



# User Manual

## Urine Chemistry Analyzer



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# 1. Introduction



## 1.1 General Description

A U-AQ CORE examines the user's urine specimen to detect any changes in the substance of the urine in order to determine the user's health. This analysis is extremely useful in providing an early diagnosis of various diseases even if there are yet no visible symptoms. Unlike many other clinical tests, urine analysis is easy and painless; it is one of the basic and fundamental physical tests. U-AQ CORE provides user health information by testing Urobilinogen, Glucose, Bilirubin, Ketones, Specific Gravity, Blood, pH, Protein, Nitrite, Leukocytes, Microalbumin, and Ascorbic acid of urine. With its convenient function buttons, U-AQ CORE is easy for anyone to use. The analytical test results can be printed out with a built-in printer and displayed on LCD. Also, our User's Program offers easy maintenance of user's health via a personal computer.

## 1.2 Principles of Measurement

Depending on the product being used, urine strips contains reagent areas for testing 12 physical test items. Once stained strip with urine is laid on the instrument, press start button ; automatically activates the strip movement and reading cycle. Communication between the instrument and the user is through the use of a LCD, a printer and a computer. It can be tested 50 samples(MAX 120 samples) per hour. And the instrument stores the operating parameters, records of up to 2000 samples in built-in EEPROM. Also it is easy to clean and compatible with Keyboard. The instrument is a reflectance spectrophotometer that analyzes the color and intensity of the light reflected from the reagent area and reports in clinically meaningful units (See table of results).

## 2. System Description

### 2.1 Graphical Symbols

Graphical Symbols used on the U-AQ CORE or in the instruction for use as follow :

#### 1) General use



: General warning, caution, risk of danger



: General prohibition sign



: Manufactured by



: Direct current



: Meets the requirements of the European medical device directives.



: Serial number



: Authorized representative



: In vitro diagnostic medical device

#### 2) Symbols on the Analyzer

**I** : Turns on the system

**O** : Turns off the system

 : Adaptor Jack for main power supply

**IOIOI** : RS232C serial port for host computer.

**PS2** : PS2 port for Keyboard

 : USB port for host computer

 : Clean button to clean a strip loader.

 : Linefeed button to lift up a printing paper.

 : On/Off button to turn on/off the instrument.

 : Cancel button to cancel a procedure or to go back to the previous condition.

