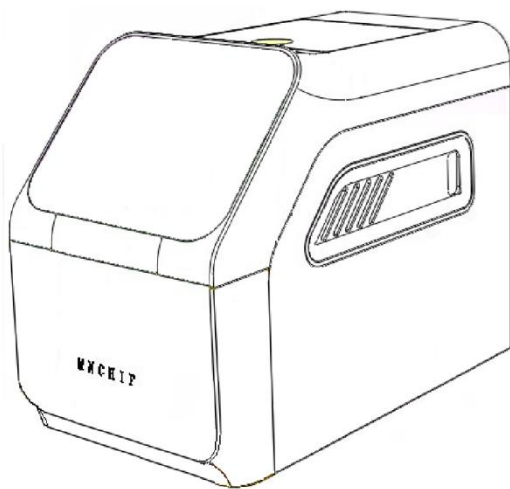


**MNCHIP**

# Pointcare PCR V1

Real-time PCR analyzer

## Operator's Manual



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



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## *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.

The Pointcare PCR V1 Real-time PCR Analyzer is a veterinary diagnostic device intended FOR VETERINARY USE ONLY. The symbols used in labeling comply with **ISO 15223-1:2021** (Medical devices — Symbols to be used with information to be supplied by the manufacturer — Part 1: General requirements).

### **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 has been designed and manufactured in accordance with the applicable safety and performance standards for veterinary diagnostic equipment. To use the analyzer safely and effectively, please observe the following precautions. Using the system in a manner not specified by the manufacturer may impair its safety features.

### **Safety Information**

The Pointcare PCR V1 Real-time PCR Analyzer has passed transportation tests in accordance with ASTM D4169-24, Distribution Cycle 13 (DC13). (Standard Practice for Performance Testing of Shipping Containers and Systems).

### **Wi-Fi Compliance**

The analyzer complies with the Radio Equipment Directive (RED) 2014/53/EU, and meets the following harmonized standards: EN 300 328 V2.2.2, EN IEC 62311:2020(Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz)), EN 301 489-1 V2.2.3, and EN 301 489-17 V3.2.4.

### **EMC Information**

This product meets the emission and immunity requirements as per the **EN IEC 61326-1:2021** standard (Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements). It is designed for use in **professional veterinary and laboratory environments** (CISPR 11 Class A). This equipment may cause radio interference in certain environments; in such cases, the user may be required to take mitigation measures. 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).

## Prevent electric shock

Do not open the analyzer shell without authorization. If liquid accidentally enters the analyzer, disconnect power immediately and contact customer service before restarting.

## Preventing Infection

Protective gloves must be worn during nucleic acid testing. Direct contact with samples or PCR tubes without biosafety treatment poses a risk of biological infection.

Please refer to your local or regional occupational safety and biosafety guidelines:

- WHO: Laboratory Biosafety Manual (4th Edition, 2020).
- Directive 2000/54/EC on the protection of workers from risks related to biological agents.
- Standards and guidelines issued by your country's occupational safety and health authority (e.g., OSHA in the United States).

NOTE: Operators must comply with national, regional, or local biosafety regulations, which may impose additional requirements beyond the above standards.

## Prevention of High Temperature Burns

During operation, the analyzer's top cover can reach 105°C (221°F). To avoid burns, do not touch the cover during use or for 6 minutes after the run ends. The cover must remain closed during testing to prevent both heat exposure and external light interference with optical results. Allow the lid to cool gradually before proceeding

## Handling Reagents

Avoid direct contact with dried reagents inside PCR reaction tubes. If a tube breaks and reagents spill, avoid skin contact and inhalation.

## Treating Waste

Follow professional laboratory safety practices for disposal of used PCR reaction

tubes.

For reference:

- Directive (EU) 2018/851 on waste management.
- CLSI document GP05-A3: Clinical Laboratory Waste Management, 3rd Edition; available at <http://www.clsi.org>.

## **WEEE Compliance**

The analyzer complies with **Directive 2012/19/EU** on Waste Electrical and Electronic Equipment (WEEE). Disposal arrangements should be made through your authorized distributor **or** MNCHIP at the end of the product's life.

## **ROHS Compliance**

All components have been analyzed for restricted substances (Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DEHP, BBP, DBP, and DIBP) to ensure full compliance with RoHS Directive 2011/65/EU (RoHS 2.0) and its amendment Directive (EU) 2015/863.

## Section 1 General Information

### 1.1 Intended Use

The Pointcare PCR V1 Real-time PCR Analyzer is used in conjunction with the Pointcare NV1 Nucleic Acid Extractor and nucleic acid testing kits produced by Tianjin MNCHIP Technologies Co., Ltd. for quantitative determination of veterinary clinical molecular diagnostic parameters. The integrated system is intended for use in a clinical laboratory setting or point-of-care location.

### 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.

- USB Expansion: Supports connection to the Pointcare NV1 Nucleic Acid Extractor for automated sample preparation.

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.

### Pointcare PCR V1

- 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 Pressures: 80.0 kPa to 106.0 kPa
  - Maximum Operating Altitude: 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:  $\pm 10\%$

## **Pointcare NV1**

- Analyzer Specifications
  - Dimensions: 210 mm (Length)  $\times$  125 mm (Width)  $\times$  175 mm (Height)
  - Weight: Approximately 2.5 kg
  - Operation mode: Continuous operation
- 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 Pressures: 80.0 kPa to 106.0 kPa
  - Maximum Operating Altitude: 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: 36W
  - 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:  $\pm 10\%$

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](mailto:service@mnchip.com)

## **1.5 Symbols Used in Labeling**

The following symbols are found on the analyzer or labelling:

| Item                                                                                | Description                                                                                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|    | <b>Biological risks</b>                                                                                      |
|    | <b>Caution. High temperature</b>                                                                             |
| I / O                                                                               | <b>International standard symbols, where "I" represents ON (Powered) and "O" represents OFF (Unpowered).</b> |
|    | <b>Direct current</b>                                                                                        |
|    | <b>Manufacturer</b>                                                                                          |
|    | <b>Please refer to the user manual or electronic user manual</b>                                             |
|    | <b>Caution. Refer to any accompanying documents</b>                                                          |
|   | <b>Electrical and electronic equipment, Do not discard at will, please recycle</b>                           |
|  | <b>Fragile, handle with care</b>                                                                             |
|  | <b>Keep dry</b>                                                                                              |
|  | <b>This is the correct upright position of the distribution packages for transport and/or storage</b>        |
|  | <b>Distribution packages shall not be rolled or turned over</b>                                              |
|  | <b>Up to 6 identical transport packages can be stacked on the bottom package</b>                             |

## 1.6 Transport and Storage

### 1.6.1 Transport

The Pointcare 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 its original packaging and kept 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

### Pointcare PCR V1

- 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: 80.0 kPa–106.0 kPa

### Pointcare NV1

- Dimensions: 21.0 cm (L) × 12.5 cm (W) × 17.5 cm (H)
- Weight: Approx. 2.5 kg
- Power Supply: AC 100–240 V, 50–60 Hz
- Input Power: 36 W
- Operational Parameters: Sample Throughput: 2 samples per run  
Required Sample Volume: 200 µL  
Operating Temperature: 10°C–30°C
- Operating Humidity: 40%–85% RH
- Storage Temperature: 0°C to +40°C
- Storage Humidity: ≤85% RH
- Atmospheric Tapure: 80.0 kPa–106.0 kPa

## 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 Extractor Connection and Binding

When using the Pointcare NV1 Nucleic Acid Extractor with the Pointcare PCR V1 analyzer, please follow the connection steps below to ensure a stable and safe system configuration.

Connection Steps:

1. Powering the Extractor: Ensure the Pointcare NV1 is powered by its specific certified medical-grade power adapter. Connect it to a stable power supply independently.
2. Data Connection: Use the manufacturer-provided USB cable to connect the 'USB Port' on the rear panel of the Pointcare NV1 to the USB interface of the Pointcare PCR V1.

### 3. Safety Requirements:

Place the Pointcare NV1 on a stable, level surface within 1.0 meters of the PCR analyzer to comply with electromagnetic compatibility (EMC) requirements.

Ensure the USB cable is fully inserted and not under tension.

Do not use non-medical grade power adapters for the Extractor to avoid potential electrical noise or damage to the PCR analyzer.

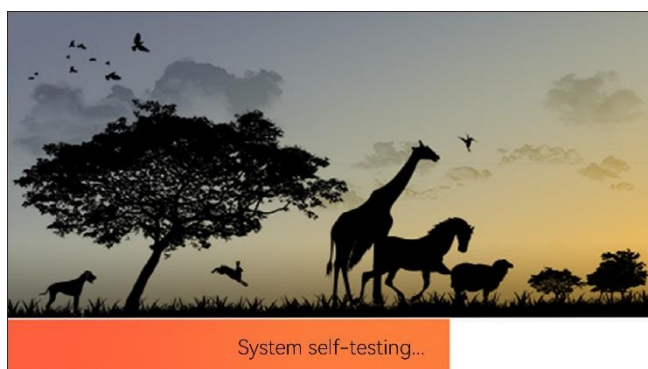
## 2.4.3 Power Connection

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).

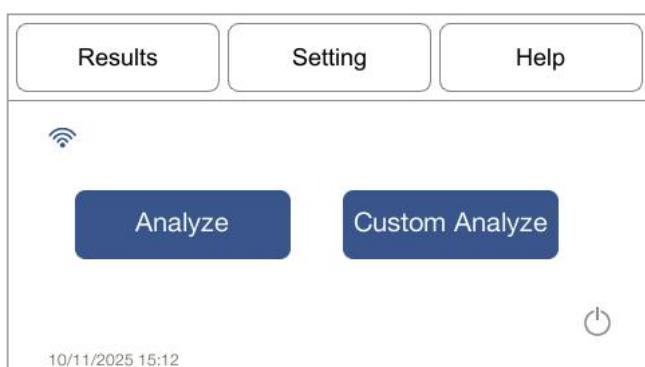
Ensure that the DC plug is fully inserted into the power inlet at the rear of the Analyzer. A properly seated connection indicates that the Analyzer is securely connected to the power supply. If the plug is not fully inserted, an unstable power connection may occur.

- 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.

#### 2.4.4 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.*



If the Nucleic Acid Extractor is connected, an additional ‘Extraction’ button will appear on the interface.

## 2.4.5 Powering Off the Analyzer



Tap the ‘’ 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 in 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 (MVDMP). 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

The collected samples can be tested immediately. If stored at 2-8°C, it should not exceed 3 days; or stored at -20°C for no more than one month. It can be stored for a long time at -70°C. 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.*

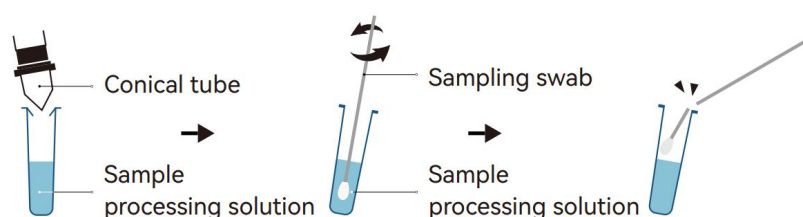
- Fecal anal swab: Use a disposable sampling swab to collect pet's fecal sample or collect a rectal swab.
- Whole blood sample: Collect the patient's whole blood into an anticoagulated blood collection tube (EDTA or citrate treated), and immediately mix by slowly inverting 8-10 times.

