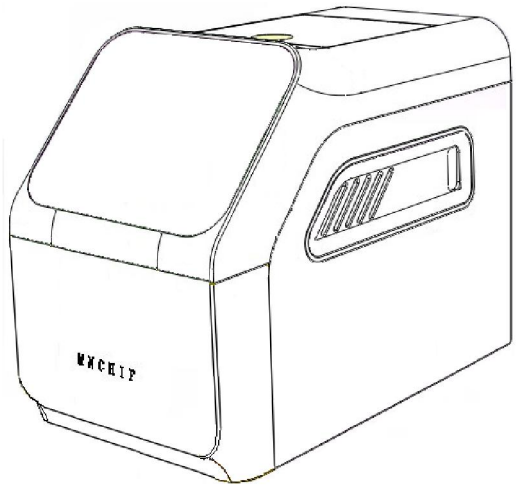
MNCHIP

Pointcare PCR V1

Real-time PCR analyzer

Operator's Manual



Please read the Operator's Manual carefully before use.
For veterinary use only

Tianjin MNCHIP Technologies Co., Ltd.

Add.: 1-4F, Area, No.122 Dongting Rd, Development Zone, 300457 Tianjin P.R. China

SRN: CN-MF-000029863

Service email: service@mnchip.com

For more information about MNCHIP and our other products, please visit: http://www.mnchip.com

Issue Date:2026.03.05

Version: 1.3

Table of Contents

Statements

Thank you for purchasing the Pointcare PCR V1 Real-time PCR Analyzer. This manual is designed for operators who have completed the training course provided by MNCHIP or its authorized dealers. Please read and understand this Operator's Manual carefully before using the system.

Pointcare PCR V1 Real-time PCR Analyzer is a medical device intended for veterinary testing. The symbols used in labeling comply with ISO 18113-3 standards.

Warranty Information:

MNCHIP guarantees that the device is free from design, material, and manufacturing defects within the specified period, provided that you have submitted the product installation information to us.

To Obtain Warranty Service:

- Contact the distributor from whom you purchased this product.
- If your issue is not resolved satisfactorily, reach out to MNCHIP Customer Service directly.
- If you have a specific service contract with MNCHIP, please contact Customer Service directly.

Limitations of Warranty:

MNCHIP's obligation under this warranty is limited to repairing or replacing any parts returned by the purchaser at MNCHIP's discretion.

MNCHIP shall not be liable for any incidental, special, or consequential losses, damages, or expenses arising directly or indirectly from the use of this product.

This warranty shall become null and void if:

1. The equipment has been misused, neglected, abused, damaged by accident, or affected by force majeure.

2. The equipment has been modified or repaired by anyone other than an authorized MNCHIP Service Representative.
3. The original MNCHIP serial number label or product identification markings have been altered or removed.
4. Any non-standard accessories have been attached or modifications made to the equipment.

Thank you for choosing MNCHIP products.

Safety Precautions

This product conforms to European Directive 98/79/EC. To use the analyzer safely and effectively, please observe the following precautions. Using the system in a manner not specified by the manufacturer could impair its safety features.

1. Safety Information

The Pointcare PCR V1 Real-time PCR Analyzer has passed transportation tests in accordance with ASTM D4169:2016 DC13.

2. Wi-Fi Compliance

The analyzer complies with EN 300 328 V2.2.2:2019, EN 62311:2008, EN 301 489-1 V2.2.3:2019, and EN 301 489-17 V3.2.4:2020.

3. EMC Information

This product meets emission and immunity requirements as per EN/IEC 61326-2-6 and EN/IEC 61326-1 standards. It has been designed to CISPR 11 Class A specifications but may cause radio interference in certain environments; mitigation measures may be necessary.

It is the manufacturer's responsibility to provide electromagnetic compatibility information to users, while users must ensure a compatible environment for optimal device performance.

Evaluate the electromagnetic environment before operating this equipment and avoid using it near strong electromagnetic radiation sources (e.g., unshielded RF sources).

4. Setup and operate the equipment correctly

The installation environment of the analyzer must meet the requirements specified in this manual, and the operation of the analyzer must be carried out in accordance with the instructions provided in this manual.

Warning:	***1、The temperature of the cover during operation of the analyzer can reach up to 105℃ (221℉). Please do not touch the top cover during operation and for 6 minutes after it has ended to avoid burns.***
	2、Do not open the top cover during testing to prevent interference with the optical detection system from external light sources, which may affect the test results.
	3、Take measures to prevent liquid from splashing into the analysis chamber

or using liquid reagents such as nucleic acid decontaminants inside the chamber. If you suspect that the analyzer has been contaminated, please contact our customer service for assistance.

5. Prevent electric shock

Do not open the analyzer shell without authorization from the manufacturer to prevent liquid from entering the analyzer. In order to prevent electric shock and other safety accidents, if the liquid accidentally enters the analyzer, please contact the customer service personnel of the company before powering on the analyzer.

6. Preventing Infection

During nucleic acid testing, protective gloves must be worn. Direct contact with test samples without protective gloves poses a potential risk of biological infection. The PCR reagent reaction tube without biosafety treatment also has potential biosafety problems. If skin contact occurs, wash the affected area immediately and seek medical advice if necessary.

Please refer to occupational safety and biosafety guidelines in your country or region for more information:

- Laboratory Biosafety Manual (4th Edition), World Health Organization (WHO, 2020).
- Directive 2000/54/EC on the protection of workers from risks related to biological agents (applicable to EU member states).
- Standards and guidelines issued by your country's occupational safety and health authority (e.g., OSHA in the United States or equivalent agencies in other countries).

WARNING:

Operators must comply with national, regional, or local biosafety regulations, which may impose additional requirements beyond the above standards to ensure greater safety and compliance.

7. Handling Reagents

During normal use, operators should not come into contact with the dried reagents inside the PCR reaction tubes, unless the tubes are broken and the dried reagents are

spilled. If this occurs, please avoid direct contact with the reagents as much as possible.

8. Treating Waste

Follow good laboratory safety practices when handling and disposing of used PCR reaction tubes.

For reference:

- Directive (EU) 2018/851 on waste management.
- CLSI document GP05 'Clinical and Laboratory Standards' available at http://www.clsi.org.

9. WEEE Compliance

The Pointcare PCR V1 Real-time PCR Analyzer complies with Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). Disposal arrangements should be made through your distributor or MNCHIP at end-of-life.

10. RoHS Compliance

The components of the analyzer have been analyzed for harmful substances such as Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DEHP, BBP, DBP, and DIBP content to ensure compliance with RoHS Directive 2011/65/EU (RoHS 2.0) and its amendments (Directive EU 2015/863).

Section 1 General Information

1.1 Intended Use

The Pointcare PCR V1 Real-time PCR Analyzer used in conjunction with nucleic acid testing kits produced by Tianjin MNCHIP Technologies Co., Ltd. for quantitative determination of veterinary clinical molecular diagnostic parameters.

1.2 Introduction

Real-time fluorescence quantitative PCR (Polymerase Chain Reaction) technique utilizes fluorescent dyes that can bind to DNA/RNA or fluorescent labels on primers/probes to directly reflect changes in the amount of PCR amplification products through changes in fluorescence signals. The variation in fluorescence signals is proportional to the amount of amplification products, and through the collection and analysis of fluorescence signals, the original template amount can be quantitatively analyzed.

Pointcare PCR V1 is designed for rapid molecular diagnostics applications, with a compact and portable design, a simple and intuitive operating interface, and high sensitivity.

Key components and features include:

- Temperature control module (for thermal cycling control)
- Optical acquisition module (for fluorescence signal acquisition and measurement)
- Microprocessor (ARM core for system control and data acquisition calculation)
- Color touchscreen (interactive interface between the operator and analyzer)
- Built-in Wireless Communication Module: Enables software upgrades and remote technical support.
- QR Code Scanner: Located on the side of the analyzer and used to scan information from the reagent and patient details.

The kit contents may include PCR reaction tubes (lyophilized reagents and internal controls), disposable sampling swabs, conical tubes, sample processing solution, and self-aspirating droppers.

To perform an analysis:

1. Collection and preparation of samples (nasal, ocular, and oral swabs, fecal anal swabs, blood sample (EDTA or sodium citrate tube)).
2. Sample processing: Use a conical tube to pierce the cap of the sample processing solution tube. **For oropharyngeal, nasopharyngeal and eye swabs and feces anal swabs**, place the swabs into the sample processing solution and gently agitate until fully dissolved, then break off the tail of the swab. **For whole blood samples**, use a self-suction dropper to draw the sample from the blood collection tube then add all the samples in the dropper to the sample processing solution tube, mixing gently.
3. Sample aspiration: remove the self-suction dropper, insert it into the sample processing solution, and wait for 3 seconds for automatic sample aspiration to complete.
4. Open the cap of the PCR reaction tube, insert the self-suction dropper into the PCR reaction tube, gently tap the bulb on the top of the dropper to drain all the liquid in the dropper into the PCR reaction tube, close the tube cap tightly, and vortex the tube twice using a vortex mixer, for 10 seconds each time, and then centrifuge briefly. Centrifuge at a speed of 5000 rpm for 10 seconds.
5. Place the PCR reaction tube into the PCR analyzer for detection.

Once the analysis is complete, results can be viewed on the touchscreen or printed using the external printer.

The analyzer provides the following connectivity options: An Ethernet port, USB port, and wireless network capabilities, allowing data transfer to external printers, computers, memory sticks, data clouds, or laboratory information systems/electronic medical records (LIS/EMR).

Detection time varies based on sample type and reagent combination but typically around 60 minutes.

Note: This manual includes screenshots for reference only; actual screens may vary from those displayed here.

1.3 Analyzer Specifications and Environmental Requirements

The following outlines the key specifications of the analyzer and the requirements for its operating environment:

- Analyzer Specifications
  - Dimensions: 210 mm (Length) × 125 mm (Width) × 175 mm (Height)
  - Weight: Approximately 1.5 kg
  - Operation mode: Continuous operation
  - Light Source: High-power LED
  - Reaction Volume: 20 µL
- Environmental Requirements
  - Operating Temperature: The analyzer is designed for indoor use and functions optimally within a temperature range of 10°C to 30°C (50°F to 86°F).
  - Atmospheric Tapure: The device can operate at atmospheric tapures ranging from 86.0 kappa to 106.0 kappa, equivalent to altitudes up to 2000 meters (6562 feet).
  - Humidity: The recommended ambient humidity range is 40% to 85%.
  - Pollution Degree: Pollution Degree 2 (suitable for general industrial or laboratory environments)
- Power Requirements
  - Power Consumption: 65W
  - Input Voltage: The analyzer supports a wide range of main supply voltages, from 100 to 240 volts AC, with a frequency of 50–60 Hz.
  - Power voltage fluctuation range: ±10%

This specification ensures the analyzer operates reliably under the stated environmental conditions and power requirements. For optimal performance and longevity, it is important to adhere to these guidelines.

1.4 Technical Support

For questions regarding the operation of the Pointcare PCR V1 Real-time PCR Analyzer, please contact the Dealer's Technical Support team.

- **Email**: service@mnchip.com

1.5 Symbols Used in Labeling

The following symbols are found on the analyzer or labelling:

Item	Description
	**Biological risks**
	**Caution. High temperature**
I / O	**International standard symbols, where "I" represents ON (Powered) and "O" represents OFF (Unpowered).**
	**Direct current**
	**Manufacturer**
	**Unique device identifier**
	**Please refer to the user manual or electronic user manual**
	**Caution. Refer to any accompanying documents**
	**Electrical and electronic equipment, Do not discard at will, please recycle**
	**Fragile, handle with care**
	**Keep dry**

	**This is the correct upright position of the distribution packages for transport and/or storage**
	**Distribution packages shall not be rolled or turned over**
	**Up to 6 identical transport packages can be stacked on the bottom package**

1.6 Transport and Storage

1.6.1 Transport

The Poincare PCR V1 Real-time PCR Analyzer has been tested and complies with ASTM D4169:2016 DC13 standards.

- Transport Conditions:
  - Ensure the product is transported in good condition its original packaging and in good condition, covered with canvas if necessary to prevent moisture and rain exposure.
  - Goods should be arranged orderly and compact manner on the transport vehicle to prevent damage due to vibration or impact.
- Safety Precautions:
  - Do not transport with flammable, explosive, or corrosive materials in the same vehicle.
  - Protect the product components from rain, snow, liquid exposure, or mechanical damage during transportation.

1.6.2 Storage

- Storage Environment:
  - Temperature: 0°C to +40°C.
  - Humidity: Not exceeding 85%.
- Storage Recommendations:
  - Products should be kept in their original packaging to maintain protective measures.
  - The storage area must be protected against moisture, dust, shock, and corrosion.

- It is recommended to install air conditioning and adequate lighting in the storage facility.

Section 2 Installation Instructions

2.1 Package Inspection

Prior to packaging and shipment, each Analyzer undergoes strict inspection by qualified personnel of the Company. The product is then transported to the installation site by a designated carrier.

Upon receipt of the Analyzer, carefully inspect the outer packaging for any of the following damage before unpacking:

- Visible deformation
- Signs of water exposure
- Signs of impact or collision
- Evidence of tampering or prior opening

If any damage is found, do not open the product. Immediately inform our after-sales service personnel or local dealers.

2.2 Unpacking Inspection

The Analyzer is a precision instrument. Please handle it with care. After unpacking, verify the contents against the packing list. If any items are missing or damaged, please contact the Company's after-sales service personnel or your local distributor immediately. Once the inspection is completed and no issues are found, remove the Analyzer from the packaging and place it on a stable, level work surface.

After installation is completed, please cooperate with the installation personnel to fill out the Warranty Card. Within seven (7) working days, submit a scanned copy or photograph of the completed Warranty Card to the distributor's installation personnel or the Company's sales representative for customer registration. After the customer file has been established, the Company will periodically provide product-related information and software upgrade services. The warranty period shall commence from the date of installation of the Analyzer.

2.3 Analyzer Specifications and Environmental Requirements

2.3.1 Setup Instructions

- Dimensions: 21.0 cm (L) × 12.5 cm (W) × 17.5 cm (H)
- Weight: Approx. 1.5 kg
- Power Supply: AC 100–240 V, 50–60 Hz
- Input Power: 65 W
- Optical System: Light Source: High-power LED
  Detector: Photodiode
- Operational Parameters: Sample Throughput: 6 samples per run
  Reaction Volume: 20 μL
  Detection Channels: Dual channels (FAM and ROX)
  Operating Temperature: 10°C–30°C
- Operating Humidity: 40%–85% RH
- Storage Temperature: 0°C to +40°C
- Storage Humidity: ≤85% RH
- Atmospheric Tapure: 86.0 kappa–106.0 kappa

2.4 Instrument Installation

2.4.1 Analyzer Placement

- Proper placement of the Analyzer has a direct impact on its normal operation and the accuracy of test results. Please observe the following requirements:
- Place the Analyzer on a level surface. Do not obstruct the top loading/unloading door.
- Keep the Analyzer away from dusty environments.
- Avoid direct sunlight and proximity to other potential heat sources.
- Maintain a distance of at least 30 cm from surrounding objects to ensure adequate heat dissipation and to allow convenient connection to the power supply or other equipment.

2.4.2 Power Connection

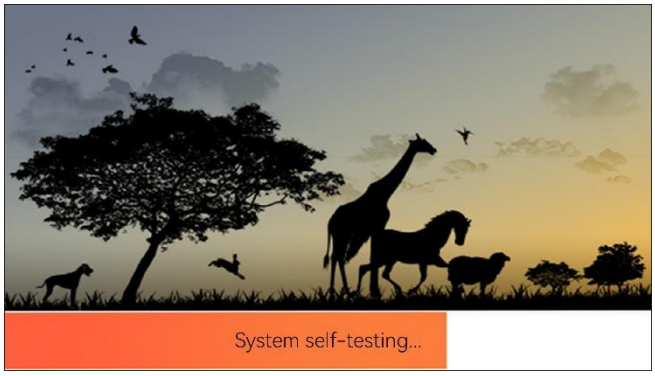
Insert the DC plug of the power adapter into the power inlet located on the rear panel of the Analyzer. Then connect the AC plug of the power adapter to a mains power outlet (the outlet must be properly grounded).

Ensure that the DC plug is fully inserted into the power inlet at the rear of the

Analyzer. A properly seated connection indicates that the Analyzer is securely connected to the power supply. If the plug is not fully inserted, an unstable power connection may occur.

> ***Note:***
> 1. To prevent sudden voltage fluctuations, do not connect the Analyzer to the same power outlet as other high-power equipment (such as centrifuges or other high-consumption devices). If sharing an outlet is unavoidable, use a surge protector (a standard computer-grade surge protector is acceptable).
> 2. Ensure that only the power adapter supplied with the Analyzer is used. Use of an incompatible power adapter may result in damage to the Analyzer.

2.4.3 Powering On the Analyzer



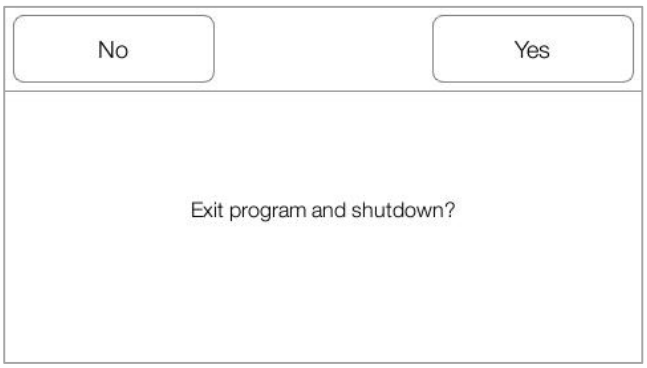
After connecting the power supply, tap the power switch located on the rear panel of the Analyzer. The display screen will illuminate, and the Analyzer will start up. The system will first enter the language selection interface, where "**Chinese**" or "**English**" can be selected. After tapping the "**Chinese**" button, the system will enter the self-check interface.

