

Insight Equine-IA

Equine Immunoassay Analyser

User Manual





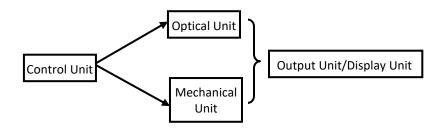
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1. Product Overview

1.1 Main Structure of the Product

The InSight Equine-IA Equine Immunoassay Analyser is composed of the control unit, optical unit, mechanical unit and the output unit/display unit, as shown in the figure below.



The external structure of the analyser includes the thermal printer, 5-inch touch screen, reagent card slot, power interface, power switch and ID chip interface (refer to the actual product for details).



1.2 Range of Application

The InSight Equine-IA Equine Immunoassay Analyser is suitable for use with the InSight test cartridges based on fluorescence immunoassay method.

1.3 Technical Characteristics

1.3.1 Main Parameters

• Software Information:

Version Name: Equine Immunoassay Analyser

Software Version: V 1

Full Software Version: V 1.0.0.0 Operation System: Android

Hardware Configuration: Memory 1G and above, storage 8G and above, 4G function, Wi-

Fi function, GPS

- Instrument Interface:
 - 1. SIM port
 - 2. DC power port
 - 3. USB port (for data output, software update)
- Display: 5-inch touch screen
- Sample Type: Serum, plasma, whole blood (check test insert for specific sample type)
- Power Supply: Host Input: 12V---5A

Adaptor Input: 100 – 240 VAC, 50/60 Hz

- Input Power: 30 VA
- Operation: One step operation. The reagent holder will move out automatically after startup. Insert and read the corresponding ID chip into the analyser and insert the incubated reagent card into the card slot. Then, click the 'Test' button on the operation interface. When the analyser has finished testing, the result will print automatically.

1.3.2 Main Performance

Repeatability: CV≤10%

Stability: σ≤±8%

Linear Correlation: r≥0.97

Accuracy: Δn≤±15%

• Please check each test's evaluation data for specific data.

1.4 Security Classification of Electrical Equipment

Type of Protection Against Electric Shock: Class I

• Pollution Grade: Class 2

• Facility Category (Overvoltage Category): Class II

1.5 Contraindication

No.

1.6 Warnings, Precautions and Limitations

NOTE: For veterinary use only.

1.6.1 Precautions



/!\ Warnings:

- To avoid electrical overload and potential fire risk, do not use a multi-socket adapter.
- Use a 12V/5A power adapter and an effectively grounded outlet.
- A damaged, non-original or modified power cord is a potential fire and electric shock risk. Do not bend or roll the power cord so as to avoid a fire or electric shock.
- If the analyser is damaged or has been dropped, please contact Woodley Equipment Company.
- Do not use the analyser in unstable environments such on unlevel or vibrating surfaces.
- Do not place the analyser in a location where it is difficult to disconnect the device.
- Water or debris should not enter the analyser. If this occurs, please contact Woodley Equipment Company.

!\ Notices:

- Turn off the power and unplug the analyser before moving it.
- When moving the analyser, try to avoid vibration.
- Desktops supporting the analyser should be able to hold at least 5kg.
- The analyser should be placed carefully with at least 5cm space all around to ensure good air circulation.
- Avoid using the analyser in the following conditions:

Areas in direct sunlight.

Areas with high humidity.

Environments close to water.

Areas with vibration and inclination.

Areas with a strong magnetic field.

Areas with electromagnetic waves and surge voltage.

Storage sites of chemicals.

Areas exposed to corrosive gas.

- The analyser should not be near radios, televisions, printers, fax machines or any other sources of interference.
- The analyser cannot be used near instruments such as microwaves and any other highfrequency equipment in order to avoid electromagnetic interference that may cause errors in operation.

1.6.2 Precautions When in Use



∠!\ Warnings:

- Read the instructions carefully before starting the analyser.
- Set the test parameters under the guidance of trained personnel.
- When handling potentially hazardous substances such as animal samples or reagents, protective gloves or other protective measurements are required.



✓! Notices:

- Ensure the analyser is in normal running status before use.
- Ensure that all cables are properly connected and secure.
- Read the operation precautions before use.
- Only trained personnel should operate the analyser.
- After testing, confirm that the reagent card has been removed.

1.6.3 Precautions for Faults, Storage and Inspection



! Warnings:

- If abnormal conditions occur (for example, if there is smoke or a burning smell), stop using the analyser immediately. Turn off the power immediately, unplug the analyser and contact Woodley Equipment Company.
- Other than service personnel from Woodley Equipment Company and service personnel authorised by Woodley Equipment Company, other users are not permitted to remove, modify or repair the analyser. Any violation will invalidate the analyser warranty. Woodley Equipment Company will not bear any responsibility for possible personal injury, fire risk or electric shocks caused by violation of the warranty.