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

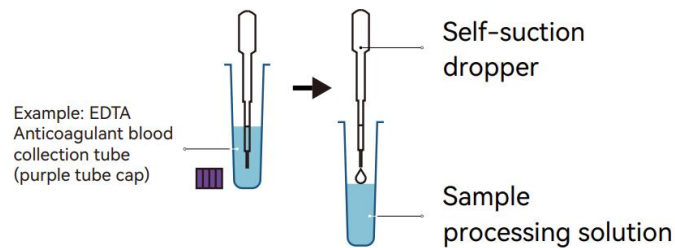
**Lyme disease, Leishmania:** *It is recommended to use EDTA for anticoagulation and blood collection.*

### 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.

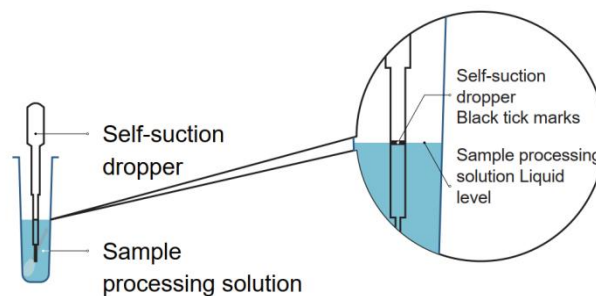


Whole blood samples need to use a self-suction dropper to draw the sample from the blood collection tube, then add all the samples in the dropper to the sample processing solution tube, and remove the tip of the conical tube, combine it with the sample processing liquid tube, and mix slowly to avoid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



### 3.3.3 Sample aspiration

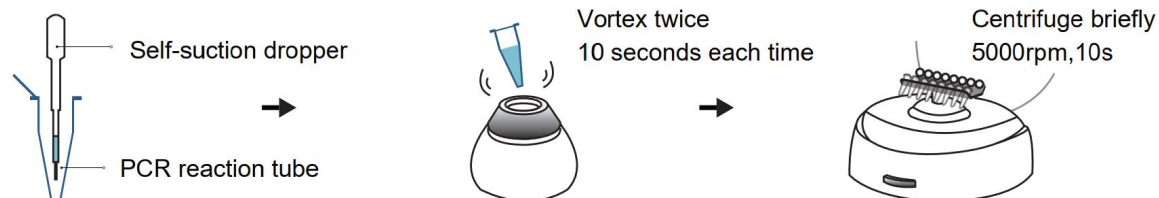
- Remove the self-suction dropper, **hold the tip gently without squeezing the bulb**, and insert it into the sample processing solution tube or the anticoagulation tube below the liquid level until the black scale line is flush with the liquid level. Hold in place for 3 seconds and slowly remove it. 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  $\mu\text{L}$ .



***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*

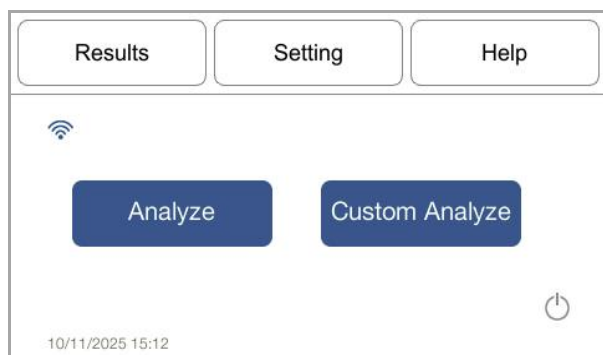
### 3.3.5 Testing

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 analyzer 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

The screenshot shows a mobile application interface. At the top, there are two buttons: 'Back' on the left and 'Start' on the right. Below these buttons is a horizontal row of six colored boxes, each labeled 'available' and numbered 1 through 6 from left to right. The colors of the boxes are red, yellow, blue, green, purple, and red respectively.

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:

The screenshot shows a mobile application interface. At the top, there is a 'Back' button. Below it, there are three buttons arranged in two rows: 'Sample test' and 'Negative control' in the top row, and 'Positive control' in the bottom row.

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

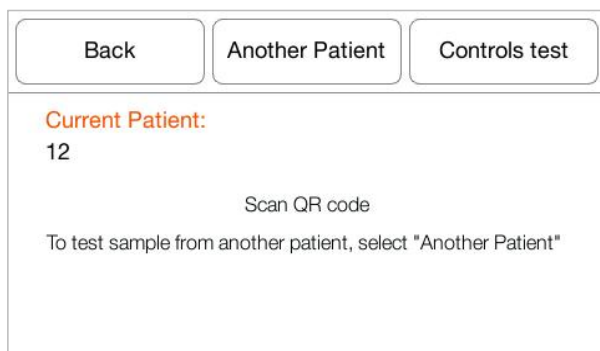
#### a. Sample Testing

The screenshot shows a mobile application interface for pet information input. At the top, there are two buttons: 'Back' on the left and 'Next' on the right. Below these buttons, there are six input fields arranged in three rows. The first row has '\*ID:' and '\*Species:'. The second row has 'Patient:' and 'Gender:'. The third row has 'Age:' and 'Owner:'. The 'Age:' field has a 'year' unit selector. At the bottom, there is a red text note: 'All fields marked with \* are required and must be filled.'

- 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).

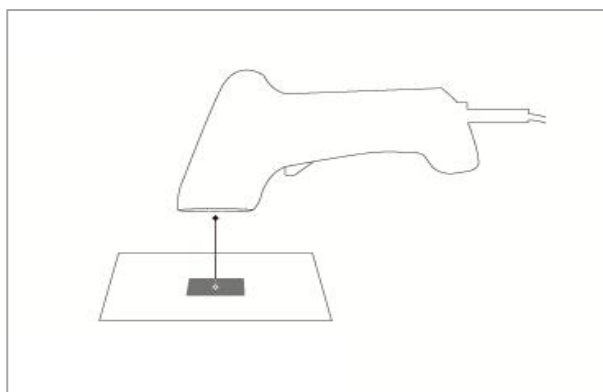
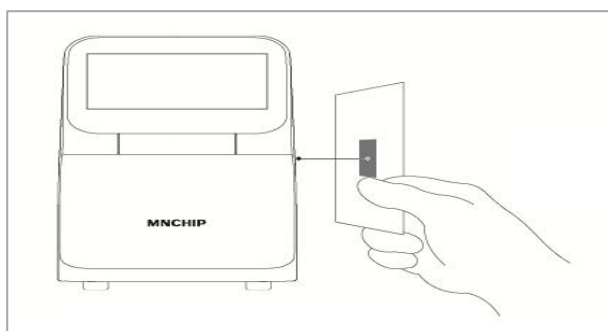
The interface is displayed as shown left:



- 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.

No
Yes

Current Patient:  
12

Confirm to test FHV-1?

Recommended sample type oropharyngeal, nasopharyngeal and eye swab

- 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:

Start

12

FHV-1

1

al, nasopharyngeal a

available

available

available

available

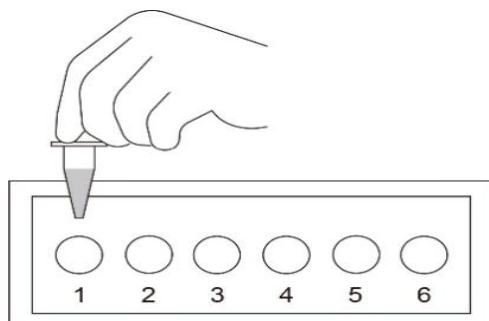
available

23456

- 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

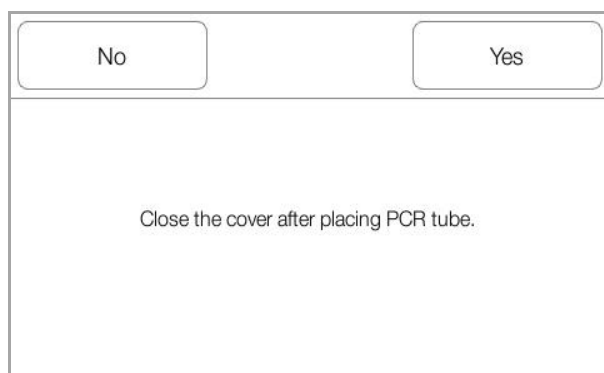
automatically shown in the previously selected 'available' well position.

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:

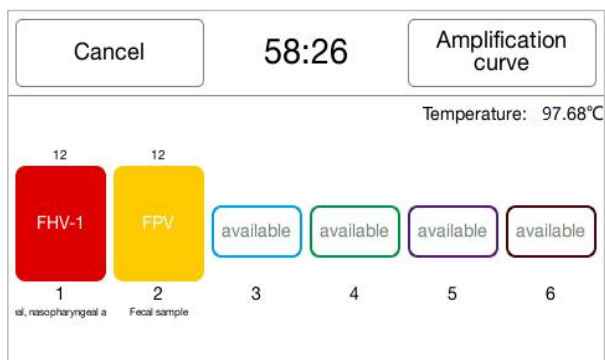
**Note:** Please carefully confirm the position and numbering of each PCR reaction tube in the analyzer's chamber, ensuring that they are exactly the same as the sample numbering displayed on the equipment's well configuration interface.



- 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:

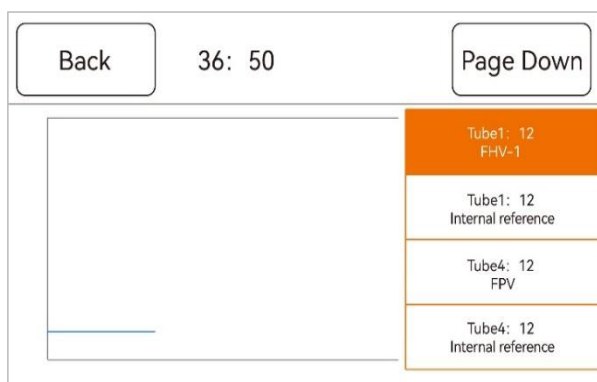
**Warning:**

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 °C) during testing process. Do not touch it to avoid burns.



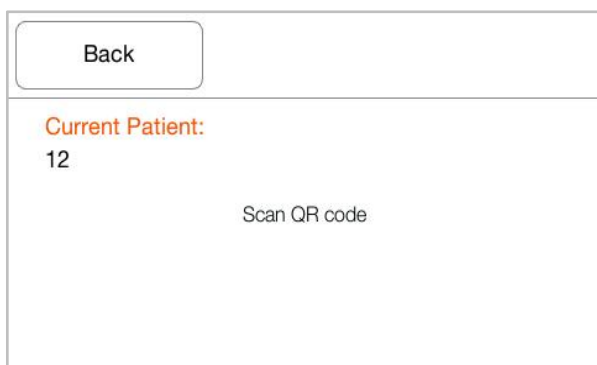
- 8) On the test countdown interface, tap **‘Amplification Curves’** to view the real-time amplification curves.

The interface is displayed as shown in the figure left:



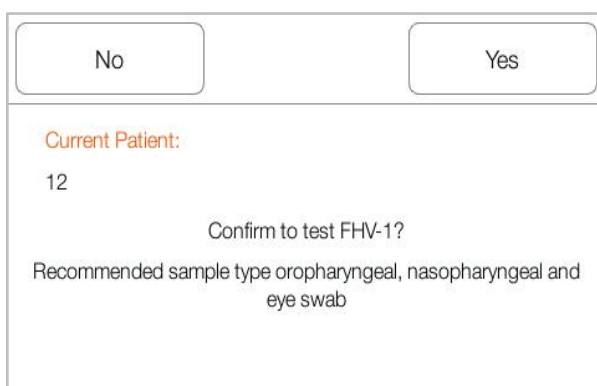
- 9) The list on the right side of the interface displays the test items currently in progress. Tap any item to view its real-time amplification curve. If multiple test items are listed, tap **‘Page Down’** to view additional items. Tap **‘Back’** to return to the test countdown interface.

## b. Negative Control

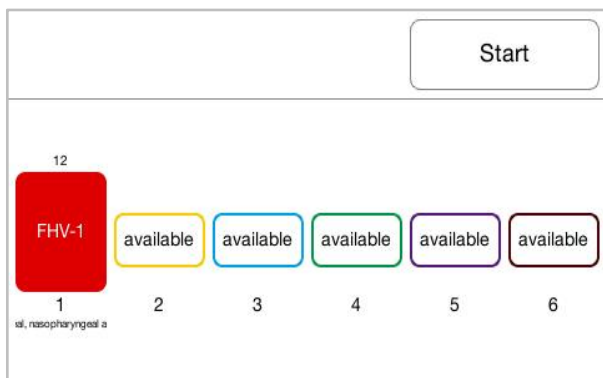


- 1) After selecting a well position, choose **‘Negative Control’** on the test category selection interface as required to enter the reagent QR code scanning interface.

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.

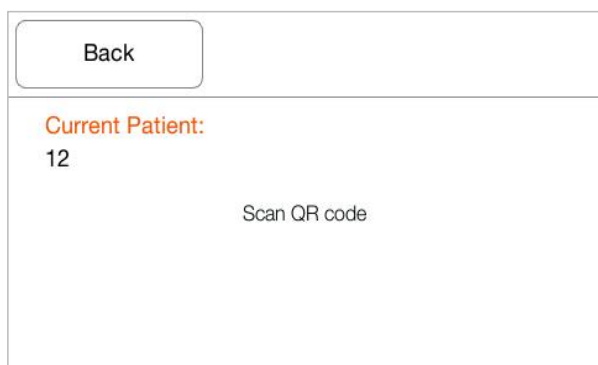


- 3) After tapping 'Yes', the control lot number and test item name will be displayed in the selected well position.