 : Enter/start button to select an option or to start test

 : Cancel

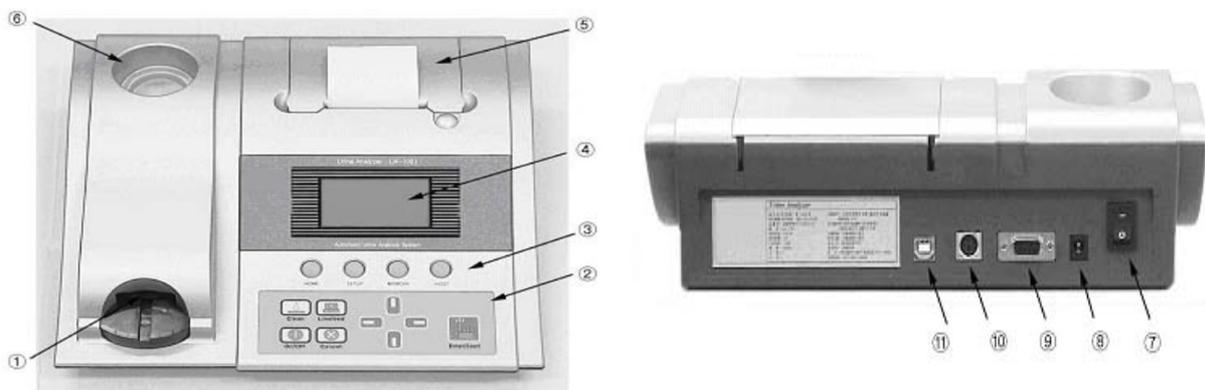
 : Enter/Start

 : Enter/Start

 : Enter/Start

## 2.2 Components and Functions

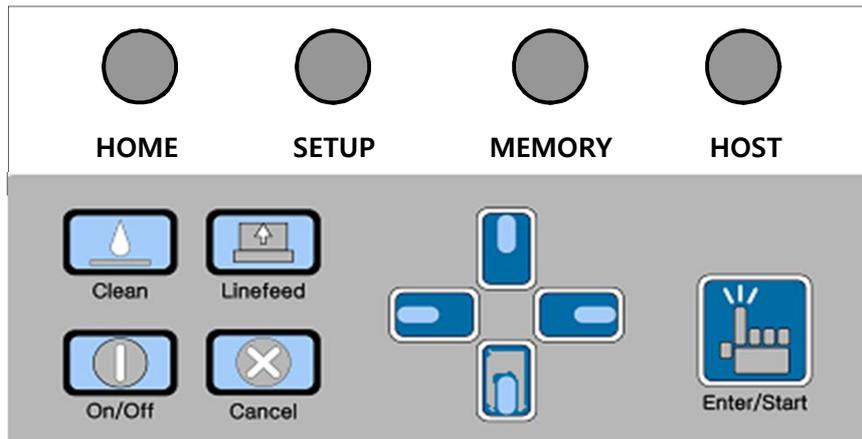
### 1) Display on the Analyzer



- ① **Strip loader** : Delivers a strip for test.
- ② **Keypad** : Includes 9 functional buttons(Clean, Linefeed, On/Off, Cancel, Direction Buttons, Enter/Start).
- ③ **Shortcut Buttons**: Includes 4 shortcut buttons (HOME, SETUP, MEMORY, HOST)
- ④ **LCD Screen** : Displays the result and the process of test
- ⑤ **Printer** : Prints out the test results.
- ⑥ **Holder of Strip Bottle** : The place holding reagent strip bottle.
- ⑦ **Power Button** (  ) : Turns on/off the system.
- ⑧ **Adapter Jack** (  ) : Connects to an adapter and supplies power source to system.
- ⑨ **RS232C port** (  ) : A serial port for communicating with computer.
- ⑩ **PS2 port** ( **PS2** ) : A port for connecting with Keyboard.
- ⑪ **USB port** (  ) : A port for communicating with computer.

Displays the USB communication port

## 2) Functions of Shortcut Buttons and Keypad Buttons



### ① Shortcut Buttons

- **Home**  
Displays a screen for starting tests. User's ID, Sequential Number and Strip types are displayed.
- **Setup**  
Sets the environment for a test (Strip Selection, Changing Units, Printer Setup, Date/Time ).
- **Memory**  
Manages the test results saved in the Memory. (View Data, Print Data, Send Data, Memory Clear)
- **Host**  
Speed Mode, System Check, Calibration

### ② Keypad Buttons

- **Clean**  
For removing the dirt with cotton swabs or rags, after separating strip loader from analyzer.
- **Linefeed**  
Lifts up every single line of a printing paper.
- **On/Off**  
Stops all operations of the analyzer and converts to the energy saving mode if any running doesn't show in 3 minutes.
- **Cancel**  
Cancels a procedure or to go back to the previous condition.
- **Direction Buttons**  
Up/Down/Right/Left buttons of selecting the function on the screen.
- **Enter/Start**  
A button to select an option to start a test.



## 2.3 Technical Specifications

### 1) Specification

Measurement Method	Reflectance Photometer
Wave Length	470, 530, 626 nm
Dimensions	300*275*90mm
Weight	1230g
Power Supply	Input: 100-250V / Output: DC 12V, 2A
Throughput	40~50 / Hour (Max 120 tests/hour)
Memory	Up to 2000 samples
Printer	Thermal Printer (Paper size:50(W)*57(D)mm)
Operating Conditions	Temperature( 2 °C -30 °C ) / Humidity(10%-70%)
Serial Communication	RS232C Interface Port
Available extras	Keyboard

### 2) Interfacing System

Users can interface U-AQ Core to Host computer or Barcode Reader through the serial I/O port (RS-232C). The keyboard can be connected to the PS2 interface port on the U-AQ CORE. The keyboard can be used to enter the user’s identification letters before the specimen is tested.



## 3. Cautions & Warnings

### 3.1 AC adaptor

(AC CORD Type, Input Voltage: AC 100~250V, 50/60Hz, Output Voltage: DC 12V/2A)

Handle the AC adaptor carefully. Improper handling is dangerous.

- Do not touch it with wet hands.
- Do not place heavy objects on top of it.



Be sure to connect only the AC adaptor provided with the instrument



Disconnect the AC adaptor from the power outlet if the instrument is not going to be used for a long time.

### 3.2 Instrument



No altering or remodeling. This can cause malfunctioning.



No dropping or strong impacts. This may damage the instrument.



Do not forcibly pull/push the strip loader. It may cause malfunctioning.



Be sure to read carefully user's manual before operating the instrument.

### 3.3 Storage and Handling

Locations to be avoided

Avoid using the instrument in the following locations since they can cause malfunctioning.

- High humidity, high-temperature, and low-temperature storage places
- Warehouses and other U-AQS places
- Very hot places near heating appliances, etc

Do not leave the instrument exposed to direct sunlight for long periods of time. This may deform or discolor the body of the instrument and may also cause malfunction.

Do not touch the power-plug with a wet hand. It causes an electric shock. Clean with a dry towel after wiping clean with a towel dampened by a neutral detergent or water.

Do not wipe the instrument clean with benzene, thinner, gasoline, etc. This may discolor the body of the instrument.

## 4. Installation



### 4.1 Examining Your Package Contents

When you receive your Urine Chemistry Analyzer, open the shipping box and check the contents against the packing list.

