Xi'an Tianlong Science&Technology Co.,Ltd.

Genesy Amplification Thermal Cycler
Operation Manual

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Operation Manual

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Special Declaration

Before the installation and utilization of Genesy Amplification Thermal Cycler, please read this operation manual carefully in order to use correctly!

Medical Device Manufacturing Enterprise License:
Shaanxi FDA Production License No. 20123142

Medical Device Product Registration No.:
Shaanxi FDA (Approved) 2014 No. 2400033

Medical Device Product Standard No:
YZB/ Shaanxi 0585—2014

Version: 1.0.1

Safety and Regulatory Compliance

1. Overview

The operation, maintenance, repair and transportation of **Genesy Amplification Thermal Cycler** (hereinafter referred to as **Genesy thermal cycler**) shall strictly follow the basic safety specifications listed in this section and through this manual. Non-observance of the instruction provided or performing any operations not stated in the manual may affect the safety protection provided by the Genesy thermal cycler, and may also destroy the safety standards of design and manufacture as well as the expected application range of the instrument.

Caution: the design and manufacture of Genesy thermal cycler are safe and reliable. For correct operations that are complied with the specifications and the matters needing attention mentioned in this manual, the instrument will not cause any danger to operating personnel.

Caution: users must be aware of the possible hazards of this instrument and its accessories. All the operating personnel should be familiar with the safety instructions provided by the manufacturer. Operate the Genesy thermal cycler in any manner unspecified by the safety instructions listed as below, may results in instrument damage or not working properly.

2. Safety Labels

Caution

Indicates very important information that operating personnel should read carefully. Operate the Genesy thermal cycler in any manner unspecified in this manual may results in instrument damage or not working properly.

Warning

Indicates that operating personnel should be careful for the next step or the chosen method. Operate the Genesy thermal cycler in any manner unspecified in this manual may constitutes a personal injury hazard.

	**Reminding** Indicates that operating personnel should confirm this step before the next one, otherwise instrument may appear unpredictable errors and results in instrument damage or not working properly.
	**Prohibit** Suggests the operating personnel do not perform this operation, otherwise may results in instrument damage or not working properly.
	**High-Temp** Indicates the presence of a hot surface or other high-temperature hazards and reminds the operating personnel to proceed with appropriate caution.

3.Installation and Using Environment Safety

	**Prohibit** Never place the instrument in places that have or may have flammable and explosive gas.
	**Prohibit** Never use instrument's handle to lift or move the instrument, the handle is only intended for the opening and closing of hot lid.
	**Warning** Do not place the instrument in soft cushion, the instrument base may sink into the cushion and block up the air vent beneath.
	**Warning** Do not directly touch the thermal cycle block and lid while the instrument is still running, they may generate enough heat to cause serious burns. Please wait the thermal cycle block to return to idle temperature before opening the lid and removing samples.

Warning

Do not place the instrument adjoin against the wall or place other items behind it, this may affect the cooling of the instrument.

Warning

The instrument should be placed in the room with low humidity, less dust and away from water source, the room should be well ventilated and without corrosive gas. Please avoid directly sunshine and heating furnace, stoves and other heat sources during utilization.

4.Power Supply Safety

Warning

Please check the power connection carefully. Hold the plug when you plug the power cord and make sure the plug is perfectly inserted into the socket, do not pull the power cord to pull out the plug.

Prohibit

In case of electric leakage, immediately unplug the instrument and stop using.

Warning

Never touch the plug or the power switch with wet hands.

Warning

Please unplug the power cord before moving the instrument.

Warning

Please keep power cord away from heater or other high temperature objects.

Warning

In case the instrument will not be used for a long time, unplug it, and cover the device with soft cloth or plastic bag to prevent dust from entering.

5.Instrument Operation Safety

Warning

No person except the **XATL Co., Ltd.** professional maintenance personnel are allowed to open the instrument, replace any part or disassemble machine. Do not replace any part while the instrument is connected to the power supply.

Warning

Do not drop or damage the instrument, please handle it carefully.

Caution

Please cut off the power and restart the system if the instrument is not working properly.

High-Temp

The temperature of hot lid may rise up to 105 ℃ during the process of experiment, please pay attention to avoid high-temperature hazards.

6.Other Details

6.1Grounding

For protection against electric shock hazards, the Genesy thermal cycler must be grounded properly. The power cord provided is a standard three-pin plug, please plug into an appropriate three-wire grounded receptacle for operation safeties.

6.2 Power Supply

Before connecting the AC power supply, please ensure the consistent of the Genesy thermal cycler required voltage and the power supply voltage. And make sure that the rated load of receptacle is no less than the requirement of the instrument.

6.3 Power Cord

Under normal circumstances, please use the instrument attached power

cord. If the original power cord is destroyed, please substitute with the power cord whose type and size are identical to the original one. Please do not put anything on the power cord and keep it away from places where people usually move around. Please hold the plug when you plug the power cord and make sure the plug is perfectly inserted into the socket, do not pull the power cord to pull out the plug.

6.4 Replacement of Fuse Tube

The backup fuse tube (type 220V/10A) is located at the back of the instrument. For replacement, please cut off the power supply and unplug the power cord, open the fuse box with slotted screwdriver and replace the fuse tube with a new one.

6.5 Placing Requirements

The Genesy thermal cycler should be placed in the room with low humidity, less dust and away from water source (such as water pool, water tube etc.), the room should be well ventilated and without corrosive gas. Please do not put the instrument in wet or dusty place.

For protection against overheating hazards, the openings on the instrument are designed for ventilation. Please do not block or cover these ventilation openings. For single instrument running, the distance between adjacent objects and the surrounding ventilation openings shall be no less than 50cm. Do not place the instrument in soft surface, the instrument base may sink into the soft surface and block up the air inlet beneath.

If ambient temperature is too high, the performance of the Genesy thermal cycler may be affected and lead to the breakdown of the instrument. Please avoid directly sunshine, heating furnaces, stoves and other heat sources during the running of the Genesy thermal cycler.

In case the Genesy thermal cycler will not be used for a long time, please unplug the power plug and cover the Genesy thermal cycler with soft cloth or plastic bag to prevent dust entering.

Remarks

In case of any following conditions, immediately cut off the power supply and contact the distributor or the manufacturer to ask for professional

maintenance personnel for processing.

- Instrument is soaked with water or rain;
- Any liquid has entered into the instrument;
- Abnormal sound or smell while the instrument is running;
- The instrument has fell off and with housing damage;
- Obvious functional changes of the instrument.

6.6 Unpacking and Acceptance

The Genesy thermal cycler and its accessories are packaged in a packing case. Please check for the quantity and quality of the instrument and the accessories according to packing list. Report the distributor or the manufacturer in case there is any damage or lack.

After acceptance, please fill in the installation feedback table with related information, and send it back to **XATL Co., Ltd.** for documentation and warranty.

Please keep the packing materials for future use, for damages as consequences of improper packaging that incurred during the transportation back to maintenance department, **XATL Co., Ltd.** will not be responsible for the warranty.

6.7 Abandoned Instrument Disposal Suggestion

The Genesy thermal cycler is an electrical device, the disposal of abandoned Genesy instrument should not be treated as municipal or domestic waste.

Prohibition of Disassemble

Without the authorization of **XATL Co., Ltd.,** operating personnel are not allowed to open the apparatus, to replace any component or to debug the Genesy thermal cycler. Such as the need to open the Genesy thermal cycler must be approved by the manufacturer and be performed by professional maintenance personnel, otherwise **XATL Co., Ltd.** will not be responsible for warranty.

