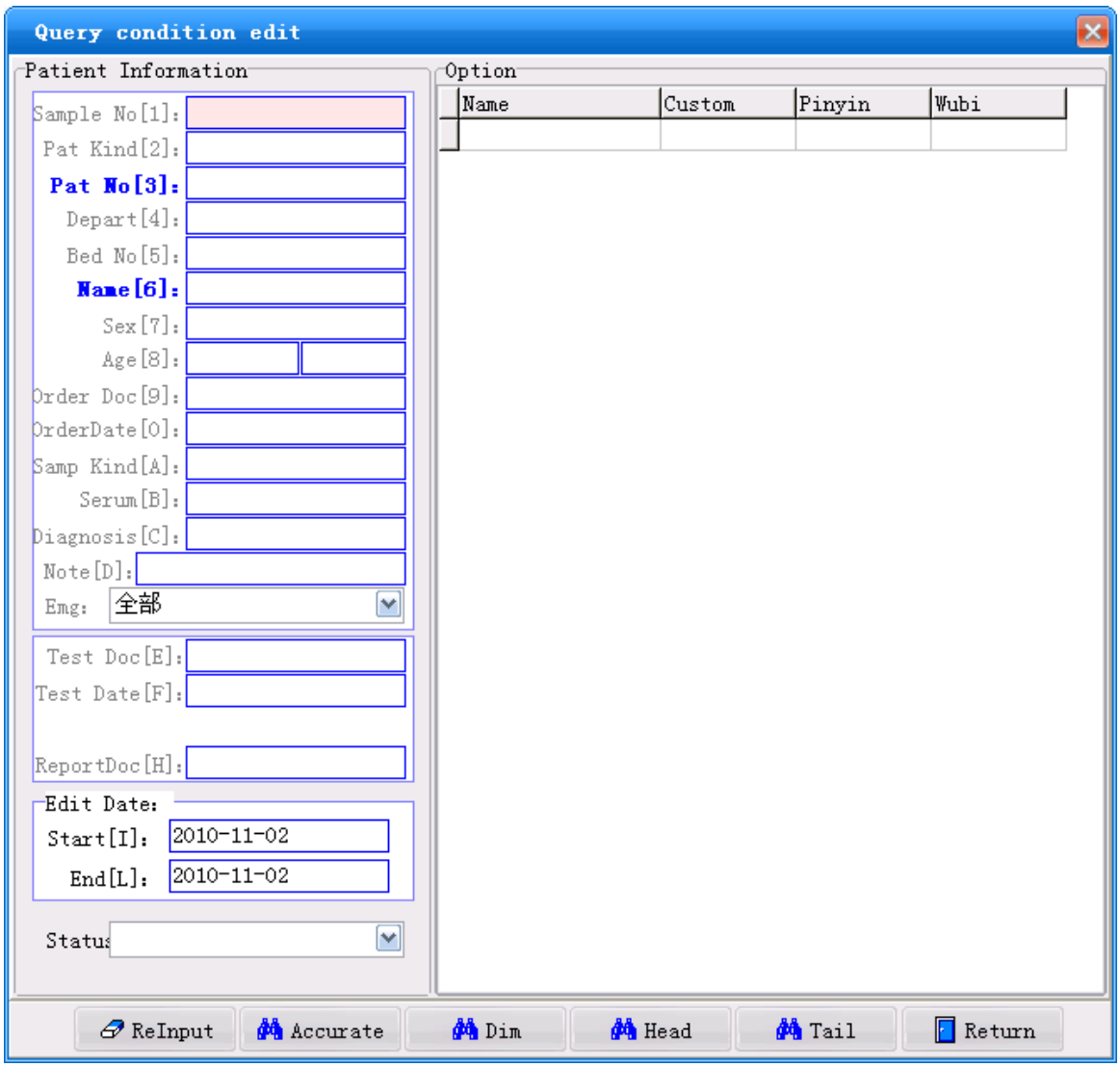
"Fuzzy query", query the data in the query contains the content to find the display.

"Query starts with" the query from the start date to end date the beginning of the data.

"Query at the end," query from the start dates to end date the back of the data.