After the self-check is completed, the system enters the main interface. The screen will display the following:

Note: The Analyzer is equipped with a touchscreen display. All functions can be operated by directly tapping the

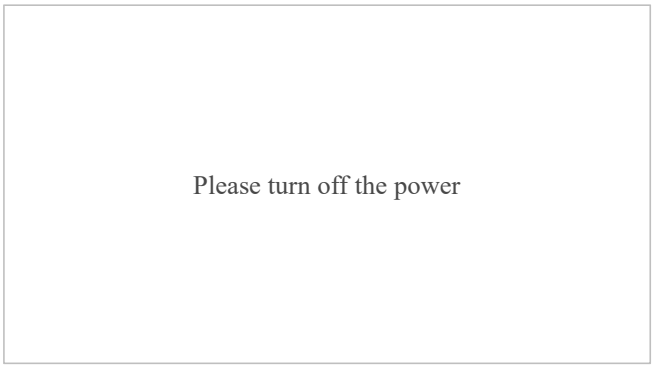
on-screen buttons.

2.4.4 Powering Off the Analyzer



Tap the "**Power Off**" button on the main Interface to shut down the Analyzer.

When prompted, tap "**Yes**" to confirm. The Analyzer will then power off.



Then, turn off the power switch located on the rear panel of the Analyzer to complete the shutdown procedure.

Section 3 Sample Analysis and Result

3.1 System Description

1. The Pointcare PCR V1 Real-time PCR Analyzer is used in conjunction with nucleic acid testing kits produced by Tianjin MNCHIP Technologies Co., Ltd. for quantitative determination of clinical molecular diagnostic test parameters. Ensure familiarity with the system before running samples.
2. Real-time fluorescence quantitative PCR (Polymerase Chain Reaction) technique utilizes fluorescent dyes that can bind to DNA/RNA or fluorescent labels on primers/probes to directly reflect changes the amount of PCR amplification products via fluorescence signals. The variation in fluorescence signals is proportional to the amount of amplification products, and through the collection and analysis of fluorescence signals, the original template amount can be quantitatively analyzed. The analyzer reads encoded calibration data from the QR code located on the reagent pouch.
3. Results are stored in memory and can be printed using an external thermal printer or downloaded to a computer for use with the MNCHIP Medical Data Management Platform (MMDMP). The touchscreen display provides intuitive communication with the analyzer, showing procedural instructions, indicating the status of the analyzer, and presenting any error messages. For details on error messages, refer to **Section 5**.

3.2 Sample Requirements

Referring to DB32/T 3762.1-2020: The collected samples can be tested immediately. if stored at 2-8℃, it should not exceed 3 days; or stored at -20℃ for no more than one month. It can be stored for a long time at-70℃. Avoid repeated freeze-thaw cycles.

3.3 Preparation of the PCR reagent reaction tubes

3.3.1 Sample collection

- Oropharyngeal, nasopharyngeal, and eye swabs: use a disposable sampling swab to gently swab secretions from the mouth, nose, or under the eyelids.

Note: Oropharyngeal, nasopharyngeal and eye swabs: If patient's oral or nasal ulcers are bleeding, please try to avoid collecting blood, or collect secretions directly from under the eyelids.

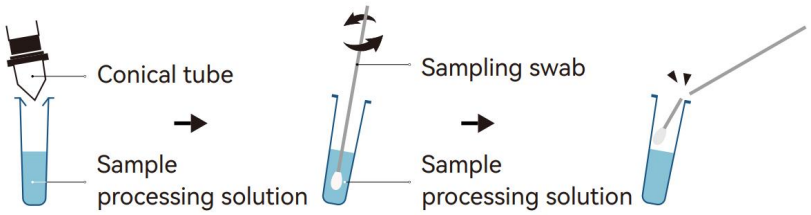
- Fecal anal swab: Use a disposable sampling swab to collect pet's fecal sample or collect a rectal swab.
- Whole blood sample: Collect the patient's whole blood into an anticoagulated blood collection tube (EDTA or citrate treated), and immediately mix by slowly inverting 8-10 times.

Note: Whole blood sample: Avoid vigorous mixing of whole blood samples that may cause hemolysis of the samples.

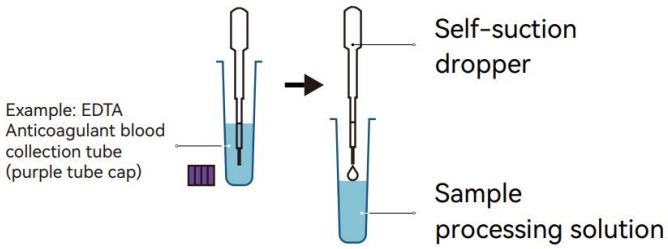
Lyme disease, Leishman: It is recommended to use EDTA for anticoagulation and blood collection.

3.3.2 Sample processing

Remove the Sample processing solution tube and the conical tube, turn the conical tube tip downward, and pierce the aluminum foil sealing the Sample processing solution tube; for oropharyngeal, nasopharyngeal and eye swabs and feces anal swabs, quickly put the swab into the Sample processing solution tube, stir appropriately to fully dissolve the sample on the swab into the sample processing solution, and break off the swab shaft.

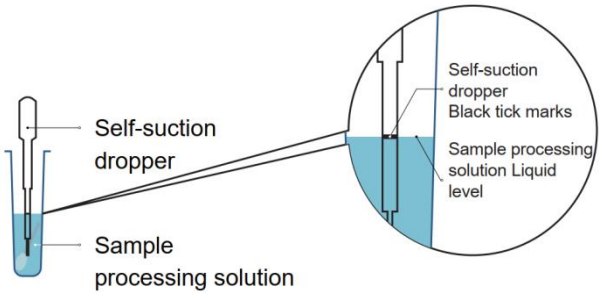


Whole blood samples need to use a self-suction dropper to draw the sample from the blood collection tube, then add all the samples in the dropper to the sample processing solution tube, and remove the tip of the conical tube, combine it with the sample processing liquid tube, and mix slowly to avoid leakage.



3.3.3 Sample aspiration

- Remove the self-suction dropper, **hold the tip gently without squeezing the bulb**, and insert it into the sample processing solution tube or the anticoagulation tube below the liquid level until the black scale line is flush with the liquid level. Hold in place for 3 seconds and slowly remove it. The dropper will then self-prime (the liquid level in the dropper can be within 5 mm above or below the black scale line).
- If a pipette is used to aspirate the sample, the aspirated volume should be 20 μL.



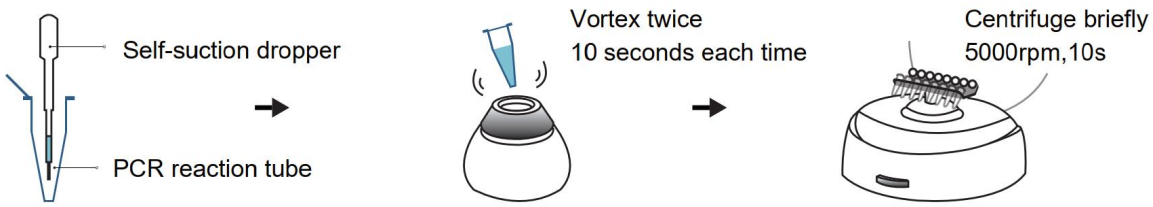
Note: If the stool sample is turbid, let it sit for 3 minutes and then take the supernatant for testing.

The self-suction dropper can be reused for the same sample. You need to tap the top air bag to completely drain the liquid and air bubbles in the self-suction dropper before aspirating.

3.3.4 Sample loading

Open the cap of the PCR reaction tube, insert the self-suction dropper into the PCR reaction tube, gently tap the bulb on the top of the dropper to dispense all the liquid in the dropper into the PCR reaction tube, close the tube cap tightly, and vortex the tube

twice using a vortex mixer, for 10 seconds each time, and then centrifuge briefly. Centrifuge at a speed of 5000 rpm for 10 seconds.



Note: If the solution is not vortexed thoroughly, there may be a risk of false negative/positive results

3.3.5 Testing

Put the PCR reaction tube into the PCR analyzer for detection.

For information on applicable sample types for each PCR reagent, please refer to the corresponding kit Instructions for Use (IFU).

3.4 PCR Analysis

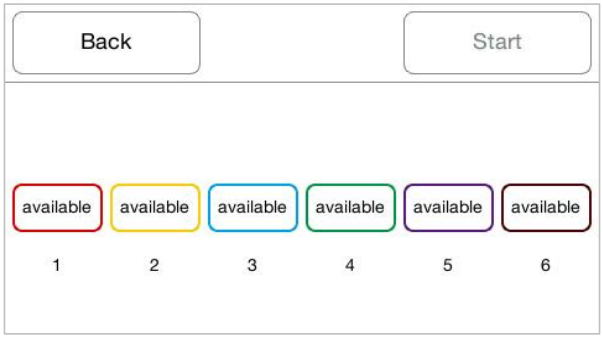
This section includes detailed, step-by-step instructions for performing analyses using the analyzer.

After successfully completing the self-test, the analyser will display the main operating interface, as shown in the image on the left.

Note: 1. The analyzer's display screen is a touch screen, and all buttons can be operated by directly clicking on the screen.

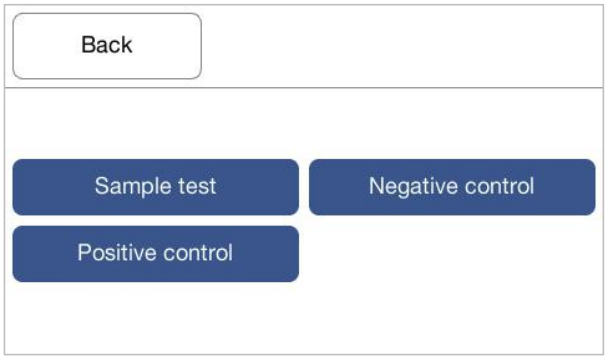
2. To obtain a simplified guide on how to operate the analyzer for PCR testing, please click on the " Help" button on the main interface.

3.4.1 Analyze



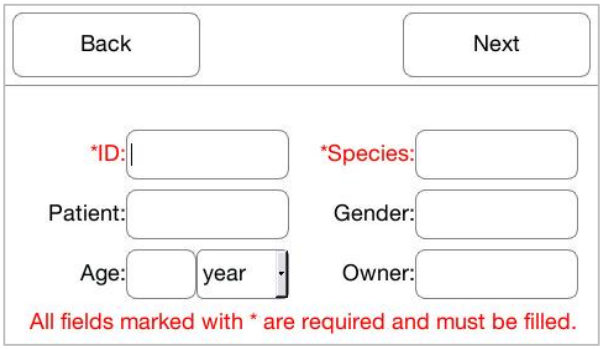
1. This mode is applicable to reagents from manufacturers that have been validated and configured for use with the Analyzer. The operating procedure is as follows:

   Tap the "**Analyze**" button on the screen to enter the well configuration interface. The screen is displayed as shown left:



2. Tap any well labeled "**available**" to enter the test category selection interface. The screen is displayed as shown left:

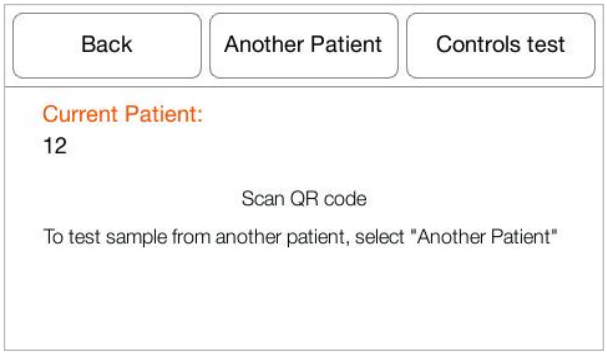
a. Sample Testing



1) Tap the "Sample test" button to enter the pet information input interface for the sample to be tested.

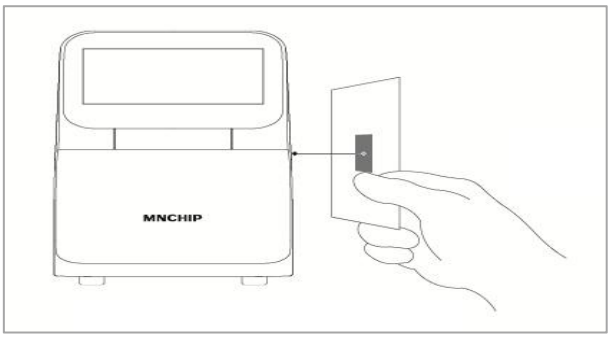
   Tap the blank input fields and use the on-screen keyboard to enter the patient information (fields marked with * are mandatory).

   The interface is displayed as shown left:

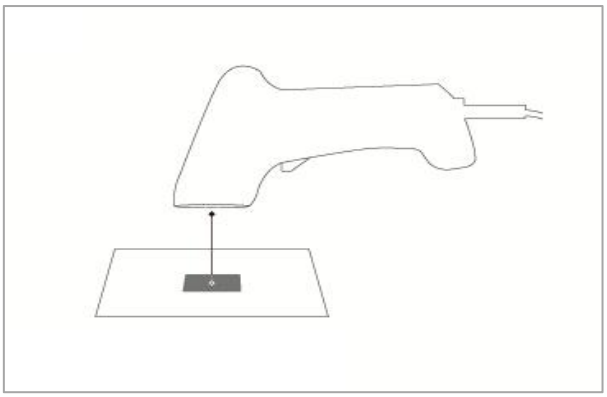


2) Tap "**Next**" to enter the QR code scanning interface.
The upper left corner of the screen displays the case ID and name of the pet corresponding to the current sample to be tested.
The interface is displayed as shown left:

3) Scan the QR

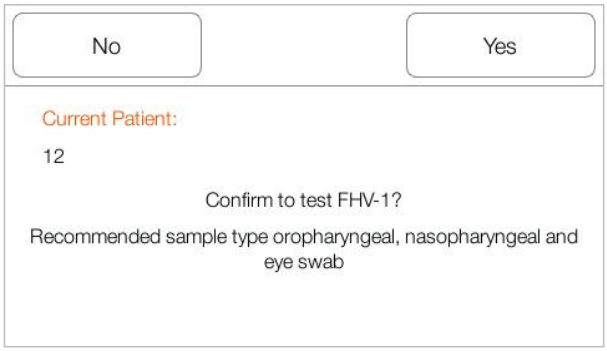


- Scan the QR code on the label of the foil pouch. The QR code contains important disc information, including: Disc identification code, Lot number, Expiration date



- Before scanning, ensure that the QR code label is flat and that there is sufficient light in the surrounding environment.
- Align the QR code on the reagent package with the QR code scanner located on the right side of the instrument. Keep a distance of 6–12 cm from the scanner window, ensuring that the red circular aiming beam emitted by the scanner is centered on the QR code label.
- Keep the QR code stationary. Minor adjustments may be made if necessary. A "beep" sound indicates that the scan has been successfully completed.

- If the QR code is difficult to scan, patiently repeat the above steps. Ensure adequate lighting, keep the QR code flat, and hold it steady during scanning.
- Alternatively, an external barcode scanner may be used. Keep the QR code on the reagent package stationary, as shown in the figure below, and use the external scanner to scan the QR code. A “beep” sound from the scanner indicates that the scan has been successfully completed.

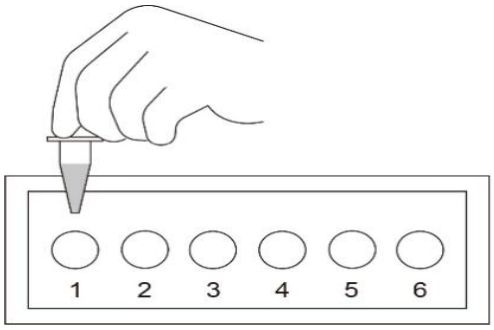


4) Confirm the test information and load the PCR reaction tubes.
After the QR code has been successfully scanned, the system enters the test item and sample requirement confirmation interface.
The interface is displayed as shown left:

5) If the test item and the pet information for the sample to be tested are confirmed to be correct, tap “**Yes**” to return to the well configuration interface. The interface will display the corresponding configuration information, including the pet name and case ID of the sample to be tested, the test item name, and the sample type. This

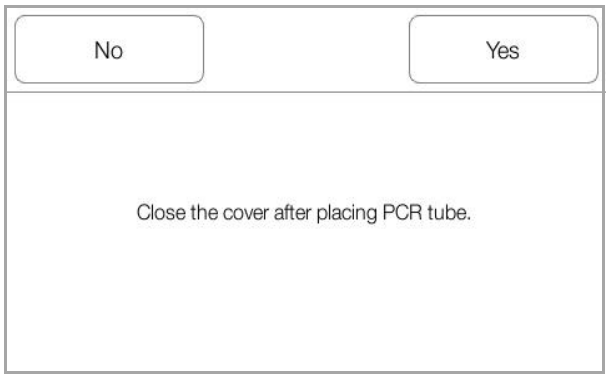
information will be automatically shown in the previously selected "available" well position.

The interface is displayed as shown left:



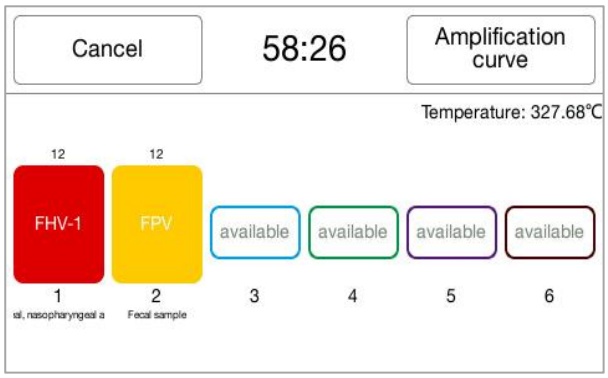
6) Following the preparation described in Section 3.3 Pre-test Preparation, place the prepared PCR reaction tubes into the corresponding numbered wells on the Analyzer sample tray, as shown left:

Note: Please carefully confirm the position and numbering of each PCR reaction tube in the analyzer's chamber, ensuring that they are exactly the same as the sample numbering displayed on the equipment's well configuration interface.