Attention:

- The analyser should be inspected periodically. If there are any damages, cracks or other abnormalities, please contact Woodley Equipment Company.
- When cleaning the analyser, wipe using a damp, lint free cloth. The following solutions can be used for cleaning: alcohol or mild detergent.

1.6.4 EMC-Related Considerations



✓! Warnings:

- This analyser is designed and tested in accordance with Class A equipment in GB 4824.
- Do not use the analyser near a strong radiation source (e.g. unshielded RF source), as it may interfere with the normal operation of the analyser.



$\stackrel{(!)}{\triangle}$ Attention:

- It is the responsibility of the user to ensure the EMC environment of the analyser so that the analyser can work properly.
- It is recommended to evaluate the electromagnetic environment before using the analyser.
- This product complies with the immunity and emission requirements specified in this part of GB/T 18268.26, see the following tables.

Table 1

Electromagnetic Immunity			
Immunity Test Items	Base Standard	Test Value	Compliance Performance Criteria
Electrostatic Discharge (ESD)	GB/T 17626.2	Contact Discharge: ±2kV, ±4kV Air Discharge: ±2kV, ±4kV, ±8kV	В
Radio Frequency Electromagnetic Fields	GB/T 17626.3	3V/m, 80MHz~2.0GHz, 80%AM	А
Pulse Swarms	GB/T 17626.4	Power Cord: ±1kV (5/50ns, 5kHz)	В
Surge	GB/T 17626.5	Wire to Ground: ±2kV Wire to Wire: ±1kV	В
Radio-Frequency Conduction (RFCC)	GB/T 17626.6	Power Cord: 3V/m, 150kHz~80MHz, 80%AM	А
Industrial Magnetic Fields	GB/T 17626.8	3A/m, 50/60 Hz	А
Voltage Dips, Interruptions	GB/T 17626.11	1 cycle0%; 5/6 cycle40%; 25/30 cycle70%; 250/300 cycle5%	B C C

Performance Judgment:

A. Normal performance within specification limits at time of test.

B. Test with temporary degradation or loss of function or performance, but self-restoring. C. Test with temporary degradation or loss of function or performance, but requiring operator intervention or system reset.

Table 2

Electromagnetic Emission			
Emission Test		Compliance	
GB 4824	RF Emission	Group 1	
GB 4824	RF Emission	Class A	
GB 17625.1	Harmonic Emission	Not Applicable	
GB 17625.2 Voltage fluctuation/flicker emission		Not Applicable	

2. Contents

Number	Name	Quantity	Note
1	Power Adapter	1	Standard
1	Power Adapter	T	Accessories
2	User Manual	1	Standard
2	OSEI Manual	1	Accessories
3	Certification	1	Standard
3	Certification	1	Accessories
4	OTG Data Cable	1	Standard
4	O 1 G Data Cable	1	Accessories
5	Thormal Danor	1	Standard
3	Thermal Paper	1	Accessories

3. Installation and Usage Instructions

3.1 Installation

3.1.1 Unpacking and Checking

- 1. Gently remove the analyser and accessories from the packaging box. Save the packaging materials for future transport or storage of the analyser. Check the accessories against the packing list.
- 2. Check the analyser and accessories to see if they are in good condition.

NOTE: If there are any problems, please contact Woodley Equipment Company.

3.1.2 Analyser Placement

- 1. The analyser should be placed in a clean and ventilated room with temperature between $10^{\circ}\text{C} 30^{\circ}\text{C}$, relative humidity of less than 80%, away from direct sunlight.
- 2. Make sure the vents are not obstructed and that there is at least 5cm of clearance around the analyser.
- 3. Connect the power adapter to the power interface of the analyser and turn on the power.
- 4. Do not place any items on top of the analyser.

3.2 Instructions for Use

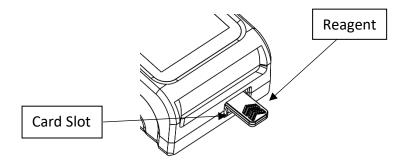
Please use the analyser in an environment where the ambient temperature is $10^{\circ}\text{C} - 30^{\circ}\text{C}$ (please note that the operating temperature of the test reagent is subject to its kit insert instructions) and the relative humidity does not exceed 80%. The analyser should be operated in strict accordance with the operating precautions in this manual. If the analyser is used in a manner not specified in this manual, the warranty of the analyser may be void.

3.3 Operation Procedures

3.3.1 Preparation Before Use

Please make sure that the analyser is placed in a stable place away from direct sunlight and strong electromagnetic field interference.