Content

1. Overview

1.1 Application Fields

Genesy gene amplification thermal cycler is intended for performing fluorescence quantitative DNA/RNA detecting analysis of pathogen detection and gene analysis through rapid, accurate polymerase chain reaction. It could be used in the fields of molecular biology, biotechnology, microbiology, medical science, forensic science, environmental science, food industry, clinical diagnosis, epidemiology, genetics, gene chip, gene detection, gene clone, gene expression, etc.

1.2 Instrument Structure Diagram

Fig1-1 Thermal cycler structure diagram

1	Serial port
2	Internet access
3	Power port and switch
4	Hot lid handle
5	0.2ml, 96 well thermal cycle block
6	USB interface

1.3 Instrument Features

Touch screen operation	7 inch, full color LCD touch screen operation + Chinese\English double language display + Android operating system
Precise control	Built-in engineering computer, stand-alone operation, independent from computer connection, save more space and energy and provide high stability automatic control system
Gradient control	With wide gradient control range of maximum 20℃ via 12 gradient temperatures
Free programming	Strong programming function. flexible and efficient to define your applications, satisfy different reagents requirements
Safe and reliable	Hot lid open is accompany with prompt, guarantee the operation safety
Silent running	Running noise is less than 55 db

1.4 Instrument Performance Index

1.4.1 Technical Features

- User management: Users could independent manage experimental programs, create or delete user accounts
- Reaction system: 5-100ul
- Plate type: 0.2ml, 96-well plate (skirted, semi-skirted, unskirted)
- Operation interface: 7 inch, full color LCD touch screen operation + Chinese\English double language display + Android operating system
- Experimental program: Users could create more than 10000 experimental programs.
- Experiment management: Users could create, edit or delete user experiments
- Power-off protection: Protect all set configurations in case of power off and allow the experiment continues after power on
- Heating/Cooling rate: Max 4.5℃/s
- High homogeneity: ±0.2℃
- High temperature accuracy: ±0.1℃

1.4.2 Instrument Specifications

- Power supply: Adaptable to voltage of 200-240V AC, frequency of 50/60(1±10%)Hz; Rated power 600VA.
- Dimension: 400mm ×260mm × 260mm

2. Installation and Utilization Preparation

2.1 Instrument Installation

1) Open-case inspection

Please check the integrity of the instrument package before open it. Report the transportation department and the manufacturer in case there is any sign of defects, collisions or water marks. After this, please open the instrument package and check the instrument and accessories according to the packing list, ensure that all components are present and intact, report any missing items to our company or the distributors that assigned by our company. Please keep the packing materials for future use, for damages as consequences of improper packaging that incurred during the transportation back to maintenance department, **XATL Co., Ltd.** will not be responsible for the warranty.

2) Instrument placement

The Genesy thermal cycler should be placed in the room with low humidity, less dust and away from water source (such as water pool, water tube etc.), the room should be well ventilated, without corrosive gas and intense magnetic field. Please do not put the instrument in wet or dusty place; do not place the instrument in soft surface, the instrument base may sink into the soft surface and block up the air inlet beneath; the openings on the instrument are designed for ventilation, please do not block or cover these ventilation openings. While the instrument is running, distance between adjacent objects and the surrounding ventilation openings shall be no less than 50cm; please avoid directly sunshine, heating furnaces, stoves and other heat sources during the running of the Genesy thermal cycler.

3) Grounding

For protection against electric shock hazards, the Genesy thermal cycler must be grounded properly. The power cord provided is a standard three-pin plug, please plug into an appropriate three-wire grounded receptacle for operation safeties.

4) Power Supply

Before connecting the AC power supply, please ensure the consistent of the Genesy thermal cycler required voltage and the power supply voltage (allowable deviation ± 10%). And make sure that the rated load of receptacle is no less than the requirement of the instrument.

a. Power cord

Under normal circumstances, please use the instrument attached power cord. If the original power cord is destroyed, please substitute with the power cord whose type and size are identical to the original one. Please do not put anything on the power cord and keep it away from places where people move around.

b. Power cord plug

Please hold the plug when you plug the power cord and make sure the plug is perfectly inserted into the socket, do not pull the power cord to pull out the plug.

2.2 Environmental Requirements

Considering the security and performance of the instrument, the installation and working environment of the Genesy thermal cycler should comply with the following conditions:

1) Unexplosive environment;

2) General working environment temperature should between 15 ℃ to 35 ℃. If the temperature demand of experiment is high. The working environment temperature should between 20 ℃ to 30 ℃

3) The relative humidity should be greater than 20% and less than 70%.

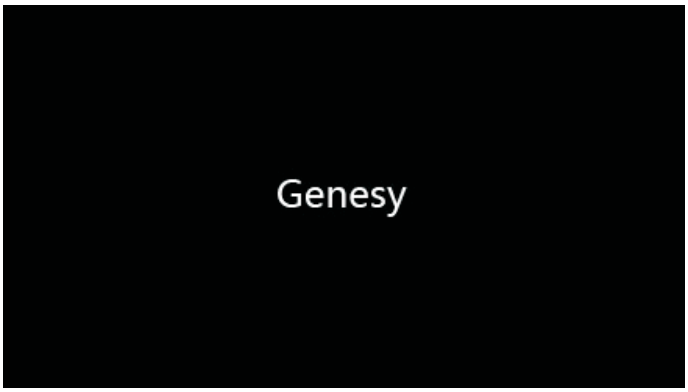
4) Working voltage: 200-240V AC, 50/60（1±10%）Hz; Rated power 600VA; It is recommended to use UPS power supply.

3. Operation Instructions

3.1 Boot

Turn on the power switch of Genesy thermal cycler, users could hear the gently blowing sound of fan. The instrument screen will light up and automatically enter the booting interface, as shown in figure 3-1-1. After a few seconds, the system will enter the self-test interface, as shown in figure 3-1-2.

3-1-1 Booting interface



3-1-2 Self-test interface

3.2 Main Interface

3.2.1 Operating Page

After a few seconds, the system will enter the main interface as guest user, as shown in figure 3-2-1. (Guest user is the default user, which can be changed. In case the default user is not set, the system will enter the login page, as shown in figure 3-2-3)

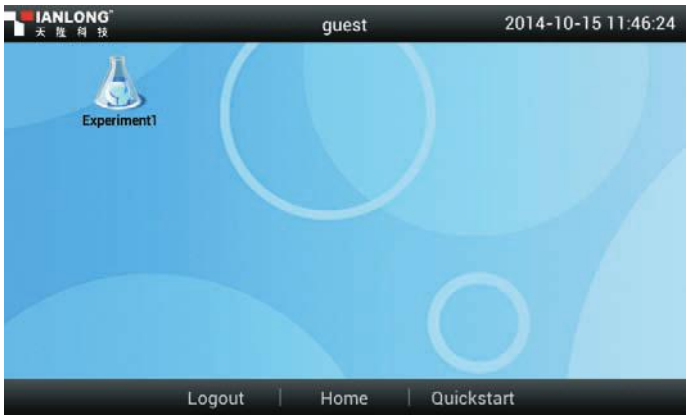
Fig 3-2-1 Main interface

The main interface is consist of 'Experiment Management', 'Settings', 'Running Log', 'TM Calc', 'Upload & Download' and 'Help'.

3.2.2 Quickstart

Users could press ***Quickstart*** on the main interface to enter the experiment quick start page, as shown in figure 3-2-2. Users could also slide the main interface to the left to enter this interface.

Fig 3-2-2 Experiment quick start page



Press the experiment shortcut icon to enter the running page of the corresponding experiment (Running progresses please refer 3.3.4 Running experiment). Long press the experiment shortcut icon to cancel the shortcut of the corresponding experiment.

3.2.3 Logout

Users could press ***Logout*** on the main interface to enter the login page, as shown in figure 3-2-3.

Fig 3-2-3 Login page

Users could input the user name and password to login, and enter the main interface. Users could also choose the selectable user names in the pull down menu.

