

# iCHROMAI





The information contained herein is subject to change without prior notice.

Boditech Med Inc. shall not be liable for any technical and editorial errors or omissions contained herein.

Additionally, any malfunction in elements including the optical sensor assembly, the system board and the drive train should be consulted with and serviced by Boditech Med Inc. Any unauthorized operations on elements not suggested in this document will void the existing warranty.

For technical assistance, contact:

#### **Boditech Med Inc.'s Technical Services**

Tel: +82 33 243 1400, E-mail: support@boditech.co.kr

Boditech Med Incorporated

43, Geodudanji 1-gil, Dongnae-myeon,

Chuncheon-si, Gang-won-do, 24398, Republic of Korea

Tel: +82 33 243 1400 / Fax: +82 33 243 9373

www.boditech.co.kr

EC REP Obelis s.a

Bd. Général Wahis 53, 1030 Brussels, BELGIUM

Tel: +(32) 2.732.59.54 Fax: +(32) 2.732.60.03 E-Mail: mail@obelis.net

**Revision 07** 

Date of last revision: April 9, 2018



The actual contents of the display could differ, depending on the specification and customer requirements.

Document No. : OPM-IR2-EN

Date: 2018. 06. 01 (Rev.08)



# Table contents

1. Intended Use	3
2. Introduction	3
3. Safety Information	3
4. Principle	6
5. Package contents	6
6. Technical specifications	8
7. Functional and operational elements	9
8. Power supplement	11
9. Installation	12
10. ichroma™ II operation	15
10.1. Main screen	15
10.2. System check	17
10.3. Setup	20
10.4. How to test	32
10.5. Review data	42
10.6. Print test result	46
11. Optional	49
11.1. Barcode scanner	49
11.2. Keyboard	49
11.3. WIFI Dongle	49
11.4. Bluetooth Dongle	50
11.5. SD Card	50
11.6. ichroma™ Ⅱ PC Connector Cable (USB OTG Cable)	50
11.7. AA battery	51
12. Troubleshooting	52
13. Error code	
14. Warranty	57



# 1. Intended Use

ichroma $^{\text{TM}}$  II is a semi-auto portable fluorescence and Europium nanoparticle scanning instrument for measuring the concentration of designated analytes in the human blood, urine and other specimens; duly processed and tested in accordance with various ichroma $^{\text{TM}}$  Immunoassay Tests manufactured by Boditech Med Incorporated.

ichroma™ II is to be used only in conjunction with various ichroma™ Immunoassay Tests and meant only for in vitro diagnostic purpose.

ichroma $^{\text{TM}}$  II can be used for screening, monitoring and/or routine physical examination in centralized laboratories of hospitals, physicians' clinics.

# 2. Introduction

ichroma<sup>™</sup>  $\Pi$  is a semi-auto portable fluorescence and Europium nanoparticle scanning instrument for measuring the concentration of designated analytes in the human blood, urine and other specimens; duly processed and tested in accordance with various ichroma<sup>™</sup> Immunoassay Tests manufactured by Boditech Med Incorporated. ichroma<sup>™</sup>  $\Pi$  is easy to use. When collected samples are loaded to a test cartridge, ichroma<sup>™</sup>  $\Pi$  measures intensity of fluorescent signal. ichroma<sup>™</sup>  $\Pi$  converts this intensity of fluorescent signal to quantitative value and displays this value as a test result.

# 3. Safety Information

# Safety information prior to use

- 1) Please read this manual before use.
- 2) This equipment is in vitro diagnostic medical device. Please use it with correct intended use.
- 3) ichroma™ II is only compatible with ichroma™ test cartridges manufactured by Boditech Med Inc. In case of use of other test cartridges, it may cause malfunction of ichroma™ II or incorrect test results.
- 4) When initial purchase and installation, please set exact/correct date and time. Incorrect setting may cause various errors regarding expiration date.
- 5) To prevent infection or contamination, please use protective gloves, mask and so on during handling test samples.
- 6) All tests should be done at flat and stable place. Do not move and force mechanical stress in ichroma™ II during tests.
- 7) ichroma™ II should be used in clean place.
- 8) Please use ichroma™ II indoor only.

Document No. : OPM-IR2-EN

Date: 2018. 06. 01 (Rev.08)



- 9) Operation temperature is 15-35°C (59 95°F) and humidity is maximum 70%. If ichroma™ II is stored at some place with out of operation environment, please leave it operation environment at least 30 minutes.
- 10) If the cartridge holder or holder cover are contaminated by some reagent, dust or foreign materials, please clean them and use ichroma<sup>TM</sup>  $\Pi$ .
- 11) External stresses such as mechanical, chemical and electric stresses can cause malfunction of ichroma<sup>TM</sup>  $\Pi$  or incorrect test results. Do not stress ichroma<sup>TM</sup>  $\Pi$  in any case.

# Warnings and cautions

- 1) ichroma™ II is only for in vitro diagnostic use with ichroma™ test cartridges.
- 2) In case of finding malfunctions in ichroma™ II, turn the power off immediately and contact regional distributor or Boditech Med Inc.'s technical support.
- 3) Install ichroma<sup>™</sup>  $\Pi$  at flat surface.
- 4) Excessive force during inserting a test cartridge into the cartridge holder, or pushing switches or buttons may cause malfunction or error in ichroma<sup> $\mathsf{TM}$ </sup>  $\mathsf{TI}$ .
- 5) Be careful in handling test samples to prevent infection.
- 6) Do not install ichroma™ II at high temperature and humidity place.
- 7) Avoid exposure of ichroma™ II to dust, salinity, water or any other liquid and direct sunlight.
- 8) Please use your ichroma™ II gently. Avoid throwing, shaking, or dropping it, which may damage its internal components.
- 9) Do not store ichroma™ II in chemicals storage or gassing area.
- 10) Remove power cable if ichroma $^{\text{\tiny M}}$  II is not used for a long time.
- 11) Do not allow ichroma™ II to come in contact with liquid in any manner.
- 12) Do not place anything on top of ichroma™ II even when it is lying idle.
- 13) Read this manual carefully before use. Violation of instruction for installing and operating ichroma™ II may cause electric, mechanical or bio-hazardous risks.
- 14) We do not become responsible for any unauthorized opening or servicing of ichroma™ II. When you find malfunctions in ichroma™ II, please contact regional distributor or Boditech Med Inc.'s technical support team.
- 15) The user of ichroma™ II in conjunction with the ichroma™ test should not arrive at any conclusion and/or should not take any decision of medical/therapeutic importance after knowing the test result without first consulting his/her physician.
- 16) ichroma™ II should be operated by trained medical technologist or medical personnel such as nurse or physicians.



17) If you have any inquiry regarding ichroma™ II operation, please contact regional distributor or Boditech Med Inc.'s technical support team.

# Storage after using & management

- Please insert cartridge holder by tapping "in/out" button after using ichroma™
   I to prevent contamination by dust or foreign materials.
- 2) When you turn the power off, please follow proper steps described in this manual. If not, it may cause malfunction in ichroma<sup> $\mathsf{TM}$ </sup>  $\mathsf{II}$ .
- 3) Do not open or alter ichroma<sup> $\mathsf{TM}$ </sup>  $\mathsf{II}$  by intention.
- 4) Store ichroma™ II at liquid free place.
- 5) Store ichroma™ II at slope/vibration/mechanical shock free place.
- 6) Do not store ichroma<sup> $\mathsf{TM}$ </sup>  $\mathsf{II}$  in chemicals storage or gassing area.
- 7) Avoid direct sunlight during storage.
- 8) In case of ichroma™ II exterior is contaminated by foreign materials, please wipe them out using soft and dry cloth or tissue.

# Symbols

Various symbols are used in this manual as follow.