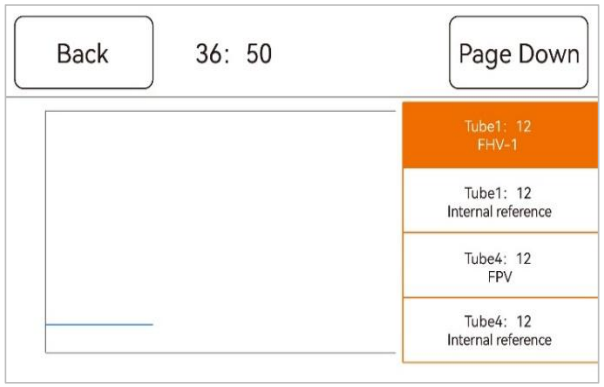


7) Tap "**Start**". The system prompts: "Close the cover after placing PCR tube". After confirming that the above steps have been completed, tap "**Yes**". The Analyzer initiates the nucleic acid testing process, and the screen enters the test countdown interface, as shown left:

Warning:
1. Do not open the cover during the detection process, otherwise the optical detection system may be affected by external light sources, leading to inaccurate results.
2. The cover will be in a high-temperature state (105 ℃) during testing process. Do not touch it to avoid burns.



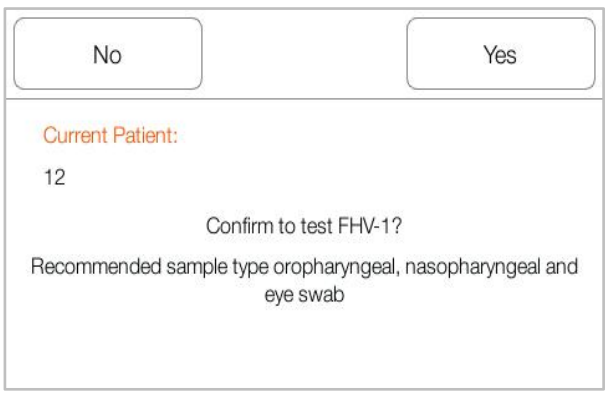
8) On the test countdown interface, tap "**Amplification Curves**" to view the real-time amplification curves.
The interface is displayed as shown in the figure left:



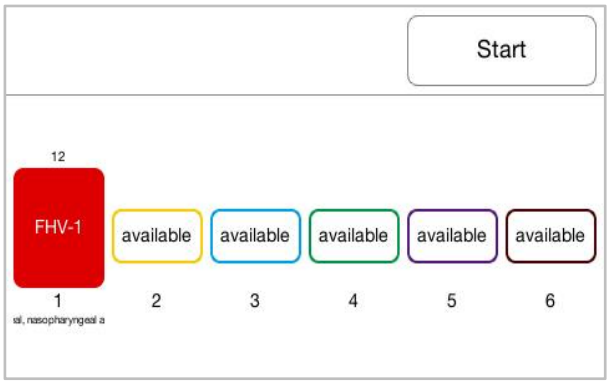
9) The list on the right side of the interface displays the test items currently in progress. Tap any item to view its real-time amplification curve. If multiple test items are listed, tap "Page Down" to view additional items. Tap "Back" to return to the test countdown interface.

b. Negative Control

1) After selecting a well position, choose "**Negative Control**" on the test category selection interface as required to enter the reagent QR code scanning interface.
The interface is displayed as shown left:



2) Scan the reagent QR code (reagents from manufacturers that have been validated for use with the Analyzer) to enter the test item information confirmation interface.



3) After tapping “Yes”, the control lot number and test item name will be displayed in the selected well position.

Following the preparation described in Section 3.3 Pre-test Preparation, place the prepared PCR reaction tubes into the correspondingly numbered wells on the Analyzer sample tray and wait for the negative control test to run.

Subsequent steps refer to Sample Testing, steps 6)~8).

c. Positive Control

After selecting a well position, choose “Positive Control” on the test category selection interface as required to enter the reagent QR code scanning interface.

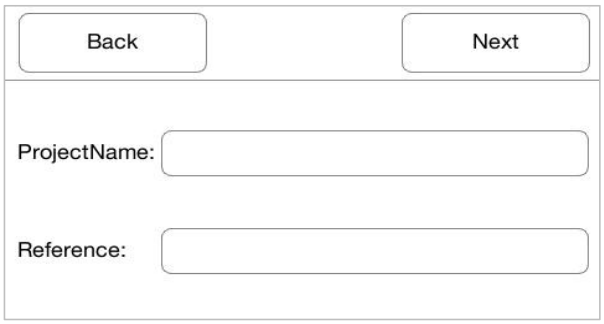
The interface is displayed as shown left, For detailed subsequent procedures, refer to b. Negative Control on the previous page.

3.4.2 Custom Analyze

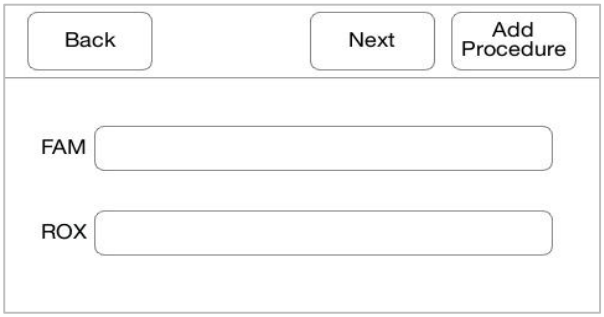
1. This mode is applicable to reagents from manufacturers that have not been validated or configured for use with the Analyzer. Tap "**Custom Analyze**" to proceed as follows:

Note: Currently, only the FAM and ROX fluorescence channels are supported. Custom Testing and Nucleic Acid Testing modes cannot be run simultaneously.

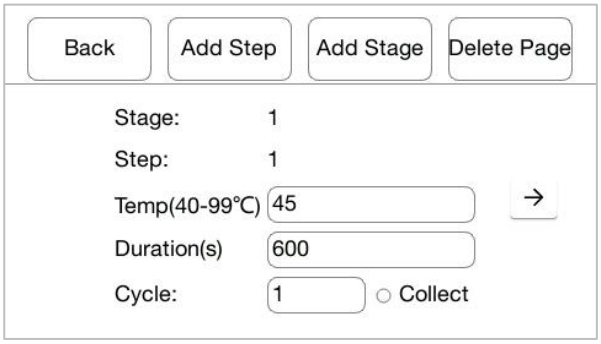
2. Tap "**Add Project**". Users may refer to the instructions provided by the reagent manufacturer to customize the item name, reference range, fluorescence channel assignment for each test target, and reaction program parameters.



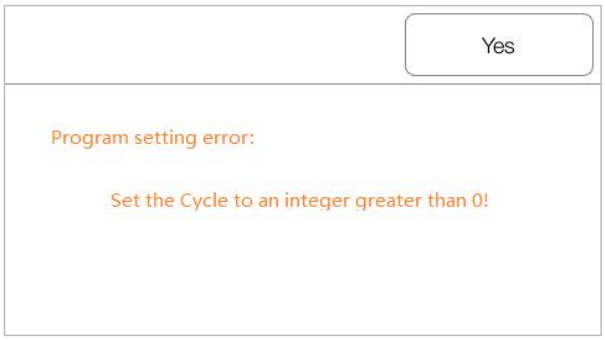
3. Tap "**Next**" to enter the fluorescence channel configuration interface for the test items.



4. If the item includes multiple test targets, tap "**Next**" to continue adding additional test items. If the item includes only a single test target, tap "**Add Procedure**" to enter the reaction program setup interface.

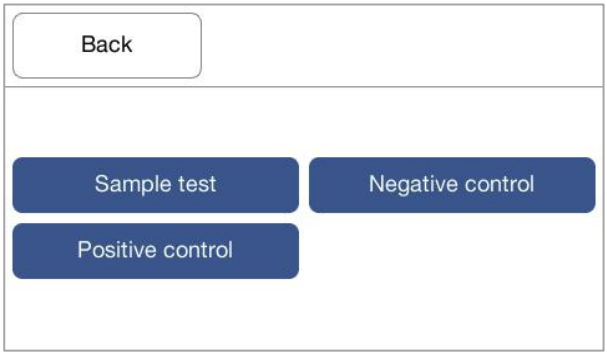


5. The reaction program supports multiple steps, and each step may include multiple phases. During configuration, all phases within the same step must use the same number of cycles. The temperature setting range must be between 40°C and 99°C.



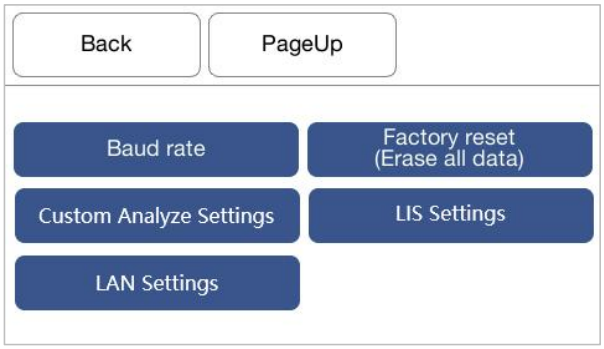
6. Data acquisition can be performed at any phase of the reaction program. After determining the phase for data acquisition, select the "**Collect**" option. All of the above conditions are restricted by the system. If any condition is not met, the test cannot be initiated. If the settings are incorrect, a prompt will appear as shown in the figure left.

7. After completing the settings, tap "**Save**" to enter the well selection interface.



8. After selecting an available well position, the system enters the standard testing workflow. You may choose Sample Testing, Negative Control, or Positive Control, as shown left:

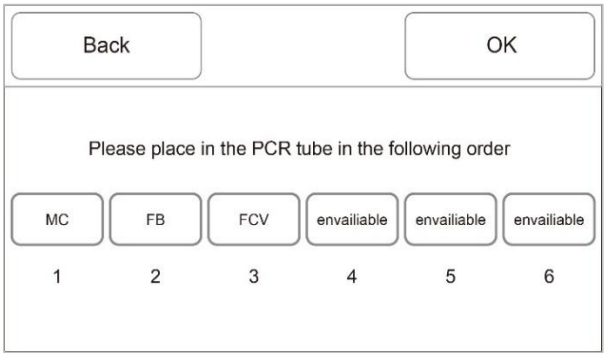
9. For detailed subsequent procedures, please refer to Section 3.4.1.



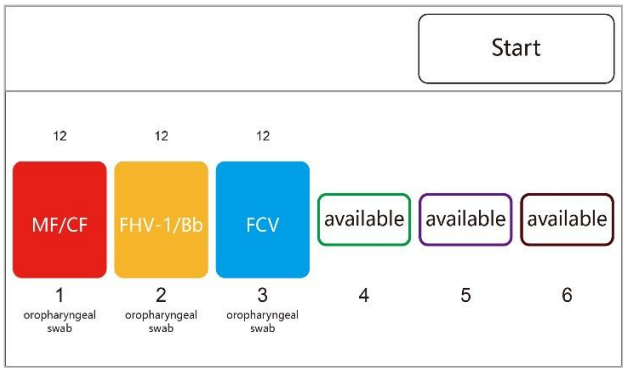
10. To edit or modify a customized item or its program settings, go to the "**Setting**" interface and select "**Custom Analyze Settings**" to make the required modifications or edits, as shown left.

3.4.3 Procedures for Combined Tests and Multiple Samples

Procedures for Combined Tests



1. When performing tests using a multiplex nucleic acid test kit, after entering the pet information, scanning the reagent QR code, and tapping "**OK**", the system first enters the interface that prompts the reaction tube placement order, as shown left:

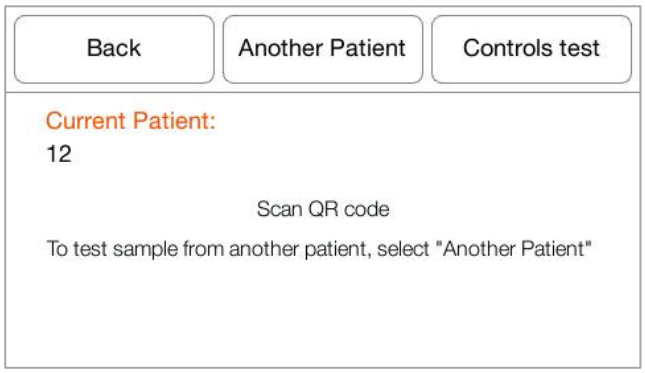


2. After preparing all reaction tubes for the combined test according to Section 3.3 Pre-test Preparation, place the corresponding reaction tubes sequentially into the appropriately numbered wells on the Analyzer sample tray, following the labels displayed for each well on the prompt interface. Tap "**OK**" to return to the well configuration interface. The interface will display the sample

information and the test information for each well, as shown left:

Multiple Samples

1. After completing the first three steps of (Section 3.4.1-a: Sample Testing Operation)-entering the information for the first pet sample, scanning the QR code, and confirming the test information-the system automatically returns to the well configuration interface and displays the configuration details.
2. Continue by tapping any "**available**" well position to enable simultaneous testing of multiple samples on the Analyzer.
   (In the Custom Testing mode, ensure that the reaction programs for all test items are identical, as multiple reaction programs cannot be run simultaneously.



3. After tapping "**available**", the system enters the reagent QR code scanning interface again. The interface is displayed as shown left:
4. Based on the actual condition of the new sample to be tested, perform the corresponding operation according to one of the following three scenarios:

Continue testing samples from the current pet:

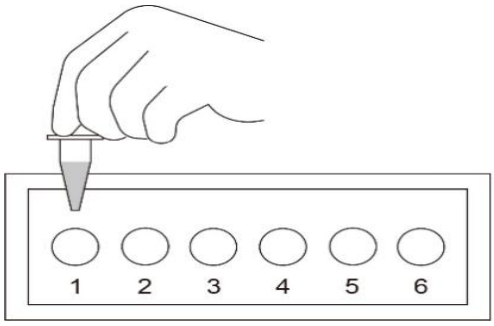
Directly scan the QR code of the new PCR reagent. After scanning, the system enters the test item information confirmation interface. The current pet information and test item name will be automatically populated in the selected well position.

Test samples from another pet:

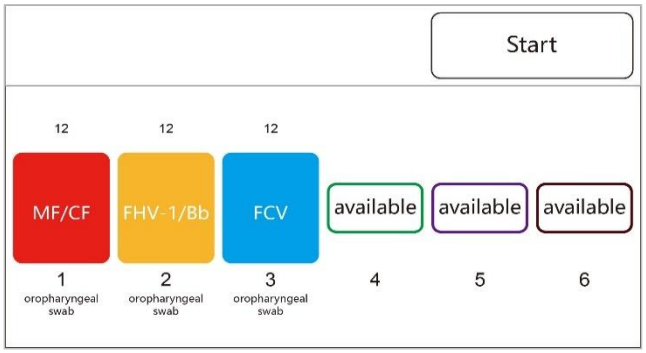
Tap "**Another Patient**". The device enters the pet information input interface. After entering the pet information, complete the steps of scanning the PCR reagent QR code and confirming the pet information and test item details. The new pet information and test item name will be displayed in the selected well position.

Test a negative or positive control:

Tap "**Controls test**", select Negative Control or Positive Control, and enter the PCR reagent QR code scanning interface. After scanning and confirmation, the control lot number and test item name will be displayed in the selected well position.



5. Following the preparation described in Section 3.3 Pre-test Preparation, place the prepared reaction tubes into the correspondingly numbered wells on the Analyzer sample tray and wait for the nucleic acid testing to run. According to actual testing requirements, you may continue tapping "**available**" wells on the well configuration interface to perform testing for the current pet, the next pet, or negative/positive controls.

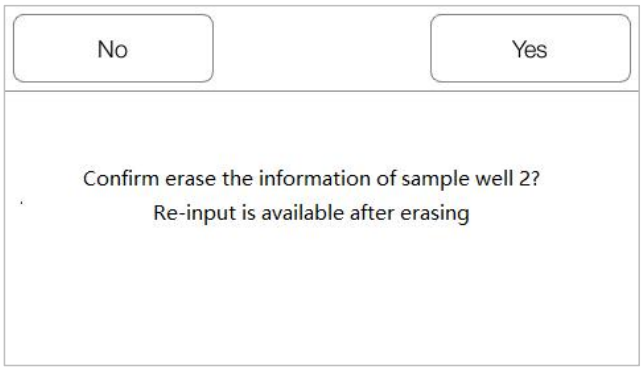


6. After completing the entry of test information for multiple pet samples and negative/positive controls, the interface is displayed as shown in the example left:

Note: Please carefully confirm the position and numbering of each PCR reaction tube in the analyzer's chamber, ensuring that they are exactly the same as the sample numbering displayed on the equipment's well configuration interface.