Fig 3-2-4 Login page -- User selection

Select a user name and the selected user name will appear in the user name column. Please input the user password to login and enter the main interface. In case the guest user (default user) is selected, one can directly enter the main interface without inputting the password.

3.2.4 User Registration

Users could press ***Register*** on the login page to enter the registration page, as shown in figure 3-2-5.

Fig 3-2-5 Registration page

User could input user name and password on the registration page, after this, please confirm the password and press ***Register***. If the registration succeeded, the system will enter the main interface. If the registration failed, the system will remain on the registration page, the system will also enter the main interface if user press ***Cancel*** at this time.

3.3 Experiment Management

Press the ***Experiment Management*** icon on the main interface to enter the experiment management page, as shown in figure 3-3-1, press ***Back*** to return to the main interface.

Fig 3-3-1 Experiment management page

3.3.1 Create New Experiment

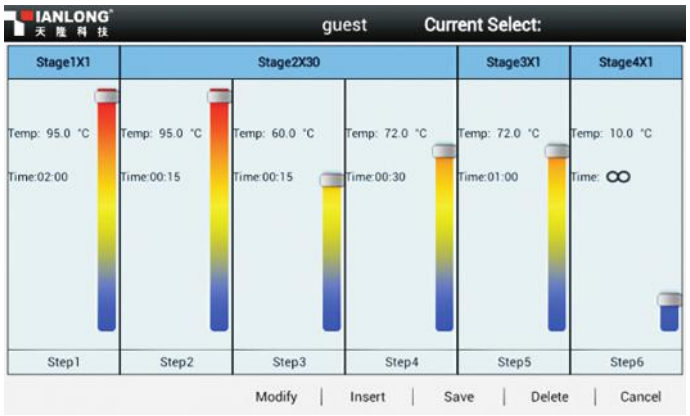
Press ***New*** on the lower left corner to enter the experiment editing page, as shown in figure 3-3-2.

Fig 3-3-2 Experiment editing page

On the experiment editing page, users could input the experiment name; select the temperature control mode (default temperature control mode is Tube mode); adjust the heating and cooling rate (by pressing the add and subtract icon); select optional template in the pull down menu, as shown in figure 3-3-3. Then press ***Next*** to enter the experimental data edition page, as shown in figure 3-3-4.

Fig 3-3-3 Template selection page

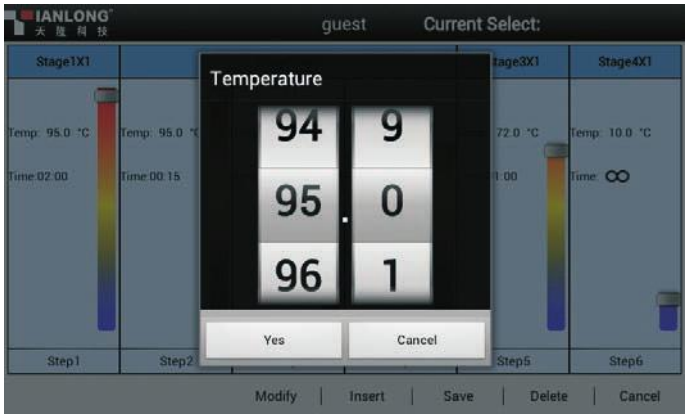
Fig 3-3-4 Experimental data edition page



3.3.1.1 Stage and Step Parameter Settings

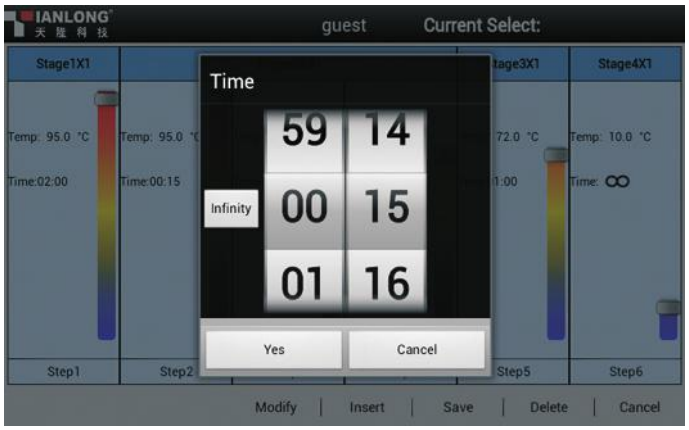
On the experimental data edition page, users could drag the slider of each Stage/Step to adjust their temperature, or press the temperature value of each Stage/Step to set the exact temperature in the pop up temperature dialog box, as shown in figure 3-3-5. The time setting of each Stage/Step is similar to the temperature setting, as shown in figure 3-3-6. Press the blank area of each stage, users could set the cycle number of each stage in the pop up dialog box, as shown in figure 3-3-7.

Fig 3-3-5 Experimental data edition page -- Step temperature setting



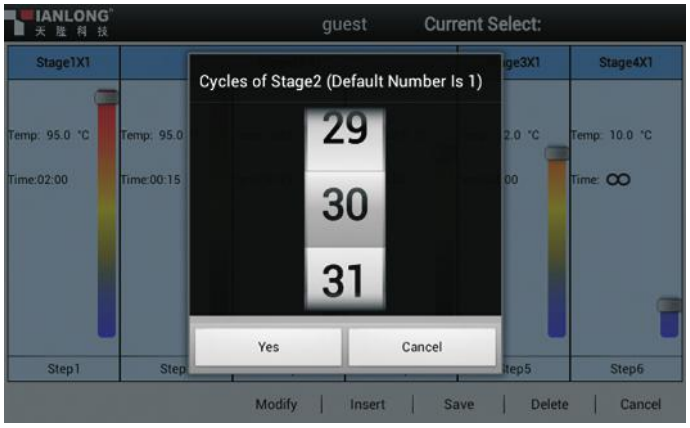
Remarks: temperature range should be between 4℃ to 99℃; Time range should be between 00:00 to 59:59; Cycle number should be between 1 to 99.

Fig 3-3-6 Experimental data edition page -- Step time setting



Remark: the step time will be set as '00:00' after you press ***Infinity***.

Fig 3-3-7 Experimental data edition page -- Stage cycle setting page



3.3.1.2 Stage and Step Property Settings

On the experimental data edition page, users could press any step, and this step will be selected, as shown in figure 3-3-8. Press ***Modify*** on the bottom of the page, there will be a step setting dialog box pop up, as shown in figure 3-3-9. Users could just modify the step property settings as required.

Fig 3-3-8 Experimental data edition page – Selected step

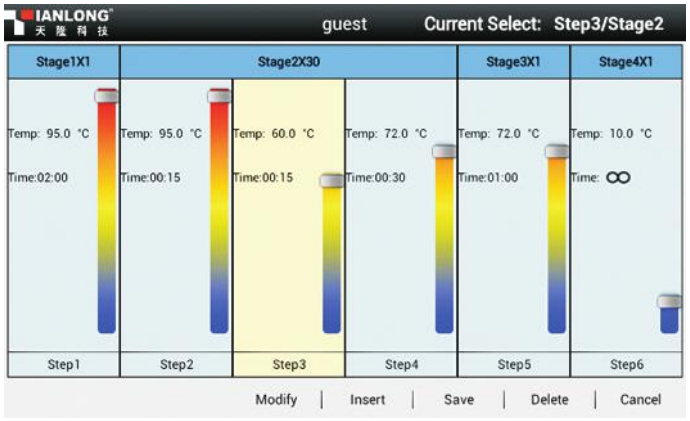


Fig 3-3-9 Experimental data edition page – Step setting dialog box

Remarks: temperature ***Gradient*** range should be between 0℃ to 30℃; Touchdown PCR temperature ***Increment*** should be between -10℃ to 10℃; Long PCR time ***Increment*** should be between -60s to 60s.