Symbol	Description
	Manufacturer
<b>i</b>	Consult instructions for use
IVD	For <i>in vitro</i> diagnostic use
CE	This product fulfills the requirements of Directive 98/79/EC on In Vitro Diagnostic Medical Devices
<u> </u>	Attention! Read instructions before use
A	Separate collection for electrical and electronic equipment
	Bio Hazard
•<	USB Memory
1	Temperature limitation
SN	Serial Number
	LASER Radiation Do not stare into beam.
	Potential Biohazard





This symbol is essentially a safety symbol and should be used to highlight the fact that there are specific warnings or precautions with the device, which are not otherwise found on the label. The symbol "Caution" is still sometimes used to have the meaning of "Attention, see instruction for use".



Indicates a hazardous situation, which if not avoided, could result in injury to the operator or a bystander (e.g. electrical shock or UV exposure).

# 4. Principle

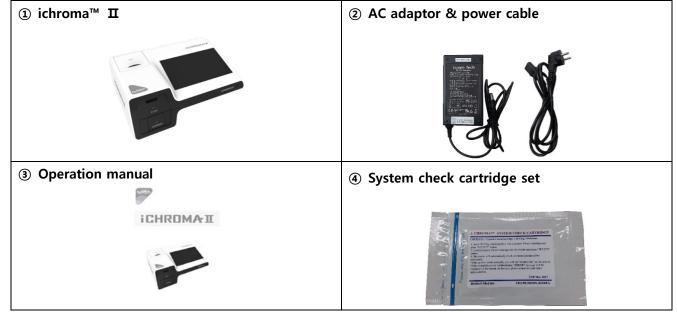
ichroma™ II is a fluorescence and Europium nanoparticle scanning instrument to be used in conjunction with various ichroma™ Immunoassay Tests which are based on antigen-antibody reaction and fluorescence technology. ichroma™ II uses a semiconductor diode laser as the excitation light source for illuminating the test cartridge membrane (pre-loaded with the clinical specimen duly processed as per the standard test procedure prescribed by Boditech Med Inc.) thereby triggering fluorescence from the fluorochrome molecules present on the membrane. The fluorescent light is collected together with the scattered laser light. Pure fluorescence is filtered from the mixture of the scattered and fluoresced light. Intensity of the fluorescence is scanned and converted into an electric signal which is proportional to the intensity of fluorescence produced on the test cartridge membrane.

The on-board microprocessor computes concentration of the analyte in the clinical specimen based on a preprogrammed calibration. The computed and converted result is displayed on the display screen of the ichroma  $\Pi$ .

# 5. Package contents

ichroma<sup>TM</sup>  $\Pi$  and its accessories are provided in a single box. For proper operation of the system, user must be familiar with the technical term and use of each item. User must ensure that following items are included the commercial package. If any item(s) were to be missing, please contact your sales distributor or Boditech Med Inc.'s customer care representative(refer to Section 14. Warranty).

#### 1) Basic contents





# 2) Optional





# 6. Technical specifications

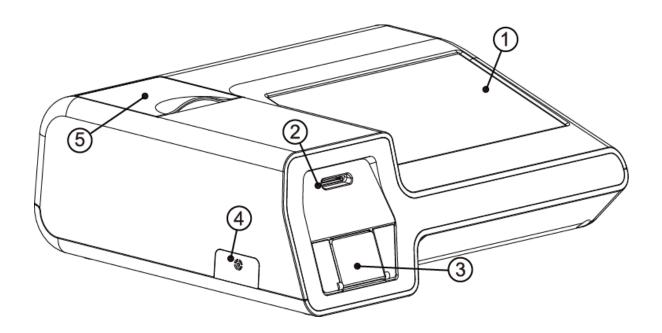
Item Specification		
Product name	ichroma™ II	
Principle	Fluorescence and Europium Nanoparticle Immunoassay	
Dimensions	276mm (W) X 220mm (L) X 91mm (H)	
Weight	1.3kg	
Power	DC 12V/5A AC/DC Adaptor Input: 100-240V ~ 50/60Hz, 1.5A Output: DC 12V/5A Battery: DC 1.5V X 4ea	
Display	7 inch touch color LCD	
Motor	Stepper Linear Actuators(5V, 0.34A)	
Communication ports	USB 4 ports, LAN Port, USB OTG port	
Operation temperature / humidity	Temperature 15-35℃ Humidity 10~70% (Non-condensing)	
Storage temperature / humidity	Temperature -20 ~ 50°C Humidity < 90% (Non-condensing)	
Output	LCD, Built-in Printer	
Saving test results	Patient test : 1,000 results  System check test results : 500 results  Control materials test results : 1,000 results	

ichroma<sup>™</sup> II meets the EMC guideline as per EN 61326-2-6.



# 7. Functional and operational elements

# Front side view of ichroma™ II



No.	Part name	Function
1	7 inch touch LCD	You can input various needed information for testing by touchpad of LCD. LCD displays various important information such as various status, test results and so on.
2	ID chip slot	Slot for ID chip insertion.
3	Holder & holder cover	Inserting test cartridge for proceeding tests.  Holder cover is for light / dust / foreign materials prevention.
4	Temperature sensor	It measures room temperature around ichroma™ Ⅱ.
(5)	All in one thermal printer	Print test results out.



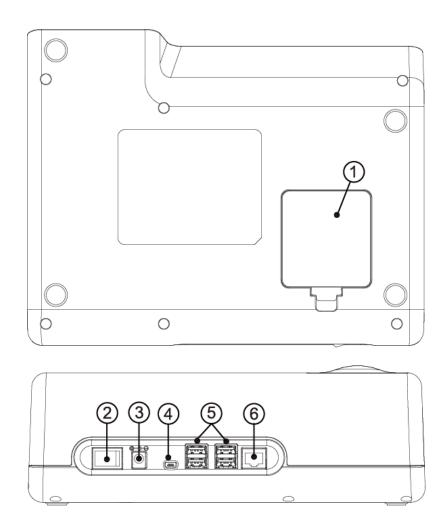
For detailed information regarding optional items, please contact regional distributor or Boditech Med Inc.'s technical sales team.

Temperature sensor measures room temperature. Do not change temperature by intentional heating or cooling.

Do not install ichroma $^{\text{\tiny TM}}$  II in area which has big temperature variation..



# Bottom and rear side view of ichroma™ **I**



No.	Part name	Function
1	Battery cover	When the battery cover is opened, you can install/set batteries and SD card.
2	Power switch	Main power switch
3	Power port	Connection port for AC adaptor
4	USB OTG port	Connection port for PC connection and communication
5	USB port	Connection port for barcode scanner, keyboard, WIFI Dongle, Bluetooth Dongle and USB memory stick
6	LAN port	Connection port for Ethernet connection



# 8. Power supplement

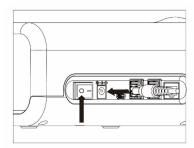


Power rating for ichroma<sup> $\mathrm{TM}$ </sup> II is AC 110-120V or 220-240V, 50 ~ 60Hz.

To protect electric hazard such as electric shock and fire, please use AC adaptor and power cable provided by Boditeh Med Inc. only and check power rating before use. If you can't confirm power rating, please consult with your facility management officer. When using batteries, please check the type of batteries (AA type) and install them with correct direction.

# Use of AC adaptor

1) Please check the power switch is off " $(\bigcirc)$ " and connect AC adaptor to the power port.



2) Connect power cord to external power outlet.

## Use of batteries



Use of batteries is only available in case of a blackout for instant operation. It is impossible for normal use with batteries for a long time. We suggest to use AC adaptor and power cable for stable and safe operation. It is possible 30 multi tests or 2 single tests when batteries are used.

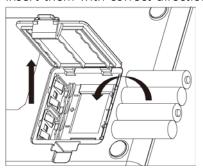
It is possible to use AC adaptor and batteries simultaneously.

But we suggest to remove batteries when AC adaptor is used.

Please do not use a printer when ichroma<sup>TM</sup> II is operating with batteries.

Use of a printer can cause power down due to excessive power consumption.

1) Open the battery cover in the bottom of the ichroma<sup> $\mathrm{II}$ </sup>. Please check the direction of batteries and insert them with correct direction.



2) Close the battery cover and put the ichroma™ II on right position.