Power Connection: Connect the power cord and adapter. Then, connect the DC end to the analyser and connect the other end to the AC power socket. Press and hold the DC power switch for 3 seconds (the analyser will perform a self-test after it is turned on and the card slot will come out, as shown in the figure below).



The test software starts automatically and enters the main interface.

For the use and storage of reagents, please refer to the instructions that come with the reagents. Place the reagent cartridge containing the sample to be tested on the card slot and perform the test according to the software operation instructions. Refer to section **4.2 Testing** for detailed instructions.

According to the different test items, select the appropriate parameter settings.

3.3.2 Start the Test

Enter patient details, insert the ID chip and confirm test type. Prepare the test sample and cartridge, then insert.



/!\ Attention:

- At this time, the cartridge loading slot is in motion, do not approach the exit of the loading slot.
- The software cannot be operated during the test.

3.3.3 End of Test

- 1. When the test is over, the cartridge loading slot automatically resets.
- 2. Remove the test cartridge.
- 3. End the test.
- 4. Used samples and materials should be regarded as waste and disposed of in accordance with local regulations.



Warnings:

• If any signs of damage to the analyser function are found or an error message appears during operation, do not continue the test. Contact Woodley Equipment Company.

4. Software Interface Operation Introduction

4.1 Main Interface

Press and hold the power button to turn on the analyser, and enter the software main interface (Figure 4.1.2) after passing through the software startup interface (Figure 4.1.1). The main interface contains four submenus [Test], [History Record], [General Settings] and [About].



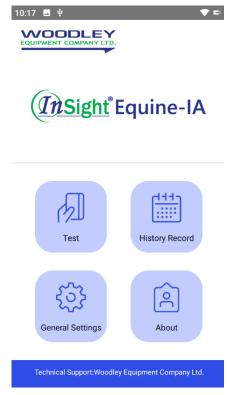


Figure 4.1.1

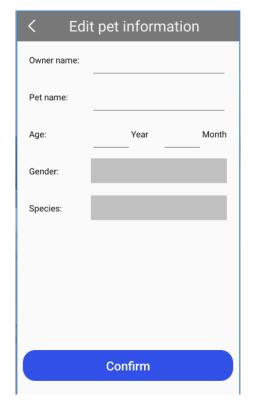
Figure 4.1.2

4.2 Testing

Click 'Test' on the main interface to enter the 'Edit Pet Information' interface. The user can enter detailed information about the patient or just press the 'Confirm' button to skip (Figure 4.2.1).

To read item information, first insert the ID card into the ID card slot on the side of the analyser and click 'Read ID Card' (Figure 4.2.2). The item information of the same item and the same batch does not need to be read twice, the analyser can automatically identify and match. Select the corresponding sample type and fill in the sample number as required.

Select the test method (rapid or standard). Prepare the test cartridge according to the test insert instructions. Then, insert the cartridge into the cartridge slot on the front of the analyser and select 'Test'.



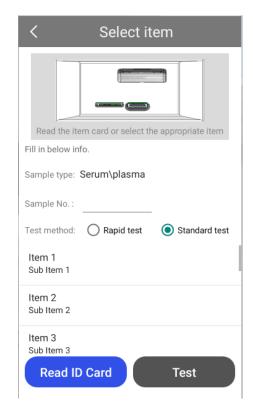


Figure 4.2.1

Figure 4.2.2

After the sample test is complete, you can view the result information (Figure 4.2.3). Click the 'Print' button to print the report as required or click 'Testing Finished' to exit the test.

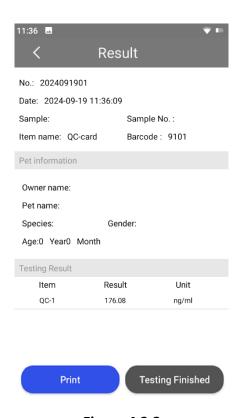


Figure 4.2.3

4.3 Records Management

Click the 'History Record' button to view previous test results.

On the history record interface, click the corresponding test result to view the details of the test result. (Figure 4.3.1).

Press and hold the record, a multi-selection box will appear. The user selects multiple test records to upload to the LIS server or print on the built-in thermal printer (Figure 4.3.2).

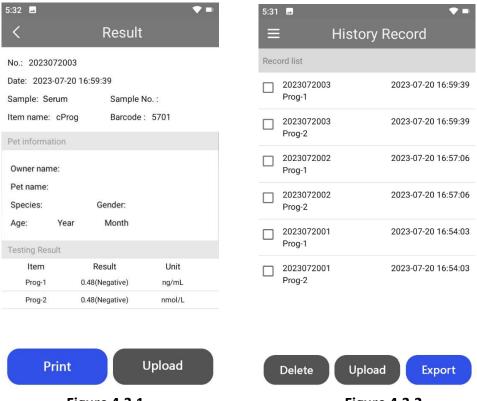


Figure 4.3.1

Figure 4.3.2

4.4 General Settings

Click 'General Settings' to enter the settings interface, as shown in the figure below.