"Return Program" to end the current query and return to the main menu.

Figure 4.12.



4.12

4.2.4.2 View online data

View saved measurement data, where you can edit, delete measurement data. If any piece of data reported by the editor of the "online", this data will be automatically transferred to the patients here in the report data.
The features are as follows:

First 

Previous 

The next 

The end 

Increase 

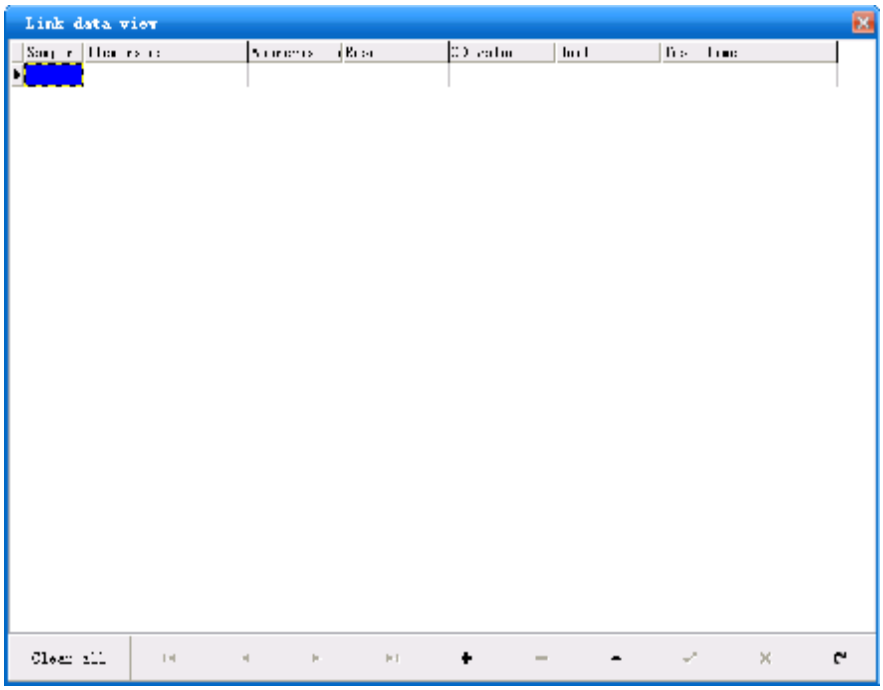
Delete

Modify 

Save 

Cancel 

Refresh 



4.13

4.2.5 Setup menu

4.2.5.1 Printer Setup

4.12

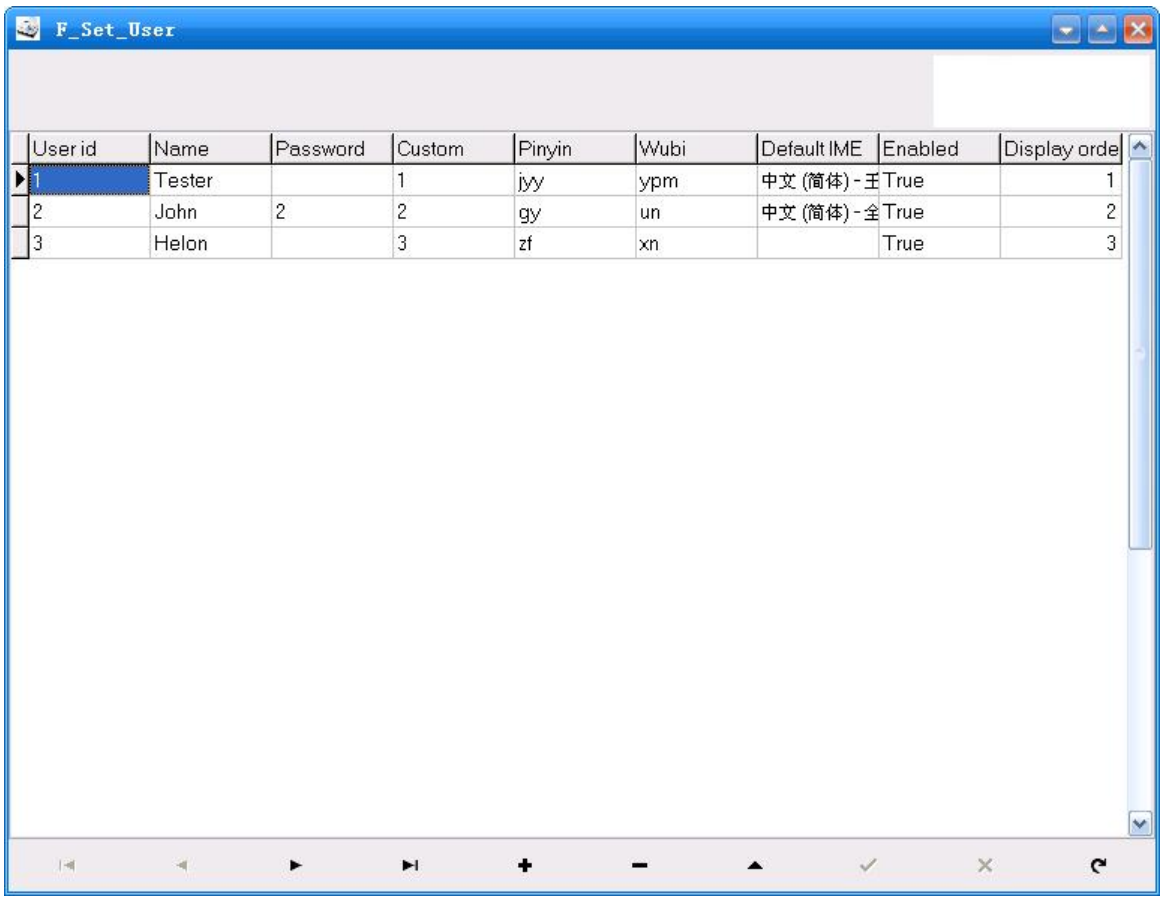
Select items in the name of the installed printer. Can set the paper size and print needle direction.HRP software system, the default paper size is A4 paper, and print direction is vertical.