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).

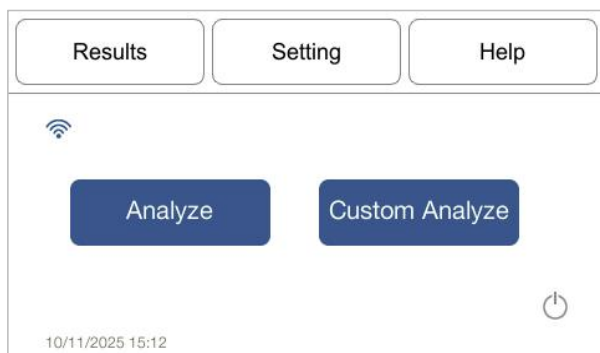
#### c. Positive Control



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

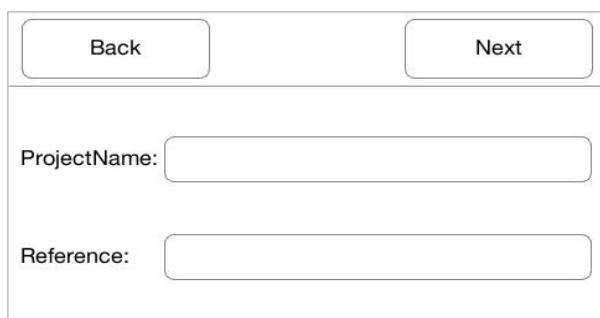


1. This mode is applicable to reagents from manufacturers that have not been validated or configured for use with the Analyzer. Tap 'Custom Analyze' to proceed as follows:

*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.

Back Add Step Add Stage Delete Page

Stage: 1

Step: 1

Temp(40-99°C) 45 →

Duration(s) 600

Cycle: 1 ☐ Collect

Yes

Program setting error:

Set the Cycle to an integer greater than 0!

Back Start

|           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|
| available | available | available | available | available | available |
| 1         | 2         | 3         | 4         | 5         | 6         |

Back

Sample test Negative control

Positive control

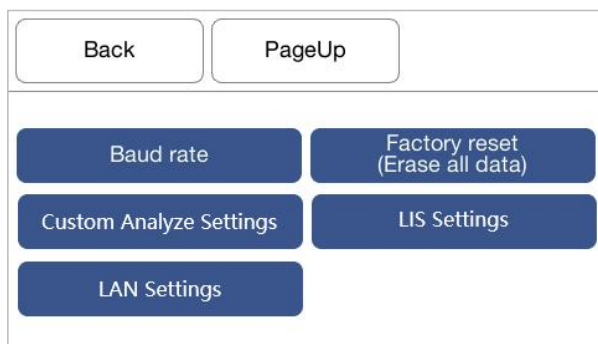
5. The reaction program supports multiple steps, and each step may include multiple phases. During configuration, all phases within the same step must use the same number of cycles. The temperature setting range must be between 40°C and 99°C.

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:

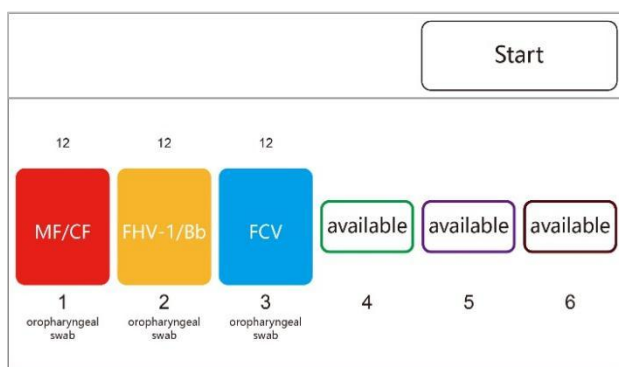
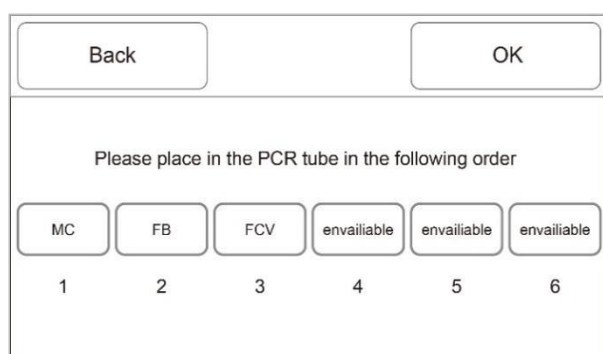
9. For detailed subsequent procedures, please refer to Section 3.4.1.



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.

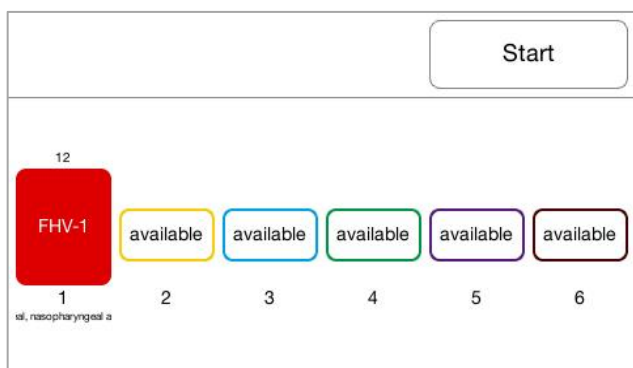
### 3.4.3 Procedures for Combined Tests and Multiple Samples

#### 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:

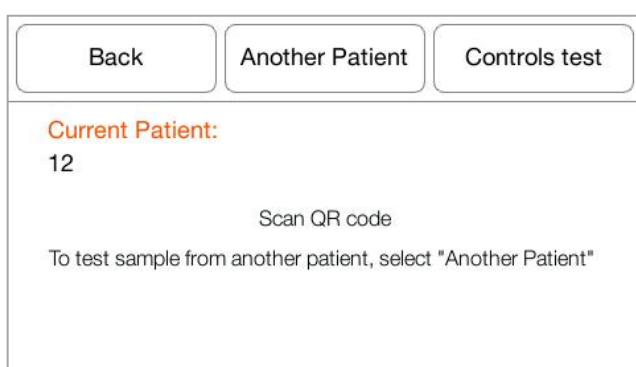
## Multiple Samples



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

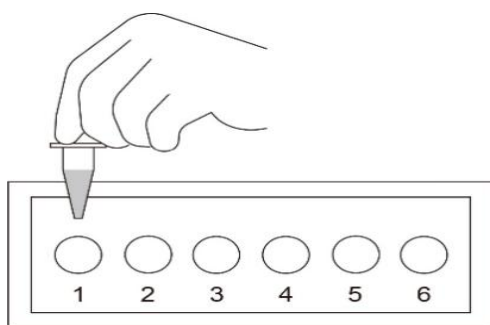
PCR reagent. After scanning, the system enters the test item information confirmation interface. The current pet information and test item name will be automatically populated in the selected well position.

Test samples from another pet:

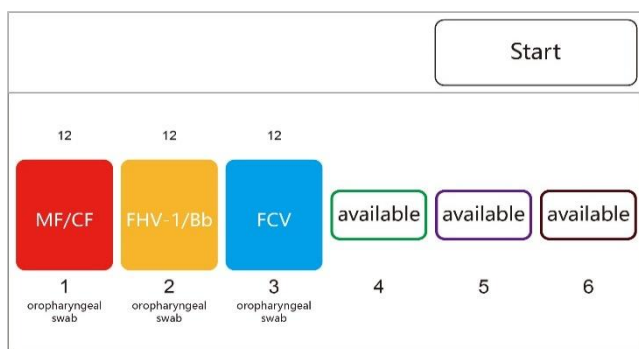
Tap 'Another Patient'. The device enters the pet information input interface. After entering the pet information, complete the steps of scanning the PCR reagent QR code and confirming the pet information and test item details. The new pet information and test item name will be displayed in the selected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



- 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.

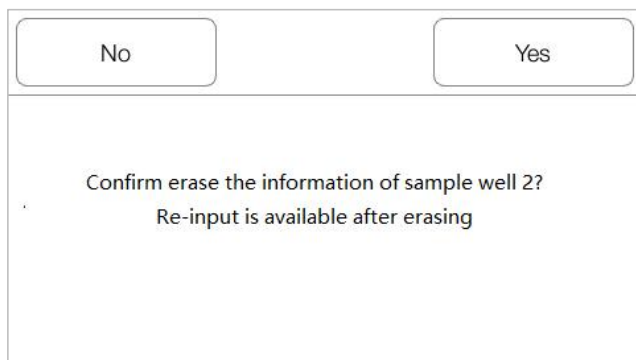


- After completing the entry of test information for multiple pet samples and negative/positive controls, the interface is displayed as shown in the example left:

**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

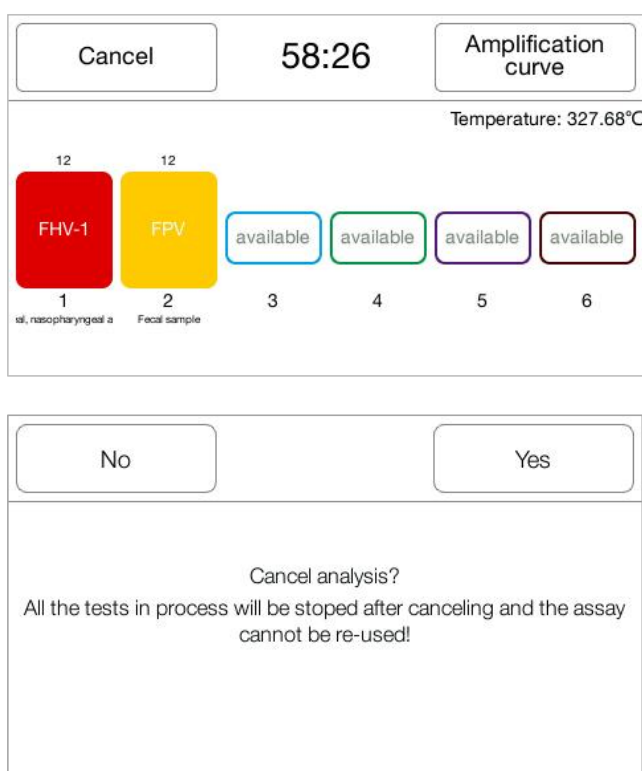
#### Resetting Well Information



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

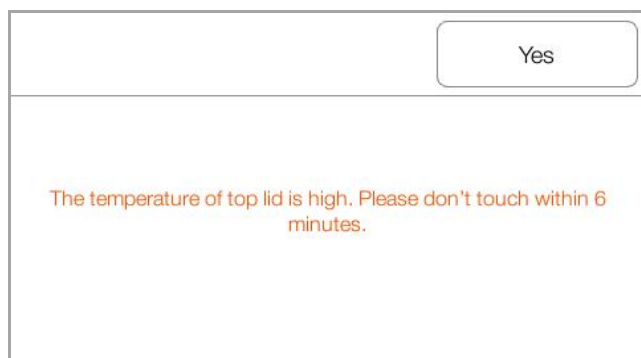
information you want to delete. In the pop-up dialog box, select **‘Yes’**. The information for that well will be cleared, and the well will return to the **‘Available’** status, allowing you to configure the information again. The interface is shown left (using Well 2 as an example).