3.3.1.3 Insert Stage and Step

3.3.1.3.1 Insert Stage

If no stage or step is selected, press ***Insert*** on the experimental data edition page, a new default stage will be inserted after the final stage of the experiment, as shown in figure 3-3-10 and figure 3-3-11. The parameters of the inserted default stage are: Cycle number~1; Step number~1; Step time~Infinity; Step temperature~4°C

Fig 3-3-10 Experimental data edition page – Insert a stage

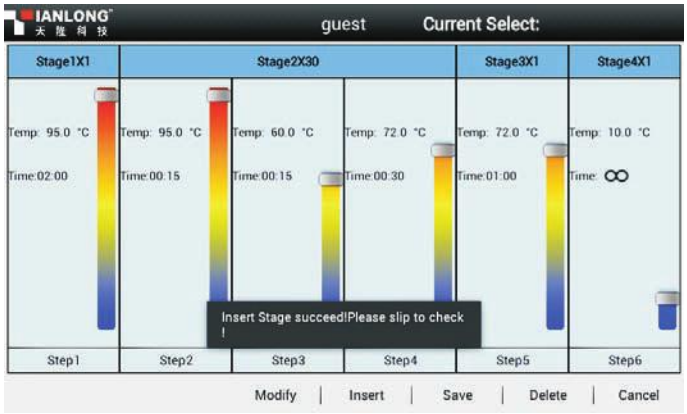
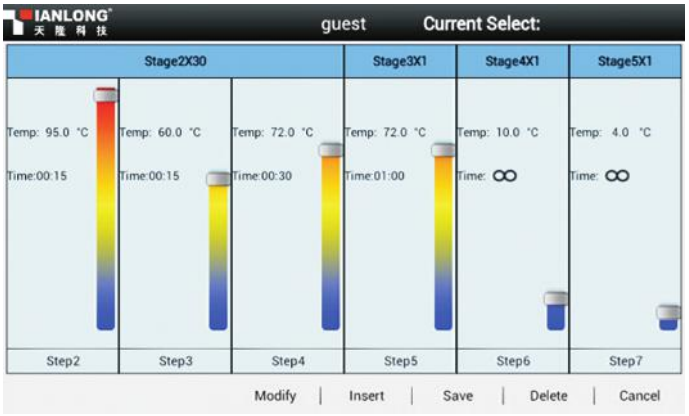


Fig 3-3-11 Experimental data edition page -- A stage has inserted



Long press to select a stage, as shown in figure 3-3-12, then press ***Insert*** to insert a default stage after the selected stage, as shown in figure 3-3-13.

Fig 3-3-12 Experimental data edition page – Selected stage

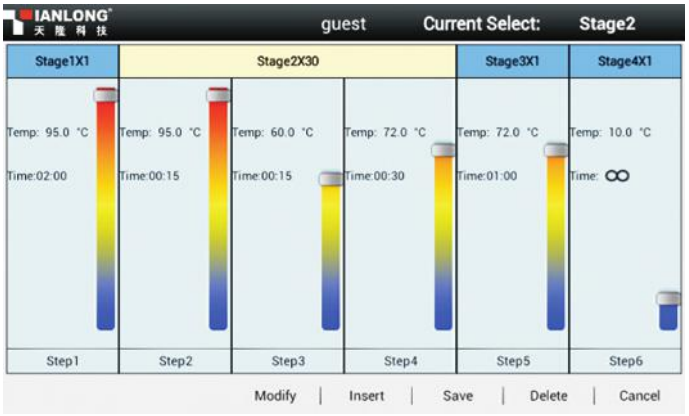
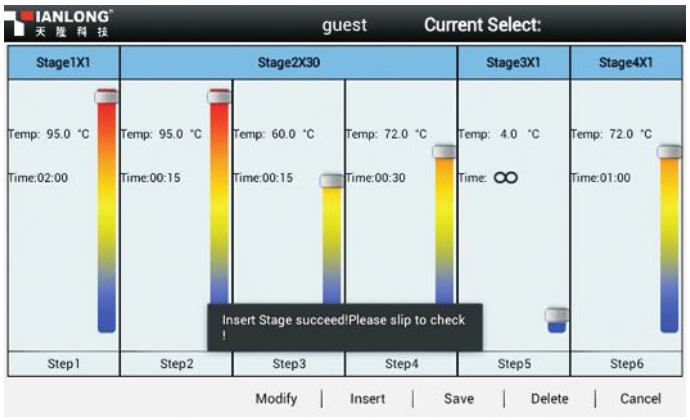


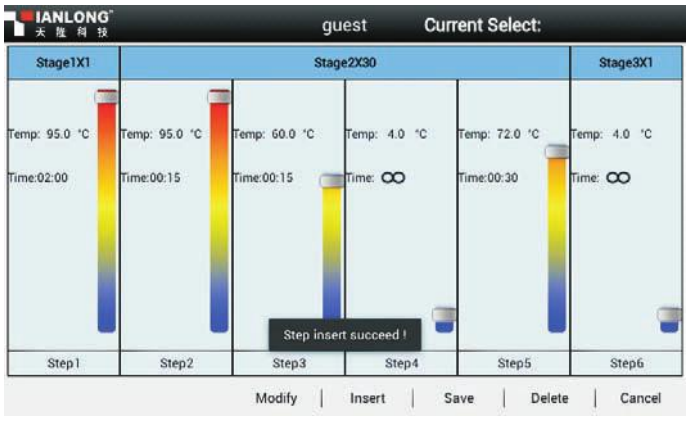
Fig 3-3-13 Experimental data edition page – A stage has inserted after the selected stage



3.3.1.3.2 Insert Step

On the experimental data edition page, press to select a step, as shown in the figure 3-3-8, and then press ***Insert*** on the bottom of the page, a new default step will be inserted after the selected step, as shown in figure 3-3-14. The parameters of the inserted default step are: Step temperature~4°C; Step time~Infinity.

Fig 3-3-14 Experimental data edition page – Insert a step



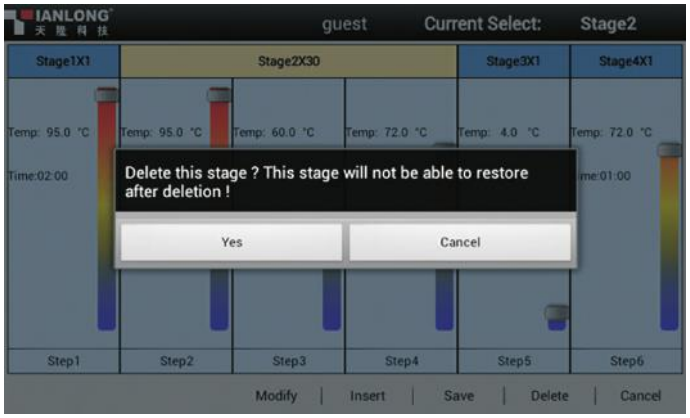
3.3.1.4 Delete Stage and Step

On the experimental data edition page, press ***Delete*** without selecting any stage and step, all the stage and step of the current experiment will be deleted, as shown in figure 3-3-15.

Fig 3-3-15 Experimental data edition page – Delete all stages

Long press to select a stage, as shown in the figure 3-3-2, then press ***Delete*** on the experimental data edition page to delete the selected stage (including all its steps), as shown in figure 3-3-16.

Fig 3-3-16 Experimental data edition page – Delete the selected stage



Press to select a step, as shown in figure the 3-3-8, then press ***Delete*** on the experimental data edition page to delete the selected step, as shown in figure 3-3-17.

Fig 3-3-17 Experimental data edition page – Delete the selected step

3.3.1.5 Cancel and Save

On the experimental data edition page, press ***Save*** to save all the edited data and confirm the new experiment creation. Press ***Cancel*** to quit saving the new experiment and all its related settings.