When 'Instant printing' and 'Instant upload' are turned on, the test result can be printed or uploaded automatically after the test is complete.

Click 'LIS Server Settings', you can set the IP address, port and other information of the server uploaded by LIS.

The user can set the number of days to save the test records and the old historical records can be automatically cleared if the test records exceed the set time. The default setting is permanent. If you wish to change this setting, please contact Woodley Equipment Company.

'Institution' can be used to fill in the laboratory information. Please contact Woodley Equipment Company if you wish to change this.

Notice: Please keep 'Scan barcode' open. When 'Scan barcode' option closed. Analyzer will always test with the current item ID chip in every test.

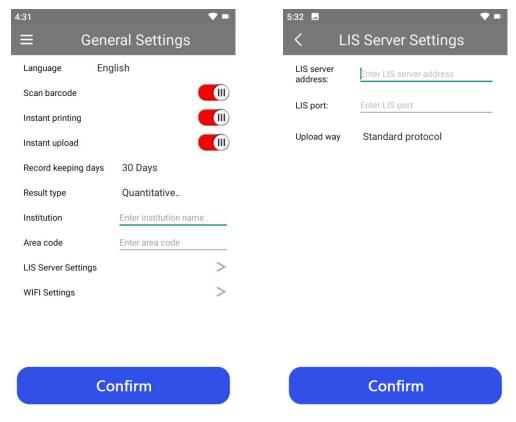
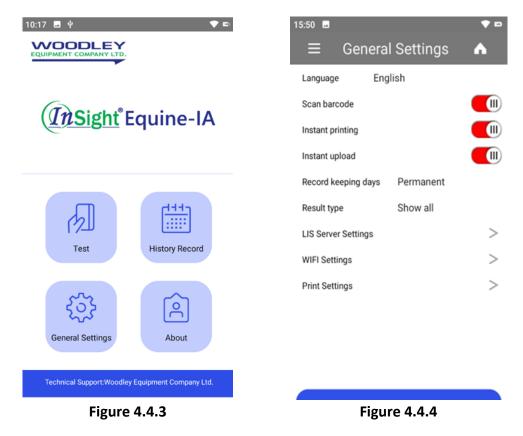


Figure 4.4.1

Figure 4.4.2

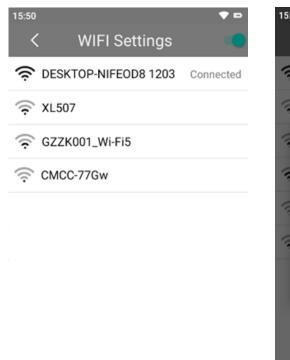
4.4.1 How to Connect to Wi-Fi

1. Turn the analyser on. On the Menu page, click 'General Settings' to open the settings page.



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2. Click 'Wi-Fi Settings'. Select the Wi-Fi you'd like to connect to and input the password.



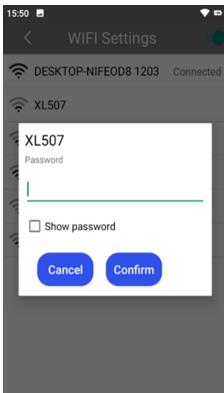


Figure 4.4.5

Figure 4.4.6

4.5 About and Software update

Click 'About' to view the device model, software version and contact information.

Click 'Restore Factory Settings' and the analyser will automatically reset (Figure 4.5.1). **NOTE:** After restoring the factory settings, all detection data, user data and configuration information will be cleared, please operate with caution.

Click 'Upgrade', the analyser will automatically detect the software version through the network (if connected to Wi-Fi) or USB to upgrade.

Click Exporting Logs, Analyzer will export Analyzer debug logs to USB device.

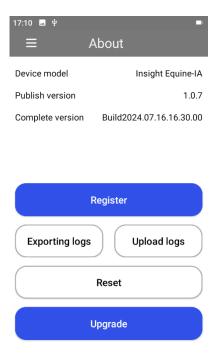


Figure 4.5.1

4.6 Android System Setting

On the Android system, you can set the time zone, date, display, advanced Wi-Fi settings and Android system settings etc.

4.6.1 Enter Android System

• On the Main Menu (Figure 4.6.1.1), click 'General Settings' to open the General Settings page (Figure 4.6.1.2).