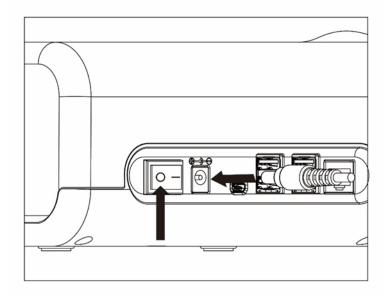


# 9. Installation



Refer to Section 3 and Section 8 prior to installation.

1) Connect a power cord and AC adaptor provided by Boditech Med Inc. to the power port of rear side of ichroma<sup>TM</sup> II. Then turn the power switch on.



2) ichroma<sup> $\mathrm{T}$ </sup> II displays the product logo and loading screen serially. When loading, it takes few seconds. Please wait.



If loading screen lasts more than 5 minutes, please turn ichroma $^{\text{\tiny M}}$  II off and turn it on again. If same problem is occurred, please call Boditech Med Inc.'s technical service or authorized regional distributor.

3) When loading is completed, ichroma™ II will proceed the self-testing and display the self-testing results.



Test result	Description
OK!	System of ichroma™ II is normal.
Not available !	There are some problems in the relevant parts or environmental temperature is out of suggested condition.



# 4) Example of errors





Error	Counter measures
Optics parts Error !	
Moving parts Error !	Turn off: Turn the device off and call to manufacturer or authorized regional distributor.
Storage disk Error !	Ignore: You can proceed the next step but it is impossible to test items.
Temperature sensor Error !	It is possible to test items but test results may not be accurate because temperature is out of suggested condition. Please call to manufacturer or authorized regional distributor.  Turn off: Turn the device off and call to manufacturer or authorized regional distributor.  Ignore: You can proceed the next step and test items.
Printer initializing Error !	It is possible to test items but printing test result out is impossible. Please call to manufacturer or authorized regional distributor.  Turn off: Turn the device off and call to manufacturer or authorized regional distributor.  Ignore: You can proceed the next step and test items.
Temperature out of recommended range. Proceed?	Please set environment temperature as 15 - 35°C.  Turn off: Turn the device off and wait for environment temperature reaches to the operation temperature.  Ignore: You can proceed the next step and test items.



Self-testing items are as follows.

- 1. Driving part and printer (all in one thermal printer is adopted)
- 2. Optics
- 3. Disk
- 4. Temperature (environment temperature)



Do not disassemble the ichroma<sup>TM</sup> II when some errors relevant to self-testing items are occurred.

If you turn the device off during self-testing process, it can cause malfunction of the device.

If the test results show "Not available" for driving part, optics or disk, call to manufacturer or authorized regional distributor.

If temperature is out of range of operation temperature(15 -  $35^{\circ}$ C), please set environment temperature as 15 -  $35^{\circ}$ C.

5) When self-testing is completed successfully, the ichroma<sup> $\mathsf{TM}$ </sup>  $\mathsf{TI}$  will display the main screen.





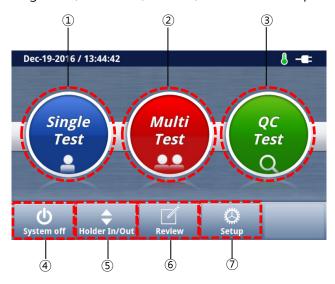
The actual contents of the display could differ, depending on the specification and customer requirements.



# 10. ichroma™ **I** operation

# 10.1. Main screen

Single Test, Multi Test, QC test, Review and Setup menu is shown in the main screen as follow.



## • Function for each button

- Talleton for each batton		
No.	Button	Function
1	Single Test	Move to Single Test mode.
2	Multi Test	Move to Multi Test mode.
3	QC Test	Move to QC Test mode.
4	System Off	Turn the device off or restart.
(5)	Holder In/Out	Insert or eject the cartridge holder.
6	Review	Move to Review mode.
7	Setup	Move to Setup mode.



• 2) Description of each icon

# Nov-03-2015 / 8:10:45 am



lcon	Name	Description
	Battery	Displaying battery status when the ichroma™ II is operating with batteries.
-	AC adaptor	This icon will be displayed when AC adaptor is connected.
8	Temperature range	Green: Environment temperature is in the range of 15 - 35℃.  Red: Environment temperature is out of the range of 15 - 35℃.
<b>∻</b>	WIFI	This icon will be displayed when WIFI is connected.
*	Bluetooth	This icon will be displayed when Bluetooth is connected.
器	Ethernet	This icon will be displayed when Ethernet is connected.



# 10.2. System check

QC Test > System Check



System check is performed to confirm the ichroma™ II works properly.

1) Open the system check cartridge pouch which is packed with the ichroma<sup> $\mathrm{II}$ </sup> II and check the contents as follow(System check cartridge and system check ID chip).





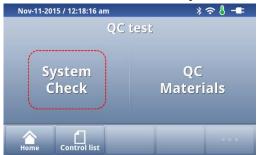


If there are foreign materials on the nitrocellulose membrane of a system check cartridge, this will cause erroneous system check result.

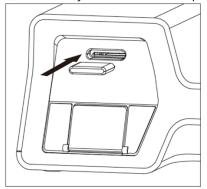
Do not load any test samples into the sample well of a system check cartridge.

Do not touch the nitrocellulose membrane of a system check cartridge by hands. Do not damage the nitrocellulose membrane of a system check cartridge.

- 2) Tap the "QC Test" on the main screen.
- 3) Then the ichroma $^{\text{TM}}$  II will eject the cartridge holder automatically.



4) Insert a system check ID chip into the ID chip port and tap the "Next" button on the LCD.





Wrong direction or excessive force during inserting ID chip will cause malfunctions of the ichroma<sup>TM</sup>  $\Pi$ .

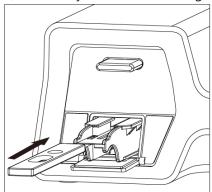


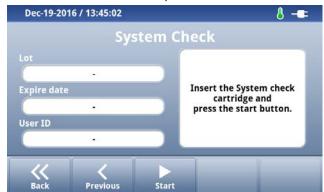
You must insert system check ID chip to proceed system check process. Be careful loss of system check ID chip.

If you lose system check ID chip, call Boditech Med Inc.'s Technical service or authorized regional representative.

User ID displayed in LCD means that the relevant user logs in the ichroma<sup>TM</sup>  $\Pi$ . If log in function is not used, the ichroma<sup>TM</sup>  $\Pi$  will displays user ID as "-".

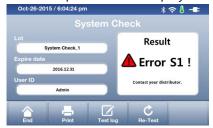
5) Insert a system check cartridge with correct direction and tap the "Start" button.





6) The ichroma™ II performs system check process and displays the result.







Test result	Description	Counter measure
System OK !	The system is normal.	There is no need to make counter measure. You can use the system normally.
Error S1 !	There are some problems in system check cartridge or optics.	Check there are foreign materials or damages in a system cartridge and try again system check process.  Call Boditech Med Inc.'s Technical service or authorized regional representative if same problems exist.



Error S2 !	There are some problems in system check cartridge or	Check there are foreign materials or damages in a system cartridge and try again system check process.  Call Boditech Med Inc.'s Technical service or authorized regional representative if same
	optics.	problems exist.
Barcode Error !	It is impossible to identify a bar code on a system check cartridge.	Insert a system check cartridge in the cartridge holder correctly.  Check there are foreign materials or damages on a bar code of a system cartridge and try again system check process.  Call Boditech Med Inc.'s Technical service or authorized regional representative if same problems exist.
Mismatch Error !	Lot numbers of a system check cartridge and system check ID chip do not match.	Check and match Lot numbers of a system check cartridge and system check ID chip and try again system check process.  Call Boditech Med Inc.'s Technical service or authorized regional representative if same problems exist.

- 7) You can print the test result out by tapping "Print" button.
- 8) Please pack a system check cartridge and system check ID chip in the original pouch and seal it. Then store it at room temperature.



Sometimes LOT number and expiration date may not be displayed according to LOT number of system check cartridge.