- 1) U-AQ CORE
- 2) AC Adaptor
- 3) Serial Cable
- 4) User's program CD
- 5) User Manual
- 6) A roll of thermal print paper

If damage to the instrument exists, immediately contact the local distributor/importer.

### 4.2 Specifications to transmit analytical results of U-AQ CORE into computer

Baud Rate : 38400, Data bit : 8, Parity: none

### 4.3 User's program System Requirements

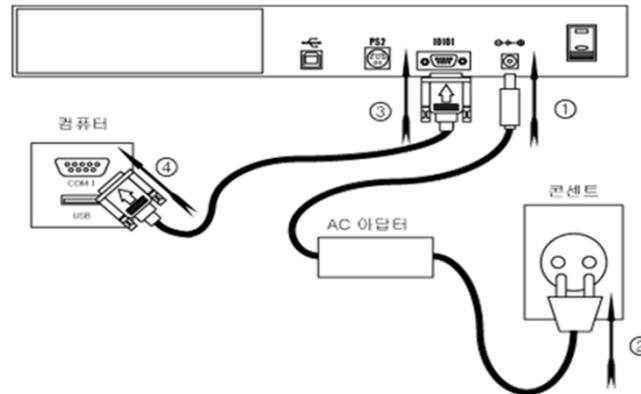
- 1) Intel® Pentium II ® processor
- 2) 32MB of free memory (64 MB of Ram recommended)
- 3) 20MB of available hard-disk space
- 4) Higher than VGA graphic card and monitor (Optimum resolution: 1024×768)
- 5) Microsoft® Window 98 Second Edition, Windows Millennium Edition, Windows 2000, Windows XP, or Windows 7
- 6) Computer Serial port: RS232C

### 4.4 Power Supply

A 12V, 2A given adaptor can be used.

(AC CORD Type, Input Voltage : AC 100~250V, 50/60Hz, Output Voltage : DC 12V/2A)

## 4.5 Setting Up



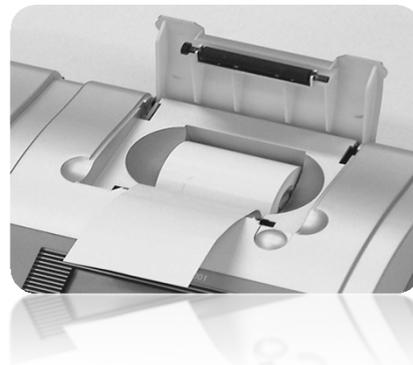
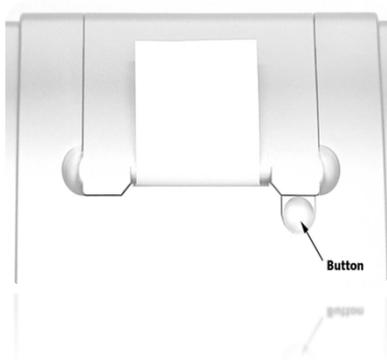
As shown above (①~②), Connect the U-AQ CORE with power outlet using the AC adaptor. And turn on the main button in the back of U-AQ CORE. Press On/OFF button on the Keypad of the instrument. Test results are printed out by built-in printer. In case of viewing the test results in your computer, as shown above(③~④), connect the serial cable to a serial port of U-AQ CORE and a port for Com1 in the back of computer. Open the User's program in the connected computer (Refer to User's program in this manual). Then you can see the test results automatically in your computer after testing.

## 4.6 Exchanging Printing Paper

**Step1.** Press the button for opening the cover of the printing paper.

**Step2.** Close the cover to make 'click' and after setting the printing paper as a below picture.

Ensure the direction of the printing paper facing the outside of the roll.





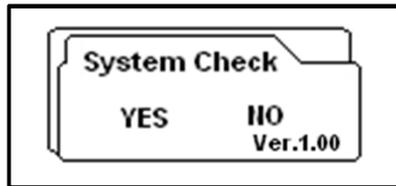
## 4.7 Calibration

Calibration is performed automatically before each reagent strip is read. The fixed tray contains 1 white calibration stick placed onto the edge of the tray. The analyzer reads the calibration stick and calibrates for the scanning cycle first, then scans the reagent strip and stored the data in memory.

### \* How to check the calibration result?

Use the following procedure and check the printed report of the most recent successful calibration:

1. At the Shortcut Buttons, select HOST
2. Selection 2)System Check and then press <Yes>



3. Press < Enter/Start >: The System checking

4. The result of System Check value print out.

If the values are within the normal range values on the print result, “System Check Success” message will be printed.

If the values are not within the normal range values on the print result, “System Check Fail” message is printed.

## 5. How to Use



### Main Process

#### Step1.

Supply power and let the analyzer running, then the initial screen for starting tests is displayed through the process of the calibration.

- Confirm the sequentially auto-increasing SEQ number.
- This number can be sequentially and automatically increased.
- An user can optionally select the number using the Right/Left button in the initial screen.
- The personal ID of patients can be entered as letters besides numbers, connecting with keyboard.