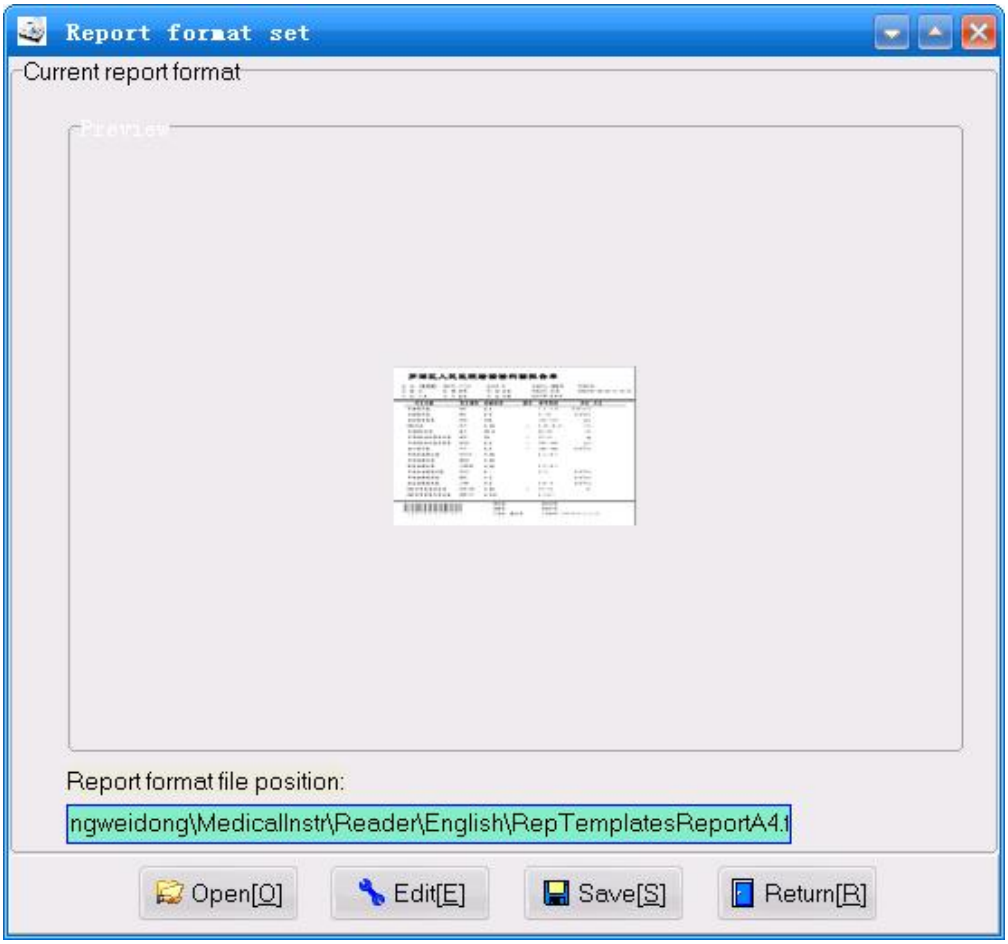
4.2.5.2 User management settings

4.13

Add, modify, delete, and view the operation of micro plate reader users. If multiple users use the Reader, you need to set up multiple users. Each user has its own name and password.

4.2.5.3 Report Formatting


F_Set_User
User id
Name
Password
Custom
Pinyin
Wubi
Default IME
Enabled
Display orde
1
Tester
1
jyy
ypm
中文 (简体) - 王
True
1
2
John
2
2
gy
un
中文 (简体) - 全
True
2
3
Helon
3
zf
xn
True
3


Report format set
Current report format
Preview
Report format file position:
ngweidong\MedicalInstr\Reader\English\RepTemplatesReportA4.1
Open[O]
Edit[E]
Save[S]
Return[R]