# 10.3. Setup

Tap the "Setup" button then the ichroma™ II will display setup screen as follow.

The setting condition is saved and not changed though power is off.



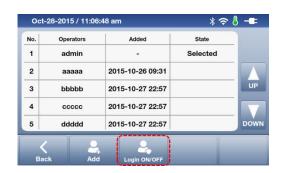
#### 10.3.1. User ID

Setup > User ID

Setup for using of login function, registration of user ID, change of user information and etc. is available in this mode.

# 1) Setting Login function (This setting is only available when admin is logged in.)

① Tap the "Login ON/OFF" button to set this function.



Item	Discription
Do you want to use Login function?	When you tap the "Ok" button, Login function is available.
Do you want to quit Login function?	When you tap the "OK" button, Login function is not available.

To set login function, log in with admin account.

(The ichroma™ II is set with 'Login OFF' by default when releasing.)

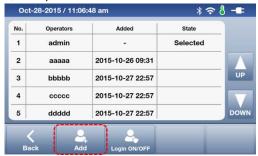
- <How to log in admin account.>
- 1) Tap the "Setup > User ID"
  - 2) Tap the "Admin".
  - 3) Tap the "Select User" and input password. (The initial password is "0000".)
  - 4) Tap the "OK" for login and the ichroma™ II will display "Add" and "Login ON/Off" button in the bottom of screen.





## 2) Registration of new User ID (This setting is only available when admin is logged in.)

1 Tap the "Add" button.



② Input new user ID, password and tap the "OK" button to complete registration of new user.



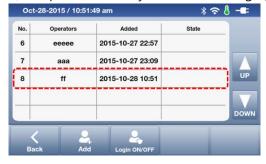


When "Login" function is live, the ichroma<sup> $\mathrm{II}$ </sup> I requires User ID and password to log in. Be careful spelling of user ID and password.

User ID and password should be more than 2 characters.

## 3) Changing password

Tap user ID that you want to change password.



2 Tap "Change Password" button.





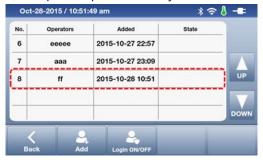
③ Input the current password, new password and new password for confirmation to change password. Then tap "OK" button.



# 4) Select/change user

You can change user without logout procedure from the current user.

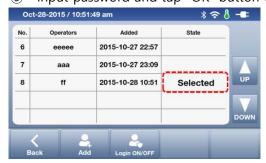
① Tap the operator that you want to change.



② Tap "Select User" button. Then ichroma™ II will display "User change menu" pop-up window.



3 Input password and tap "OK" button to change user.





#### 5) Delete user

This function is for deletion the registered users.

① Tap a user that you want to delete.



2 Tap "Delete" button. Then ichroma™ II will display "Delete user menu" pop-up window. Input password and tap "OK" button to delete the selected user.



# 6) Logout

① In case of "Login" function is used, you can find "Logout" button in the right bottom of main menu.



② If you want to logout, tap "Logout" and "OK" button by turns. Then ichroma™ II will display "Login menu" pop-up window for new user.





#### 10.3.2. ITEM Information

Setup > ITEM information

This is for registration and management of ID chip information for each test item.

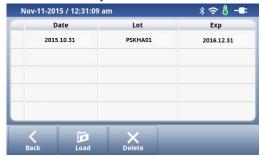
#### 1) ITEM registration

Insert ID chip that you want to register and tap "Load" button. Then ichroma<sup> $\mathrm{II}$ </sup>  $\mathrm{II}$  will display the name of ID chip which is inserted into the ID chip port.

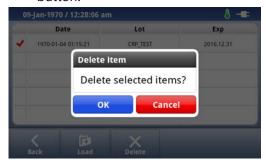


#### 2) ITEM management

① To check the registration date, LOT number and expiration date of the relevant item, tap the name of item what you want to check.



② To delete the registered LOT, select the LOT that you want to delete and tap "Delete" button. Then ichroma™ II will display "Delete selected items?" pop-up window. To confirm the deletion, tap "Yes" button.



# This function will be presented in near future.



Maximum 5 LOTs of ID chip per each item can be saved.

In case of 5 LOTs are registered, if user try to register a new LOT on same item, the oldest LOT will be deleted automatically and a new LOT will be registered.

If user register the same LOT on same item, the latest information will be registered.



Once an item is registered, there is no need to insert ID chip when you test the same item

If you proceed test without registration of item, that item will be registered automatically.

There can be some limitation according to LOT number of ichroma™ Item.

#### 10.3.3. Date & Time

This function is for setting date and time.



#### 1) Set date

You can set date by tapping "+" or "-" button. To finish setting date, tap "Set" button.



#### 2) Set time

You can set time by tapping "+" or "-" button. To finish setting time, tap "Set" button.



#### 3) Date format

You can select 3 kinds of date format.

- Month-Day-Year
- 2 Day-Month-Year
- 3 Year-Month-Day







Please set the correct and exact date and time.

If incorrect date is set, ichroma<sup>M</sup>  $\Pi$  can't calculate or check an expiration date of test cartridge correctly.

#### 10.3.4. Communication

Setup > Communication

This is for connect PC, Ethernet, WIFI and Bluetooth function.

Tap function what you want to connect.



## 1) PC



Connect PC with ichroma™ II using USB OTG cable and tap "ON" button.



# WIFI, Bluetooth, Ethernet functions will be prepared in near future.

USB OTG cable, WIFI dongle and Bluetooth dongle are optional items. If connection is not possible, please contact authorized regional distributor or Boditech

Med Inc.'s technical service.

# bdrech

#### 10.3.5. About ichroma™ II

Setup > About ichroma™ Ⅱ

In this menu, you can check firmware version, memory, IP address and self-testing results of ichroma<sup> $\mathrm{II}$ </sup>. In addition this menu provides factory setting function.



#### 1) Factory setting

Tap "Initialize" button and tap "Yes" button to proceed factory setting.





When you run factory setting, all saved data will be deleted and deleted data can't be restored. Be careful for running factory setting.

Self-testing result which is displayed in this menu is the latest test result.

Temperature in the self-testing result is current temperature.

## 10.3.6. System

Setup > system

This menu is for setting display, sound, language, printer and update.



## 10.3.6.1. Display

Setup > System > Display

1) Brightness: ichroma™ II provides 5 steps of brightness.



2) Sleep mode: You select for using set sleep mode by tapping "ON" or "OFF" button. When you use sleep mode, you can set time for sleep mode.





Time for sleep mode is 10, 20, 30, 60 and 120 minute.

#### 10.3.6.2. Sound

Setup > System > Sound

1) Alarm on/off: You can set alarm by tapping On/Off button.





ichroma $^{\text{\tiny TM}}$  II sounds alarm when test is completed, timer is over and error is occurred.

#### 10.3.6.3. Printer

Setup > System > Printer

- 1) ON: When printer is on, ichroma™ II will prints out the test result when test is completed.
- 2) OFF: When printer is off, ichroma<sup>TM</sup>  $\Pi$  does not print out the test result when test is completed. You can print out the previous test result for Multi test or Single test.





# 10.3.6.4. Language

Setup > System > Language

To change language, tap language that you want to change and tap "Yes" button. If you tap "No" button, language will not be changed.





Supported language will be changed according to customer's requests.

## 10.3.6.5. Update

Setup > System > Update

ichroma $^{\text{\tiny{M}}}$  II provides updating function for application and firmware.



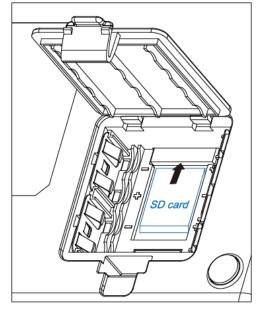
Do not turn ichroma $^{\text{\tiny{TM}}}$  II off during updating.

Do not disconnect connection cable between ichroma<sup> $\mathrm{TM}$ </sup>  $\mathrm{II}$  and PC during updating. Updating process will take few seconds or few minutes.