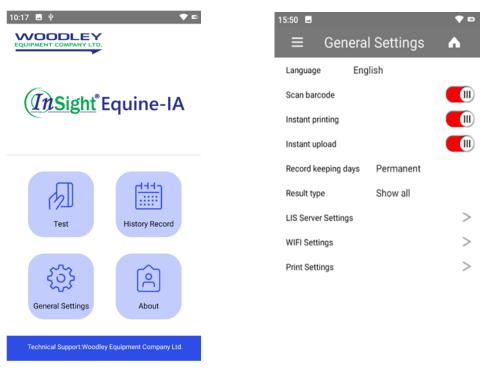
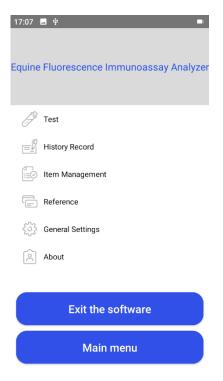


Figure 4.6.1.1

Figure 4.6.1.2

• Click the Menu/List icon on the upper left of the page to open the Function List page (Figure 4.6.1.3). Click 'Exit the software'. Enter the password '12345678' and press 'Confirm' to exit software (Figure 4.6.1.4).



Equine Fluorescence Immunoassay Analyzer

Test

Please enter your password to exit the software

Cancel

Confirm

Exit the software

Main menu

Figure 4.6.1.3

Figure 4.6.1.4

• Enter Android System Settings Swipe up on the screen to access the Android apps page (Figure 4.6.1.6).



Figure 4.6.1.5

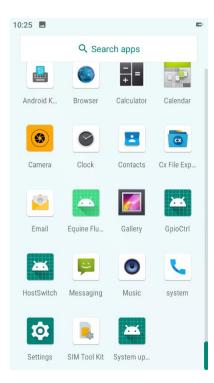


Figure 4.6.1.6

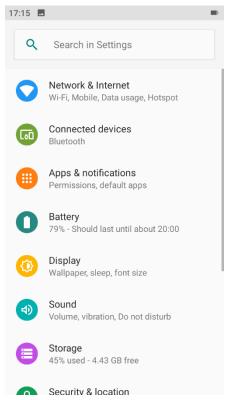
4.6.2 Navigation Bar and Display

Navigation Bar

Click 'Settings' on the Android apps page and press 'Display' (Figure 4.6.2.1).

Toggle the 'Hide Navigation Bar' so that the button turns green and the Navigation Bar will be shown on the bottom (Figure 4.6.2.2).

Note: Please hide the Navigation Bar after finishing Android system setting.



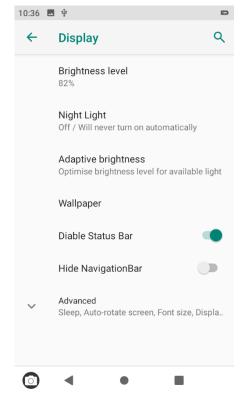
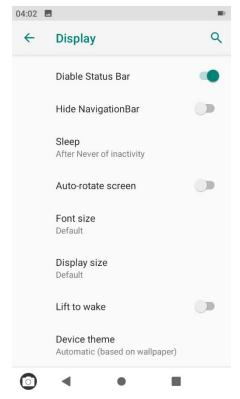


Figure 4.6.2.1

Figure 4.6.2.2

Analyser Sleep Time

To save power, you can set the Analyser Sleep Time according to your specific requirements. Click 'Advance' on the 'Display' page and press 'Sleep' (Figure 4.6.2.3).



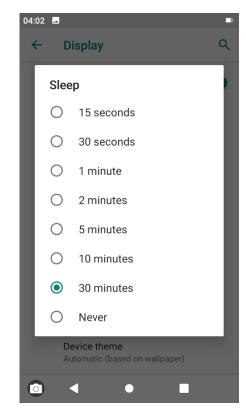


Figure 4.6.2.3

Figure 4.6.2.4

4.6.3 Date and Time

The analyser will automatically update the date/time and the time zone after connecting to the Wi-Fi.

To modify it manually, perform the following steps:

- Click 'System' on the settings page (Figure 4.6.3.1).
- Click 'Automatic date & time' (Figure 4.6.3.2), select 'Off' to stop using network time (Figure 4.6.3.3).
- Modify the settings to local time (Figure 4.6.3.4, Figure 4.6.3.5).
- Setting time zone as well as time zone setting (Figure 4.6.3.6).