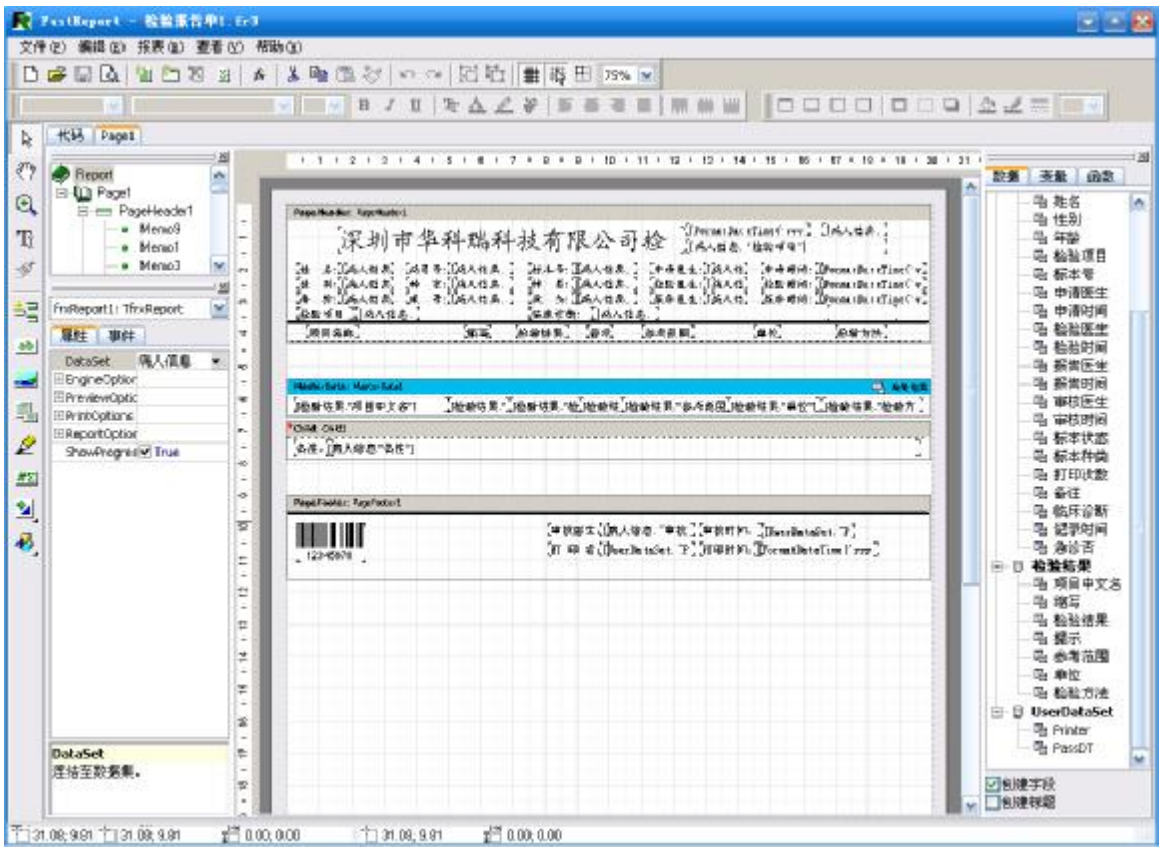
4.14

In this editorial in the report format can be set.

Save the file location is the location of the report template file format, if the location is wrong, you can click "Open" to find this file. The default path is the path of the current implementation of the file \ Rep Templates \ inspection report 1.fr3.Users can modify the path and file name, but to ensure that the path in the modified template file exists.

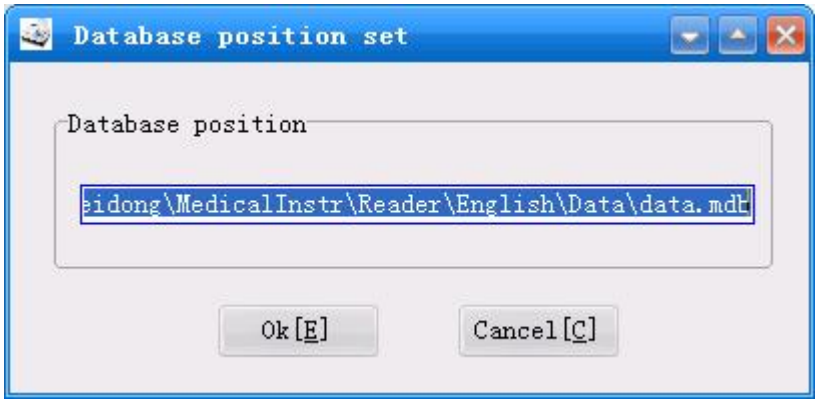