3.4.4 Resetting Well Information and Canceling Tests

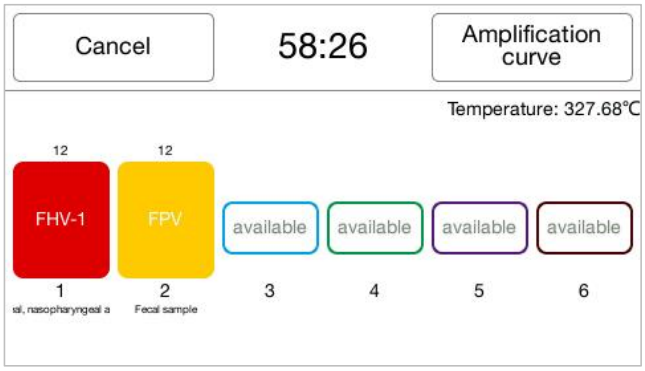
Resetting Well Information

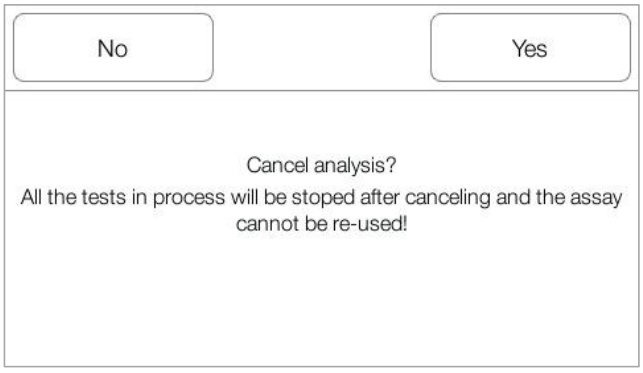


After completing the well information setup and before starting the nucleic acid test, you can clear the information for a specific well if you need to cancel the test for that well or re-enter its information. Tap the well

whose information you want to delete. In the pop-up dialog box, select **"Yes"**. The information for that well will be cleared, and the well will return to the **"Available"** status, allowing you to configure the information again. The interface is shown left (using Well 2 as an example).

Canceling a Test



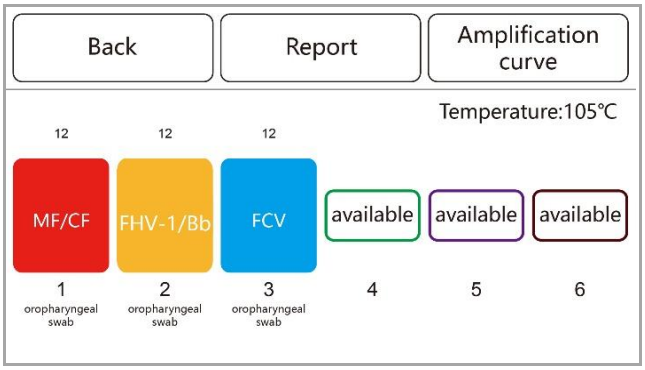


If it is necessary to terminate the test after the nucleic acid testing process has started, tap **"Cancel"** on the test countdown interface to return to the main startup interface. The ongoing nucleic acid test will be stopped. All PCR reagents inside the device will become invalid and must be discarded. Wait until the Analyzer has cooled down, then open the Analyzer lid, remove the PCR reaction tubes, and dispose of them in accordance with the laboratory's biosafety regulations.

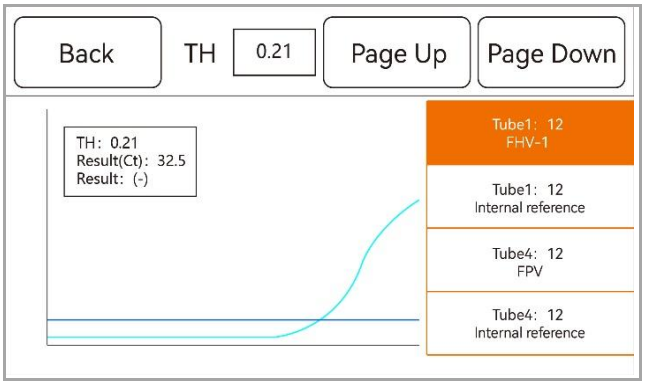
3.4.5 Viewing Reports and Amplification Curves

1. Following Section 3.4.1-a, Step 7) to initiate the testing process, once the countdown has finished, the Analyzer screen will display the test completion interface, as shown left.

Warning: After the test process is completed, the Analyzer lid will gradually cool down from a high temperature.
Do not touch or open the Analyzer lid within 6 minutes, as this may result in burns.



2. Tap "**Yes**" to enter the report viewing interface, where you can view and/or print the report, review the final amplification curves, or modify the threshold settings. The interface is displayed as shown left.

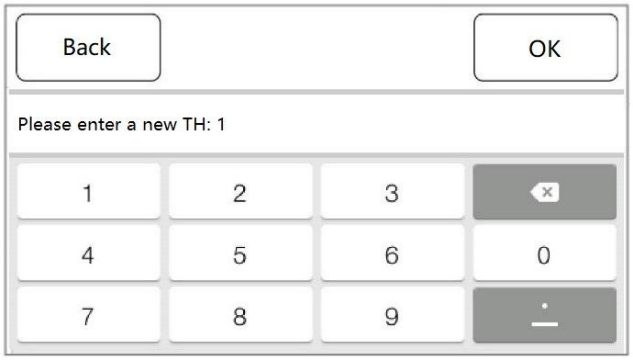


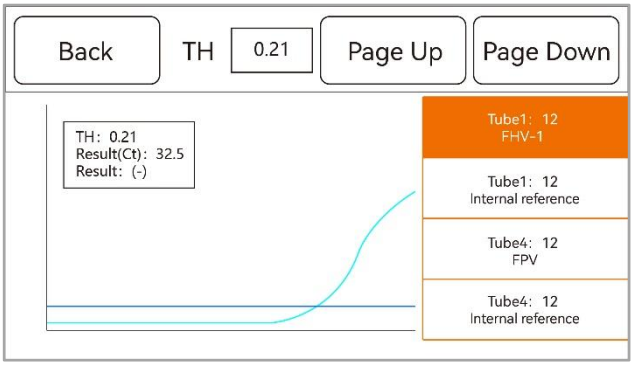
3. Tap "**Amplification Curves**" to enter the amplification curve viewing and threshold adjustment interface, as shown in the figure left:
4. Select a test item from the list on the right to view its amplification curve, threshold value, Ct value, and result (–/+). If multiple test items are available, tap "**Next Page**" to view the curves of additional items.

Warning :

1. After the test is finished and the analyzer cover is cooled down, take out the PCR reaction tubes and promptly close the cover to avoid any liquid or other substances from entering the chamber and reaction wells, so as to avoid interference or damage to the analyzer.

If the analyzer is contaminated, please contact the customer service staff of MNCHIP and follow their guidance for operation. Please do not spray any liquid reagents such as nucleic acid cleaning agents inside the analyzer chamber to avoid damage caused by liquid splashing into the interior of the analyzer.





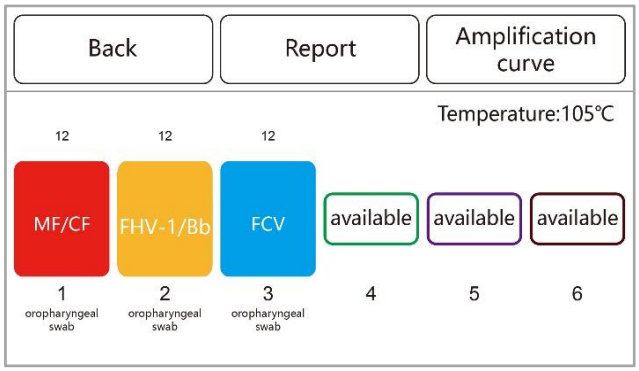
In special circumstances, threshold adjustment may be required:

- If the amplification result appears as an abnormal straight-line pattern, adjust the threshold so that it does not intersect with the amplification curve.
- If a typical exponential amplification curve appears after the positive interpretation interval, adjust the threshold as appropriate based on actual conditions.

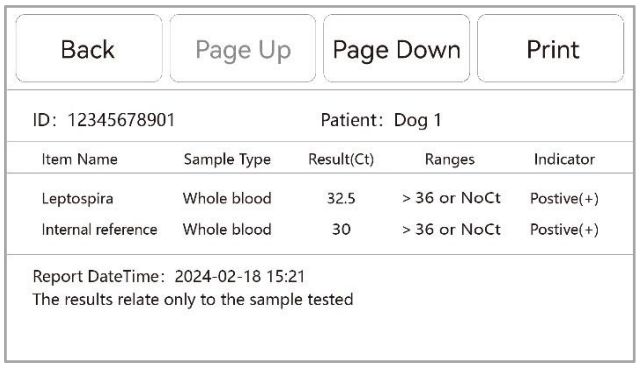
Procedure for threshold adjustment:

Tap the numeric value box next to “Threshold”. In the pop-up numeric keypad, enter the new threshold value and tap **“OK”** to complete the modification. The updated threshold value will be displayed in the value box. The Ct value and result (–/+) shown on the amplification curve interface will be updated accordingly. The report will display the modified Ct value and corresponding result for

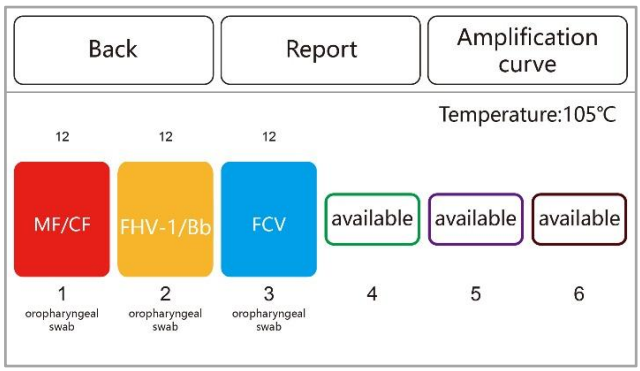
that test item.



5. Tap "**Back**" to return to the report viewing interface.



6. Click on **"Report"** to view the details of the report. Click on "**Page Up**" or " **Page Down**" to flip through the test reports for each pet.



7. If the test results are confirmed, tap "**Print**". The Analyzer will print the current pet's test results via the external printer. For multiple reports, navigate through the pages and tap "**Print**" for each report to complete printing individually. After printing is completed, tap "**Back**" to return to the report viewing interface.

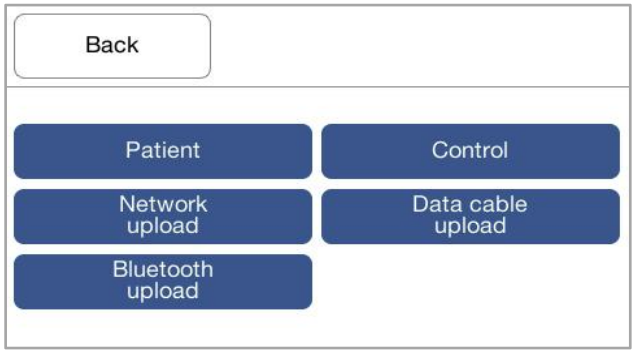
8. Tap **"Back"**, then select **"Yes"** to confirm. All test results and reports will be saved in the database for future inquiry or report printing using the MNCHIP Data Management Platform on a computer. Once saved, the threshold values, results, and

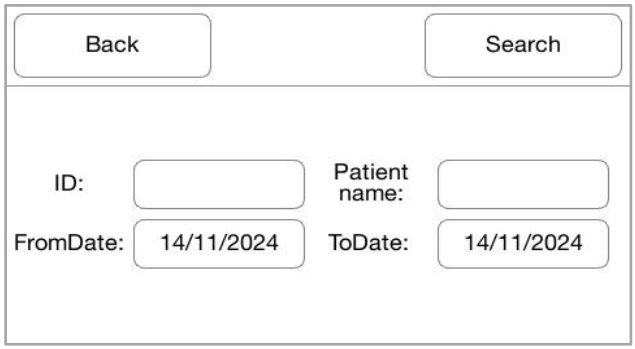
related data cannot be modified.

3.5 Results

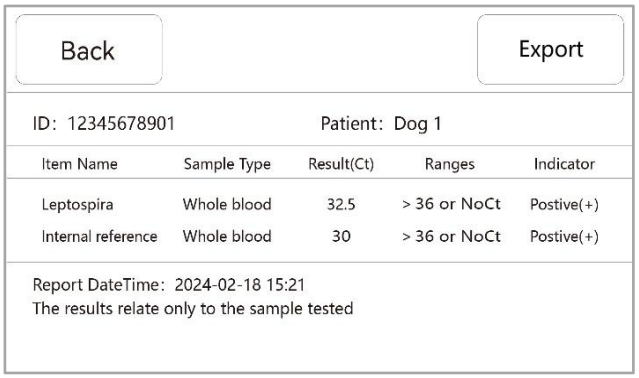
The analysis results are stored in the analyzer database. They can be reviewed and printed from the "**Results**" screen on the main interface. When the analyzer is connected to a computer, transferred to the designated storage location on the connected computer.

3.5.1 Case Inquiry

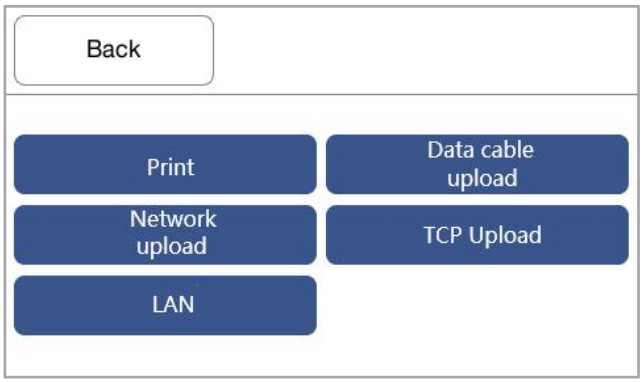




1. Click **"Results"** on the home screen, select **"Patient"** to enter the query interface. You can search for reports using the following criteria of "ID", "Patient name", "From Date", and "To Date". The analyzer will display the search results in order of the test date. The operating steps interface is shown in the figure.
2. Click on **"Upload"** on the report list interface, select the upload method, and upload the selected report to the MNCHIP data management platform.
3. Click the "**Page Up**" or "**Page Down**" button to browse through the report list. Select the report you want to view, and the analyzer screen will display the detailed test result information.

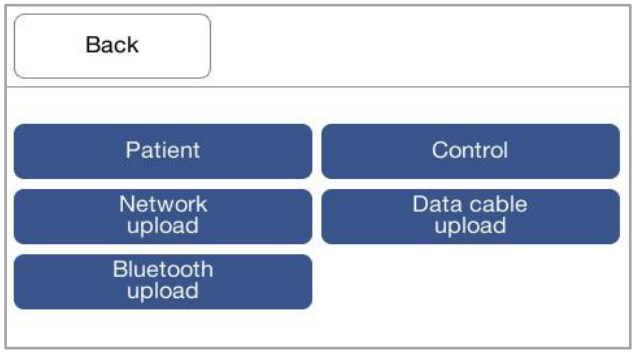


4. Click the **"Export"** button to enter the Print/Upload screen. Select "**Print**" to print the currently displayed results. Select the desired upload method, and the analyzer will upload the report test results to the MNCHIP data management platform. If it is necessary to print the results, proceed as shown in the figure left. After the test results are displayed, tap "**Export**" on the result inquiry interface to proceed to the next page.

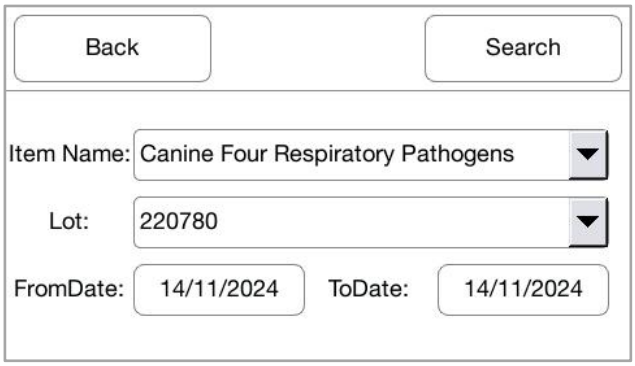


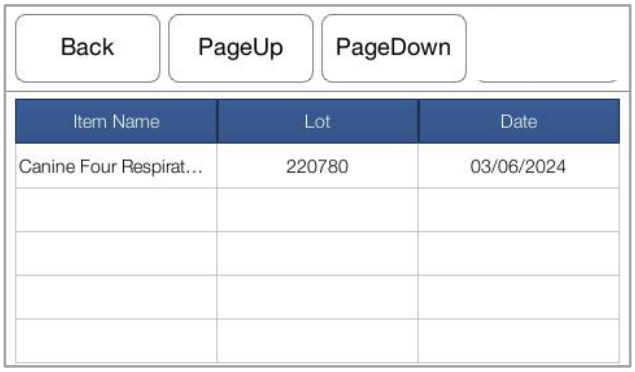
5. Tap "**Print**" to print the report.

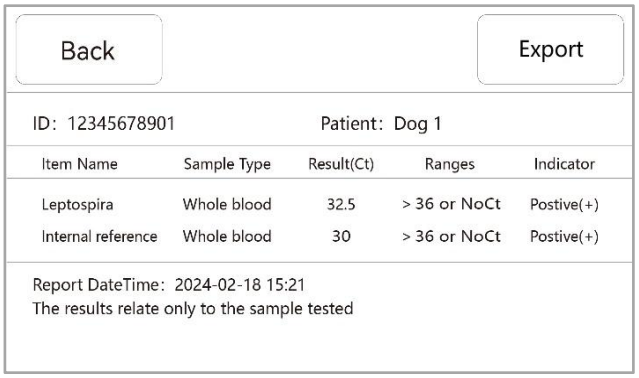
3.5.2 Control Inquiry



1. Click **"Results"** on the home screen, select **"Control"** to enter the query interface. You can search for reports using the following criteria of "Item Name", "Lot.", "From Date", and "To Date". The analyzer will display the search results sorted by test date. The operating steps interface is shown in the figure.