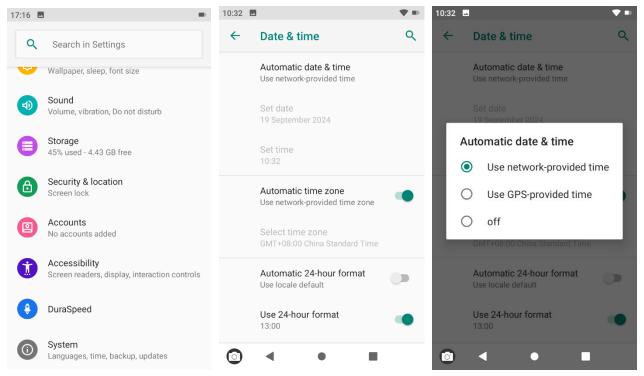


Figure 4.6.3.3

Figure 4.6.3.1 Figure 4.6.3.2

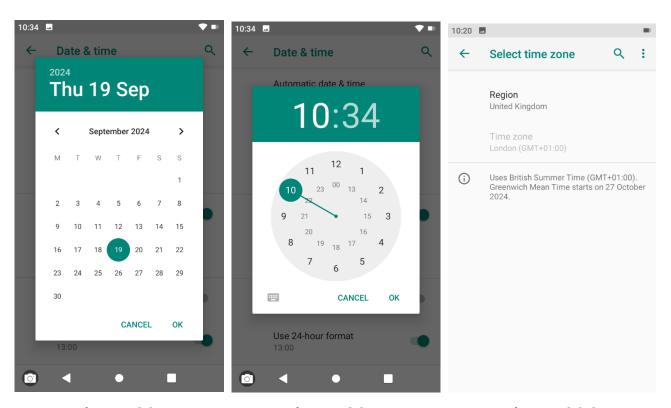


Figure 4.6.3.4 Figure 4.6.3.5 Figure 4.6.3.6

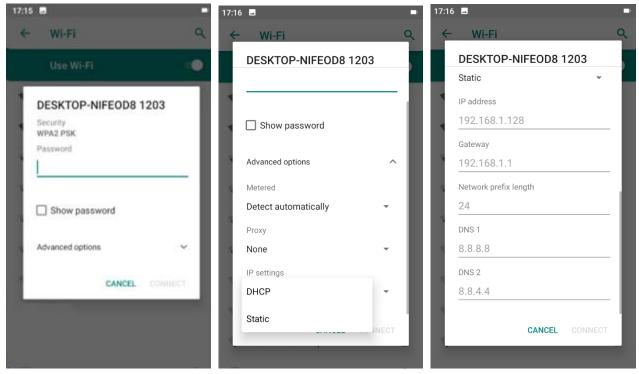


Figure 4.6.4.4 Figure 4.6.4.5 Figure 4.6.4.6

4.6.5 USB Device Support and Software Installation

USB device function is supported on the Equine-IA software page but it is closed on the Android system. To open USB device support and install the app on the Android system, perform the following steps:

- Click 'Host Switch' on the Android app page (Figure 4.6.5.1).
- Click 'Host' to open USB device support. You can see the USB icon on the status bar at the top of the screen (Figure 4.6.5.2).
- Click the 'Cx File explorer' app and the USB disk will show in the centre of the 'Cx File explorer' (Figure 4.6.5.3).

NOTE: If there is no USB DISK icon (Figure 4.6.5.4), please check if the USB icon is visible on the status bar at the top of the screen. Try and click 'Host' on the HostSwitch app.

- Click 'USB DISK' on 'Cx File explorer', save the install APK file on the USB device (Figure 4.6.5.5).
- Click the 'Equine-IA.apk' file to install the software (Figure 4.6.5.6). Follow the steps to complete installation.