Click "Edit" to modify the template file, which is to modify report templates. Figure 4.15.

Can modify the format of the report, including the first title of the report, printing project information, and the report fonts and so on. Right-click pop-up window, click the "Edit" can modify the contents.



4.15

4.2.5.4 Database Settings



4.16

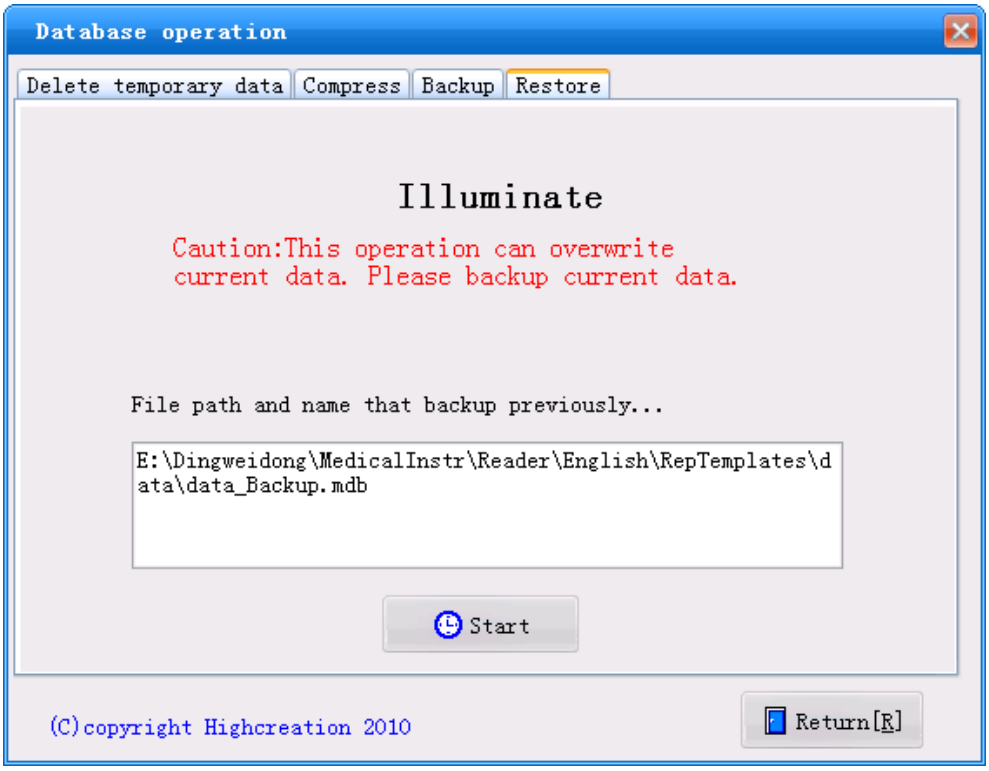
This can save the address of the database (path) for customization. Double-click the path can be modified.