#### Step2.

Take the strip out from the strip bottle.

(  Close the lid right after taking out the strip, because the strip exposed in air can affect the test result.)

#### Step3.

Let the pads on the strip sunk to urine. In case of sinking the strip long, sink it no more than 3 seconds because the chemical materials can be dissolved in the testing urine.

#### Step4.

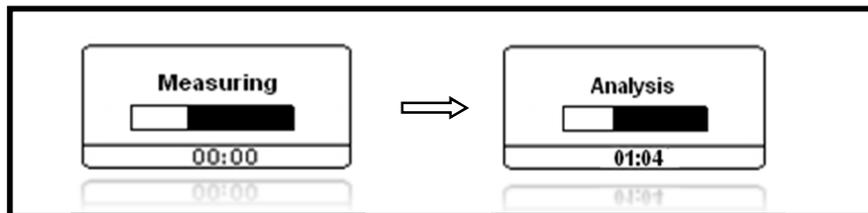
Slightly press the strip erected vertically for removing the rest urine over-stained; repress it laid down horizontally Correctly set the strip stained with urine on the grooved strip loader.

 Complete the process, including Step3, Step4, and Step5, within at least 15 seconds. Start the test by pressing the Enter/Start button. (The loader has to come in and out twice.)



**Step 5.**

These screens are displayed in LCD after starting the test.



**Step 6.**

After completing the test and analyzing the result, the result is printed out by the built-in printer.

These results also can be transmitted into a computer to be observed. (Please refer to User's Program under this Manual. It offers services including an administrative function to maintain the user's test results, transmit data from test results, save data from test results, and provide medical information on related diseases.)

Refer to the View Data function by clicking Memory button for reconfirming the test result.

**Step 7.**

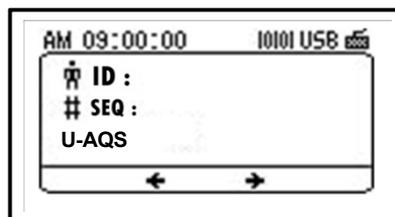
Press On/OFF button on the keypad to finish the test. And finally press the main power button in the back of instrument.

## 6. System Setup

### Outline

This outline, pressing the buttons on the analyzer, contains the system software that makes the system directly running. All interactions between the user and the Urine Chemistry Analyzer are displayed on the LCD. The user can operate this analyzer with 4 shortcut buttons like Main, Setup, Memory, and Host; 4 buttons on a keypad like Clean, On/Off, Linefeed, and Cancel; 4 Direction buttons; and Enter Button. Select a menu with Up/Down and Right/Left direction buttons and if pressing the Enter button, you can select and set details. After selecting or setting, you can save the selected items by pressing the Enter button. Here, if pressing the Cancel button, you can return to the previous menu without saving the selected items.

### 6.1 Home



Home is the initial screen. After setting the user ID, Sequence number, Strip type the check-up is immediately processed if pressing the Enter button. If you want to return to the initial screen for tests, press the Home button.

#### 1) ID

An user can enter letters and symbols for the ID number of tests, connecting the keyboard with this analyzer. After entering the ID number of tests, the check-up can start by pressing the Enter/Start button on the keypad.

#### 2) SEQ

The test number of an user is sequentially increased.

An user can arbitrarily change the Sequence number using Right/Left direction buttons.

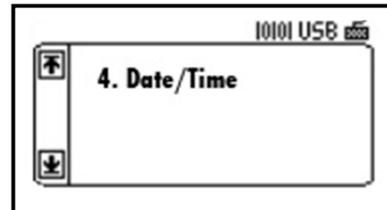
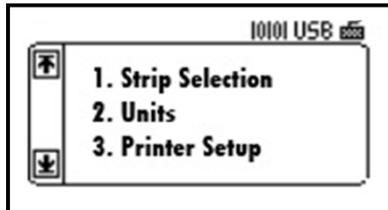
#### 3) Strip Type

An user can arbitrarily change the Strip Type using Up/Down direction buttons.

 Be careful when changing SEQ number, because the present result can be updated in the changed SEQ number if the existing test result was saved under the same SEQ number with the changed number.



## 6.2 Setup



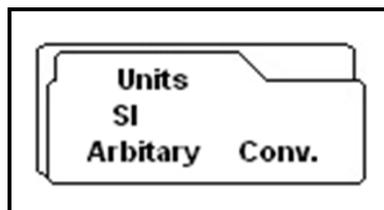
In case of changing the set-up saved in the analyzer, press the Setup button. Press the Enter button after selecting the setup desired to be changed, using the Up/Down button. Then you can select the details of each setup. If you press the Cancel button in the selecting screen of the details, you can return to the previous screen.