## 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.

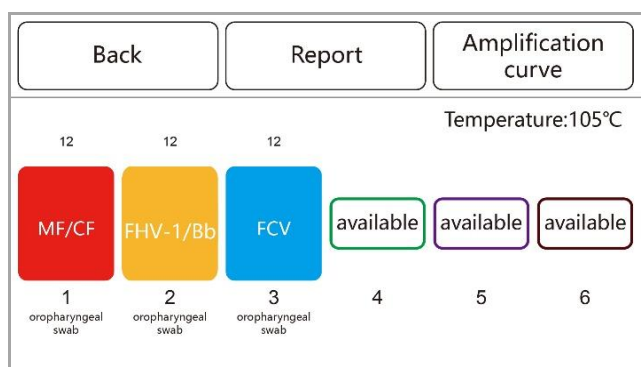
## 3.4.5 Viewing Reports and Amplification Curves



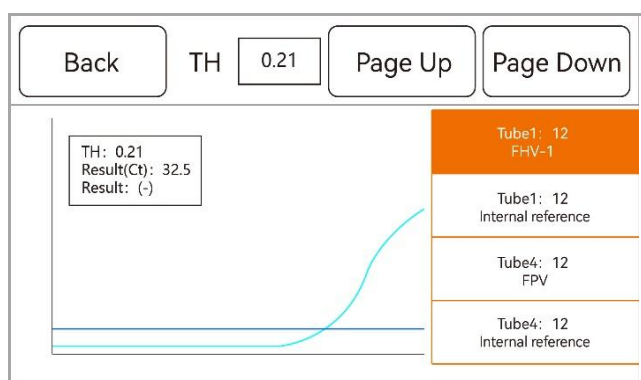
1. Following Section 3.4.1- a, Step 7) to initiate the testing process, once the countdown has finished, the Analyzer screen will display the test completion interface, as shown left.

**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.**



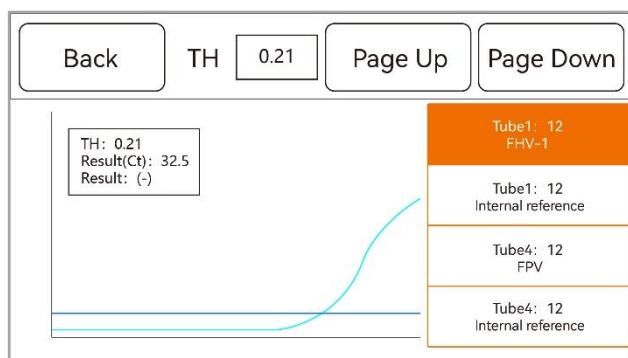
2. Tap 'Yes' to enter the report viewing interface, where you can view and/or print the report, review the final amplification curves, or modify the threshold settings. The interface is displayed as shown left.



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.
2. 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.

Back

Report

Amplification curve

12

12

12

Temperature:105°C

MF/CF

FHV-1/Bb

FCV

available

available

available

1

2

3

4

5

6

oropharyngeal swab

oropharyngeal swab

oropharyngeal swab

Back

Page Up

Page Down

Print

ID: 12345678901

Patient: Dog 1

| Item Name          | Sample Type | Result(Ct) | Ranges       | Indicator   |
|--------------------|-------------|------------|--------------|-------------|
| Leptospira         | Whole blood | 32.5       | > 36 or NoCt | Positive(+) |
| Internal reference | Whole blood | 30         | > 36 or NoCt | Positive(+) |

Report DateTime: 2024-02-18 15:21

The results relate only to the sample tested

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.

Back

Report

Amplification curve

12

12

12

Temperature:105°C

MF/CF

FHV-1/Bb

FCV

available

available

available

1

2

3

4

5

6

oropharyngeal swab

oropharyngeal swab

oropharyngeal swab

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.

No

Yes

Are you sure you want to return to the homepage?

All test items will default to save the current results upon returning to the homepage.

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

Back

Patient Control

Network upload Data cable upload

Bluetooth upload

Back Search

ID:  Patient name:

FromDate:  ToDate:

| Back                    | PageUp | PageDown   | Network upload |
|-------------------------|--------|------------|----------------|
| Item Name               | Lot    | Date       |                |
| Canine Four Respirat... | 220780 | 03/06/2024 |                |
|                         |        |            |                |
|                         |        |            |                |
|                         |        |            |                |
|                         |        |            |                |

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.

Back

Export

ID: 12345678901

Patient: Dog 1

| Item Name          | Sample Type | Result(Ct) | Ranges       | Indicator  |
|--------------------|-------------|------------|--------------|------------|
| Leptospira         | Whole blood | 32.5       | > 36 or NoCt | Postive(+) |
| Internal reference | Whole blood | 30         | > 36 or NoCt | Postive(+) |

Report DateTime: 2024-02-18 15:21

The results relate only to the sample tested

- 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.

Back

Print

Data cable upload

Network upload

TCP Upload

LAN

- Tap **‘Print’** to print the report.

### 3.5.2 Control Inquiry

Back

Patient

Control

Network upload

Data cable upload

Bluetooth upload

- 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.

Back

Search

Item Name: Canine Four Respiratory Pathogens

Lot: 220780

FromDate: 14/11/2024 ToDate: 14/11/2024

| Back                    | PageUp | PageDown   |
|-------------------------|--------|------------|
| Item Name               | Lot    | Date       |
| Canine Four Respirat... | 220780 | 03/06/2024 |
|                         |        |            |
|                         |        |            |
|                         |        |            |
|                         |        |            |

Back

Export

ID: 12345678901 Patient: Dog 1

| Item Name          | Sample Type | Result(Ct) | Ranges       | Indicator  |
|--------------------|-------------|------------|--------------|------------|
| Leptospira         | Whole blood | 32.5       | > 36 or NoCt | Postive(+) |
| Internal reference | Whole blood | 30         | > 36 or NoCt | Postive(+) |

Report DateTime: 2024-02-18 15:21  
The results relate only to the sample tested

- 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.

## 3.6 Nucleic Acid Extraction (using Pointcare NV1)

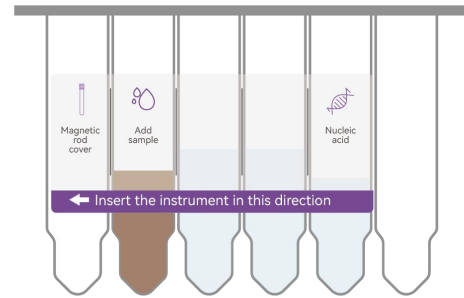
For high-interference samples such as whole blood and feces, nucleic acid extraction is required, the Pointcare NV1 Nucleic Acid Extractor can be used for this procrdure.

### 3.6.1 Kit Overview and Laboratory Procedures

Place the magnetic sleeve into Well 1.

Use a pipette to transfer 200 µL of sample into Well 2.

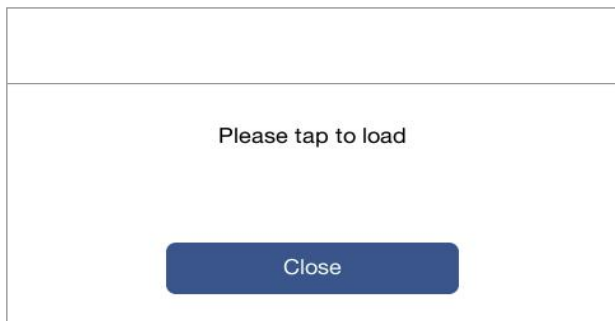
Note: The purified nucleic acid (eluate) will be stored in Well 5 after the run. Please recover it for downstream PCR analysis.



### 3.7 Operating Procedures



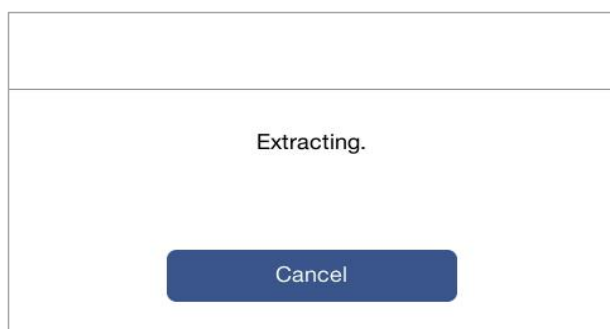
1. Tap the 'Extraction' icon on the main interface of the analyzer to access the control menu.



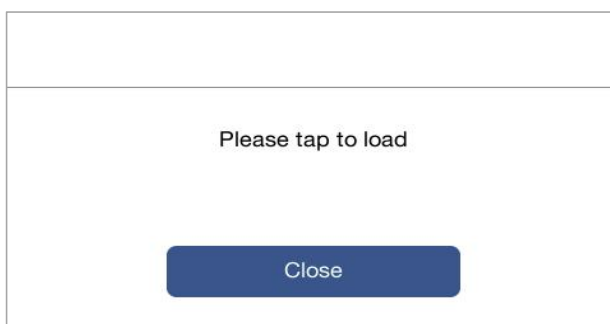
2. Place the samples and extraction consumables into the NV1 as prompted. Then tap 'Close'.



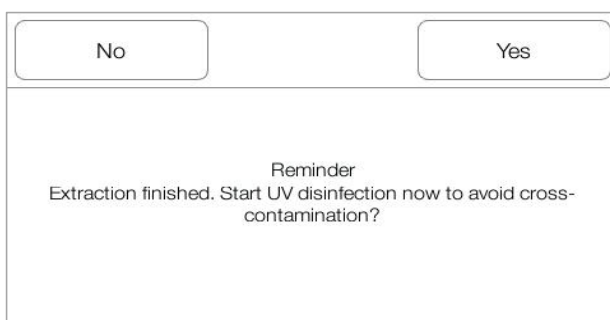
3. Tap 'Start Extraction' to initiate the process. Upon completion, the analyzer will automatically synchronize the preparation data for subsequent PCR testing. It is also executable to tap "Start UV" to begin disinfection directly.



4. Wait for extraction to complete. The extraction carrier will eject automatically.



5. After removing samples, tap 'Close'.

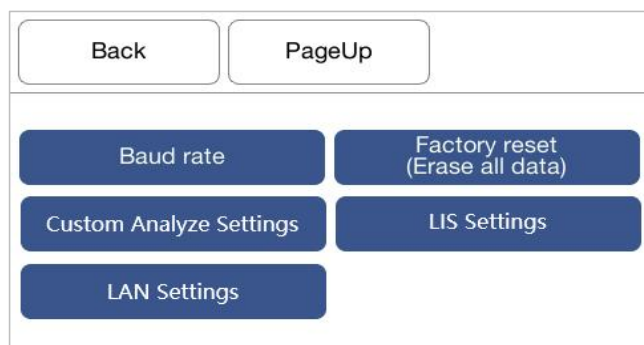
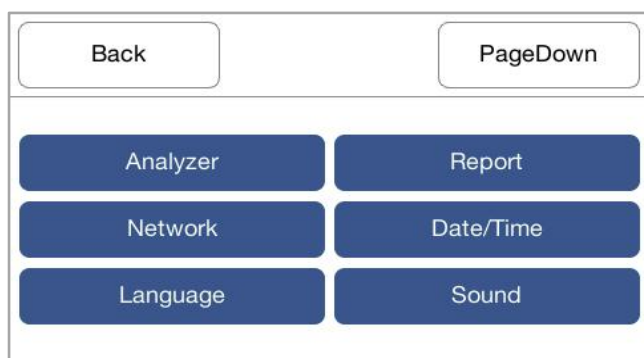
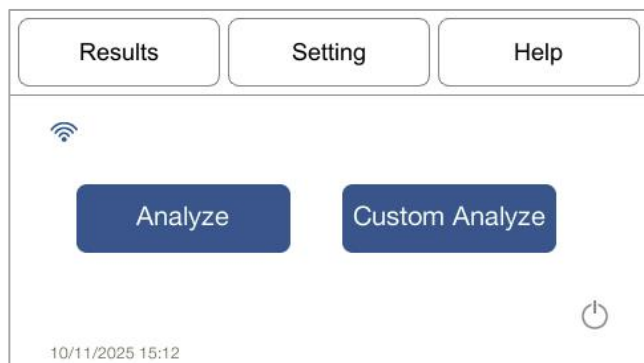


6. Then, in the disinfection prompt, tap 'Yes' to proceed with UV disinfection. Tapping 'No' will return you to the Main Menu (Risk of contamination).