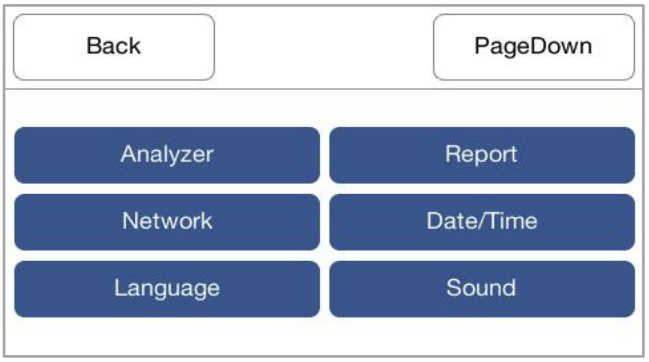


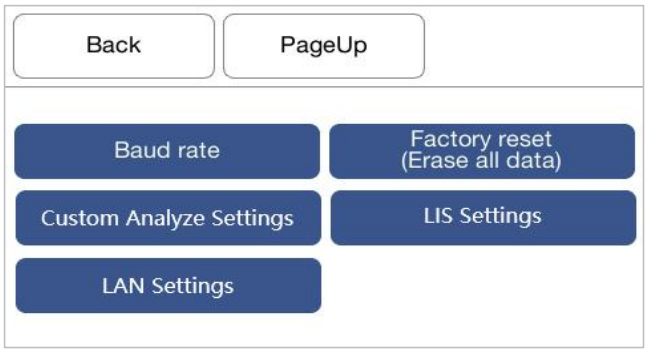
2. Click the **"Page Up"** or **"Page Down"** button to browse through the report list. Select the report you want to view, and the analyzer screen will display the detailed test result information.

Section 4 Setting

This section describes how to configure the analyzer.

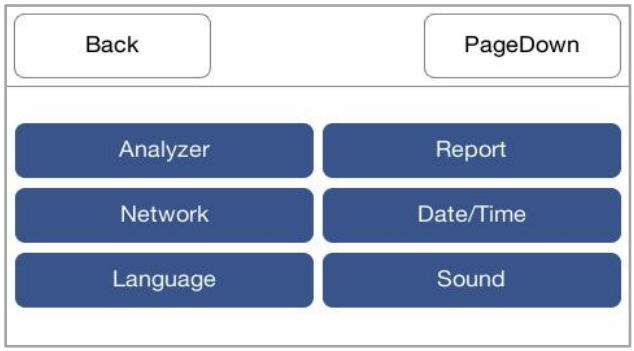
4.1 Instrument Information



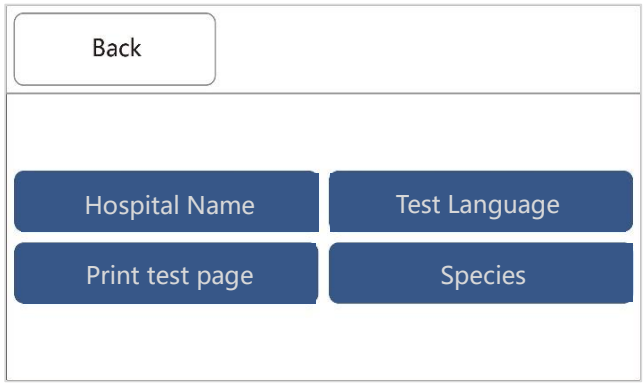


1. Tap "**Setting**" on the main interface to enter the system settings screen. The interface is displayed as shown left:
2. Tap "**Analyzer**" to display the device information interface. The screen shows the following details:
3. The display will show the analyzer information, such as serial number, the version of the installed software and upload log. Press "**Update**" to install the latest version. Click "**Privacy Policy**" to read the content.
4. To ensure optimal performance, the Company periodically releases hardware and software upgrade packages. When the Analyzer is connected to the server, upgrade notifications will be pushed automatically. You can also tap "Update" to perform a manual upgrade.
5. Tap "**Upload**" to upload the Analyzer logs to the server for use with the MNCHIP Data Management Platform.

4.2 Report Layout

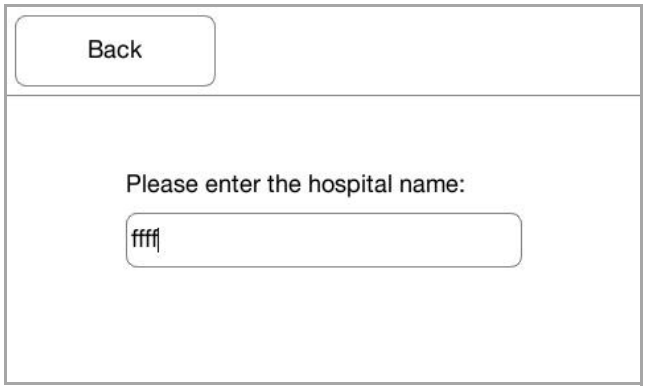


1. Users may customize the information displayed on the report as needed.
   On the main interface, select "**Setting**", then tap "**Report**" to configure report-related options.



2. The interface includes the following four modules: "Hospital Name" "Test Language" "Print test page" "Species".The screen is displayed as shown left.

4.2.1 Hospital Name



1) When setting the hospital name to be displayed on the report, tap "**Hospital Name**" to enter the hospital name configuration interface. Tap the blank input field and use the on-screen keyboard to enter the hospital name.

2) After completing the entry, tap "**OK**" to save the information. The hospital name will be displayed at the top of the report. The screen is displayed as shown left:

4.2.2 Test Language

1) To set the display language of the test item names on the report, tap "Report".
2) Then select "Test Language" to choose the desired language for the test item names. The selected option will be highlighted in orange. The screen is displayed as shown left.

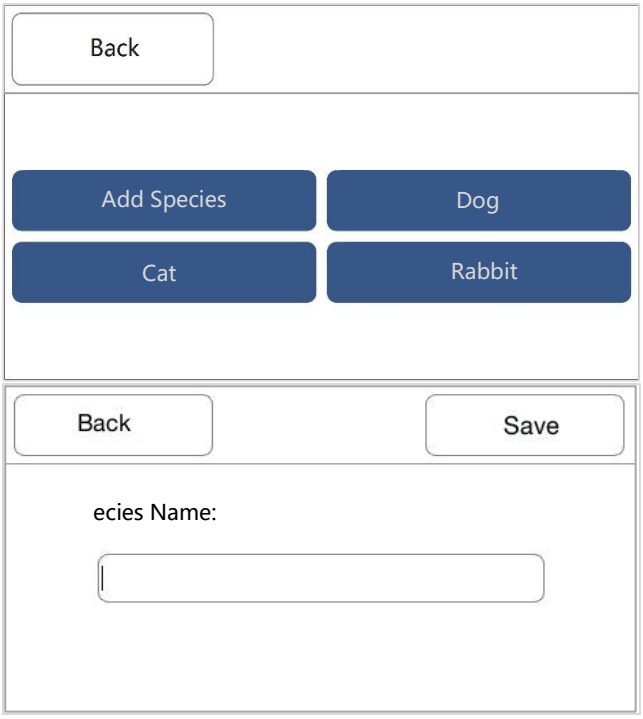
Note：Changes to this setting take effect immediately upon selection.

4.2.3 Print test page

Tap **"Print Test Page"** to verify whether the Analyzer is properly connected to the directly connected printer and whether the printing function is operating normally.

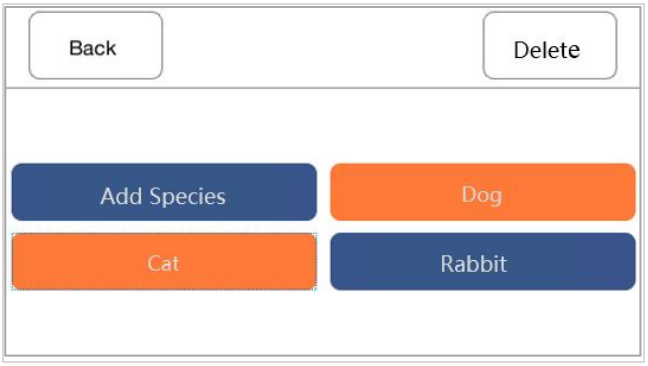
4.2.4 Species

The system supports deleting existing species and adding new species.



a. Add Species

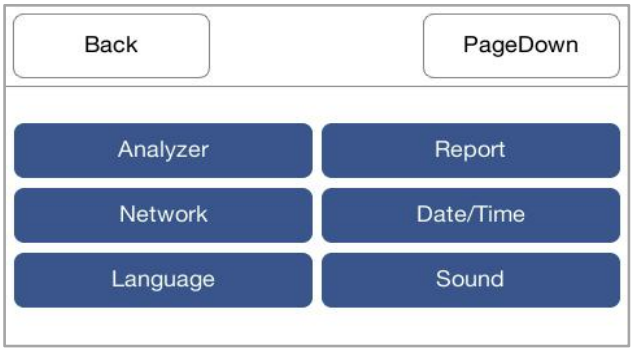
b. Delete Species



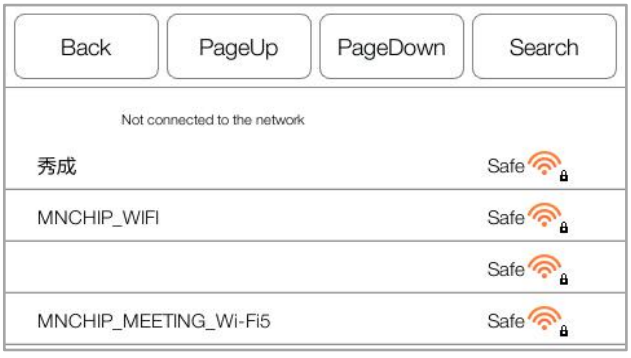
At least one species must be retained in the system.

4.3 Network Connection

The analyzer features a built-in Wi-Fi module. Connecting to the Internet allows for automatic software updates and uploading error logs to a cloud server. Technical support engineers can diagnose issues with the analyzer using the error logs.

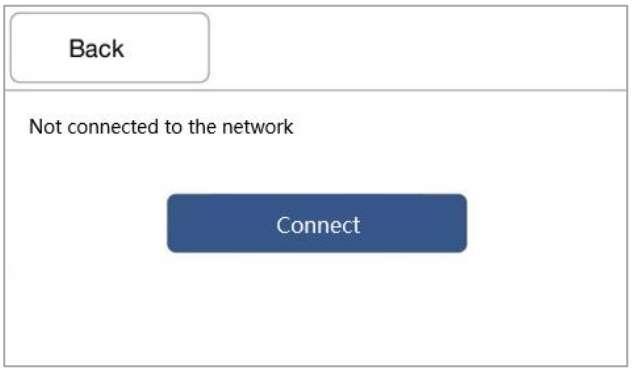


1. On the main interface, select "Setting", then tap "**Network**" to enter the network configuration interface.
   The screen is displayed as shown left:



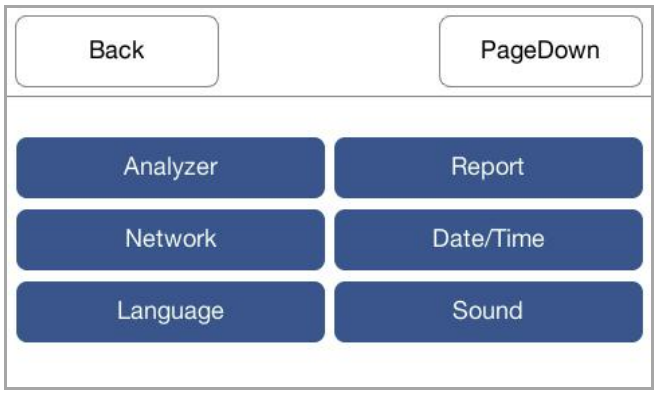
2. Select an available wireless network, enter the password, then tap "**Connect**" and wait for the wireless connection to be established successfully. The screen will display as shown left:

3. After a successful network connection, tap the connected network to enter the password modification or network removal interface. If the Wi-Fi password has been changed and the connection fails, tap "**Modify**" to enter the updated password and re-establish the connection. If you wish to disable the device's automatic connection to this network, tap "**Delete**" to remove it from the saved networks. (After deleting the network, you will need to re-enter the password to reconnect.)



4. Tap "**Connect**" and wait for the Analyzer system to connect to the 3G mobile network. Once the connection is successful, the status message "Server Connected" will be displayed on the screen. The 3G network connection interface is shown left:

4.4 Changing Date and Time

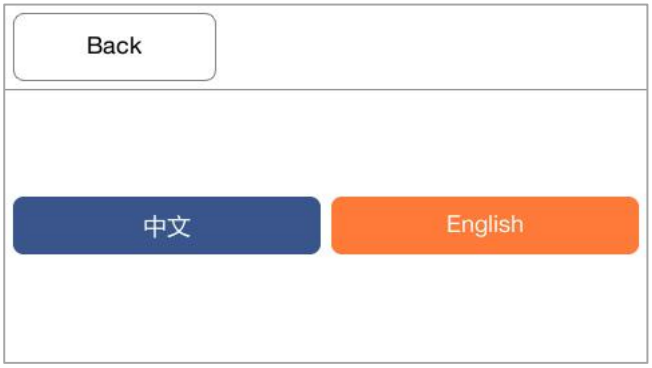


1. On the Main Screen, tap "**Setting**", Then tap "**Date/Time**".

2. The display will show the Set Date/Time screen. The network time will automatically synchronize when connected. Select year, month and day on the calendar, input the hour, minute and second. Tap '**Save**' when Date/Time is set.

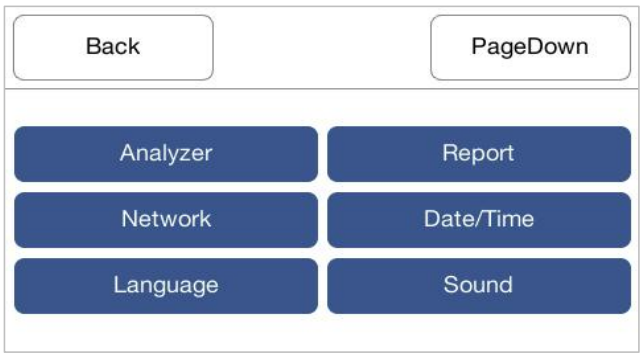
4.5 Setting Language

1. On the Main Screen, tap '**Setting**', Then tap '**Language**'.

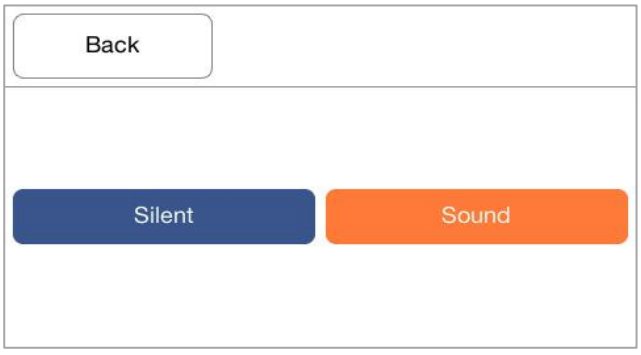


2. The user can select the language required.

4.6 Setting Sound

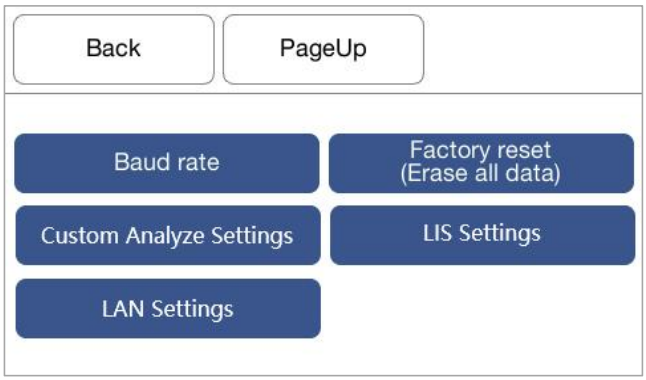


1. On the Main Screen, tap '**Setting**', Then tap '**Sound**'.

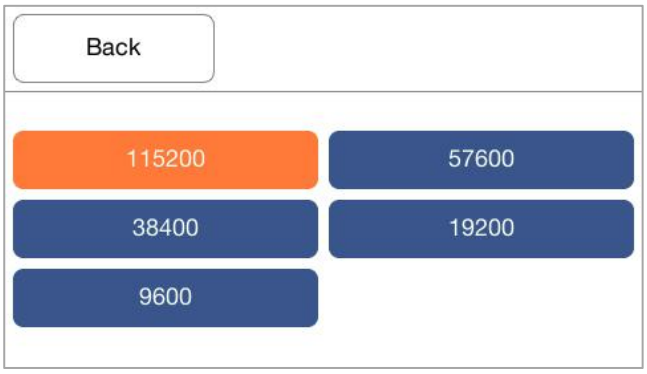


2. The user can select "**Sound**", '**Silent**'. 'Sound' refers to the prompt tone when opening the analyzer and completing the analysis.

4.7 Setting Baud Rate



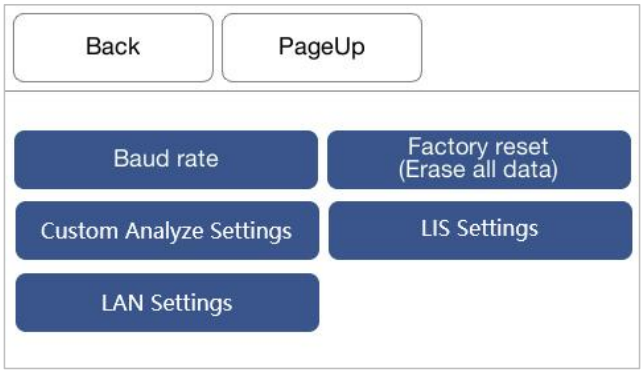
1. On the Main screen, tap “**Setting**”, then tap ‘Baud rate Setting’.



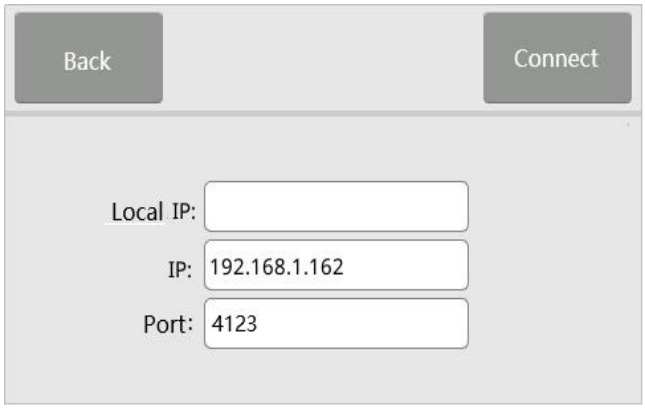
2. The user can select one mode. The default value is 115200.