## 1) Application updating

Setup > System > Update > Application

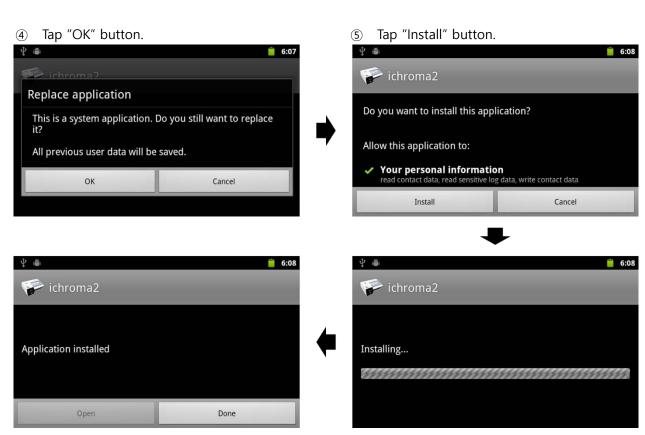
- ① Open the battery cover in the bottom of ichroma<sup>TM</sup> II.
- 2 Insert a SD card which includes updating information into the SD card slot as following picture.



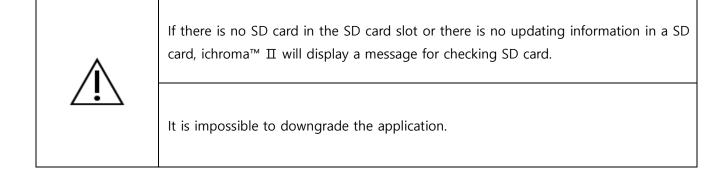


③ Tap "Application" in the "Update" screen.





⑥ When updating is completed, tap "Done" button. Then ichroma™ II will restart automatically.



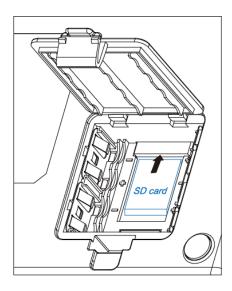


## 2) Firmware updating

Setup > System > Update > Firmware

## Firmware updating using SD Card

- ① Open the battery cover in the bottom of ichroma<sup> $\mathsf{TM}$ </sup>  $\mathsf{II}$ .
- 2 Insert a SD card which includes updating information into the SD card slot as following picture.



3 Tap "Firmware" in the "Update" screen.



4 Tap "OK" button to proceed firmware updating.



𝔻 When updating is completed, ichroma<sup>™</sup> 𝔻 will restart automatically.

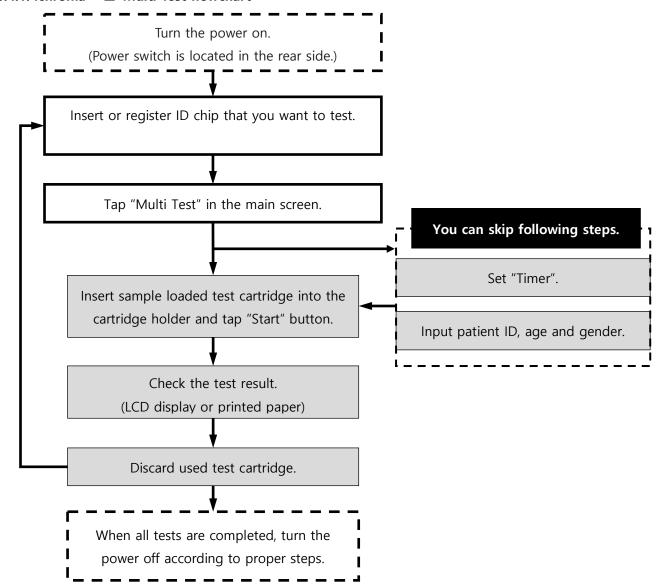


During firmware updating, ichroma<sup> $\mathsf{TM}$ </sup>  $\mathsf{II}$  can generate continuous beep sound. When firmware updating is finished, ichroma<sup> $\mathsf{TM}$ </sup>  $\mathsf{II}$  will stop beep sound automatically.



# 10.4. How to test

# 10.4.1. ichroma™ II Multi Test flowchart



#### 10.4.2. Caution

	Test samples using in various test can be infectious. Therefore please use protective gloves, mask and so on during handling test samples.  Used cartridges, pipette tips and samples should be discarded according to the relevant regional regulations with high temperature and high pressure sterile.	
Danger	Do not handle ichroma™ II with wet hands.  If you find/feel some smoke or burning smells, turn the power off immediately.  Do not move ichroma™ II to other place during test.	
	Do not stare inside of ichroma™ II during test.	



#### 10.4.3. Run Test

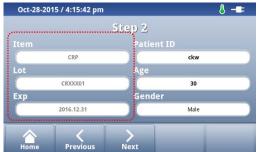
ichroma™ II provides "Multi Test" and "Single Test" functions.

## **10.4.3.1.** Single Test

- 1) Tap "Single Test" in the main screen then ichroma™ II will display following screen.
- 2) Open a test cartridge and insert a test cartridge into the cartridge holder and tap "Next" button.



- 3) Check whether test item, LOT number and expiration date match the contents of screen. (Sometimes LOT number and expiration date may not be displayed according to LOT number of ichroma™ Item.)
- 4) Input patient ID(maximum 15 characters), age and gender. (You can skip this step.)
- 5) Tap "Next" button. Then ichroma™ Ⅱ will display test procedure.





Sometimes LOT number and expiration date may not be displayed according to LOT number of ichroma™ Item.

6) Insert sample loaded test cartridge into the cartridge holder and tap "Start" button immediately.





7) ichroma<sup>TM</sup>  $\Pi$  displays reaction time. When reaction is completed, ichroma<sup>TM</sup>  $\Pi$  starts the test automatically.



8) When the test is completed, ichroma™ II displays the test result in LCD and saves it in the internal memory. You can print the test result out by tapping "Print" button.



9) If you tap "OK" or "Print" button, ichroma™ II goes back to "Single Test" screen.







Used cartridges, pipette tips and samples should be discarded according to the relevant regional regulations with high temperature and high pressure sterile.

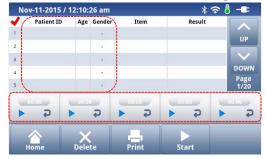
#### 10.4.3.2. Multi Test

1) Tap "Multi Test" in the main screen then ichroma™ II will display following screen.





- 2) Set "Timer".
- 3) Input patient ID(maximum 15 characters), age and gender. (You can skip this step.)
- 4) Insert sample loaded test cartridge into the cartridge holder and tap "Start" button immediately.

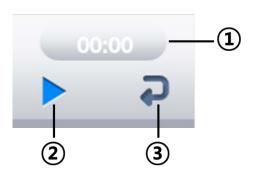


- 5) When tests are completed, names of items and test results are displayed and saved automatically.
- 6) You can delete displayed test result by selecting and tapping "Delete" button. And you can print test results that you want to.



- 7) Please discard used test cartrdiges.
  - How to set timer

ichroma™ II provides "Multi Timer" function.



No.	Name	Function
1	Time icon	When you tap "Time icon", ichroma™ Ⅱ displays "Set Timer(Min.)" pop-up
		window. By tapping "+" and "-" button, you can set timer(maximum 60
		minutes).  Nov.11-2015/12-12:11 am  Patient B  Set Timer (Min.)  O  Down  Down  Down  Down  Dolete  Print  Start  Start



	5. 00. 01 (Nev.00)			
		To confirm setting timer, tap "Save" button.		
		If you tap "Save All" button, all timers are saved with setting time.		
		When time is over, ichroma $^{\text{\tiny TM}}$ II sounds alarm and time display will be		
		changed with red color.		
		00:00		
		II P		
		To finish alarm sound, tap reset button.		
2	② Start button After setting time, tap "Start button" to start timer. Then			
		changed to "Pause button".		
		00:58		
		To pause timer, tap "Pause button". Then "Pause button" is changed to		
		"Start button".		
		To resume timer, tap "Start button".		
3	Reset icon	If you tap "Reset button" when timer is over or time is in pause status,		
		"Time icon" will be changed to the initial setting time.		