## 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:

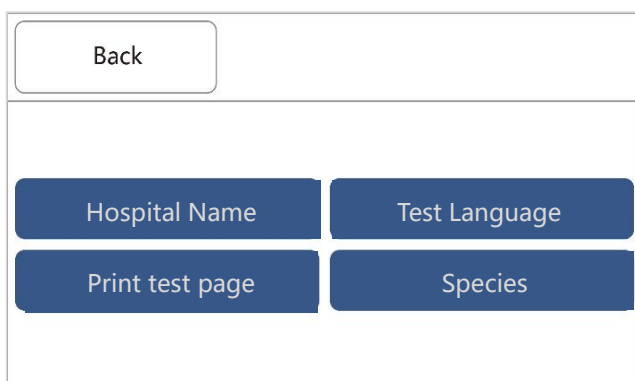
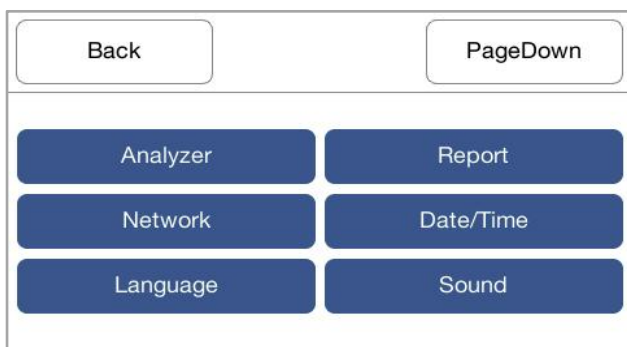
2. Tap 'Analyze' to display the device information interface. The screen shows the following details:

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.

3. 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.

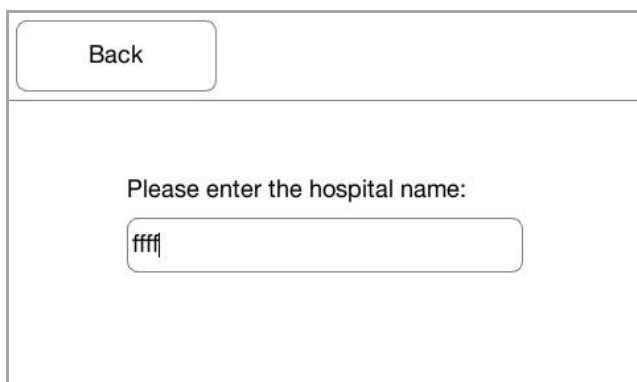
4. Tap 'Upload' to upload the Analyzer logs to the server for use with the MNCHIP Data Management Platform.

## 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



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.

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



To set the display language of the test item names on the report, tap 'Report'.

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.

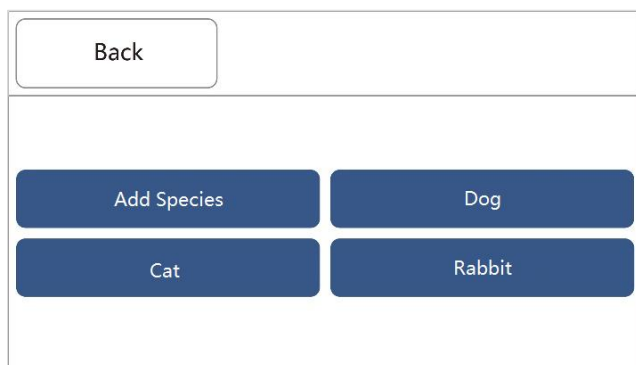
*Note : Changes to this setting take effect immediately upon selection.*

### 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

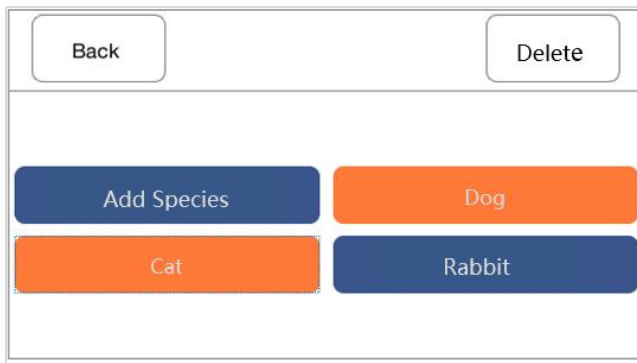
The system supports deleting existing species and adding new species.



#### a. Add Species



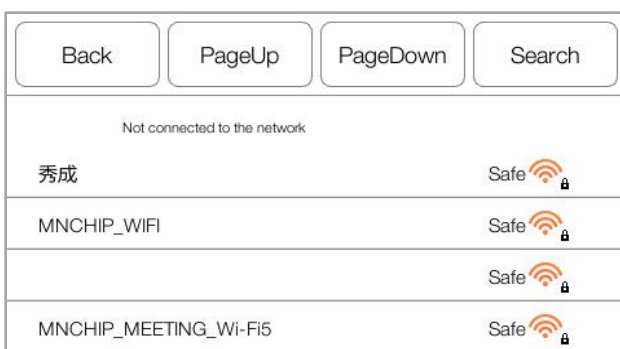
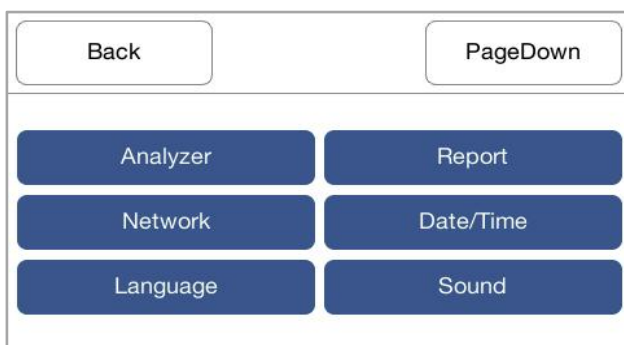
## b. Delete Species



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:

Delete
Modify
Connect
Cancel

Please enter password!

0123

- 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.)

Back

Not connected to the network

Connect

Back

 Server Connected

- 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

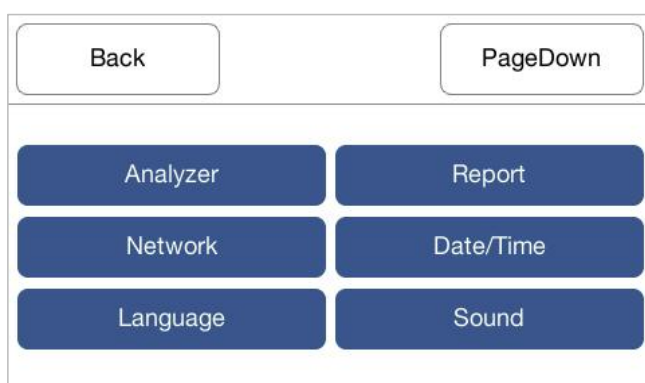


1. On the Main Screen, tap '**Setting**', Then tap '**Date/Time**'.



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

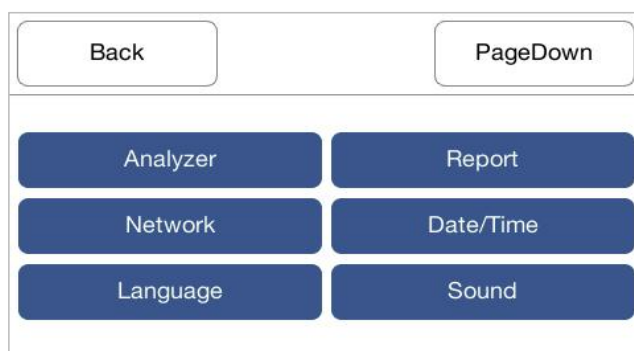


1. On the Main Screen, tap '**Setting**', Then tap '**Language**'.



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.

|      |        |          |        |
|------|--------|----------|--------|
| Back | PageUp | PageDown | Upload |
|------|--------|----------|--------|

| ID | Patient | Date       |
|----|---------|------------|
| 55 | 220780  | 03/06/2024 |
| 56 |         | 03/06/2024 |
|    |         |            |
|    |         |            |
|    |         |            |

|      |
|------|
| Back |
|------|

|            |         |
|------------|---------|
| Date cable | Network |
| TCP        | LAN     |

|      |        |
|------|--------|
| Back | Export |
|------|--------|

| ID: 12345678901    | Patient: Dog 1 |            |              |            |
|--------------------|----------------|------------|--------------|------------|
| Item Name          | Sample Type    | Result(Ct) | Ranges       | Indicator  |
| Leptospira         | Whole blood    | 32.5       | > 36 or NoCt | Postive(+) |
| Internal reference | Whole blood    | 30         | > 36 or NoCt | Postive(+) |

Report DateTime: 2024-02-18 15:21  
The results relate only to the sample tested

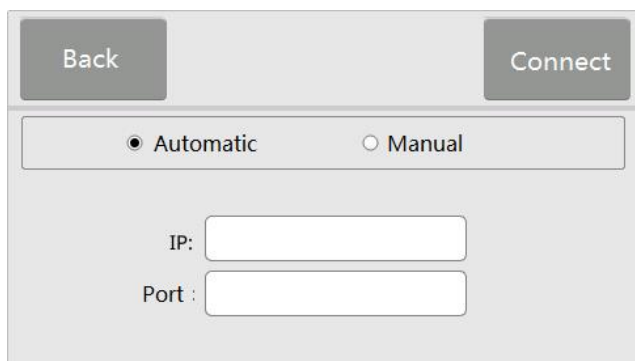
- If only the data under the query conditions is transmitted, you can click '**Upload**' on the displayed query result interface.
- After clicking upload, enter the following interface and select '**TCP**' to upload the results to the LIS system.
- If only a single piece of data is transmitted, you can enter a certain detection result interface, click '**Export**', and then transmit the single piece of data to the LIS system.

## 4.9 LAN Setting

|      |        |
|------|--------|
| Back | PageUp |
|------|--------|

|                         |                                |
|-------------------------|--------------------------------|
| Baud rate               | Factory reset (Erase all data) |
| Custom Analyze Settings | LIS Settings                   |
| LAN Settings            |                                |

- 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'.



Back Connect

☒ Automatic ☐ Manual

IP:

Port :

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                                   | <p>For any inquiries, please contact us:</p> <p><b>E-mail:</b><br/><a href="mailto:service@mnchip.com">service@mnchip.com</a></p> <p><i>Note: Refer to the Maintenance Manual (Authorized dealers only).</i></p> |
| 0602       | Abnormal temperature of the upper                     |                                                                                                                                                                                                                  |
| 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    |                                        |
| 0612 | Magnetic sleeve not detected. |                                        |
| 0613 | Loading unit not in position. |                                        |
| 0614 | Lifting unit not in position. |                                        |
| 0615 | Magnet rod not in position.   | Insert magnetic sleeve after ejection. |

## 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:**

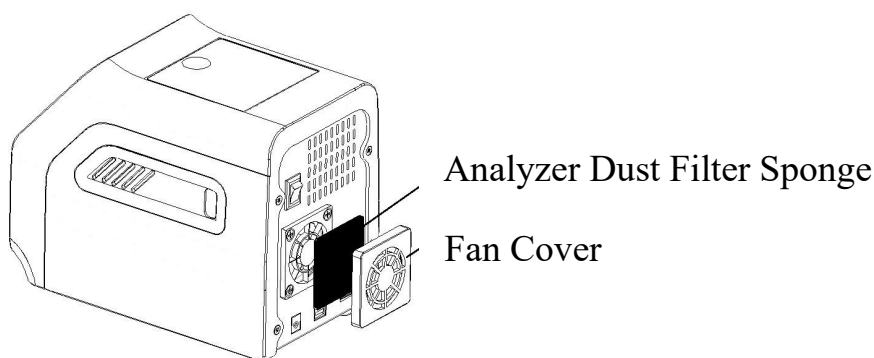
Always disconnect the Analyzer from the power supply before performing any cleaning procedures.

### 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.

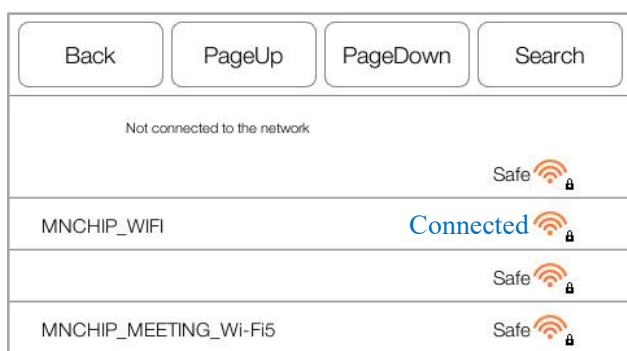


## 6.2 Software Update

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.