4.8 LIS settings

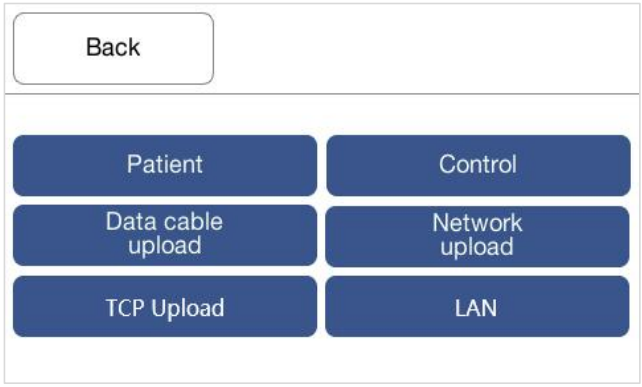
The operator can customize the reported content using the Report Layout feature.



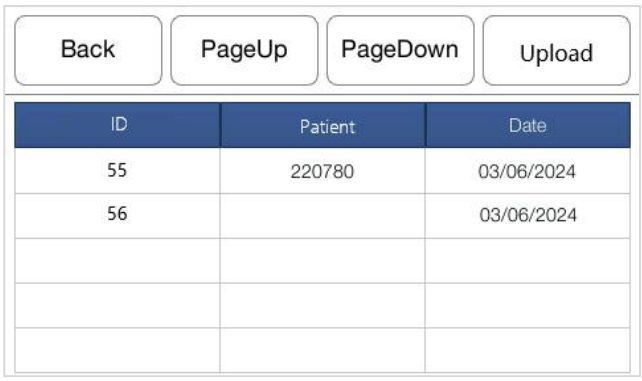
1. Click on the main interface of the device and select "**Setting**" - enter "**LIS Settings**"



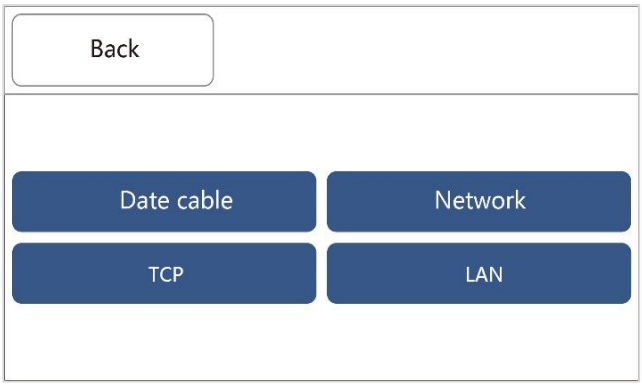
2. After entering, you can set the IP and port of the LIS service. After entering, click "**Connect**"



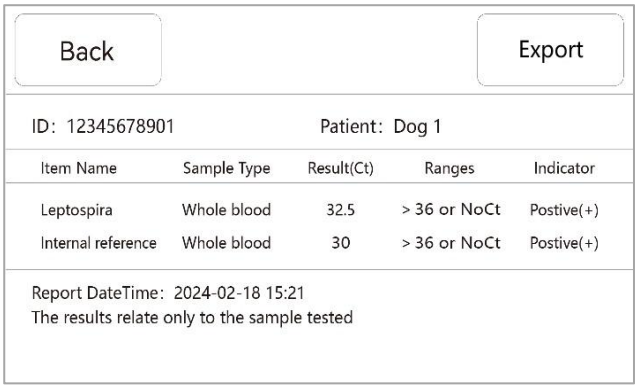
3. After connecting, you can click "**TCP Upload**" on the result query interface to upload all detection data to the LIS system



4. If only the data under the query conditions is transmitted, you can click "**Upload**" on the displayed query result interface

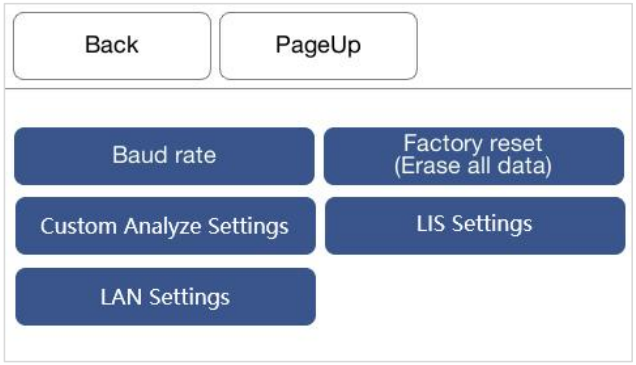


5. After clicking upload, enter the following interface and select "**TCP**" to upload the results to the LIS system

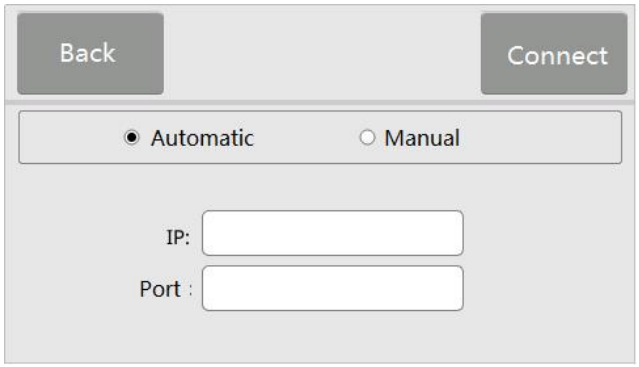


6. If only a single piece of data is transmitted, you can enter a certain detection result interface, click "**Export**", and then transmit the single piece of data to the LIS system

4.9 LAN Setting



1. When the device and the computer are connected to the same local area network (LAN), a LAN connection can be established by configuring the IP address. On the main interface of the device, tap "**Settings**", then enter "**LAN Settings**".



2. After entering the LAN settings interface, the device is set to Automatic Mode by default. If the displayed network parameters are correct, tap "**Connect**" to establish the connection. Alternatively, you may switch to Manual Mode for manual configuration.
3. After completing the configuration, refer to Section 4.8 for instructions on uploading data.

Section 5 Troubleshooting

5.1 Error Codes

If a problem occurs during testing, the Analyzer will display a warning message and an error code. These error codes indicate the type of error and assist the Company's after-sales service technicians in analyzing the cause of the issue. When contacting after-sales service, please provide the error code to the customer service representative or send a photo or scanned copy of the error report for further assistance.

5.2 Electrostatic Interference

If the Analyzer is subjected to strong electrostatic interference during sample testing, the system may freeze or become unresponsive. If a test timeout occurs (or the countdown stops), immediately cancel the PCR test and power off the Analyzer. After waiting for a few minutes, restart the Analyzer. The system should return to normal operation.

5.3 Analyzer Error Codes and Troubleshooting Solutions

Error code	Problem Description	Solution
0601	Motion module error	For any inquiries, please contact us: **E-mail:** service@mnchip.com *Note: Refer to the Maintenance Manual (Authorized dealers only).*
0602	Abnormal temperature of the upper cover	
0603	Abnormal monitoring temperature of the upper cover	
0604	Upper cover temperature overheating	
0605	Abnormal temperature of the sample chamber	
0606	Abnormal monitoring temperature of the sample chamber	
0607	Sample chamber temperature overheating	
0608	Optical system abnormality	
0609	Photoelectric switch malfunction	
0610	Control system abnormality	

Section 6 Maintenance and Upgrade

To ensure optimal performance and maintain the Analyzer in good operating condition, routine maintenance should be performed regularly:

- Once per week: Clean the exterior surfaces of the Analyzer using a mild detergent and a soft cloth.
- Once per month: Clean the touchscreen using a mild detergent and a soft cloth.
- Once per month or as prompted: Clean the fan filter.

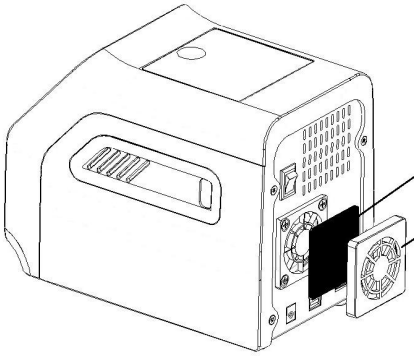
> Caution:
> Do not allow any oil-based solvents or corrosive substances to come into contact with the Analyzer. Do not spray detergents, cleaning agents, or other liquids directly onto the surface of the Analyzer.
>
> Warning:
> Always disconnect the Analyzer from the power supply before performing any cleaning procedures.

6.1 Fan Filter Replacement

Accurate temperature control is essential for the proper operation of the Analyzer. Please replace the fan filter located on the rear panel of the Analyzer once per month to maintain proper ventilation and ensure stable temperature control performance.

Fan Filter Replacement Procedure:

- Disconnect the power cord from the rear of the Analyzer.
- Use a flat-head screwdriver to gently pry open the fan filter cover.
- Remove the black dust-proof sponge (as shown in the figure below).
  Do not remove the four screws securing the fan frame.
- Replace the sponge with a new dust-proof sponge supplied in the accessory kit and reinstall the fan cover.
- Clean the removed sponge, allow it to dry completely, and store it for future replacement use.

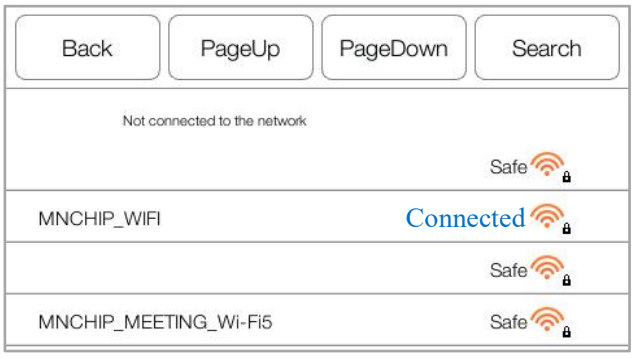


6.2 Software Update

The Company periodically optimizes the Analyzer software to ensure that users benefit from faster testing, improved performance, and enhanced operational convenience. When a new software version is released, the system will prompt an update notification if the device is connected to the network. Users may follow the on-screen instructions to complete the update. If the device is not connected to the network, the Company's after-sales service personnel will contact the user in a timely manner and perform the upgrade via a USB flash drive.

> ***Note: It is recommended to use the manufacturer-provided USB flash drive or perform software updates and result data storage via wireless connection to prevent the Analyzer from being infected by viruses.***

6.2.1 Network Update



Tap "**Network**" (for details, refer to Section 4.4 Network Connection) to connect the Analyzer to a wireless network. Return to the main interface and tap "**Setting**", then enter the "**Analyzer**" interface.

On this screen: Tap "**Update**" next to Software Version to perform a software upgrade. Tap "**Update**" next to Hardware Version to perform a firmware upgrade.

Warning :	***Do not disconnect the power supply or network connection during the software update process, as this may result in update failure or system malfunction.***

6.2.2 USB Flash Drive Update

If no wireless network is available, contact the after-sales service personnel to obtain a dedicated upgrade USB flash drive. Insert the USB flash drive into the USB port located on the rear panel of the device. Then tap "**System Settings**" to enter the "Instrument Information" interface. Tap "**Update**" next to the software version and follow the on-screen instructions until a message indicates that the software update has been completed successfully.

Warning:

1. ***Do not insert the upgrade USB flash drive into any device other than the Analyzer to prevent possible virus infection.***
2. ***Perform software upgrades only after receiving instructions from the manufacturers authorized personnel. Do not attempt to upgrade the system independently.***

6.2.3 Return to Factory for Repair

If it is confirmed that the Analyzer requires factory repair, please arrange shipment through a courier company designated by the Company. Before shipment, please contact the Company by phone or reach out to the Tianjin MNCHIP Customer Service Center for consultation and further instructions.

Section 7 MNCHIP Medical Data Management Platform

7.1 MMDMP

The MNCHIP Medical Data Management Platform (MMDMP) is Windows-based software that interfaces with the MNCHIP Automated PCR Analyzer. Its primary role is to receive and manage data from the analyzer.

Key Functions:

- Set the hospital name
- Select the language
- Edit patient information
- Query and print test results
- Configure printer settings
- Export test results

7.2 Installing the MMDMP

7.2.1 How to Obtain the Software?

The MMDMP installer is available on the MNCHIP website:

1. Visit the website: http://www.mnchip.com
2. Navigate to the Reference Center.
3. Download the MMDMP installer.

Note: If the above method is not convenient, obtain the installer from an after-sales service engineer.

Contact Information:

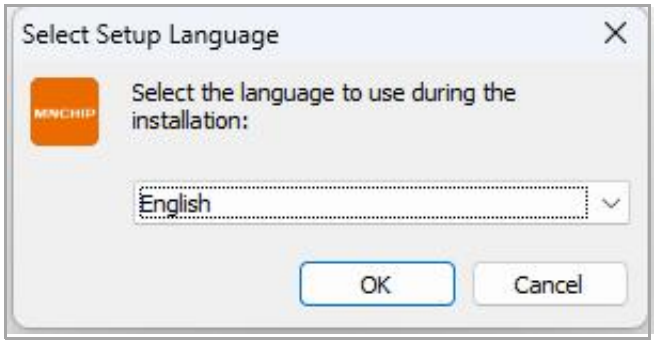
- ***Email: service@mnchip.com***

7.2.2 Setting up the MMDMP

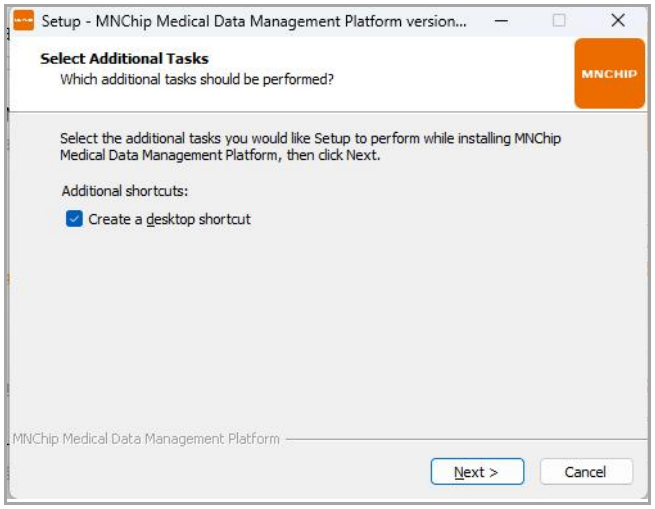
Note: Some anti-virus software may affect the installation. For the installation process, it is recommended to turn off anti-virus software.

Note: The MMDMP can be installed on the system of Windows7, 8 or 10(32-bit or 64-bit). Do not

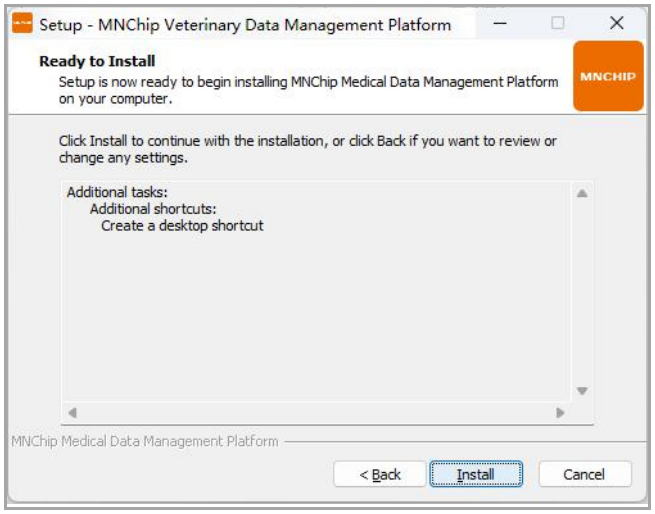
install on Windows XP, as this it may cause some errors.



a. Start the installer, and an installation dialog will appear. Select the installation language, then click '**OK**'.



b. Confirm whether to create a shortcut for the management platform software on the desktop. If you wish to create one, please check 'Create a desktop shortcut' and then click '**Next**' to proceed.

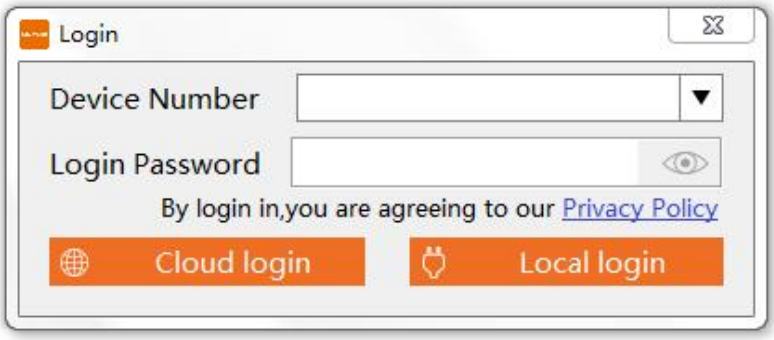


c. Enter the installation interface and select '**Install**'.

d. Once the installation is complete, a confirmation dialog will appear. Click '**Finish**' to complete the installation.

7.3 Login

Open the 'MNCHIP Medical Data Management Platform' to access the '**Login**' interface.



7.3.1 Local login

Use the data cable to connect the PCR analyzer to the PC. No information entry is required

Note: Before connecting via the data cable, power off the analyzer. Alternatively, reboot the analyzer after the connection is established.

7.3.2 Cloud login

When using cloud transmission, ensure that the PCR analyzer and the PC with MMDMP are connected to the network. The device transmits data to the cloud server via Wi-Fi, and the MMDMP software downloads this data from the server to the PC.

To view the device ID and login password, navigate to '**Setting**' → '**PCR analyzer**' on the PCR analyzer. Enter the complete device ID and login password in MMDMP, then click '**Cloud login**'.