### 1) Strip Selection : Strip Item Selection

List	Name	1	2	3	4	5	6	7	8	9	10	11
1	U-AQS 2AC	M	C									
2	U-AQS 2GP	G	P									
3	U-AQS 3	P	H	G								
4	U-AQS 3GK	G	P	K								
5	U-AQS 4SG	P	G	S	H							
6	U-AQS 5	G	K	P	H	O						
7	U-AQS 6SG	G	K	P	H	S	O					
8	U-AQS 7L	O	S	H	G	P	N	L	G			
9	U-AQS 9	N	U	P	H	O	S	K	B	G		
10	U-AQS 10	L	N	U	P	H	O	S	K	B	G	
11	U-AQS 11	L	N	U	P	H	O	S	K	B	G	A
12	U-AQS 10AC	L	N	O	H	S	K	G	P	M	C	

U=Urobilinogen, G=Glucose, B=Bilirubin, K=Ketones, S=S.G, O=Blood, H=pH, P=Protein, N=Nitrite, L=Leukocytes, A=Ascorbic Acid, M=Microalbumin, C=Creatinine

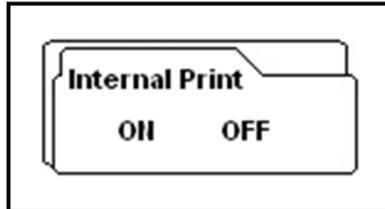
### 2) Units : Set up the instrument displayed in the test result.



Set the instrument displayed in the test result using the Right/Left button. The basic set-up is Arbitrary. In case of saving the setup, press the Enter button. Refer to the Table of Results for the instrument displayed in the test result in this manual.



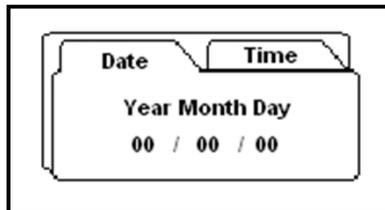
**3) Print Setup : Set whether you want to print out the test result by built-in printer or not.**



Select ON to automatically print out the test results using the Right/Left button; OFF not to automatically print out the test results. If OFF is selected, the test results are displayed only on the LCD. ON is already set as the basic setup. In case of saving the setup, press the Enter button.

**4) Date/Time : Set Date and Time.**

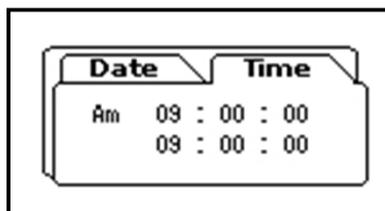
**Setting Date : Set date**



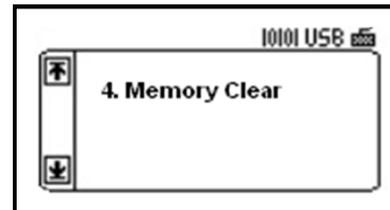
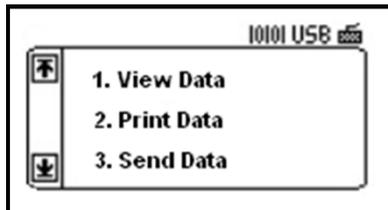
After selecting year, month, and day with the Right/Left button, reset date using the Up/Down button. In case of saving the setup, press the Enter button. If you press the Enter button, you can move up to the screen for setting time.

**Setting time : Set time**

After selecting hour and minute with the Right/Left button, reset time using the Up/Down button. In case of saving the setup, press the Enter button.

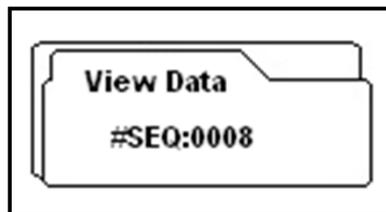


### 6.3 Memory

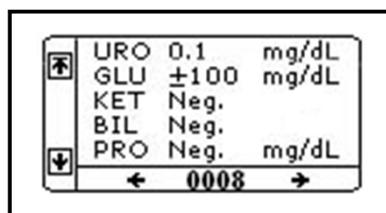


In case of commanding related to the data saved in the memory, press the Memory button. After selecting the desired command using the Up/Down button, pressing the Enter button can select the details for each command. If pressing the Cancel button on the keypad for selecting the details, it moves up to the previous screen.

#### 1) View Data : See the saved data selectively.



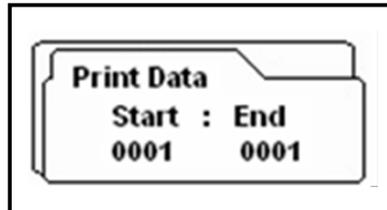
After the latest test sequence number is displayed, press the Enter button, then the result of the corresponding number is displayed.



The data of the selected SEQ number shows on the screen. You can see 10 items of the test results using the Up/Down button.

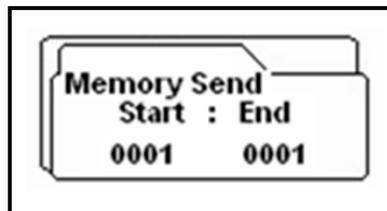


**2) Print Data: Print out the saved data selectively.**



After selecting the start-number and the end-number of the data printed out using the Right/Left button, select the data number using the Up/Down button. After selecting the data number, press the Enter button for printing out the selected data.