**NOTE:** *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 Veterinary Data Management Platform

### 7.1 MVDMP

The MNCHIP Veterinary Data Management Platform (MVDMP) 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 MVDMP

#### 7.2.1 How to Obtain the Software?

The MVDMP installer is available on the MNCHIP website:

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

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

#### Contact Information:

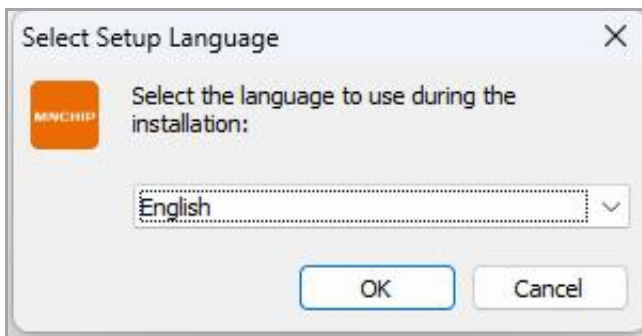
- Email: [service@mnchip.com](mailto:service@mnchip.com)

#### 7.2.2 Setting up the MVDMP

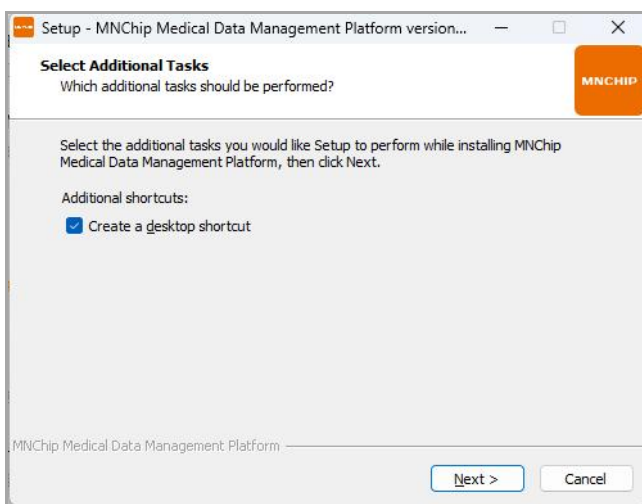
*Note: Some anti-virus software may affect the installation. For the installation process, it is*

*recommended to turn off anti-virus software.*

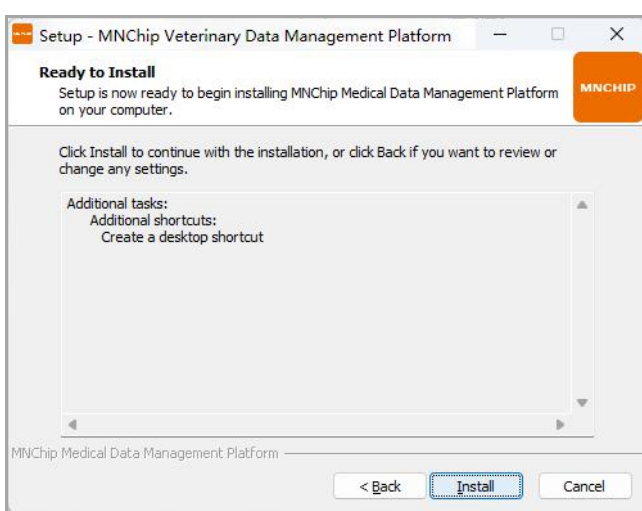
***Note: The MVDMP can be installed on the system of Windows7, 8 or 10(32-bit or 64-bit). Do not install on Windows XP, as this it may cause some errors.***



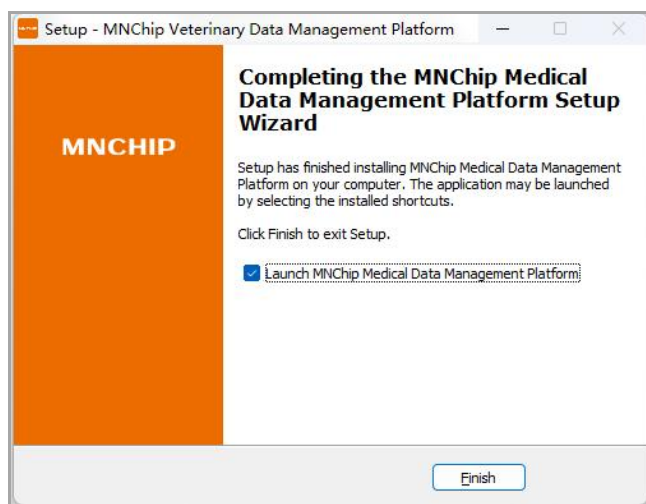
- a. Start the installer, and an installation dialog will appear. Select the installation language, then click **‘OK’**.



- 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.



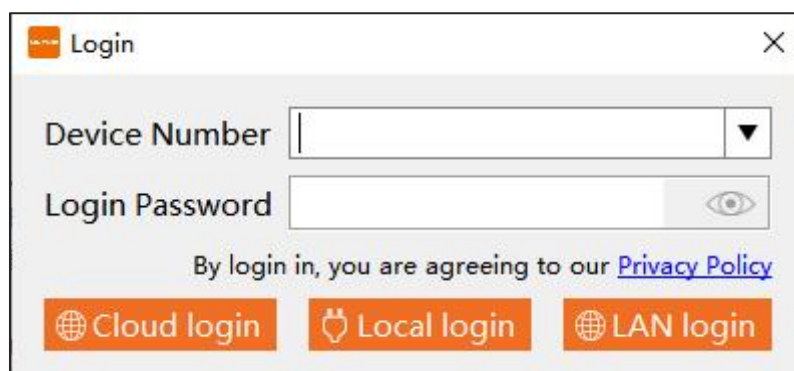
- c. Enter the installation interface and select **‘Install’**.



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

## 7.3 Login

Open the ‘MNCHIP Veterinary 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 MVDMP are connected to the network. The device transmits data to the cloud server via Wi-Fi, and the MVDMP 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 MVDMP, 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.*

### 7.3.3 LAN login

If using a LAN to transmit data between the device and MVDMP, first connect one end of the Ethernet cable to the network port on the back of the device, and the other end to the network port of the LAN router.

Next, complete the IP setup in the analyzer's settings interface. For specific operations, please refer to the ‘LAN Data Transfer’ instructions in section 4.9.

Finally, after completing the settings, click ‘LAN login’ to log in.

*Note: When using a LAN connection, ensure that the chemistry analyzer and the PC are connected to the same local area network (LAN)*

For the connection methods above, Cloud login is preferred, followed by LAN login.

## 7.4 ‘Main Screen’ Description

The main interface of the MVDMP 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.

**Inspection Info**

Analysis Date: 2018/12/25  
 Pet Species: Cat  
 ID: 18719086949  
 Pet Name:   
 Owner Name:   
 Pet Gender: Female  
 Pet Age: 2 Months  
 Sample Type: 血清  
 Submitter:   
 Submit Time: 2018/09/09 20:36  
 Operator:   
 Reviewer:   
 Diagnosis:   
 Remark:   
 Save

**Patient Info**

| Pet Species | Pet Name | Owner Name | ID          | Time             | Device Number |
|-------------|----------|------------|-------------|------------------|---------------|
| 猫           |          |            | 18719086949 | 2018-09-09 21:06 | 04244         |
| 狗           |          |            | 13902654224 | 2018-09-09 11:22 | 04244         |
| 狗           |          |            | 13520124060 | 2018-09-07 13:56 | 04244         |
| 狗           |          |            | 13520124060 | 2018-09-07 10:39 | 04244         |

Select All Display All Previous(V) Print(F2) Combine Delete

**Result**

| Item | Result | Ranges | Unit |
|------|--------|--------|------|
| 1    |        |        |      |
| 2    |        |        |      |
| 3    |        |        |      |
| 4    |        |        |      |
| 5    |        |        |      |
| 6    |        |        |      |
| 7    |        |        |      |
| 8    |        |        |      |
| 9    |        |        |      |
| 10   |        |        |      |
| 11   |        |        |      |
| 12   |        |        |      |
| 13   |        |        |      |
| 14   |        |        |      |
| 15   |        |        |      |

\*\* Indicates that the result is beyond the dynamic range  
 Add test project from other device  
 Below lower limit Above upper limit Out of value  
 Add Item

### 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.

**Inspection Info**

Analysis Date: 2018/12/25  
 Pet Species: Cat  
 ID: 18719086949  
 Pet Name:   
 Owner Name:   
 Pet Gender: Female  
 Pet Age: 2 Months  
 Sample Type: 血清  
 Submitter:   
 Submit Time: 2018/09/09 20:36  
 Operator:   
 Reviewer:   
 Diagnosis:   
 Remark:   
 Save

**Patient Info**

| Pet Species | Pet Name | Owner Name | ID          | Time             | Device Number |
|-------------|----------|------------|-------------|------------------|---------------|
| 猫           |          |            | 18719086949 | 2018-09-09 21:06 | 04244         |
| 狗           |          |            | 13902654224 | 2018-09-09 11:22 | 04244         |
| 狗           |          |            | 13520124060 | 2018-09-07 13:56 | 04244         |
| 狗           |          |            | 13520124060 | 2018-09-07 10:39 | 04244         |

Select All Display All Previous(V) Print(F2) Combine Delete

## 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.

The screenshot shows the MNChip Veterinary Data Management Platform interface. On the left, the 'Inspection Info' section contains various input fields: Analysis Date (2018/09/09), Pet Species (Dog), ID (18719086949), Pet Name (美芽), Owner Name (刘小姐), Pet Gender (Male), Pet Age (2 Months), Sample Type (血清), Submitter, Submit Time (2018/01/09 20:36), Operator, Reviewer, Diagnosis, and Remark. A 'Save' button is at the bottom of this section. On the right, the 'Patient Info' section displays a table with columns: Pet Species, Pet Name, Owner Name, ID, Time, and Device Number. The table contains two rows of data. Below the table, there are buttons for 'Select All', 'Display All' (highlighted with a red box), 'Preview(V)', 'Print(F2)', 'Combine', and 'Delete'.

|   | Pet Species                  | Pet Name | Owner Name | ID          | Time             | Device Number |
|---|------------------------------|----------|------------|-------------|------------------|---------------|
| 1 | <input type="checkbox"/> Dog | 美芽       | 刘小姐        | 18719086949 | 2018-09-09 21:06 | 04244         |
| 2 | <input type="checkbox"/> 狗   | 芭顿       | 郑小姐        | 13902654224 | 2018-09-09 11:22 | 04244         |

## 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.*

The screenshot shows the MNChip Veterinary Data Management Platform interface. On the left, the 'Inspection Info' section contains various input fields: Analysis Date (2018/09/09), Pet Species (Dog), ID, Pet Name, Owner Name, Pet Gender (Male), Pet Age, Sample Type, Submitter, Submit Time (2018/09/07 10:09), Operator, Reviewer, Diagnosis, and Remark. A 'Save' button is at the bottom of this section. On the right, the 'Patient Info' section displays a table with columns: Pet Species, Pet Name, Owner Name, ID, Time, and Device Number. The table contains five rows of data. The fourth row is highlighted with a red box. Below the table, there are buttons for 'Select All', 'Display All', 'Preview(V)', 'Print(F2)', 'Combine', and 'Delete'.

|   | Pet Species                           | Pet Name | Owner Name | ID          | Time             | Device Number |
|---|---------------------------------------|----------|------------|-------------|------------------|---------------|
| 1 | <input type="checkbox"/> Dog          | 美芽       | 刘小姐        | 18719086949 | 2018-09-09 21:06 | 04244         |
| 2 | <input type="checkbox"/> 狗            | 芭顿       | 郑小姐        | 13902654224 | 2018-09-09 11:22 | 04244         |
| 3 | <input type="checkbox"/> 兔子           | 二皮       | 张小姐        | 13520124060 | 2018-09-07 13:56 | 04244         |
| 4 | <input checked="" type="checkbox"/> 狗 |          |            |             | 2018-09-07 10:39 | 04244         |
| 5 | <input type="checkbox"/> 狗            |          |            | 13520124060 | 2018-09-07 10:39 | 04244         |

#### 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 | <input checked="" type="checkbox"/> |          |            | 227 | 2017-11-04 09:10 | 04244         |
| 38 | <input checked="" type="checkbox"/> |          |            | 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.