3.3.2 Edit Experiment

On the experiment management page, press ***Edit*** without selecting any experiment, there will be a prompt message pop up reminding users 'No experiment is selected'. Select an experiment and press ***Edit*** to enter the experiment editing page, specific operation please refer to 3.3.1 create new experiment.

3.3.3 Delete Experiment and Add Experimental Shortcut

On the experiment management page, long press or left slide any experiment icon, an Experiment Operation box will pop up offering users with two operations: ***Delete Experiment*** or ***Add Shortcut***, as shown in figure 3-3-18 and 3-3-19. Press ***Delete Experiment*** to delete the selected experiment, press ***Add Shortcut*** to add a shortcut for the selected experiment, as shown in the figure 3.2.2 Experiment quick start page.

Fig 3-3-18 Experimental data edition page – Long press experiment icon

Fig 3-3-19 Experimental data edition page – Left slide experiment icon

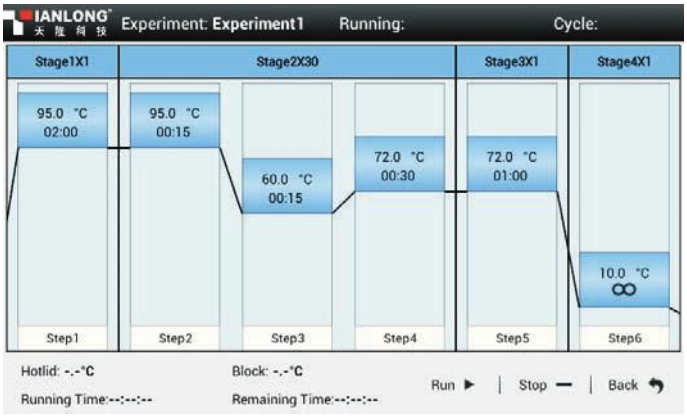
3.3.4 Running Experiment

On the experiment management page, select any experiment, the detailed information of the current experiment will be displayed on the right, and there will be a ***Run*** button showing on the lower right corner, press this button to enter the pre-running page of the current experiment, as shown in figure 3-3-20.

Fig 3-3-20 Pre-running page

Users could edit reaction ***Volume***, ***Hotlid*** temperature and ***Temp Control Mode*** on the pre-running page, and press ***Next*** on the lower right corner to enter the experiment running page, as shown in figure 3-3-21.

Fig 3-3-21 Experiment running page



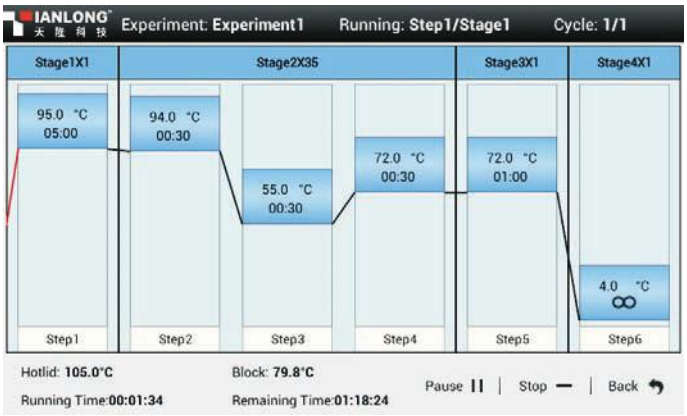
The related information of the current experiment that displayed on the experiment running page are: experimental name, stage and step, cycle number, the temperature of hot lid and thermal cycle block, running time and remaining time. Users could press ***Back*** to return to the experiment management page.

3.3.4.1 Experiment Running

Users could press the ***Run*** ▸ button on the experiment running page to start running the current experiment. The displayed information will change according to the running state and the ***Run*** ▸ button will turn into the ***Pause*** ⏸ button. During the process of heating/cooling, the heating/cooling indicating line will turn red. While in the thermal insulation state, the

background color of step will switch back and forth from blue to yellow, the system will start to countdown the step time at the same time, and the heating/cooling indicating line will turn black, as shown in figure 3-3-22.

Fig 3-3-22 Experiment running page



3.3.4.2 Pause Experiment

The experiment cannot be paused in the process of heating/cooling, only while in the thermal insulation state, users could press the ***Pause*** ❚❚ button to suspend the experiment, as shown in figure 3-3-23. The step background will stop flashing and the step time countdown will stop as well as the running time and the remaining time. The ***Pause*** ❚❚ button will turn back to the ***Run*** ▶ button, press the ***Run*** ▶ button again to continue running the remaining experiment, as shown in figure 3-3-24.

Fig 3-3-23 Thermal insulation state

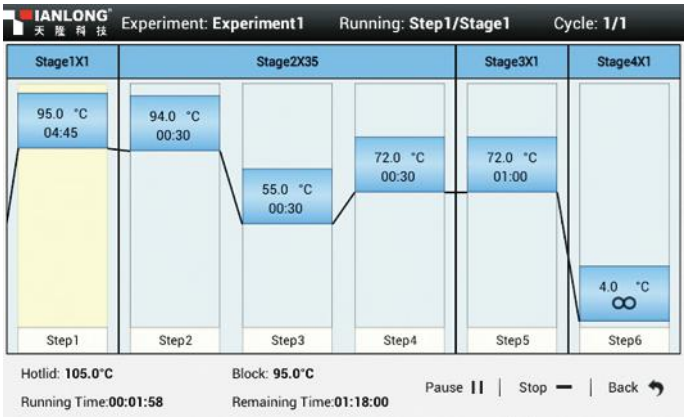
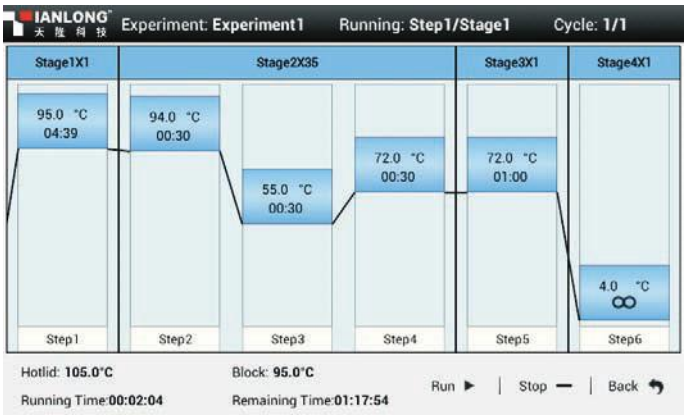


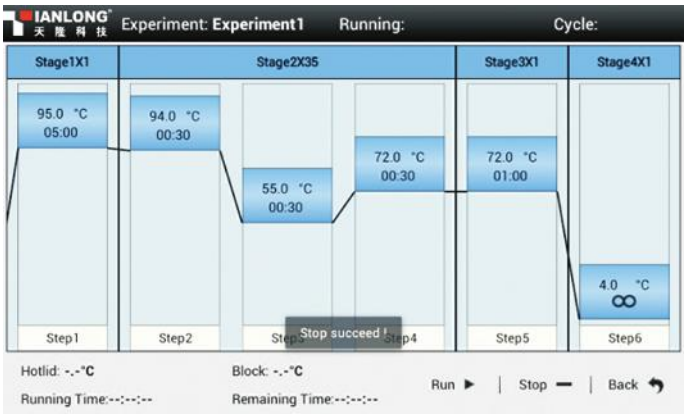
Fig 3-3-24 Pause experiment



3.3.4.3 Stop Experiment

In the process of experiment running, users could press ***Stop*** ▬ button to stop the experiment running, the experimental data and displayed data will return to the initial value, as shown in figure 3-3-25.