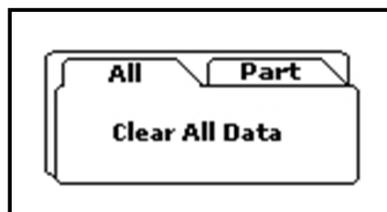
**3) Send Data : Send the saved data to PC.**



After selecting the start-number and the end-number of the data transmitted to PC using the Right/Left button, select the data number using the Up/Down button. After selecting the data number, press the Enter button, then the selected data is ready to be sent.

 Confirm the condition of connecting communication with PC before performing the command.

**4) Memory Clear: It is possible to delete the data saved in Memory selectively or all.**



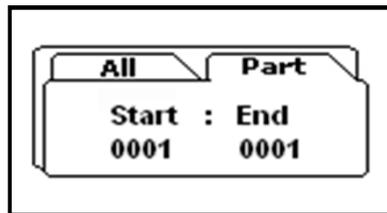
- **All data**

“Clear All Data” is displayed on LCD. Press the Enter button, then all of the saved data can be deleted.

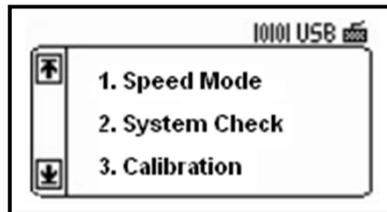


• **Part data**

Start/End” screen is displayed on LCD. After selecting the start-number and the end-number of the data deleted using the Right/Left button, select the data number using the Up/Down button. Press the Enter button, then part of saved data can be deleted.

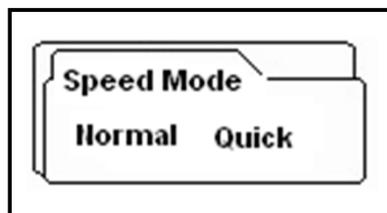


**6.4 Host**



In case of selecting the setup related to sending and receiving the data connecting with PC, press the Host button. After selecting the command wanted using the Up/Down button, press the Enter button and then you can select the details for each command. Press the Cancel button on the keypad for selecting the detail items, then return to the previous screen.

**1) Speed Mode : Select the measurement speed by Left or Right direction key button.**



Push the Enter key button.

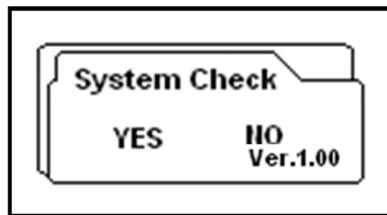
‘Normal’ mode = 60 seconds, ‘Speed ‘ mode = 30seconds

Default speed is ‘Normal’



## 2) System Check

System Check is used for checking aging processes of the optical system and variation of other internal conditions of instrument.



**For System Check , proceed as follows**

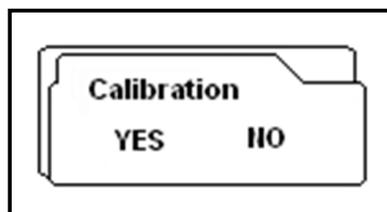
1. Selection <Yes> in the System Check
2. Press < Enter/Start >: The System checking .
3. The result of System Check value print out.

If the values are within the normal range values on the print result, “System Check Success” message will be printed.

If the values are not within the normal range values on the print result, “System Check Fail” message is printed.

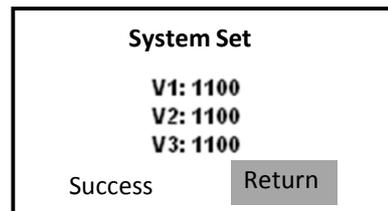
## 3) Calibration

Calibration is used to compensate aging processes of the optical system and variation of the internal reference pad. It is performed automatically before reading the reagent strip. But if the tray is removed and re-fixed again for a reason, it is recommendable to do Manual Calibration.

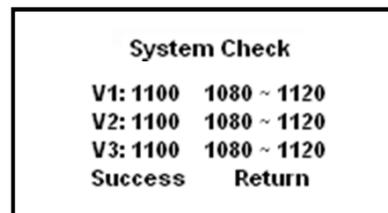


**For calibration, proceed as follows**

1. Selection <Yes> in the Calibration -> Press < Enter/Start >
2. These screens are displayed in LCD after starting the test.



3. To check the value of calibration result, return to the system check menu.
4. Selection <Yes> in the System Check.
5. After the System checking and then the result of calibration print out.



6. If the values are within the normal range values on the print result, "System Check Success" message will be printed.
7. If the values are not within the normal range values on the print result, "System Check Fail" message will be printed. Please retry to Calibration !!