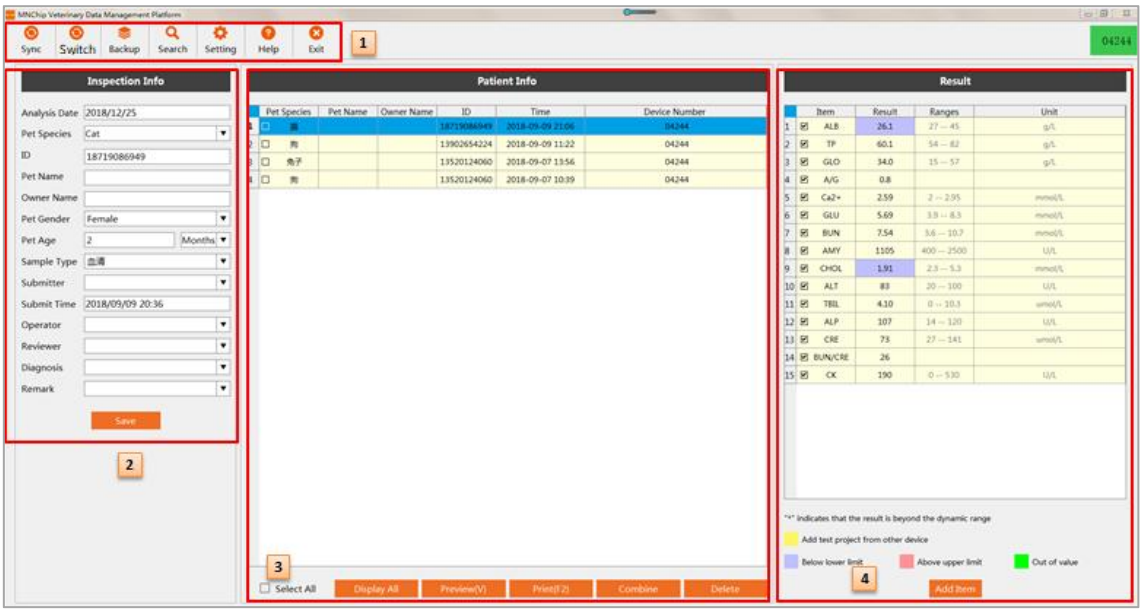
Note: When you reopen the management platform software, click 'Cloud Login'. The software will automatically connect to the previously matched device.

Note: If the 'Device Info' section does not show the login password; it means the device is not connected to the Internet. Please go to 'Setting' → 'Network' to reconnect.

7.4 'Main Screen' Description

The main interface of the MMDMP is divided into four functional areas, as indicated by the yellow symbols in the figure below:

- Shortcut Toolbar: Used for selecting and connecting to data interfaces, backing up and looking up data, setting up configurations, and accessing help.
- Inspection Information Area: Displays the currently selected patient information and allows for modifications to related details.
- Data Selection Area (Patient Info): Primarily used for selecting a patient report to be printed.
- Data Display Area (Result): Mainly shows the patient's results and ranges of the printed content.

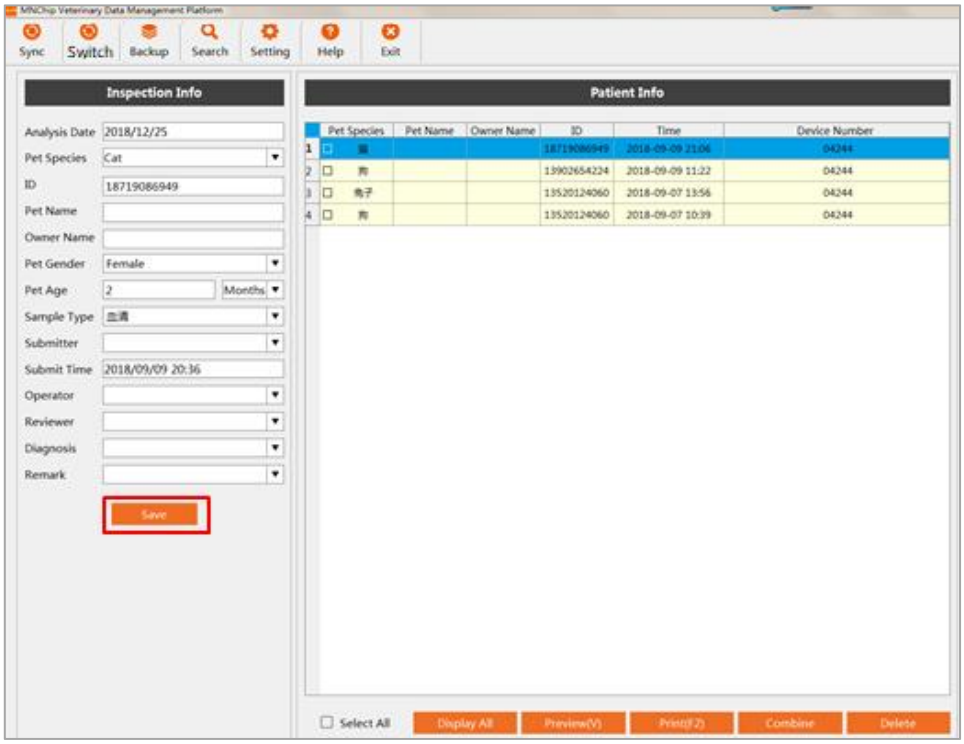


7.4.1 Inspection Info

Displays the patient information for the selected record. You can edit this information and click ‘Save’ to save the modified test details.

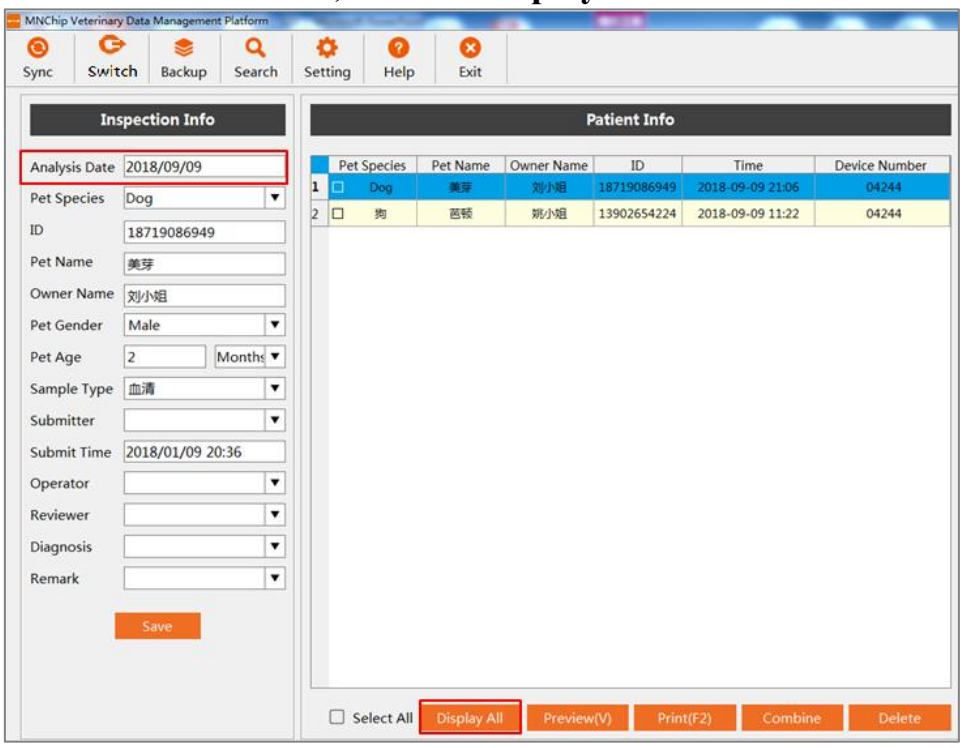
1. Change inspection Information

Select a patient and update the basic information in the inspection area. Click ‘**Save**’ to finalize your changes.



2. Display All

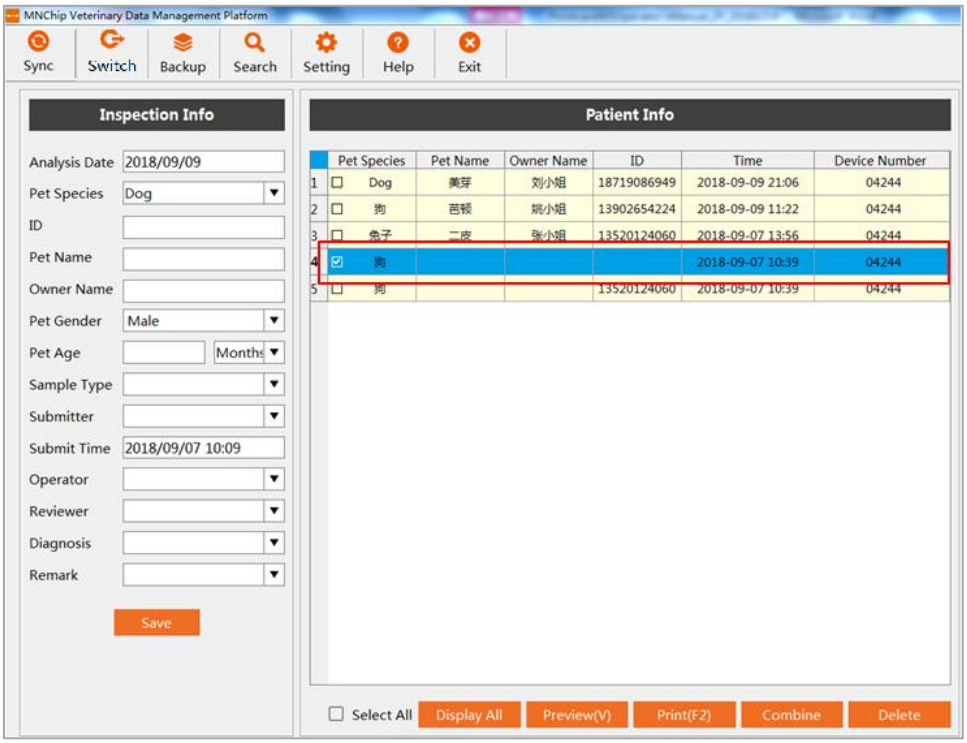
The '**Analysis Date**' section on the home screen typically shows data for the selected date only. To view all test results, use the '**Display All**' function.



3. Delete:

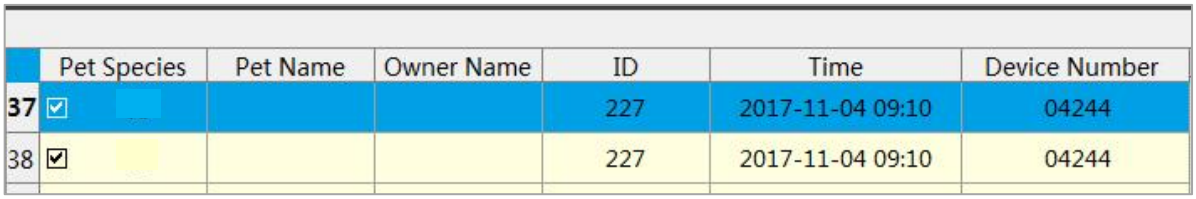
Select a result and click the 'Delete' function to remove it.

Note: If you accidentally delete data, you can recover it by resynchronizing the data from the analyzer.



4. Combine

When a patient has been tested with different, you can combine the test reports into one using the merge function. First, select the reports to merge, then click the '**Combine**' function. The system will generate a new report.



	Pet Species	Pet Name	Owner Name	ID	Time	Device Number
37	☑			227	2017-11-04 09:10	04244
38	☑			227	2017-11-04 09:10	04244

7.4.2 Patient Info

The test record matching the query is displayed. By default, records from the current day are shown.

- Click 'Select All': Select all test records.
- Click 'Display All': Display all test records.
- Click 'Preview': Preview all selected test record reports, to export the reports as PDF files.
- Click 'Print': print the selected test report, select the printer and configure the print settings, then click 'OK' to print. Click 'Close' to modify the report form or cancel printing.
- Click 'Combine': Merge selected test records and generate a new combined test records.
- Click 'Delete': Delete the selected test records.

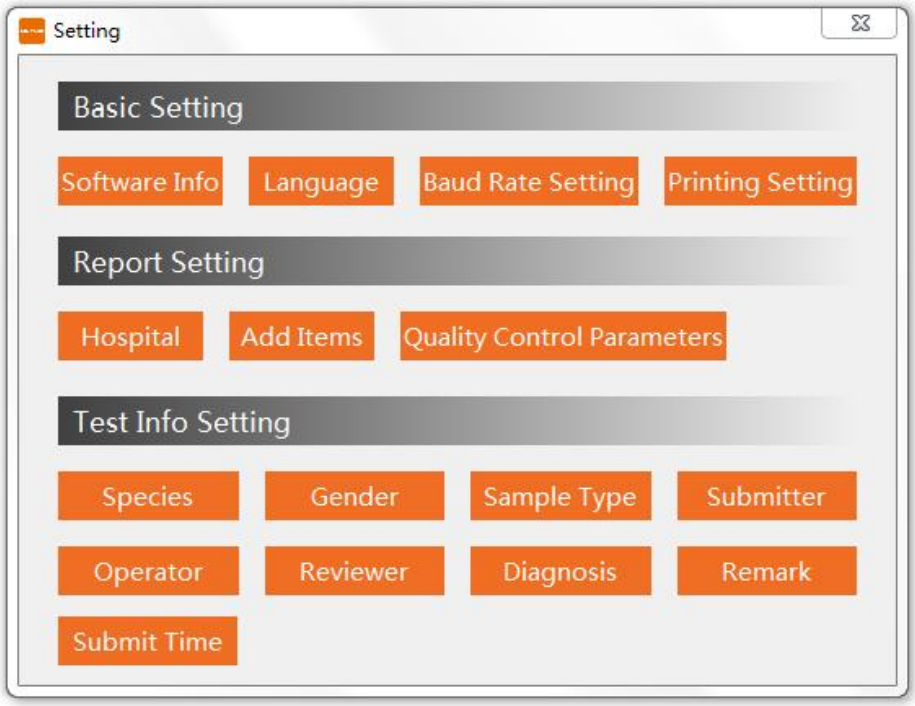
7.4.3 Result

The patient test results for the selected record are displayed.

- Modify Test Results: Operators can edit specific test results by double-clicking on the test value.
- Add Test Items: Use this option to add new test items.

7.5 Setting

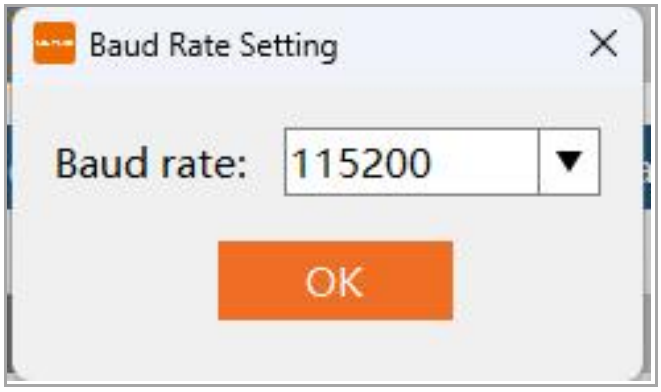
Click the '**Setting**' button on the top menu bar of the management platform to access the settings interface.



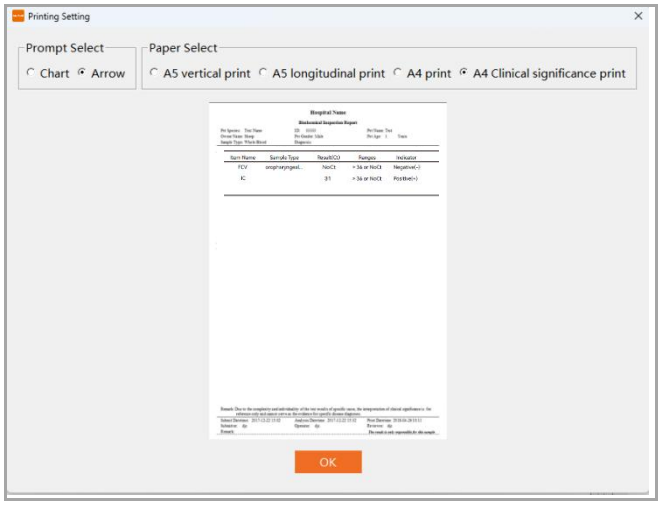
7.5.1 Basic Setting

a. **Software Info**: Displays software information. Click 'Software update' to upgrade.

b. **Language**: Select your preferred language.



c. **Set Baud Rate**: Configure the baud rate for data transmission under '**Local login**'.



d. Printing Setting:

- **Prompt Select**: Choose between 'Chart' and 'Arrow'.
- **Paper Select:**

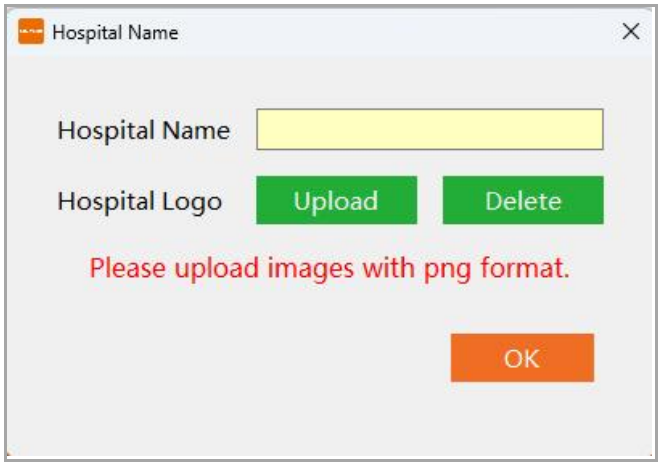
➢ A5 vertical Print (default): Insert A5 paper (21 cm wide, 14.8 cm high) in the printer to print a report sheet.