Fig 3-3-25 Stop experiment



3.4 System Settings

Press the ***Settings*** icon on the main interface, the system will automatically enter the system setting page, as shown in figure 3-4-1. The system setting page is consisted of '***Instrument***', '***Network***', '***User***', '***System Memory***', '***Temperature***'. Press ***Save*** on the lower left corner to save all the modifications, press ***Back*** to return to the main interface.

Fig 3-4-1 System setting page

3.4.1 Instrument Settings

Press ***Instrument*** on the system setting page, the secondary menu of instrument setting will appear, including ***Date & Time***, ***Sound***, ***Language***, as shown in figure 3-4-2.

Fig 3-4-2 System setting page -- Instrument setting

3.4.1.1 Date & Time Setting

Press ***Date & Time*** in the secondary menu of instrument setting, the Date &

Time setting page will be shown on the right, as shown in figure 3-4-3. Users could drag the slider to set the system date and time, then press ***Save*** on the lower right corner to save the modifications.

Fig 3-4-3 System setting page -- Instrument setting -- Date & Time setting

3.4.1.2 Sound Setting

Press ***Sound*** in the secondary menu of instrument setting, the sound setting page will be shown on the right, as shown in figure 3-4-4. Users could press or slide the corresponding button of ***Keytones*** or ***Warning Beep,*** then press ***Save*** on the lower right corner to save the modification.

Fig 3-4-4 System setting page -- Instrument setting -- Sound setting

Remarks: ***On*** means turn on the sound; ***Off*** means turn off the sound.

3.4.1.3 Language Setting

Press ***Language*** in the secondary menu of instrument setting, the language setting page will be shown on the right, as shown in figure 3-4-5. Select 中文 or ***English*** to switch languages, then press ***Save*** on the lower right corner to save the modification.

Fig 3-4-5 System setting page -- Instrument setting -- Language setting

3.4.2 Network Settings

Press ***Network*** on the system setting page, the secondary menu of network setting will appear, including ***IP Address***, ***Subnet Mask***, ***Default Gateway***, as shown in figure 3-4-6.

Fig 3-4-6 System setting page -- Network setting

3.4.2.1 IP Address Setting

Press ***IP Address*** in the secondary menu of network setting, the IP address setting page will be shown on the right, as shown in figure 3-4-7. Input the correct IP address and press ***Save*** on the lower right corner to save the IP address setting.

Fig 3-4-7 System setting page -- Network setting -- IP address setting

3.4.2.2 Subnet Mask Setting

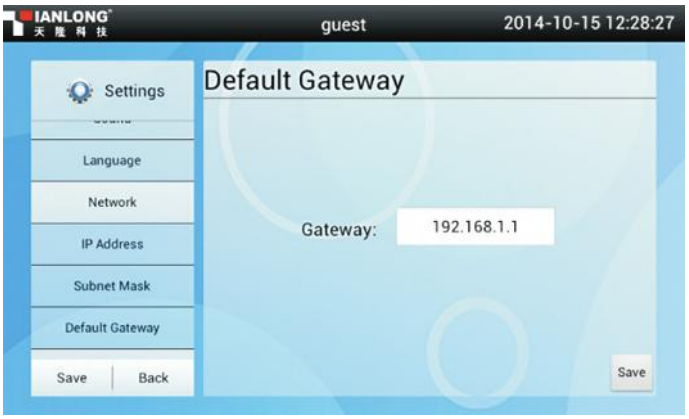
Press ***Subnet Mask*** in the secondary menu of network setting, the subnet mask setting page will be shown on the right, as shown in figure 3-4-8. Input the correct subnet mask value and press ***Save*** on the lower right corner to save the subnet mask setting.

Fig 3-4-8 System setting page -- Network setting -- Subnet mask setting

3.4.2.3 Default Gateway Setting

Press ***Default Gateway*** in the secondary menu of network setting, the default gateway setting page will be shown on the right, as shown in figure 3-4-9. Input the correct default gateway value and press ***Save*** on the lower right corner to save the default gateway setting.

Fig 3-4-9 System setting page -- Network setting -- Default gateway setting



3.4.3 User Settings

Press ***User*** on the system setting page, the secondary menu of user setting will appear, including ***Password***, ***Default User***, as shown in figure 3-4-10.

Fig 3-4-10 System setting page -- User setting

3.4.3.1 Password Setting

Press ***Password*** in the secondary menu of user setting, the password setting page will be shown on the right, as shown in figure 3-4-11. Please input the

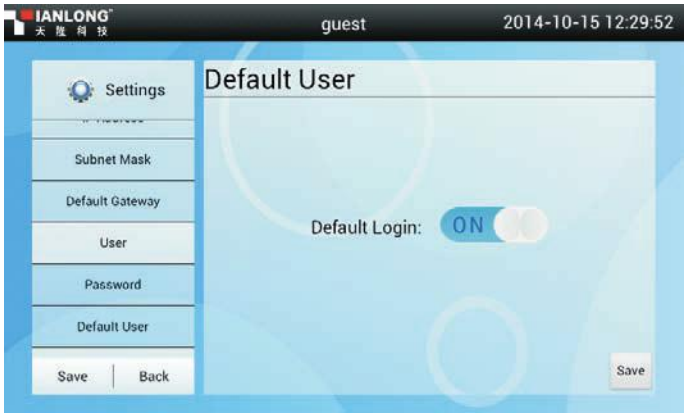
corresponding ***User Password***, ***New Password***, ***Confirm Password***, then press ***Save*** on the lower right corner to save the password modification.

Fig 3-4-11 System setting page -- User setting -- Password setting

3.4.3.2 Default User Setting

Press ***Default User*** in the secondary menu of user setting, the default user setting page will be shown on the right, as shown in figure 3-4-12. Users could press or slide the corresponding button to decide whether to login as the default user. In case one decides to login as default user, this will cancel the login permission of other users.

Fig 3-4-12 System setting page -- User setting -- Default user setting

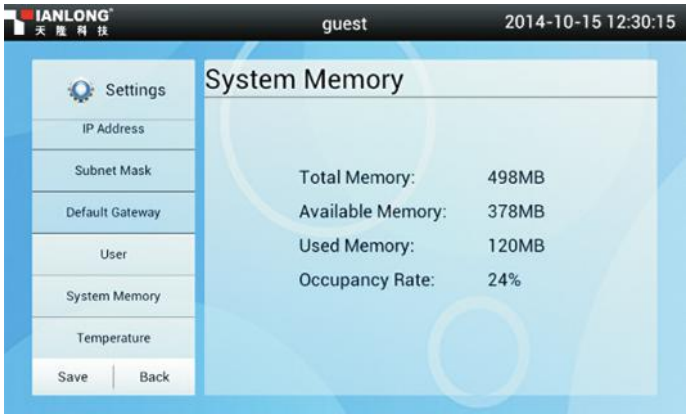


3.4.4 System Memory Settings

Press ***System Memory*** on the system setting page, the system memory page will be shown on the right, where the related information of ***Total Memory***,

Available Memory, ***Used Memory***, ***Occupancy Rate*** are displayed, as shown in figure 3-4-13.

Fig 3-4-13 System setting page -- System memory



3.4.5 Temperature Settings

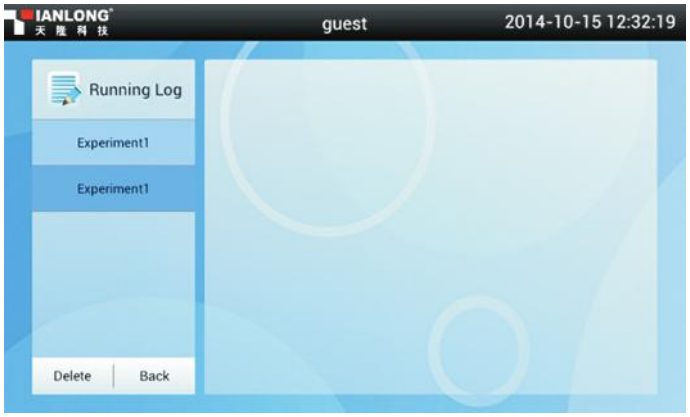
Press ***Temperature*** on the system setting page, the temperature page will be shown on the right, where the related temperature information of ***Left*** block, ***Middle*** block, ***Right*** block and ***Hotlid*** are displayed, as shown in figure 3-4-14.