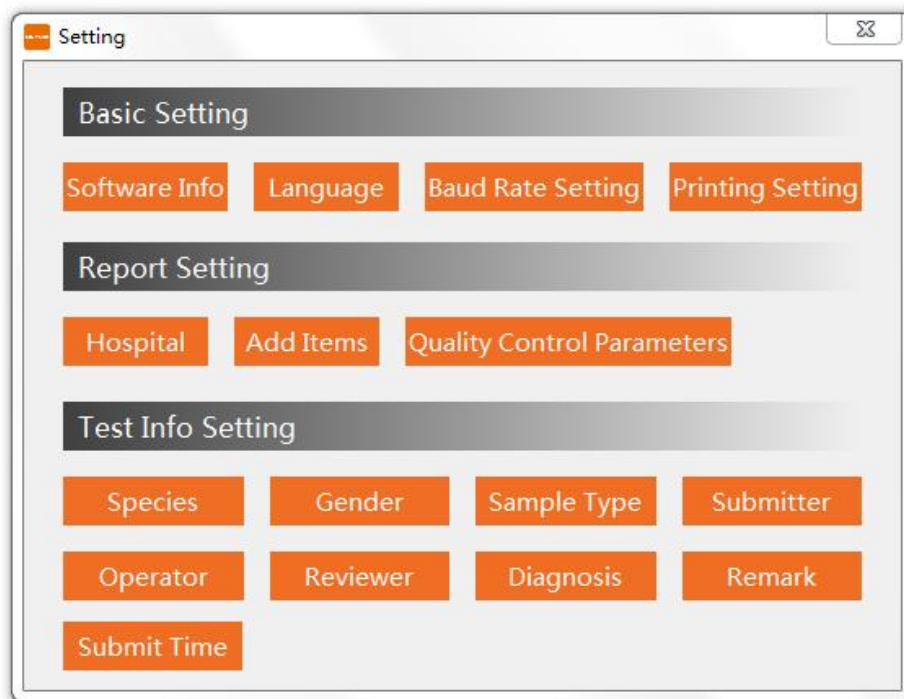
#### 7.4.3 Result

The patient test results for the selected record are displayed.

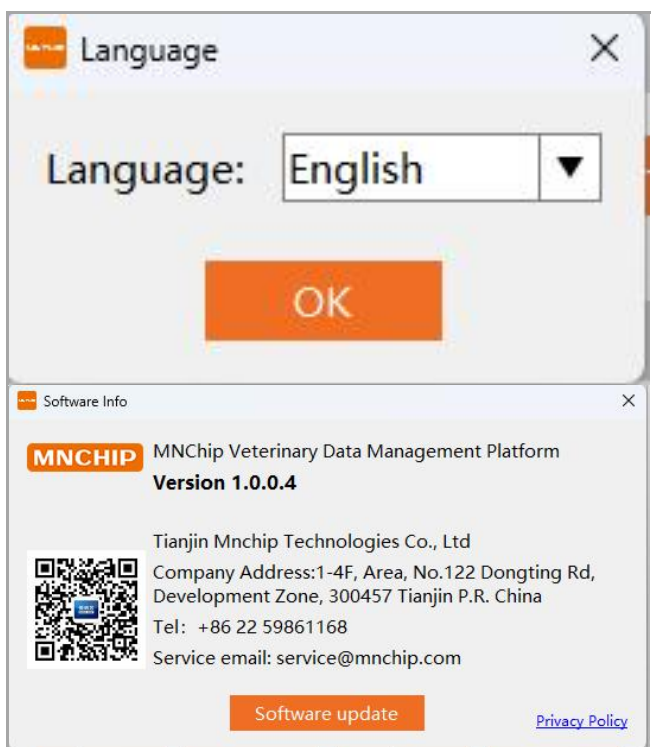
- Modify Test Results: Operators can edit specific test results by double-clicking on the test value.
- Add Test Items: Use this option to add new test items.

## 7.5 Setting

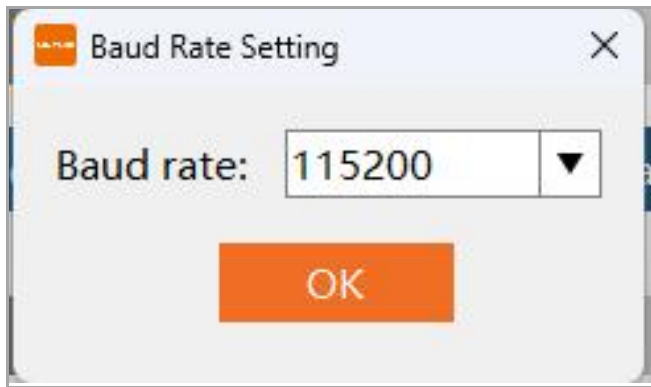
Click the ‘**Setting**’ button on the top menu bar of the management platform to access the settings interface.



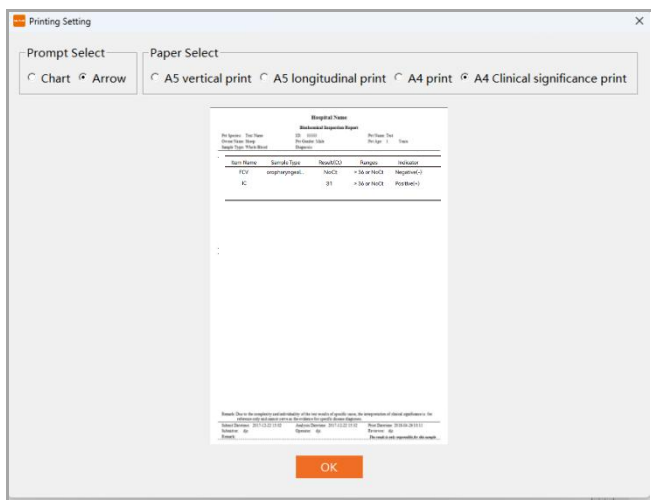
### 7.5.1 Basic Setting



- a. **Software Info:** Displays software information. Click ‘Software update’ to upgrade.
- b. **Language:** Select your preferred language.



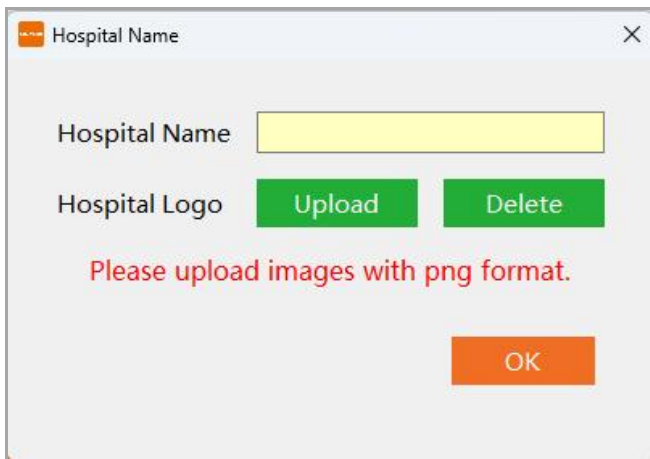
- c. **Set Baud Rate:** Configure the baud rate for data transmission under ‘**Local login**’.



- d. **Printing Setting:**

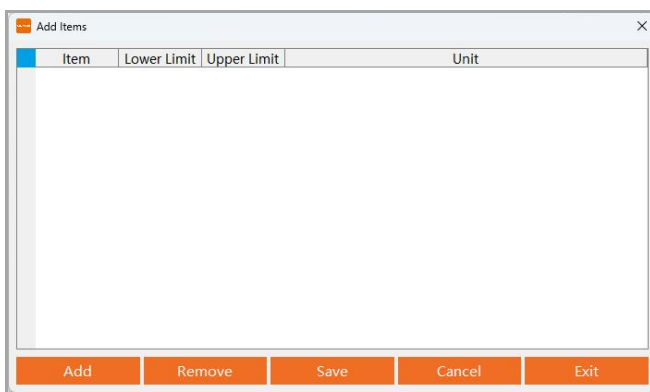
- **Prompt Select:** Choose between ‘Chart’ and ‘Arrow’.
- **Paper Select:**
  - **A5 Landscape Print (default):** Insert A5 paper (21 cm wide, 14.8 cm high) in the printer to print a report sheet.
  - **A5 Portrait Print:** Insert A5 paper (14.8 cm wide×21 cm high) in the printer to print a report sheet.
  - **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 dialog box titled "Hospital Name" with a close button (X) in the top right corner. It contains a text input field for "Hospital Name" and a "Hospital Logo" section with "Upload" and "Delete" buttons. A red message states "Please upload images with png format." and an "OK" button is at the bottom right.

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

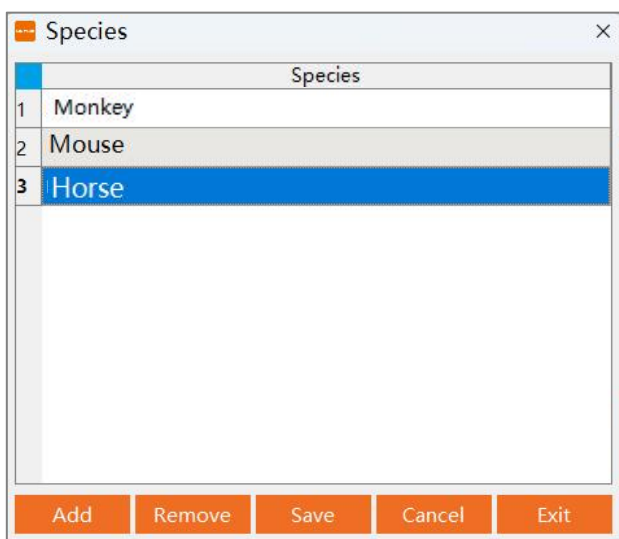


A dialog box titled "Add Items" with a close button (X) in the top right corner. It features a table with columns: Item, Lower Limit, Upper Limit, and Unit. The table is currently empty. At the bottom, there are five buttons: Add, Remove, Save, Cancel, and Exit.

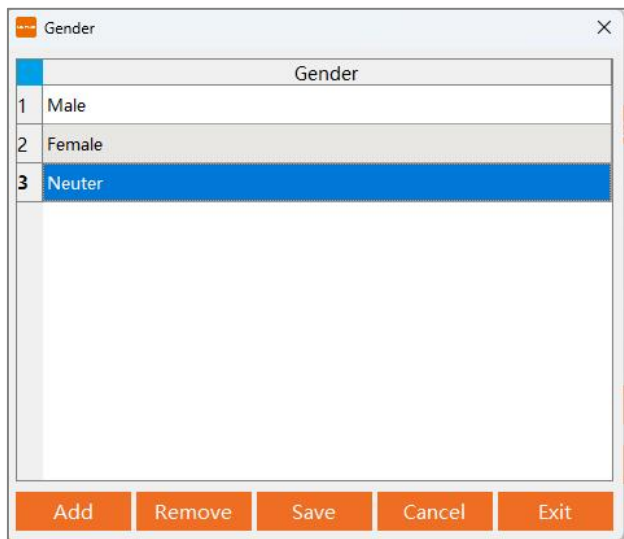
- b. Add Items: use this function to combine the test items from other devices into one report. After making changes, click 'Save' and then 'Exit'.

## 7.5.3 Test Info Setting

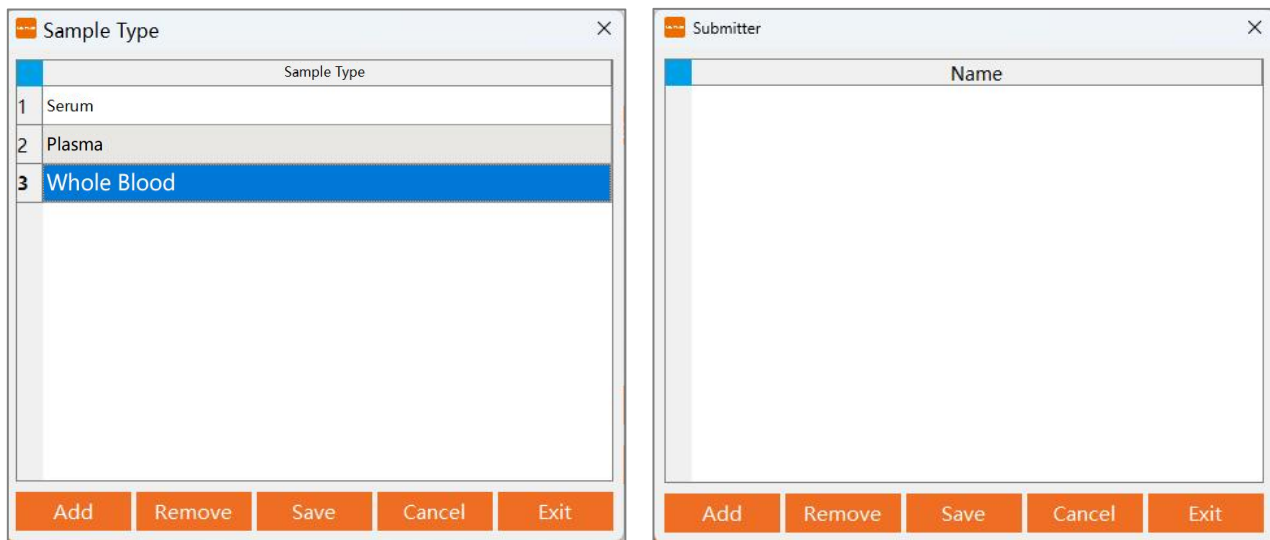
**Modify Test Info:** On the main interface, edit the 'Test Info'. Hospitals can preset each item in the 'Test Info Settings' as required, and these settings will be displayed in the report form.