All tests should be done in clean and stable place.

Before run test, please refer to relevant package insert for each test.

Excessive force during inserting a test cartridge into the cartridge holder may cause malfunction or error in ichroma<sup>TM</sup>  $\Pi$ .

Please register test item before running test.



All test cartridges are disposable. Please discard used cartridges according to the relevant and proper regional regulations.

When ichroma<sup> $\mathbf{M}$ </sup>  $\mathbf{\Pi}$  works on "Multi test" mode, ichroma<sup> $\mathbf{M}$ </sup>  $\mathbf{\Pi}$  can run 100 tests continuously.

If you do not want to use internal timer, you can skip this setting.

You can skip inputting patient ID, age and gender.

You can input patient ID by using barcode scanner. (Refer to clause 11.2.)

If built-in printer is not selected, "Print" button is not displayed in LCD. In this case, you can print the test results out by connecting PC. (Refer to clause 10.6.)

## 10.4.4. QC test

## 10.4.4.1. System check test

Refer to section 10.2.



#### 10.4.4.2. QC material test

QC Test > QC Materials

ichroma™ II provides "Multi Test" and "Single Test" during QC material test.

#### A. Multi Test

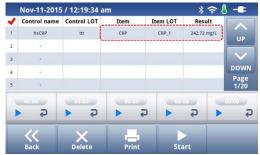
1) Tap "QC Test > QC Materials > Multi test". Then ichroma™ Ⅱ will display following screen.



- 2) Select control name by tapping red rectangle area. If there is no registered control, please register control first. (Refer to clause 10.4.4.3.)
- 3) When you select registered control, LOT number of selected control is displayed automatically.
- 4) Load control to a test cartridge and insert it into the cartridge holder and tap "Start" button immediately.



5) When tests are completed, names of items and test results are displayed and saved automatically.



6) You can delete displayed test result by selecting and tapping "Delete" button. And you can print test results what you want to. Please discard used test cartridge.

#### A. Singe Test

- 1) Tap "QC Test > QC Materials > Single Test". Then ichroma™ Ⅱ will display following screen.
- 2) Open a cartridge pouch and insert a test cartridge into the cartridge holder and tap "Next" button.

Document No. : OPM-IR2-EN

Date: 2018. 06. 01 (Rev.08)





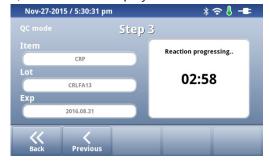
- 3) Check whether test item, LOT number and expiration date match the contents of screen. (Sometimes LOT number and expiration date may not be displayed according to LOT number of ichroma™ Item.)
- 4) Select control name. (LOT number of selected control is displayed automatically.)
- 5) Tap "Next" button. Then ichroma™ II will display test procedure.



6) Load control to a test cartridge and insert it into the cartridge holder and tap "Start" button immediately.



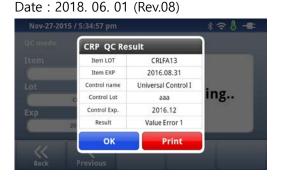
7) ichroma<sup>™</sup>  $\Pi$  displays reaction time. When reaction is completed, ichroma<sup>™</sup>  $\Pi$  starts the test automatically.



8) When the test is completed, ichroma™ II displays the test result in LCD and saves it in the internal memory. You can print the test result out by tapping "Print" button.

Document No. : OPM-IR2-EN





- 9. If you tap "OK" or "Print" button, ichroma™ II goes back to "Single Test" screen.
- 10. Please discard used test cartridge.

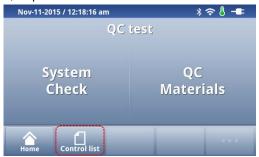


Sometimes LOT number and expiration date may not be displayed according to LOT number of ichroma™ Item.

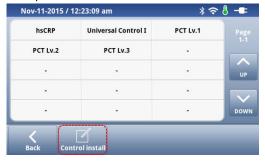
## 10.4.4.3. Registration of Control Materials

QC Test > Control List

1) Tap "Control List" button.



2) Tap "Control Install" button.



3) Tap "Control Name" then ichroma™ II displays list of controls which are provided by Boditech Med Inc. Select one of them for registration. Also you can input control name by using barcode scanner.

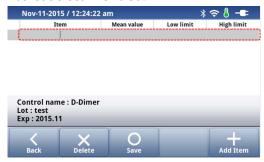




4) Tap "Control Lot" and "Control Exp." and input relevant information which are printed on the label of control. Then tap "Next" button. In case of inputting control name by using barcode scanner, LOT number and expiration date are inputted automatically.



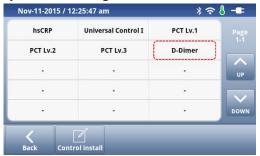
5) Input item name(name of test), mean value and low/high limit. You can input this information by using barcode scanner also.



6) In case of you want to register more than 1 test item, please tap "Add Item".



7) Input relevant information and tap "Save" button for completing registration. After tapping "Save" button, you can find registered controls in LCD screen.





## Checking information of registered control materials

To check information of registered control materials, tap registered control name what you want to check. Then you can check name of item, unit, LOT number, expiration date, mean value and low/high limit value.



## • Delete information of registered control materials

Tap control name that you want to delete and tap "Delete" button. To confirm deletion, tap "OK" button. This information will be deleted permanently.



You can input control information by manual input or using barcode scanner.



When you input control information by manual input, please input exact and correct information for LOT number and expiration date. Incorrect information may cause erroneous results.

Barcode scanner is an optional item. If you want to purchase it, please contact regional distributor or Boditech Med Inc.'s Sales department.

If user register the same control material on same item, the latest information will be registered.



#### 10.5. Review data

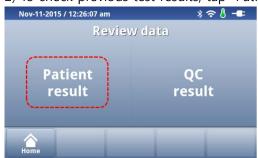
#### 10.5.1. Patient test result

Review > Patient result

1) Tap "Review" button.



2) To check previous test results, tap "Patient result".





3) For more information, tap a test result that you want to check.





Sometimes LOT number and expiration date may not be displayed according to LOT number of ichroma $^{\text{\tiny M}}$  Item.

## • Button description

Button	Function / Description	
Back	Go back to the previous screen.	
Print	Print selected test results out. (Only available when built-in printer is selected.)	
Send	Send selected test results to connected PC, LIS, WIFI or Bluetooth.	



PID History	When you tap this button after selecting one patient ID, all test results for selected patient ID are displayed. If there is no patient ID, this function is not available.
Q Search	You can search test results by inputting test date, name of item and patient ID.
DOWN	Go to the next page.
UP	Go back to the previous page.
~	Selecting or deselecting listed test results.
•	When this is marked on, it means that item is selected.



ichroma $^{\text{\tiny TM}}$  II can save up to 1,000 test results in its internal memory. Further test results are saved automatically and oldest test results will be deleted.

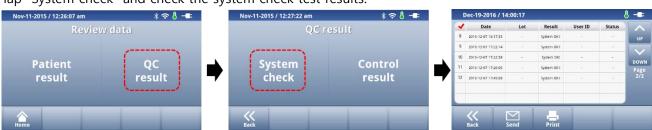
## 10.5.2. QC test result

#### 10.5.2.1. System check test result

## Review > QC result > System Check



Tap "System check" and check the system check test results.





Sometimes LOT number and expiration date may not be displayed according to LOT number of ichroma™ system check cartridge.

#### **Button description**

Button	Function / Description	
Back	Go back to the previous screen.	
Print	Print selected test results out.	
Send	Send selected test results to connected PC, LIS, WIFI or Bluetooth.	
DOWN	Go to the next page.	
UP	Go back to the previous page.	
	Selecting or deselecting listed test results.	
	When this is marked on, it means that item is selected.	



#### 10.5.2.2. QC material test result

Review > QC result > Control Sample

ichroma $^{\text{m}}$  II provides functions for checking and monitoring QC test result. Through these functions, we can provide proper quality control method.