## 7. How to Clean the Strip Loader after Use

Wipe clean the dirty case using a neutral detergent or a water-wet towel. Do not use volatile matters like thinner, gasoline, and benzene for cleaning the body. It is better for the strip loader to be cleaned everyday because the rest urine stained on the strip can be smeared on the loader.

### **Step1.**

Press the Clean button on the keypad and separate the loader from the body of the instrument.

### **Step2.**

Completely wipe the groove of the detached strip loader with a water-wet swab.

### **Step3.**

After the cleaning, put back the Strip Loader and click the Clean button. Then the Strip Loader will be put back to its original position. If the loader is not retreated immediately, slightly push the loader.

### **Step4.**

The strip loader slightly goes in and comes out then it is ready to start the test.

## 8. Quality Control

Performance of reader result should be confirmed by testing known negative and positive specimen or controls whenever a new bottle is first opened or calibration.

Water should NOT be used as a negative control.

Controls should be tested after performing maintenance or service on the U-AQ Smart.

Quality Control materials should be used in accordance with local, state, and/or federal guidelines.

- 1) Liquicheck Urinalysis Control (Homepage: [www.bio-rad.com](http://www.bio-rad.com))
- 2) Quantimetrix the dipper urine dipstick control (Homepage: [www.4qc.com](http://www.4qc.com))
- 3) MAS UA Control (Homepage: [www.mas-inc.com](http://www.mas-inc.com))

## 9. Table of Results



Item	Abbreviation	Unit	Result of Reading						
			Neg.	±	+1	+2	+3	+4	
Leukocytes	LEU	Con.	WBC/ $\mu$ l	neg	trace	70	125	500	
		SI		neg	±	+1	+2	+3	
		Arb		neg	±	+1	+2	+3	
Nitrite	NIT	Con.		neg	Pos				
		SI		neg	Pos				
		Arb		neg	Pos				
Uribilinogen	URO	Con.	mg/dl	norm	1	2	4	8	
		SI	$\mu$ mol/l	norm	16	33	66	131	
		Arb	E.U./dL	norm	+1	+2	+3	+4	
Protein	PRO	Con.	mg/dl	neg	trace	30	100	300	1000
		SI	g/l	neg	trace	0.3	1	3	10
		Arb		neg	±	+1	+2	+3	+4
pH	pH	Con.							
		SI		5	6	6.5	7	7.5	8
		Arb		5	6	6.5	7	7.5	8
Blood	BLD	Con.	RBC/ $\mu$ l	neg	trace	25	80	200	
		SI		neg	±	+1	+2	+3	
		Arb		neg	±	+1	+2	+3	
Specific Gravity	S.G	Con.		1.000	1.005	1.010	1.015	1.020	1.025
		SI		1.000	1.005	1.010	1.015	1.020	1.025
		Arb		1.000	1.005	1.010	1.015	1.020	1.025
Ketones	KET	Con.	mg/dl	neg	5	15	40	80	160
		SI	mmol/l	neg	0.5	1.5	3.9	8	16
		Arb		neg	±	+1	+2	+3	+4
Bilirubin	BIL	Con.		neg		Small	Moderate	Large	
		SI		neg		Small	Moderate	Large	
		Arb		neg		+1	+2	+3	
Glucose	GLU	Con.	mg/dl	neg	100	250	500	1000	2000
		SI	mmol/l	neg	5.5	1.4	28	55	111
		Arb		neg	±	+1	+2	+3	+4
Ascorbic Acid (Vitamin C)	AsA	Con.	mg/dl	neg		20	40		
		SI	mmol/l	neg		1.2	2.4		
		Arb		neg		+1	+2		
Microalbumin	ALB	Con.							
		SI	mg/L	10	30	80	150		
		Arb		10	30	80	150		
Creatinine	CRE	Con.	mg/dl	10	50	100	200	300	
		SI	mmol/l	0.9	4.4	8.8	17.7	26.5	
		Arb		10	50	100	200	300	
Albumin to Creatinine ratio	A:C	Con.	mg/g	<30		30~300		>300	
		SI	mg/mmol	<3.4		3.4~33.9		>33.9	
				Normal		Abnormal		High Abnormal	
Protein to Creatinine ratio	P:C	Con.	mg/g	<150		>=150			
		SI	mg/mmol	<17.0		>=17.0			
				Normal		Abnormal			

## 10. Troubleshooting & Maintenance

### Maintenance & Cleaning

No maintenance is required other than routine cleaning.

- 1) Clean the outside of the U-AQ CORE body with a dry towel after wiping clean with a towel dampened by a neutral detergent or water.
- 2) Do not wipe the body of the U-AQ CORE clean with benzene, thinner, gasoline, etc.
- 3) Do not force the strip loader. It works automatically. Refer to How to Clean the strip loader after Use under user's manual.
- 4) If you want to know detailed information for environmental factors and cautions, refer to Specifications, Cautions & Warnings under User's manual.