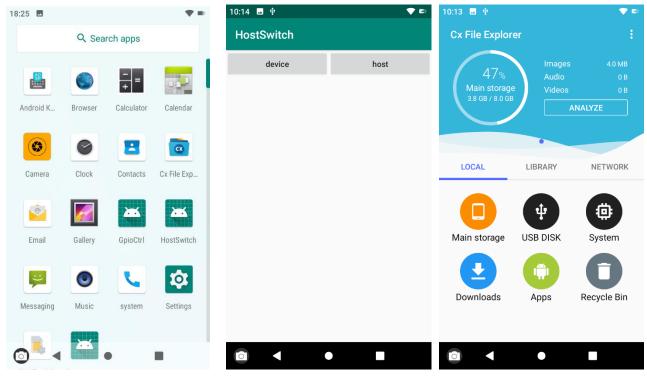


Figure 4.6.5.1 Figure 4.6.5.2 Figure 4.6.5.3

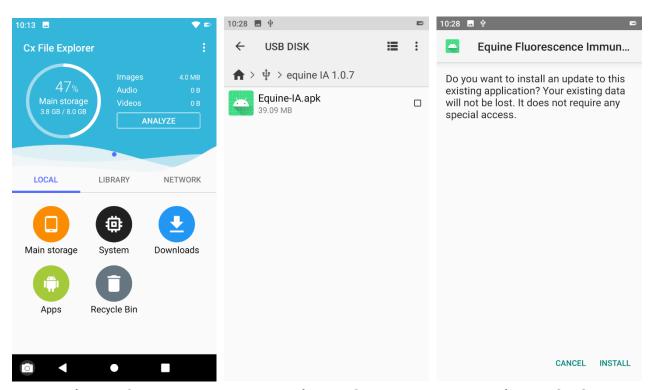
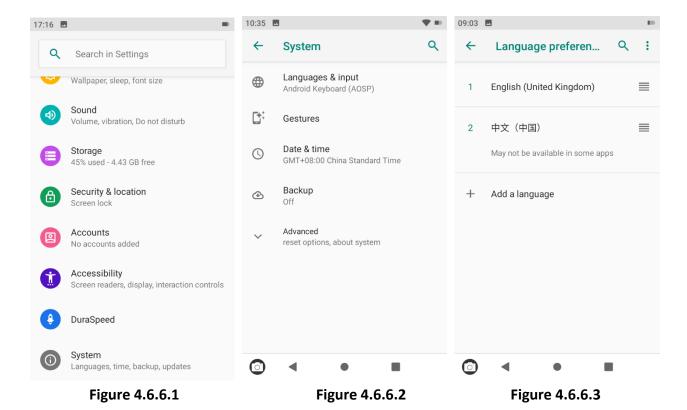


Figure 4.6.5.4 Figure 4.6.5.5 Figure 4.6.5.6

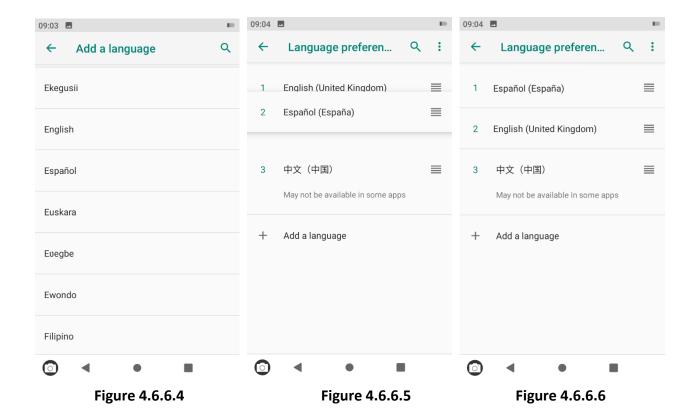
4.6.6 Keyboard Type and Language of the Android System

Keyboard Type and Language can be set on the Android system.

- Click 'System' on the Android system settings page (Figure 4.6.6.1).
- Click 'Language & Input' (Figure 4.6.6.2).
- Click 'Add a Language'. English is the default language (Figure 4.6.6.3).

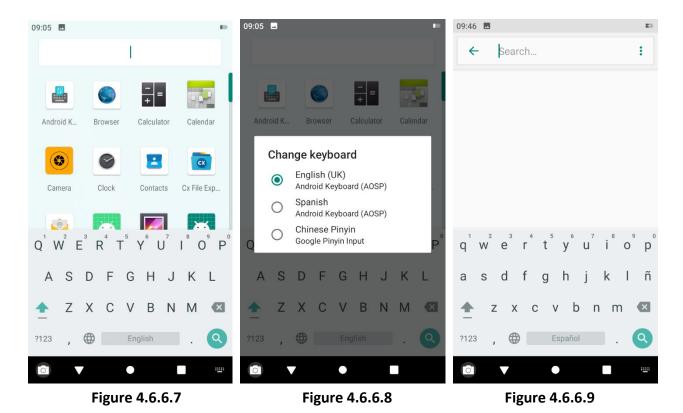


- Select a language from the list (Figure 4.6.6.4).
- Press and hold the new language and move to the top of the list (Figure 4.6.6.5).
- Android System Language will change to the first language at the top of the list (Figure 4.6.6.6).



On the APP page, press and hold the Globe icon (Figure 4.6.6.7) and select the new language from the list (Figure 4.6.6.8).

The current language keyboard will show in the middle of the spacebar (Figure 4.6.6.9).



4.6.7 Android System Upgrade

Copy the 'update.zip' file into the USB device root document (Note: Do not extract the file).

- Click 'System update' on the app page (Figure 4.6.7.1).
- Click 'Select Firmware', the update file name will show on the text box (Figure 4.6.7.2).
- Click 'Start upgrade' to upgrade the Android system (Figure 4.6.7.2).