The default path is the path of the current implementation of the file \ Data \ Data.mdb.

4.2.5.5 Database maintenance set

Figure 4.17The database can be customized action setting.

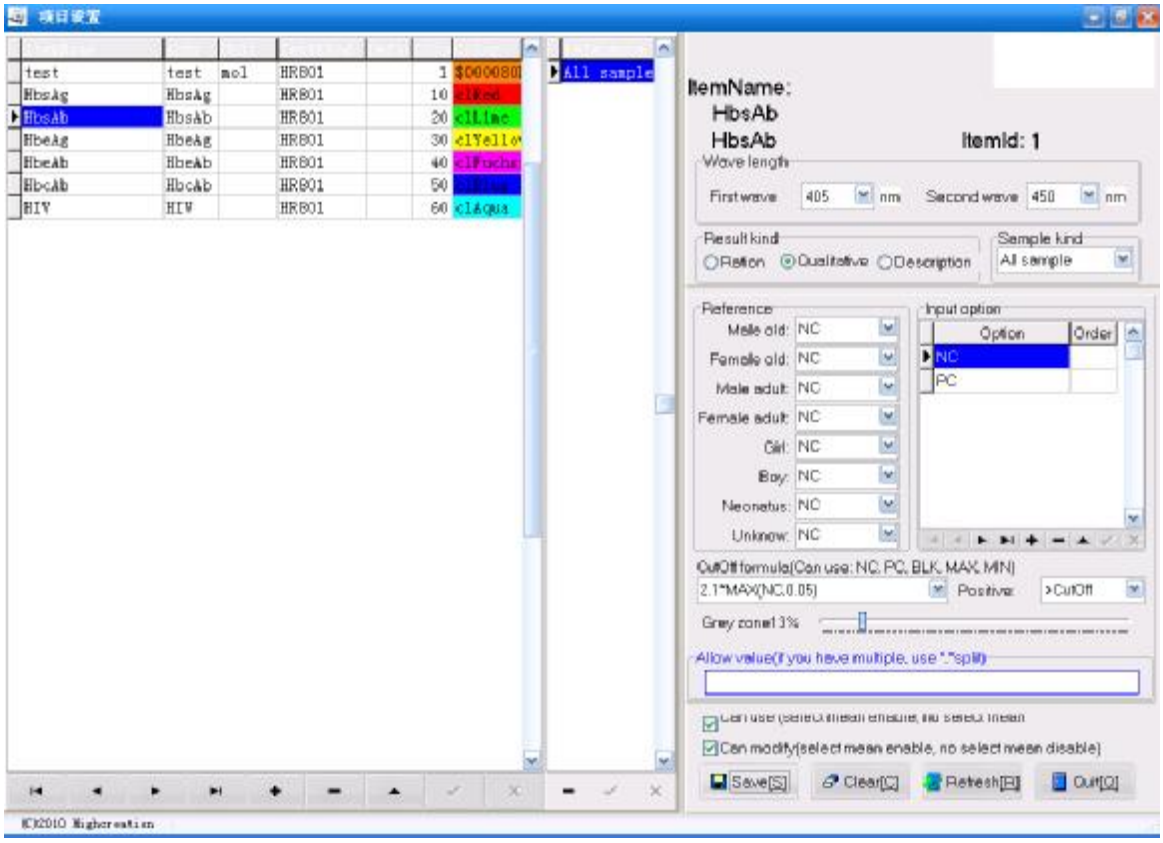
"Delete temporary data" to delete the temporary use of the data system, including online viewing of data