➢ A5 longitudinal print: Insert A5 paper (14.8 cm wide×21 cm high) in the printer to print a report sheet.

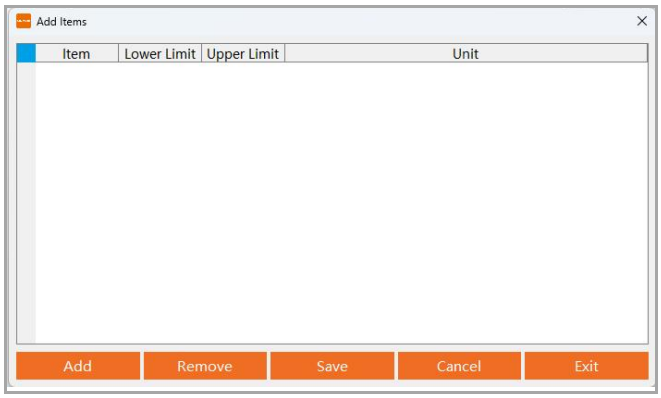
➢ A4 Print: Insert A4 paper in the printer to print the report.

➢ A4 print with clinical significance: Prints with clinical significance of the test report; A4 paper is used by default.

7.5.2 Report Setting



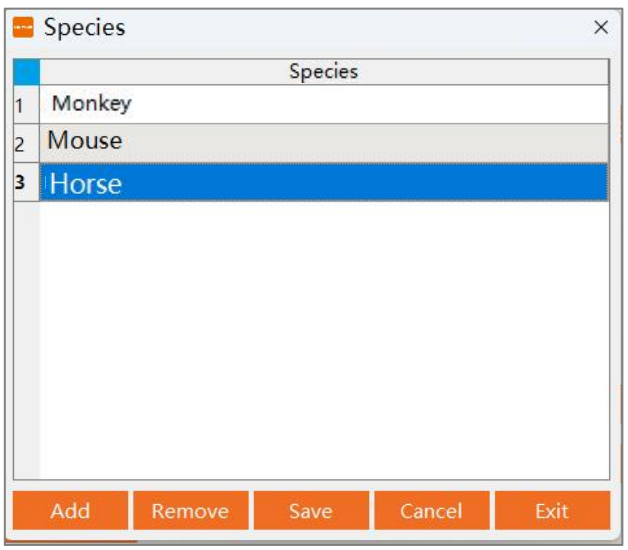
a. Hospital name/Logo: input the hospital name and logo.

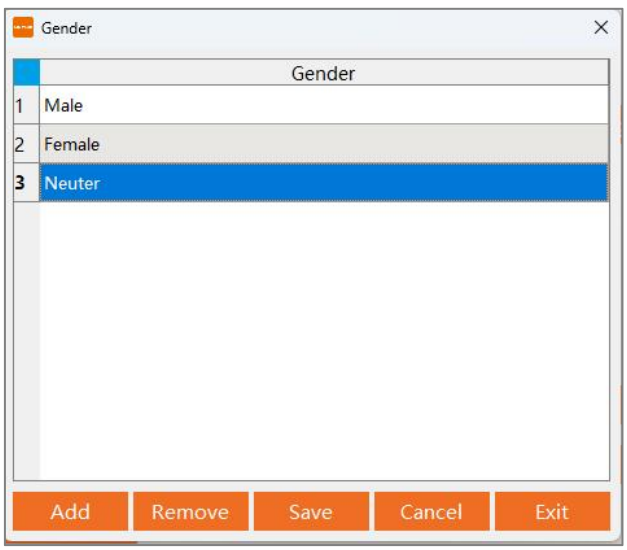


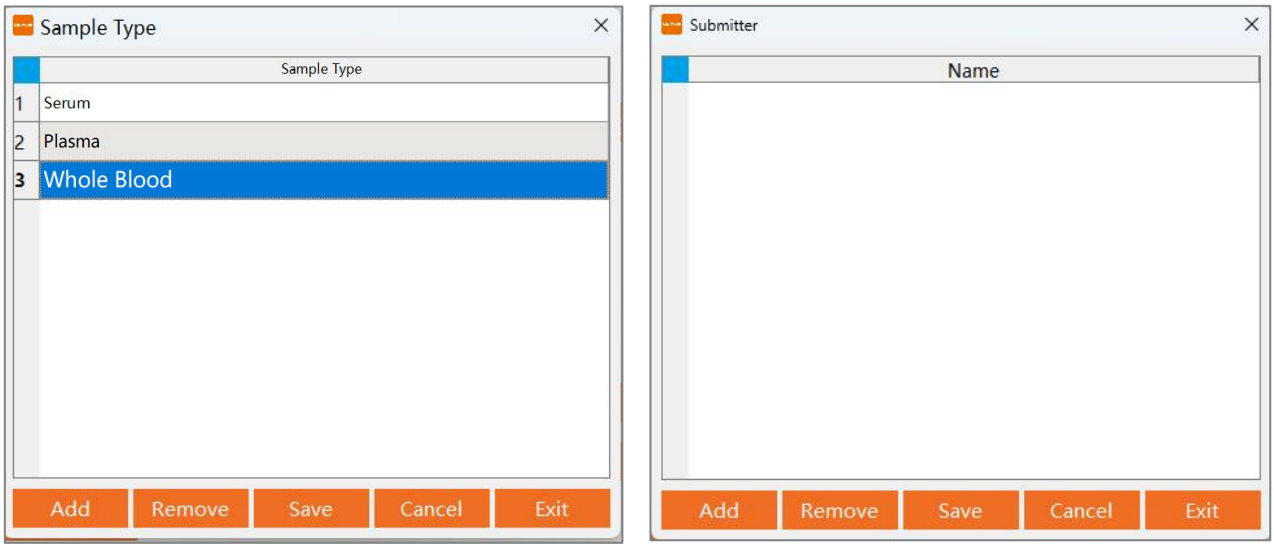
b. Add Items: use this function to combine the test items from other devices into one report. After making changes, click 'Save' and then 'Exit'.

7.5.3 Test Info Setting

Modify Test Info: On the main interface, edit the 'Test Info'. Hospitals can preset each item in the '**Test Info Settings**' as required, and these settings will be displayed in the report form.







Note: The "Test Remarks" field is used by default to indicate abnormal samples (e.g., hemolysis, lipoma, or jaundice). The hospital may edit this remark as needed. For abnormal samples, the report background will be displayed in red. For normal samples, the report background will be displayed in yellow.

7.6 Switching Data Transfer Methods

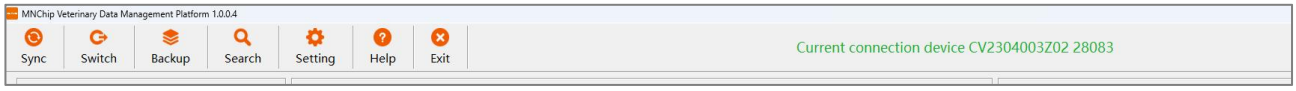
Click '**Exit**': to close the management platform software. Click '**Switch**', the '**Login**' screen will pop up, follow the same steps as **8.3 Login**.

Note: This function will only works using 'Cloud Login'. The computer must be connected to the Internet.

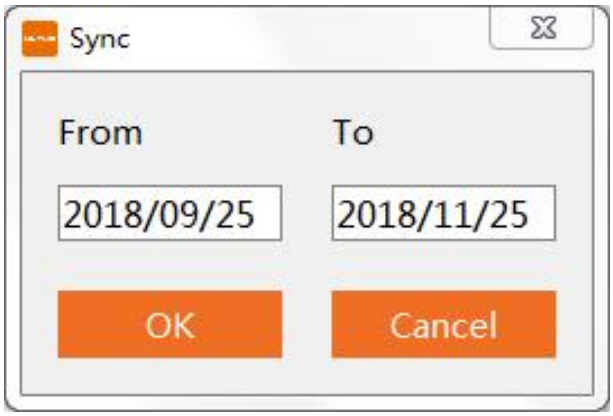
7.7 Acquisition, Backup, and Querying of Patient Data

Under normal circumstances, the analyzer can transmit patient data to the management platform via '**Cloud login**' and '**Local login**'. If the results are not transmitted to the management platform, manual transfer methods can also be attempted to resolve the issue.

1. Click 'Sync' to detect all currently connected devices. If the connection is successful, the connected device will appear on the right side of the main menu.



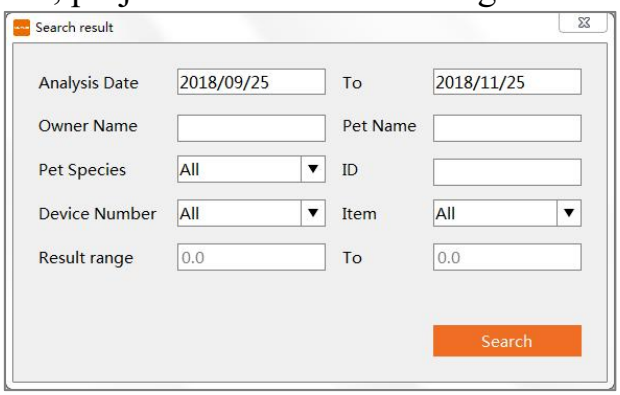
Note: When the management platform software is opened, results from the current day are automatically synchronized by default. If data synchronization fails, locate the report in the PCR Analyzer's Results Query and click 'Upload'.



2. Click ‘Backup’ to back up or restore your data.

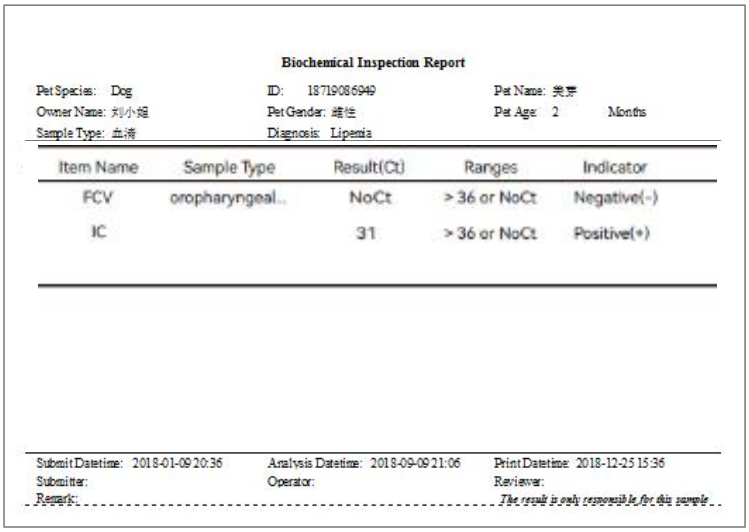
- ‘**Data Backup**’: Back up data from the current management platform software to the specified location.
- ‘**Data Recovery**’: Select the ‘.mob’ file you want to recover.

3. Click ‘Search’ to find the test records that meet the specified search criteria Enter any one or any combinations of test date range, name, medical record number, gender, age, device ID, project name and result range to screen report sheets.

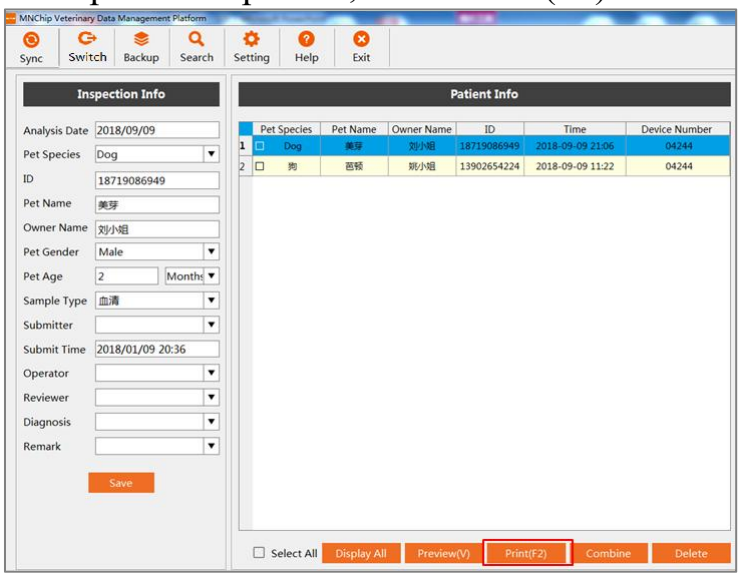


7.8 Report Printing

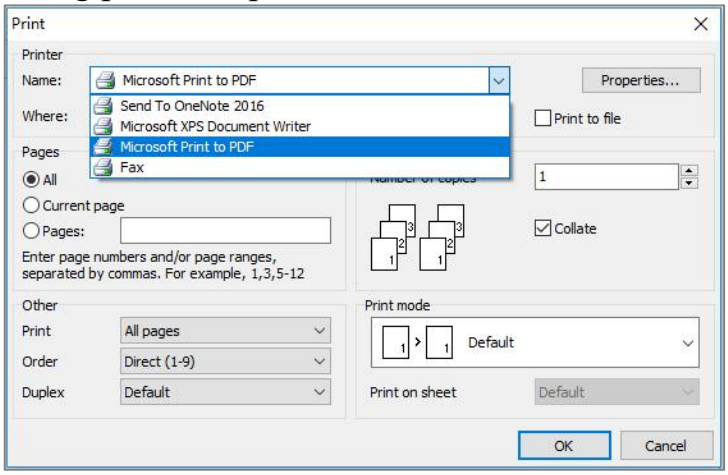
1. Report preview: Select one patient result, the print preview will be shown.



2. Report print: Reports can be printed using the printer installed on a Windows PC. Select the report to be printed, click 'Print (F2)'.



Select the corresponding printer to print.



Note: If the PC is not connected to the designated printer, please install the printer first. You can design the reporter layout using the printer's report setup function.

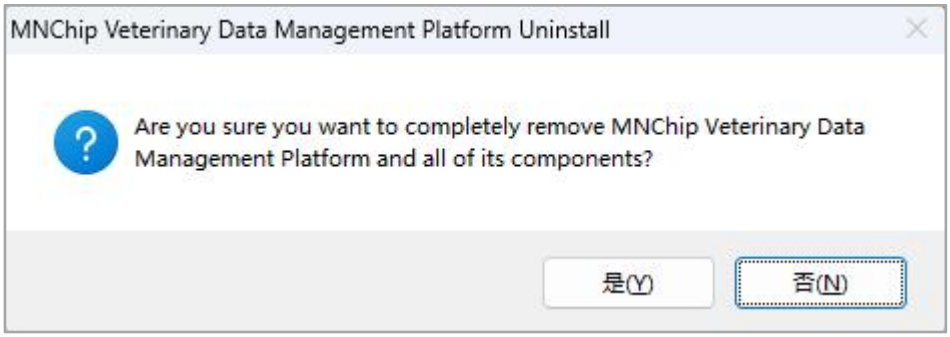
7.9 Troubleshooting

If the test results cannot be synchronized with MMDMP, try the following solutions:

1. **Update the Analyzer Software Version**:
   - Turn on the analyzer and go to 'Setting' — 'Network' to connect to Wi-Fi.
   - Once connected to the Internet, return to 'Setting' — 'PCR Analyzer' and update the software to the latest version.
2. **Check Connection Based on Login Type**:
   - For **local login**, ensure that the data cable is connected properly, then restart the analyzer and restart the management platform software.
   - For **cloud login**, verify that both the Analyzer and PC running the software are connected to the Internet.
3. **Reinstall MMDMP Software**:
   - Locate the uninstallation program in your installation documentation and run unins000.exe to uninstall MMDMP by clicking 'Yes'.

Caution: Before uninstalling, please back up all data

   - After uninstalling, reinstall the software as described in **section 7.1**.



Section 8 FAQ

1. If "cancel" is selected during the test process, can the PCR reaction tube used in this test be reused?

No, please take a new PCR reaction tube to perform the test.

2. What happens if an expired test kit is used during the test process?

When scanning the QR code on the package of each reagent, if the reagent is detected to be expired, the analyzer will prompt the message " The reagent has expired, please replace the reagent."

3. What are the storage conditions and shelf life of the test kit?

2℃-30℃ protected from light; the shelf life of the test kit is 12 months, as indicated on the label of the packaging.

4. Do the reagents need to be taken out and restored to room temperature before the test?

No, using it directly after tearing open the packaging

5. How should I deal with the error prompt on the analyzer screen?

When an error occurs, the error code should be recorded first, and then contact MNCHIP after-sales service or local distributors, they will guide you on how to do the next step based on the type of error reported

6. What should I do when the sample test results do not match the clinical symptoms?

When the test values of the sample do not match the clinical symptoms, it is necessary to investigate whether there were any abnormal conditions during the testing process, such as issues with reagents and equipment, or whether the reagents used have expired. If there are no abnormalities found, it is recommended to retest the sample and conduct further examinations with other additional diagnostic methods to ensure the accuracy of clinical diagnosis.

7. Can the analyzer be connected to an external printer?

The analyzer can be directly connected to a designated model of printer to print reports, or it can be connected to a computer via a USB interface (with the management software installed) and then print reports using an external printer.

8.What should I do if the analyzer is contaminated?

Please contact customer service personnel and follow their instructions for handling. Do not spray any liquid reagents, such as nucleic acid cleaning agents, into the chamber of the analyzer to avoid damage to its internal components from liquid splashing.

9. Do operators of the analyzer need professional training, and what are the key points of the training?

It is necessary to have brief professional training, which may cover the following key points: the usage procedures of the analyzer, precautions when using the analyzer, sample processing and sampling, common malfunctions and solutions, etc.

10. How is the MNCHIP after-sales service?

From the date of installation, the warranty period of the analyzer is two years, and MNCHIP will provide free maintenance of the products (except accessories and consumables) during the warranty period. For the products beyond the warranty period, services will be charged according to the maintenance service standard. After-sales service is handled by Tianjin MNCHIP Technologies Co., Ltd and authorized distributors.