## 1) Tap name of item.



2) Select LOT number of test Item, Control Name and Control LOT and tap "OK" button.



3) Information of selected item is displayed.





Sometimes LOT number and expiration date may not be displayed according to LOT number of ichroma $^{\text{TM}}$  item.

## Button description

Button	Function / Description	
Back	Go back to the previous screen.	
Print	Print selected test results out.	



Send	Send selected test results to connected PC, LIS, WIFI or Bluetooth.
Graph	Test results are displayed with graph type.
DOWN	Go to the next page.
UP	Go back to the previous page.
	Selecting or deselecting listed test results.
•	When this is marked on, it means that item is selected.

4) When you tap graph button, listed test results are displayed with graph type as follow.





ichroma $^{\text{\tiny M}}$   $\Pi$  provides efficient quality control method by displaying and analyzing QC test result as graph type.

## 10.6. Print test result

ichroma™ II can print test result out by using built-in printer or PC connection.

## 10.6.1. Print test results out by using built-in printer

- 1) In case of built-in printer is installed, you can print test result out immediately after test is completed.
- 2) To set built-in printer, please refer to clause 10.3.6. System.

Document No. : OPM-IR2-EN
Date : 2018. 06. 01 (Rev.08)
Printed contents are as follow.



## Run Test result(example) QC Test result(example) System Check result(example)

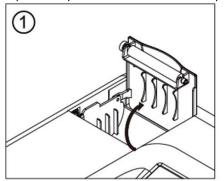
[ CRP Test ] [ PSA QC Test ] [ System Check Test ] Date: 2015-10-29 Date: 2015-10-29 Date: 2015-10-29 Time: 08:54:36 Time: 08:54:36 Time: 08:54:36 User ID: admin User ID: admin User ID: admin ITEM LOT: CRXXX01 ITEM LOT: PSXXX01 ITEM LOT: ITEM Exp.: 2016.12.31 ITEM Exp.: 2016.12.31 ITEM Exp.: Patient ID: aaa Control: Universal Control I Result: System OK! Age: 30 Control LOT: UCIXXX03 Or Gender: Male Control Exp.: 2015.12 Result: Not Available! Error code Result: 2.65 mg/L Result: 2.65 ng/mL Reference Value: Low Limit: High Limit:

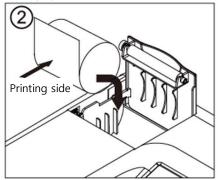


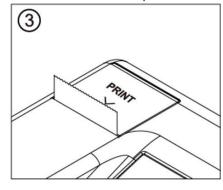
Sometimes LOT number and expiration date may not be displayed according to LOT number of ichroma™ item.

## Changing printer paper

Open the printer cover and insert printer paper with correct direction as follow. Then close the printer cover.









When the printer cover is closed, built-in printer ejects printer paper a little for initialization.

Be careful excessive force when opening or closing the printer cover for preventing malfunction of built-in printer.



## 10.6.2. Print test results out by PC connection

ichroma $^{\text{\tiny TM}}$  II can print test results out by PC connection.



To print test results out by PC connection, the specific software provided by Boditech Med Inc. is needed.

This function will be presented in near future.



## 11. Optional

## 11.1. Barcode scanner

Barcode scanner is used for inputting user ID, patient ID or information of QC materials(controls).



How to use

1) Connect barcode scanner to USB port which is located on the rear side of ichroma™ II. To use barcode scanner, specific setting procedure for using barcode scanner is not needed.



## 11.2. Keyboard

You can use keyboard instead of touchpad in LCD display.



How to use

Connect keyboard to USB port which is located on the rear side of ichroma™ II.
 To use keyboard, specific setting procedure for using keyboard is not needed.



## 11.3. WIFI Dongle

ichroma $^{\text{\tiny{M}}}$  II provides wireless internet connection using WIFI dongle.





This function will be presented in near future.

## 11.4. Bluetooth Dongle

ichroma $^{\text{\tiny TM}}$  II provides Bluetooth function.



This function will be presented in near future.

## 11.5. SD Card

You can update software of ichroma™ II using SD Card.

Please refer to clause "10.3.6.5 update".

## 11.6. ichroma™ II PC Connector Cable (USB OTG Cable)

ichroma™ II provides functions for printing by PC connection.

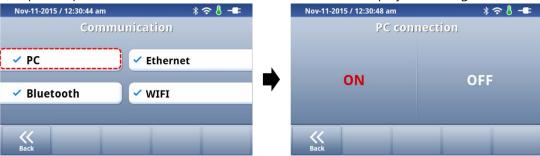


How to use

- 1) Connect connection cable to USB OTG port which is located on the rear side of ichroma™ Ⅱ.
- 2) Connect connection cable to USB port of PC.



3) Tap "Setup > Communication > PC". Then ichroma™ II displays following screen.





4) To connect ichroma<sup>™</sup>  $\Pi$  to PC, tap "ON" button.



To connect ichroma™ II to PC, the specific software is needed. Please contact regional distributor or Boditech Med Inc.'s technical support team for detailed information.



To print test results out by PC connection, the specific software provided by Boditech Med Inc. is needed. Please contact regional distributor or Boditech Med Inc.'s technical support team for detailed information.

## 11.7. AA battery

ichroma™ II can use AA type batteries instead of AC adaptor.

To install/set batteries, please refer to section "8. Power supplement".



Use of batteries is only available in case of a blackout for instant operation. It is impossible for normal use with batteries for a long time. We suggest to use AC adaptor and power cable for stable and safe operation. It is possible 30 multi tests or 2 single tests when batteries are used.

It is possible to use AC adaptor and batteries simultaneously.

But we suggest to remove batteries when AC adaptor is used.



For detailed information regarding optional items, please contact regional distributor or Boditech Med Inc.'s technical sales team.



## 12. Troubleshooting

12. Iroubleshooting	D. II	
Symptoms	Problem causes	Recommended
		remedial/corrective measures
Nothing happens; ichroma™ II does not show any sign of functioning	Poor connection between the power adapter and the power cable.	Remove the power cable / adaptor and reconnect firmly.
	Power failure	Please use AC adaptor provided by Boditech Med Inc.
	Power switch is off.	Please turn the power switch on.
	AC adaptor failure	Contact regional distributor or Boditech Med Inc.'s technical support team.
LCD is not on or does not work properly.	External shock	Check there are some electromagnetic field emitting devices around ichroma™ II. Please install ichroma™ II apart from that kinds of devices.  If problems are not solved, contact regional distributor or Boditech Med Inc.'s technical support team.
	Power failure	Refer to "Nothing happens" descriptions.  If problems are not solved, contact regional distributor or Boditech Med Inc.'s technical support team.
ichroma™ II does not display test	ichroma™ II in under calculating	Please wait until ichroma™ II
result after completing the test.	test result.	displays the test result.
	Internal communication failure	Restart ichroma™ II.  If problems are not solved, contact regional distributor or Boditech Med Inc.'s technical support team.
The cartridge holder does not work.	Foreign material	Contact regional distributor or Boditech Med Inc.'s technical support team.
	Software failure	Restart ichroma™ II.  If problems are not solved, contact regional distributor or Boditech Med Inc.'s technical



Date : 2018. 06. 01 (Rev.08)		T
		support team.
Some noise generate while	Foreign material	Contact regional distributor or
ichroma™ II is working.		Boditech Med Inc.'s technical
		support team.
	Software failure	Restart ichroma™ II.
		If problems are not solved,
		contact regional distributor or
		Boditech Med Inc.'s technical
		support team.
Operation temperature is out of	Environment temperature is out of	It is possible to proceed test. But
range.	operation temperature range(15-	test result may not correct due to
Do you want to proceed the test?	35℃).	operation temperature is out of
		suggested condition(15-35°C).
		Please set environment
		temperature as 15-35℃.
It is impossible to proceed the test	System error	Contact regional distributor or
due to system error.		Boditech Med Inc.'s technical
		support team.
ichroma™ II is working. Please	The cartridge holder is moving.	Please wait until the cartridge
wait.		holder stops.
Insert test cartridge.	In case of tapping "Next" button	Please insert test cartridge and
	without inserting test cartridge in	tap "Next" button.
	single test mode.	
Register or insert ID chip.	In case of ID chip is not registered	Please insert or register ID chip
	or not registered item is tested	first.
	without ID chip.	Some items are can't be
		registered. Please check items
		again.
Please check test cartridge.	In case of use of system check	It is impossible to use system
_	cartridge in multi, single and	check cartridge in multi, single
	control materials test mode.	and control test mode. Try the test
		again with proper test cartridge.
Check system check ID chip.	In case of tapping "Next" button	To proceed system check, you
,	without system check ID chip.	should insert system check ID
	In case of other ID chip is inserted.	chip. Please insert system check
	,	ID chip and try system check
		procedure again.
Check LOT number of system	LOT number of system check	Please check LOT number and try
check cartridge and ID chip.	cartridge and ID chip do not	again.
	match.	
System check cartridge is expired.	Incorrect set of date and time.	Please check date and time in
Do you want to proceed system	and the	ichroma™ II.
Do you want to proceed system		icinoma n.