4.17

4.2.5.6 Items and reference set

To control the wavelength of the test, set wavelength according to the test kit instructions ,this can be set to a single wavelength (dominant wavelength) or dual-wavelength (dominant wavelength and sub wavelength).
Type of measurement results can type setting. Type specimen type specimens can be tested on the set.
Cutoff formula set in the instructions on the reagent can be measured with reference to the critical value of the specimen (negative and positive of the critical value) is set.
The meaning of the so-called gray areas of measurement results can not clearly distinguish between a negative or positive value of a fuzzy area (critical value error parameters).
The left side of the project settings as shown in Figure 4.17 below. The sample can be measured against the required reagents names, abbreviations, and color settings. Please refer to map the key features of the key functions described below 4.2.4.2.
Note: After data set ,be sure to save before exit the screen, or set invalid.



4.18

4.2.5.7 Communication Port Settings

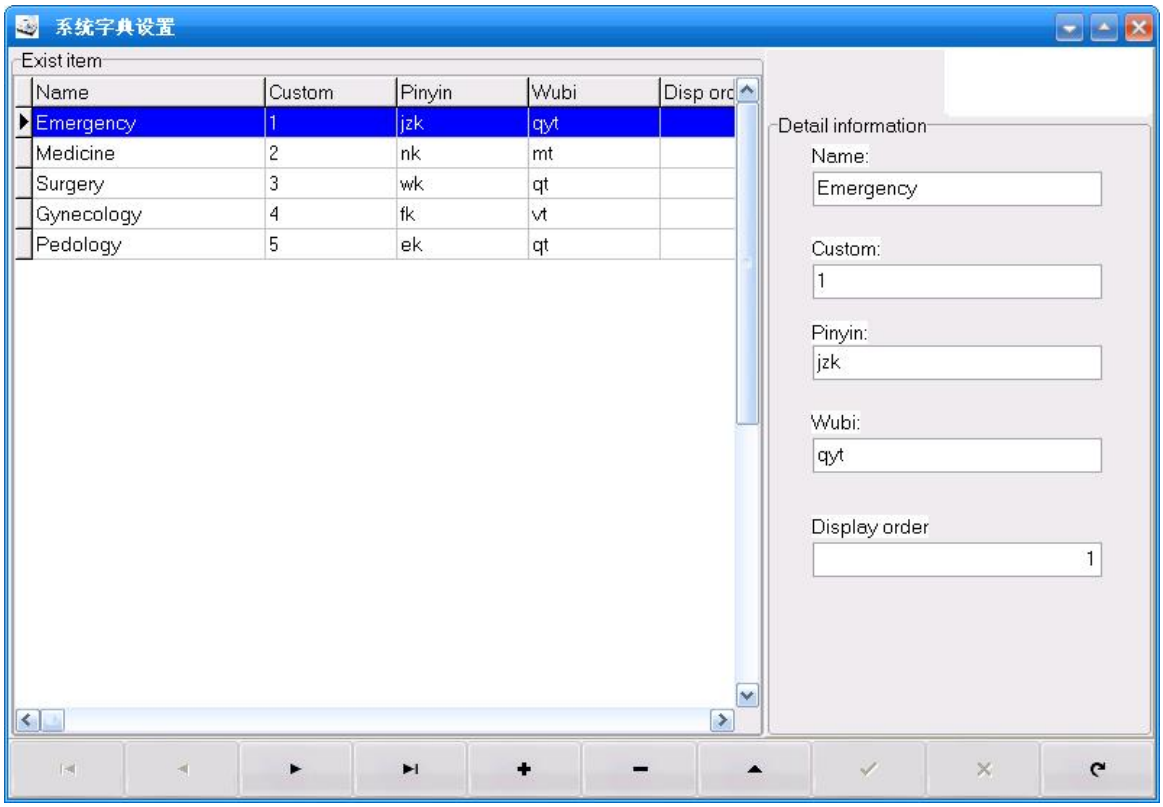
4.19

The computer port settings should be consistent with the communications port settings.
Otherwise, the micro plate reader and the computer can not be on-line.