Fig 3-4-14 System setting page – Temperature

3.5 Running Log

Press the ***Running Log*** icon on the main interface, the system will automatically enter the running log page, as shown in figure 3-5-1. The running log of an experiment will be shown on this page after finish running the experiment. Users could also check multiple experiment running logs on this page.

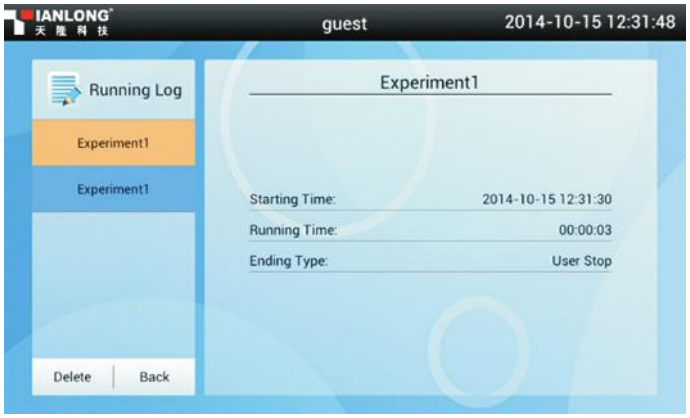
Fig 3-5-1 Running log page



3.5.1 View Running Log

Press the experiment name on the running log page to select an experiment, the running log of the selected experiment will be shown on the right, as shown in figure 3-5-2. Users could view the ***Starting Time***, ***Running Time***, ***Ending Type*** of the selected experiment on this page. Users could press the experiment name again to unselect this experiment and quit viewing its running log, as shown in figure 3-5-1.

Fig 3-5-2 Running log page -- View running log



3.5.2 Delete Running Log

Users could press the experiment name on the running log page to select an experiment, and then press ***Delete*** on the lower left corner to delete the running log of the selected experiment, as shown in figure 3-5-3. If no experiment is selected, press ***Delete*** will delete all the experiment running logs, as shown in figure 3-5-4.

Fig 3-5-3 Running log page -- Delete the selected experiment running log

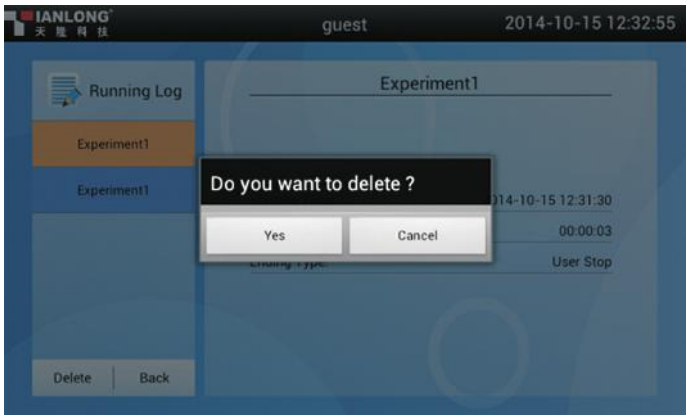
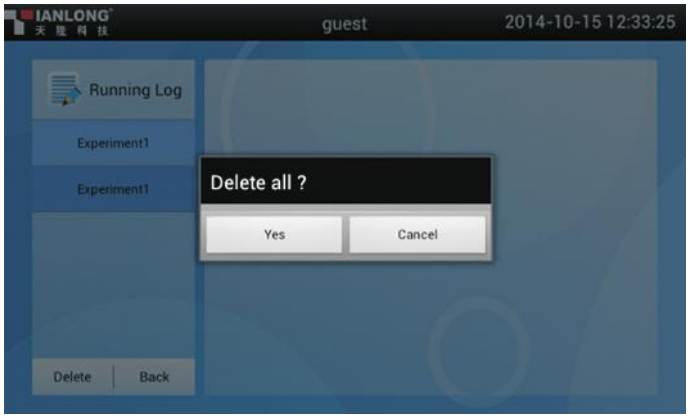


Fig 3-5-4 Running log page -- Delete all the experiment running logs



3.6 TM Calculation

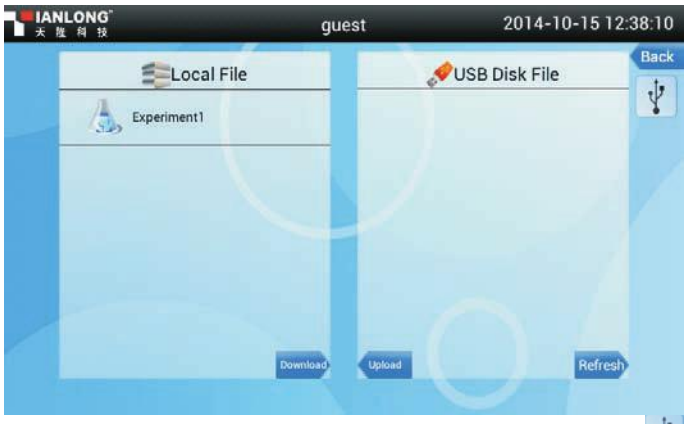
Press the ***TM Calc*** icon on the main interface, the system will automatically enter the TM calculation page, as shown in figure 3-6-1. Users could input the related information of ***Salt Concentration, Primer Concentration, Primer Sequence*** on this page. Press ***Calc***, the system will automatically calculate the TM value and display on the blank area above. Users could press ***Back*** to return to the main interface.

Fig 3-6-1 TM calculation page

3.7 File Upload and Download

Press the ***Upload & Download*** icon on the main interface, the system will automatically enter the file upload and download page, as shown in figure 3-7-1. The local files are displayed on the left; the files in USB disk are displayed on the right. Users could press ***Back*** to return to the main interface.

Fig 3-7-1 File upload and download page



Remarks: on the file upload and download page, the icon will appear if a USB disk is inserted, and the files in the USB disk are displayed on the right side of the page. Otherwise the icon and the USB disk files will not show.

3.7.1 File Download

On the file upload and download page, users could select a local file and then press ***Download*** to download the selected local file to the inserted USB disk, as shown in figure 3-7-2. The downloaded file will be displayed on the right side of the page, as shown in figure 3-7-3. Press the selected local file again to unselect it.

Fig 3-7-2 File upload and download page -- Select local file

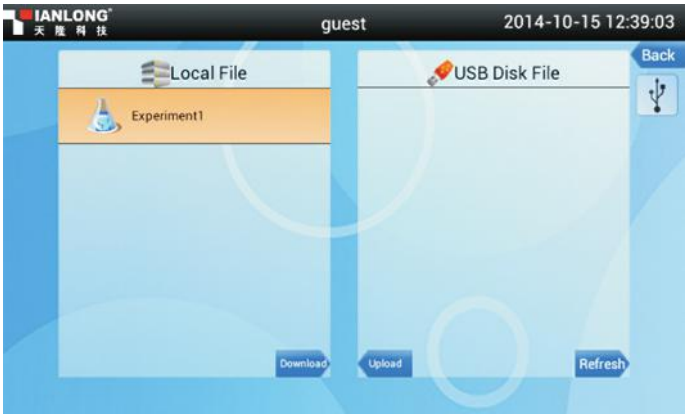


Fig 3-7-3 File upload and download page -- Download complete

3.7.2 File Upload

On the file upload and download page, users could select a USB disk file and then press ***Upload*** to upload the selected USB disk file to local file folder, as shown in figure 3-7-4. The uploaded file will be displayed on the left side of the page, as shown in figure 3-7-5. At the same time, the uploaded file will also be on the experiment management page, as shown in figure 3-7-6. Press the selected USB disk file again to unselect it.