### Troubleshooting

SYMPTOM	POSSIBLE CAUSE	REMDY
'----' symbol is printed in LCD or printing paper.	<ol style="list-style-type: none"> <li>1. Pad color is out of the range for analysis.</li> <li>2. Dry strip is tested.</li> <li>3. Tested without inserting a strip</li> <li>4. A strip has become misaligned during processing.</li> <li>5. A used strip is reused.</li> <li>6. Responding time-passed strip is tested.</li> </ol>	<ol style="list-style-type: none"> <li>1. Please test again.</li> <li>2. Insert a strip stained with urine.</li> <li>3. Insert a strip stained with urine.</li> <li>4. Do not move the strip during processing.</li> <li>5. Do not reuse strip to test. And read strip instructions for use carefully before using strip.</li> <li>6. Do not use responding time-passed strip.</li> </ol>
The Instrument does not operating normally.	No power.	Check the connection of instrument to the power supply using given adaptor. If it is still unable to be operated, contact your local Customer Service Office.
A strip loader stops unexpectedly during operation.	Unstable electricity.	Use a rated current. Contact your local Customer Service Office if it doesn't operate correctly
Test results are not being transmitted into a PC.	<ol style="list-style-type: none"> <li>1. Disconnected a serial cable to your computer.</li> <li>2. User's program is not opened.</li> <li>3. Your serial port is not in a proper location.</li> <li>4. You have no serial port in your computer and only a USB port.</li> <li>5. It had been selected as OFF option in Data Transfer of Host shortcut button.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check connection of a serial cable between the instrument and the computer.</li> <li>2. Open the User's program.</li> <li>3. Connect correctly a serial port for Com1.</li> <li>4. Purchase a cable to convert USB to Serial.</li> <li>5. Select On option in Data Transfer of Host.</li> </ol>



SYMPTOM	POSSIBLE CAUSE	REMDY
<p>Test results are not being printed by the build-in printer.</p>	<ol style="list-style-type: none"> <li>1. A printing paper is misaligned (accompanied by an unusual noise).</li> <li>2. No paper installed in the printer.</li> </ol>	<ol style="list-style-type: none"> <li>1. Press a Linefeed button on the key pad to confirm the operation of printer normally. If print paper does not come out, open the printer cover and check the paper direction and path.</li> <li>2. Change a new roll of printing paper (Refer to Exchanging Printing Paper in this manual)</li> </ol>
<p>User's program is not being installed.</p>	<ol style="list-style-type: none"> <li>1. Do not meet Operating System requirements.</li> <li>2. Can't execute Autorun.</li> </ol>	<ol style="list-style-type: none"> <li>1. When installed in your computer, display OS requirements to set up a User's program. Operating System higher than Windows 98 SE is compatible.</li> <li>2. Contact your local Customer Service Office if it doesn't operate correctly</li> </ol>

## Appendix A : Safety Information

U-AQ CORE will be in good working order on the day it is installed and that it will conform to U-AQ CORE specifications. Local distributor or importer will provide service to keep or restore analyzer to good working order for one year at no additional charge to the purchaser. Warranty service provided under this agreement does not assure uninterrupted operation of the Analyzer.

### Warranty Support

- 1) Please present this warranty upon any request for warranty support.
- 2) This product is guaranteed to be repaired or replaced free of charge for one year from the date of the Buyer's purchase.
- 3) Duplicates of this warranty are not issued. Please keep it in a safe place.
- 4) Please contact your local distributor/importer where you purchased the product for repair or replacement service.
- 5) Any parts for repair are kept for three years after the product is discontinued.

### Request for warranty support

- 1) Please refer to the User's manual once again to ensure operation, maintenance and usage have been performed under the suggested guidelines before calling for repair or replacement service.
- 2) If malfunction, failure or defect of the product still persists, unplug the product and call your local distributor/importer.
- 3) Please provide a description of the malfunction with information on the warranty such as model name, date of the purchase, serial number, customer's name, address, and phone number when calling for repair or replacement.
- 4) In case of service requiring a charge, the service fee shall include parts and a repair charge. When repairperson is sent to your location, it also includes travel costs.

### Service free of charge

- 1) Information on this warranty should be filled out upon purchasing.
- 2) If malfunction or defects in the product sold is found during the warranty period, repair or replacement of the defective product is guaranteed. Please contact the local point of sales for warranty support.
- 3) Warranty support is effective only upon the presentation of this warranty.

### Service with a charge

A service fee for repair or replacement of defective products will be charged when,

- 1) Service for repair or replacement is requested after the warranty period is over.
- 2) Any defect, malfunction or failure of the product is caused by improper maintenance, misuse by the user or purchaser, do not use within the initial purpose of this product.
- 3) Any defect, malfunction or failure of the product is caused by repair of the product by a person other than an authorized repair organization.
- 4) Any defect, malfunction or failure of the product due to natural calamities.  
(Fire, salt damage, inundation damage, etc.)



## Contact information



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