4.2.6 Dictionary set

4.2.6.1 Department name set

As figure 4.20
Choose and edit the department name in the division to set up the project report, for the function keys, please refer to Figure 4.13 as below . It describes the various function keys function.
The dictionary menu set and all sub-menu item settings can refer to 4.2.4.2 .
Note: Set it and select Save and then exit the menu, or set invalid.



4.20

Others dictionary set like this. We do not list detail.

4.2.7 Help menu item

4.2.7.1 Instrument help menu.

Equipment instructions, electronic file.

4.2.7.2 About the system

Copyright notice on the micro plate reader system.

5 Instrument Maintenance

Before carrying out equipment maintenance, you must ensure to disconnect the power.

5.1 Installing Filters

● cut off power, open the cover;
● Remove the screw, open the light cover;
● filter wheel located between the lamp and fiber bulk, a total of eight filter positions;
● install new filter.

5.2 The change of light source

● cut off power, open the cover;
● Remove the screw, open the light cover;
● Seize the ceramic handle in one hand and grasp the lamp, remove the lights;
● Install the new bulb, press to make lights are installed, be careful not to touch the lamp or light room;
● Make sure the lamp is properly installed;
● fitted with light cover
● fitted with the instrument cover .
Tip: The new light source lamp bulb area should not be touched by your hands to avoid contamination. If needed, use ethanol to wipe the bulb.

5.3 Fuse replacement

When Need to replace the fuse, you should find out the reason. When replacing the fuse, you must switch off power, unplug the power plug, and select the current rating of 3A, specifications ф5 × 20 (mm) fuse to install.

5.4 Cleansing and disinfection

When cleaning equipment, please wipe with a damp cloth .You can also use detergent, but be careful not to use alcohol and other organic solvents.
When ELISA analyzer's trays contact ELISA plate, it may have been contaminated .Please use a damp alcohol cloth to wipe the tray. This can play a role in cleaning and disinfection.

5.5 user's commitments

This instrument offer one year free warranty, during the warranty period, the production unit is responsible for the maintenance free of charge. After warranty period, the manufacturer also offers maintenance .But one of the following reasons are not on the list of maintenance:
a) user himself dismantled equipment and caused of machine's failure.
b) the machine's failure caused by improper use.

5.6 Transport and storage conditions

a. Ambient temperature range: -10-40 ℃;
b. Relative humidity: ≤ 85% RH;
c. Atmospheric pressure range: 700hpa-1060hpa.
d. Moisture surge, anti-vibration, are not allowed to reverse, according to the requirements of storage and transportation printed outside the box, according to the requirements of the contract to transport.

5.7 Safety measures

a. Bad power cord, grasp the plug when unplugging, do not pull the power cord.
b. Do not open the cabinet, there is high voltage.

c. Do not place containers with water or small metal objects on the instrument, if accidentally fall into water or metal instrument, disconnect the plug off the power in time, to find experts to handle.
d. If find smoke, abnormal sound or smell, disconnect the power in time, to find experts to repair.
e. Do not force the impact of equipment.
f. Ensure that the equipment be grounded well .
g. Output section: the connected computer should meet the requirements of GB4943.
h. The operator can not touch the components without tools or contact with patients.

6 Common Trouble Shooting

1	LED does not light	
	a. Power is not turned on b. No power c. Power failure d. power fuse broken	Turn on the power Power cable testing Test circuit breaker or fuse Testing fuses, if necessary, replace it.
2	lamp failure	
	a. does not light b. light	Replace Lamp lights Check the lights are installed in the cor location
3	When read plate , board is stuck	
	Micro plate is placed a wrong place.	Immediately press the stop button, replace the plate.
4	hole is with color, but very low absorbency	
	there is no optimum wavelength filter Not Install filter good	Determine the optimum wavelength Check the correct position
5	other fault	Contact with the manufacturers