A dialog box titled "Species" with a close button (X) in the top right corner. It contains a table with a single column "Species". The table has three rows: 1 Monkey, 2 Mouse, and 3 Horse. The third row is selected. At the bottom, there are five buttons: Add, Remove, Save, Cancel, and Exit.



A dialog box titled "Gender" with a close button (X) in the top right corner. It contains a table with a single column "Gender". The table has three rows: 1 Male, 2 Female, and 3 Neuter. The third row is selected. At the bottom, there are five buttons: Add, Remove, Save, Cancel, and Exit.



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.*

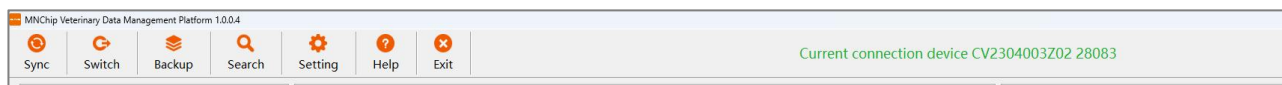
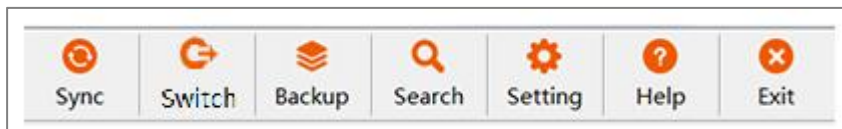


## 7.7 Acquisition, Backup, and Querying of Patient Data

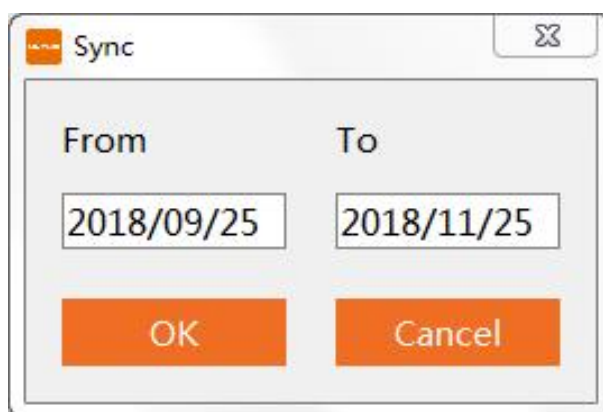
Under normal circumstances, the analyzer can transmit patient data to the management platform via ‘**Cloud login**’ and ‘**Local login**’. If the results are not transmitted to the management platform, manual transfer methods can also be attempted to resolve the issue.

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.

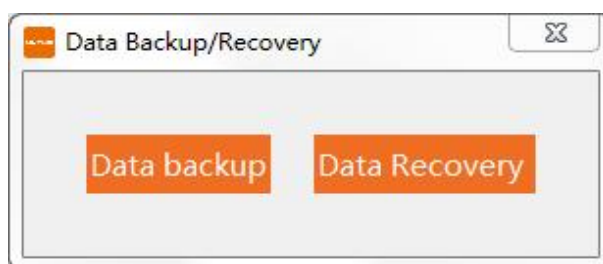


*Note: When the management platform software is opened, results from the current day are automatically synchronized by default. If data synchronization fails, locate the report in the PCR Analyzer's Results Query and click 'Upload'.*

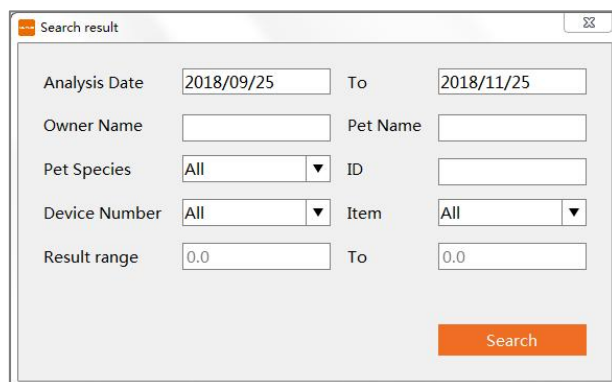


2. Click 'Backup' to back up or restore your data.

- **'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.



Search result

Analysis Date: 2018/09/25 To: 2018/11/25

Owner Name: Pet Name:

Pet Species: All ID:

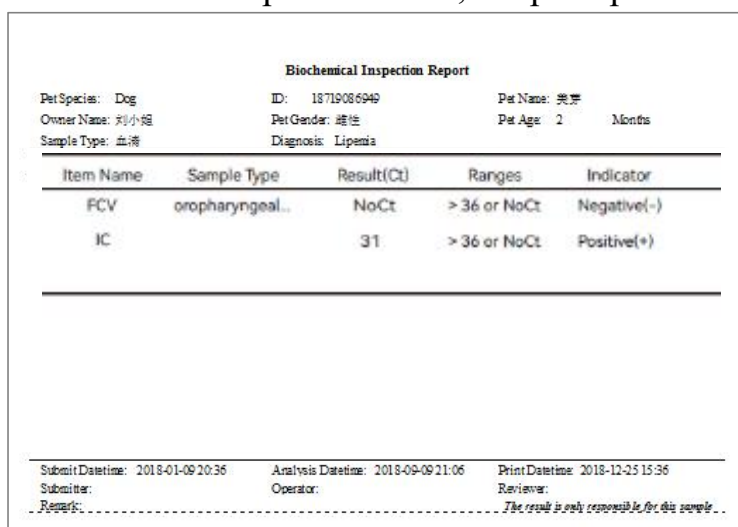
Device Number: All Item: All

Result range: 0.0 To: 0.0

Search

## 7.8 Report Printing

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



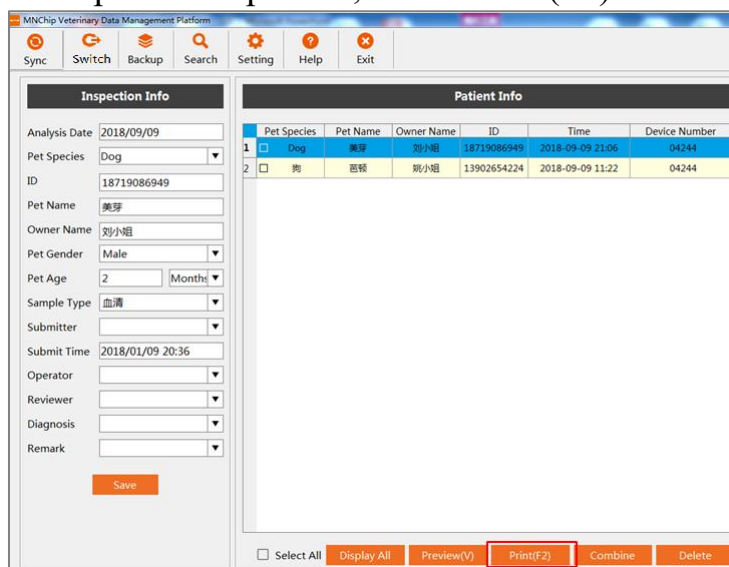
**Biochemical Inspection Report**

Pet Species: Dog ID: 18719086949 Pet Name: 美芽  
 Owner Name: 刘小姐 Pet Gender: 雄性 Pet Age: 2 Months  
 Sample Type: 血清 Diagnosis: Lipemia

| Item Name | Sample Type      | Result(Ct) | Ranges       | Indicator   |
|-----------|------------------|------------|--------------|-------------|
| FCV       | oropharyngeal... | NoCt       | > 36 or NoCt | Negative(-) |
| IC        |                  | 31         | > 36 or NoCt | Positive(+) |

Submit Date: 2018-01-09 20:36 Analysis Date: 2018-09-09 21:06 Print Date: 2018-12-25 15:36  
 Submitter: Operator: Reviewer:  
 Remark: The result is only responsible for this sample.

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



MNChip Veterinary Data Management Platform

Sync Switch Backup Search Setting Help Exit

**Inspection Info**

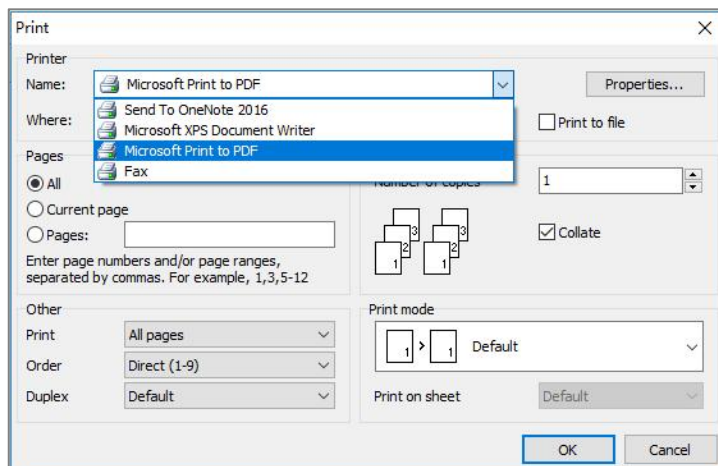
Analysis Date: 2018/09/09  
 Pet Species: Dog  
 ID: 18719086949  
 Pet Name: 美芽  
 Owner Name: 刘小姐  
 Pet Gender: Male  
 Pet Age: 2 Months  
 Sample Type: 血清  
 Submitter:  
 Submit Time: 2018/01/09 20:36  
 Operator:  
 Reviewer:  
 Diagnosis:  
 Remark:

**Patient Info**

|   | Pet Species                             | Pet Name | Owner Name | ID          | Time             | Device Number |
|---|-----------------------------------------|----------|------------|-------------|------------------|---------------|
| 1 | <input checked="" type="checkbox"/> Dog | 美芽       | 刘小姐        | 18719086949 | 2018-09-09 21:06 | 04244         |
| 2 | <input type="checkbox"/> 狗              | 葛顿       | 刘小姐        | 13902654224 | 2018-09-09 11:22 | 04244         |

Select All Display All Preview(V) **Print(F2)** Combine Delete

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 MVDMP, 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:

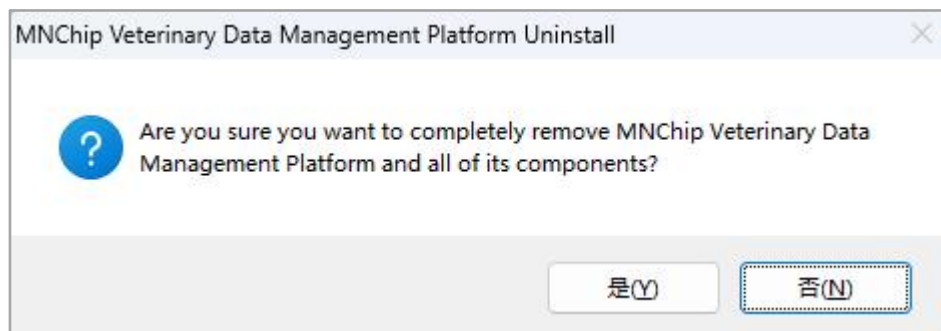
- For **local login**, ensure that the data cable is connected properly, then restart the analyzer and restart the management platform software.
- For **cloud login**, verify that both the Analyzer and PC running the software are connected to the Internet.

### 3. Reinstall MVDMP Software:

- Locate the uninstallation program in your installation documentation and run unins000.exe to uninstall MVDMP 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, use 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.