Fig 3-7-4 File upload and download page -- Select USB disk file

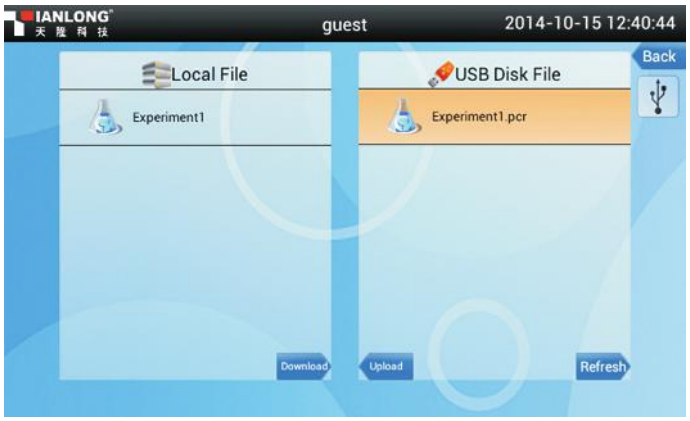


Fig 3-7-5 File upload and download page -- Upload complete

Fig 3-7-6 Upload Complete -- Experiment management page

3.8 Getting Help

Press the ***Help*** icon on the main interface, the system will automatically enter the help page, as shown in figure 3-8-1.

Fig 3-8-1 Help

3.8.1 About

Press ***About*** on the help page, the related information of ***Firmware version***, ***Hardware version***, ***Software version*** and ***Copyright*** will be shown on the right, as shown in figure 3-8-2.

Fig 3-8-2 About

3.8.2 Contact Us

Press ***Contact Us*** on the help page, the company related information such as: ***Name***, ***Address***, ***Tel***, ***Fax***, ***Website***, ***Postcode*** and the email address of each department will be shown on the right, as shown in figure 3-8-3.

Fig 3-8-3 Contact us

4. Packaging and Transportation

1. The Genesy thermal cycler and its accessories are packed with plastic bag, protective foam and carton box for transportation. All instruments are carefully checked before delivering to ensure they are in good condition.

2. Please check the integrity of instrument package before open it. Report the transportation department or **XATL Co., Ltd.** in case there is any sign of defects, collisions or water marks.

3. Please take the Genesy thermal cycler out of the box. Carefully check the instrument and the accessories according to the packing list, ensure that all components are present and intact, report any damage or lack to the distributor or **XATL Co., Ltd**.

4. Installation Method:

   a. Please place the Genesy thermal cycler according to the instrument placement requirements and other safety requirements mentioned in this manual. Plug the instrument as the power supply requirements mentioned in this manual. Power on and start for utilization.

   b. Before the installation of the Genesy thermal cycler, please read the '**Safety and Regulatory Compliance**' carefully in order to use correctly!

Packing List

Name	Quantity
Host	×1
Power cord	×1
Operation manual	×1
Fuse tube	×2
Quality certificate	×1
Packing list	×1
Packaging bag	×1

5.Terms and Acronyms

PCR	Polymerase Chain Reaction
ml	volume unit
ul	volume unit
mmol	concentration unit
nmol	concentration unit
Tube mode	simulate the temperature control mode of tube temperature
Block mode	simulate the temperature control mode of block temperature
TM value	DNA melting temperature, which is defined as the temperature at which half of the DNA strands are dissociated
USB	connect USB and mouse

6. Maintenance

- Please read the operation manual carefully before utilization.
- Please shut off the instrument power supply after the experiment.
- Please clean the instrument surface and the thermal cycle block on a regular basis. It is suggested to clean with dry soft cloth, clean the instrument with wet cloth or rinse it with water is prohibited. It is also forbidden to clean the instrument with strong detergent, strong base, neutral spirits or other organic solvents.
- Please clean the instrument surface and the thermal cycle block on a regular basis. It is suggested to clean with dry soft cloth, clean the instrument with wet cloth or rinse it with water is prohibited. It is also forbidden to clean the instrument with strong detergent, strong base, neutral spirits or other organic solvents
- Please keep the thermal cycle block dry and without water stains.
- Do not operate the instrument in dusty environment.
- Please ensure the well ventilation of surrounding environment while the instrument is running.
- Please do not run the instrument in situations that the power supply is unstable, too high or too low.
- In case the instrument will not in use for a long time, unplug it and cover the instrument with soft cloth or plastic bag to prevent dust from entering.
- If the instrument has not been used for a period of time, in order to ensure its stability, it is suggested to perform a dry running every 30 days.

7. After-sales Service and Warranty Service

1. We will provide 12 months of warranty period beginning from the delivery of Genesy thermal cycler. Within the warranty period our company guarantees the maintenance of the instrument in case any malfunction is caused by the defects of materials and instrument manufacture. Users could contact us, and we will arrange maintenance personnel for processing. Or directly send the instrument back to the maintenance department assigned by our company (Users shall be responsible for the transportation fees), and we will send back the well maintained instrument to the users for free. But the premise conditions are as follows:

a. Users did operate the instrument according to the operation manual.

b. The instrument has been only used under the power voltage that is specified in this operation manual.

c. The instrument has not been damaged by incorrect operation or accident, and the maintenance of instrument has complied with the maintenance instructions as we suggested.

d.The instrument has not been opened or maintained by person, manufacturers or agents that are not authorized by **XATL Co., Ltd.**

2. We will respond within 24 hours upon receiving the notification, no matter whether the instrument is within the warranty period or not. For any problems that cannot be solved through the phone, we will provide on-site service within 7days for the customs located in China.

3. For post warranty service, we will charge for the maintenance fee according to the specific situation. Our company will supply the commonly used spare parts at most preferential price for long-term.

4. Common troubleshooting and solutions

NO	Error	Possible Cause	Corrective Instructions
1	No display on the screen	Power switch is on 'off' position	Switch on the power switch
		Unstable power cord connection	Connect the power cord again or renew the power cord
		Inappropriate power voltage	Adjust the scope of power voltage into a normal range

		Fuse damaged	Replace the fuse
		Others	Contact us
2	Booting interface displays error message	The activation of system failed or power voltage too low	Ensure there is no other appliance or circuit in the same electric circuit. Otherwise please contact us and consult the maintenance engineer
3	System crashed or out of control	Improper operation	Restart the instrument
		Others	Contact us
4	Temperature does not rise while heating	Check temperature control setting	Startup the temperature control
		Others	Contact us
5	Abnormal heating rate or incorrect temperature control	Air vent is blocked	Clean up the air vent
		Connecting lines are loose	Contact us

⚠ **Caution:** In case any of following situation occurs, immediately cut off the power supply and contact us. We will arrange qualified maintenance personnel for processing.

- Any liquid has enter into the instrument;
- Any abnormal sound or smell appear inside the instrument;
- Instrument is soaked with water or rain;
- Any housing damage caused by accidently drop of the instrument;
- Obvious functional changes of instrument.

5.Contact Information

After-sale Service:	+ 86-29-82683675
Company Fax:	+ 86-29-82216680
Company Name:	Xi'an Tianlong Science and Technology Co., Ltd.
Company Address:	No. 389, Zhuhong Road, Xi'an, Shaanxi, China
Postcode:	710018

Medical Device Manufacturing Enterprise License:
Shaanxi FDA Production License No. 20123142

Medical Device Product Registration No. :
Shaanxi FDA (Approved) 2014 No. 2400033

Medical Device Product Standard No.: YZB/SN 0585-2014

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