Date . 2016. 06. 01 (Rev.06)		
check test?	System check cartridge is expired.	In case of expiration date of
		system check cartridge is over, it
		is possible to proceed system
		check procedure. But it may cause
		incorrect system check test result.
Select name of control.	In case of control materials test is	Please input name of control and
	started without selecting name of	try again.
	control.	
It is impossible to print.	There is no printer paper.	Please install/insert printer paper
Check printer.		with correct direction.
	Printer failure	If problems are not solved,
		contact regional distributor or
		Boditech Med Inc.'s technical
		support team.
It is impossible to search items	In case of user tries to search	If test result information does not
which are not including patient ID.	items which are not including	include patient ID, it is impossible
	patient ID.	to search test result by patient ID.
		Please check patient ID is included
		in the test result information.
There is no selected data.	In case of tapping "Print" or	Please select data what you want
	"Delete" button without selecting	to print or delete and try again.
	data.	
Input user ID with more than 2	In case of inputted user ID with	Please input ID again with more
characters at least.	only 1 character.	than 2 characters.
Input password with more than 2	In case of inputted password with	Please input password with more
characters at least.	only 1 character during user ID	than 2 characters.
	registration.	
Incorrect password	In case of inputted password and	Please check inputted password
Check your password and try	confirmation password do not	and try again.
again.	match during user ID registration.	
This ID is already registered.	In case of inputted user ID is	Please check user ID and try
	already registered/exist during	again.
	user ID registration.	
ichroma™ II can register maximum	The number of registered user ID	Please delete user ID and try
100 users.	exceed 100 during user ID	again.
	registration.	
Input user ID.	In case of tapping "OK" button	Please input user ID and try again.
	without inputting user ID.	
Input password.	In case of tapping "OK" button	Please input password and try
. ,	without inputting password	again.
<u> </u>	1 11 9 11 11 11 11	



## 13. Error code

15. Error code			
Error code	Probable causes	Recommended Remedial / Corrective	
Error 25 - 31	Technical problems in test cartridge	Try again the test with new test cartridge.	
Error S1, Error S2	Optical failure	Turn the power off and contact regional distributor or Boditech Med Inc.'s technical support team.	
Value Error 1 - 10	Improper sample or buffer is used.	Try again the test with new test cartridge and test sample.	
Caution Error	Technical problems in test cartridge	Try again the test with new test cartridge.	
Barcode Error	Problem in identification of barcode on test cartridge	Check barcode on test cartridge is damaged or contaminated by foreign materials  Insert test cartridge into the cartridge holder to the end.  If problems are not solved, contact regional distributor or Boditech Med Inc.'s technical support team.	
Mismatch error	ID chip and test cartridge do not match.	Match ID chip and test cartridge. Then try again the test.	
Password error	Incorrect password	Try again after checking user ID and password.	
ID chip cartridge Lot Number Mismatch	LOT number of ID chip and test cartridge do not match.	Match LOT number of ID chip and test cartridge. Then try again the test.	
Invalid Item	ID chip problem	Change ID chip and try again with new ID chip.  If problems are not solved, contact regional distributor or Boditech Med Inc.'s technical support team.	
SW & Test batch not compatible	Test item is not included in software.	Contact regional distributor or Boditech Med Inc.'s technical support team.	
Optics part Error !	Optical failure during self- testing procedure	Contact regional distributor or Boditech Med Inc.'s technical support team.	



Moving part Error !	Moving part failure during self- testing procedure	Contact regional distributor or Boditech Med Inc.'s technical support team.	
Storage disk Error !	Internal storage failure during self-testing procedure	Contact regional distributor or Boditech Med Inc.'s technical support team.	
Temperature sensor Error!	Temperature sensor failure during self-testing procedure	It is possible to proceed test. But test result may not correct due to operation temperature is out of suggested condition(15-35°C).  Contact regional distributor or Boditech Med Inc.'s technical support team.	
Printer initializing Error !	Built-in printer failure during self-testing procedure	It is possible to proceed test. But it is impossible to print the test result out.  Contact regional distributor or Boditech Med Inc.'s technical support team.	
Temperature out of recommended range. Proceed?	Environment temperature is out of operation temperature range during self-testing procedure	It is possible to proceed test. But test result may not correct due to operation temperature is out of suggested condition(15-35°C).  Please set environment temperature as 15-35°C.	

Document No.: OPM-IR2-EN

Date: 2018. 06. 01 (Rev.08)

14. Warranty

ichroma™ II has passed strict quality assurance and testing procedures.

Boditech Med Inc.'s expressed and implied warranties are conditional upon full observance of Boditech Med

Inc.'s published directions with respect to the use of Boditech Med Inc.'s products.

Under no circumstances whatsoever shall Boditech Med Inc. be held liable for any indirect or consequential

damages.

To avail the warranty service, the consumer must return the defective ichroma™ II unit or any component

thereof; along with proof of purchase to Boditech Med Inc. or it's nearest Authorized Service Agent.

**Warranty Information** 

During the warranty period (24 months from the date of purchase), defective or spontaneously malfunctioning

ichroma™ II or its component(s) will be repaired free of cost or may be compensated for in accordance with

consumer protection rules and regulations.

The consumer may be charged for repair of ichroma™ II even during the warranty period in following cases:

- Improper use or misuse

- Consumer's intentional mishandling, abuse or neglect of the product(s)

- Unauthorized repair / replacement of or alteration in any component

- Missing of warranty card or intentional modification of information in warranty card

Damages or defects due to fire, pollution, earthquake or other natural disasters.

For after-sales inquiry, please contact:

**Boditech Med Incorporated** 

43, Geodudanji 1-gil, Dongnae-myeon, Chuncheon-si, Gang-won-do 24398

REPUBLIC OF KOREA.

Phone No.: +82 33 243 1400 / Fax No.: +82 33 243 9373

E-mail: support@boditech.co.kr / Website: www.boditech.co.kr

양식-GE02-15 (Rev. 03)

57 / 58

OPM-IR2-EN
O1 (Rev.08)

## Warranty card

Thank you for purchasing ichroma™ II.

Please fill the required information and send a copy of this warranty card within 30 days of date of purchase to the above address.

Product Name	ichroma™ II
Serial No.	
Date of Manufacture	
Warranty Period	24 months from the date of purchase
Date of Purchase	Year Month Day
Manufacturer	Boditech Med Inc.
Purchase Location	

# Respect for life

## **Boditech Med Inc.**



43, Geodudanji 1-gil, Dongnae-myeon, Chuncheon-si, Gang-won-do 24398, Korea Tel: +82-33-243-1400 Fax: +82-33-243-9373 바디텍메드(주) 강원도 춘천시 동내면 거두단지 1길 43 (24398)

#### Obelis s.a



Bd. Général Wahis 53, 1030 Brussels, Belgium Tel: +(32) 2-732-59-54 Fax: +(32) 2-732-60-03 mail@obelis.net