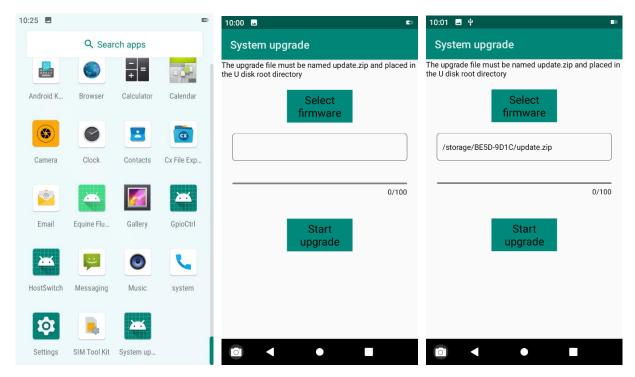


Figure 4.6.7.1 Figure 4.6.7.2 Figure 4.6.7.3

How to Check the Android System Version
 Click 'System' on the settings page (Figure 4.6.7.4). Then, click 'About system' (Figure 4.6.7.5).
 The version is in the 'Build number'. For example, the version is V2.9.4 in Figure 4.6.7.6.

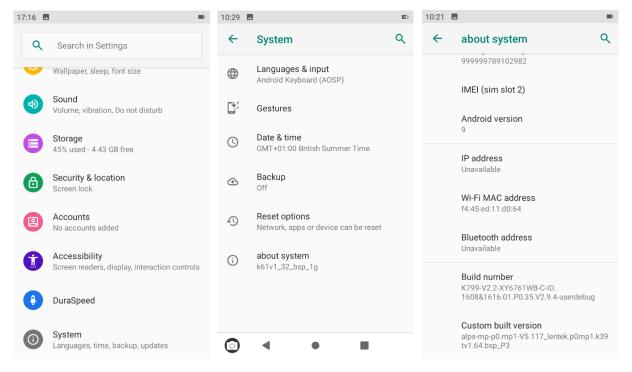


Figure 4.6.7.4 Figure 4.6.7.5 Figure 4.6.7.6

5. Product Maintenance and Care

5.1 Routine Maintenance of Products

5.1.1 Maintenance

- Users must conduct regular inspections of the analyser and its components.
- Make sure the power socket is properly connected. If not, please replace the power socket.
- Check whether the power cord is damaged, broken or disconnected. If damaged or broken. replace it with a new one immediately.

5.1.2 Care

- Before cleaning the analyser, turn off the power and disconnect the power cord.
- When cleaning the analyser, wipe using a damp, lint free cloth. The following solutions can be used for cleaning: alcohol or mild detergent.



/! Notices:

Please do not use gasoline, diluent or other organic solvents to clean the analyser.

5.1.3 QC

After one year of normal use, the QC should be used. If the value meets the requirements of the target value range of the QC, it can continue to be used.

5.2 Troubleshooting

Problem	Reason	Solution	
The analyser won't	Power switch is not turned on	Turn on the switch.	
switch on	The power adapter is not connected	Reconnect the power adapter.	
The screen doesn't	Screen has broken	Please contact Woodley Equipment Company.	
display	Problem with operating system	Please contact Woodley Equipment Company.	
	Fault of operating system	Please contact Woodley Equipment Company.	
Software system failure	Test analysis software cannot start	Please contact Woodley Equipment Company.	
	Please record the complete error code and message, then contact Woodley Equipment Company.		
Abnormal sound during	The cartridge holder may be stuck	Turn the analyser off and turn it on again. Let it reset and repeat the test.	
the testing	Mechanical motor failure	Please contact Woodley Equipment Company.	
	Power interruption	Restart the analyser and retest.	

Analyser stops during	Communication failure	Restart the analyser and retest.
testing	Please contact Woodley Equipment Company.	
Abnormal test result	Check the kit insert to make sure the correct sample type and volume was used	Repeat the test checking sample requirements.
	Pollution problem	Please contact Woodley Equipment Company.
Other fault	Fault not listed in the table occurs	Please contact Woodley Equipment Company.

6. Storage and Transportation Conditions

6.1 Storage

When the analyser won't be in use for an extended period of time, it should be stored in its original packaging in a well-ventilated and clean room. The storage temperature is -10°C to 40°C. The relative humidity should be less than 93%. Harmful gas, flammable and explosive substances, and corrosive gases are prohibited.

6.2 Transportation

- When stored in its original packaging, the analyser is suitable for highway, railway, aviation and waterway transportation.
- Avoid severe vibration and shock during loading and transportation.
- Keep away from water.
- Do not package or transport the analyser with flammable or corrosive substances.

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