

BUDDI™

User manual



NanoEnTek

Read me first

Thank you for purchasing the BUDDI™.

Please take a few minutes to read this user manual.

If you have any questions at any time, please contact NanoEnTek Inc.
,customer support.

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Introduction

Warranty

NanoEnTek Inc. warrants the original purchaser for one year from the date of its initial purchase that this equipment and other devices sold by one of its authorized representatives will function as specified.

NanoEnTek Inc. and its representatives shall be relieved of any liability under this warranty if the product is not used in accordance with the manufacturer's instructions, altered in any way not specified by NanoEnTek Inc., not regularly maintained, used with equipment not approved by NanoEnTek Inc. or used for purposes for which it was not designed.

This warranty does not apply to damages incurred during the initial shipment of the instrument and associated auxiliary materials. Any damages incurred on initial shipment are to be reported immediately to the freight carrier for the settlement of the claim. Please examine the equipment carefully for any damage before signing for the shipment since your signature indicates receipt of undamaged equipment.

NanoEnTek Inc. will not be responsible for any indirect, incidental, special, consequential or punitive damages or other losses, including, but not limited to, damages to or losses of other properties or equipment. NanoEnTek will not be responsible for personal injuries, whether to the purchaser or others.

Introduction

Principle

The principle of the BUDDI™

- BUDDI™ is an image analyzer that evaluates the line signal intensities of analyte and control line on the test device.
- BUDDI™ measures the intensity of analyte and control line on the test device, and then interprets the results using scoring algorithm.
- BUDDI™ reports a positive, negative, or invalid result based on pre-set thresholds.

Introduction

Package List

BUDDI™ is shipped with the following components.

Please check all components listed below when an instrument was delivered.

If any item is missing or damaged, contact your local distributor or e-mail ivdst@nanoentek.com.

BUDDI™ 1 EA	Adaptor / Power cord 1 EA	Wifi dongle (Optional) 1 EA
		
User manual 1 EA	Calibration device 1 EA	
		

Introduction

Safety Precautions

Thoroughly read all instructions before attempting to operate this equipment. Pay particular attention to all safety precautions. The following guidelines must be observed during every phase of operation. Breaking these rules may be dangerous, illegal or affect performance of the equipment and/or invalidate the equipment approval and/or warranty. In order to avoid instrument damage or personal harm, read this manual carefully and follow the instructions given.

- Always ensure that the power supply input voltage matches the voltage available in your location.
- This machine is air-cooled so its surface becomes warm during operation. When installing the equipment on the counter top always leave a space of more than 10 cm (4 inches) around the instrument in all directions.
- Leave adequate distance between the back of the instrument and the wall to allow the operation of the 'on' and 'off' power switch.
- Do not insert metallic objects into the BUDDI™ as this could result in an electrical shock, personal injury and equipment damage. Insert only qualified and authorized devices supplied by NanoEnTek Inc.
- Do not insert any foreign materials into the air vent or the speaker. Always set the instrument to the 'Power-off' state before connecting the power cord to the wall outlet.
- When unplugging the power cord, be certain to power off the instrument, then unplug the power cord.

NOTE : This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Introduction

General Safety Warnings

The following symbols are found on the BUDDI™ and in the manual and package inserts. Study the meanings of the symbols and always use the equipment in a safe manner.

- Before using the equipment, read this manual and be certain you thoroughly understand it's contents.
- Please follow the instructions in this manual to assure proper operation of the equipment.
- When not in use, unplug the equipment from the electrical outlet.
- Perform regular maintenance checks on the main body of the instrument. Inspect all components.
- After long term storage, take extra care to be sure the equipment operates correctly.
- Avoid handling or storing liquid on or near the equipment.
- Do not open the machine at any time while it is operating or when it is plugged in to the wall outlet.
- Keep the instrument away from open flames and/or smoke.
- When moving the equipment, unplug it and move it carefully and gently.
- Do not lean equipment forward during moving or operating.
- The instrument should be placed on a flat and stable surface.
- Refer to this manual for handling and/or maintenance.
- Keep the equipment(including the cable and the plug) out of reach of children.

Disposal management.

Introduction

General Safety Warnings

- Do not attempt to disassemble/modify the equipment.
- Do not insert foreign objects into the equipment and insert only NanoEnTek provided device.
- Do not handle the equipment or the power cord with wet hands.
- Do not move, tilt, jar or shake the equipment when it is in operation.
- Do not store the equipment in direct sunlight, high/low temperatures or high humidity.
- Do not throw, drop, hit or push the equipment.
- Do not touch the equipment or the plug during an active thunder and/or lightning storm.
- Do not touch the LCD panel with sharp objects.
- Do not use the equipment, if it has any damaged parts (including the power cord or the plug).



- There is a risk of explosion, if the instrument battery is replaced with an incorrect type.
- Class A equipment is intended for use in an industrial environment. In the documentation for the user, a statement shall be included drawing attention to the fact that there may be potential difficulties in ensuring electromagnetic compatibility in other environments, due to conducted as well as radiated electromagnetic disturbances from the instrument itself.

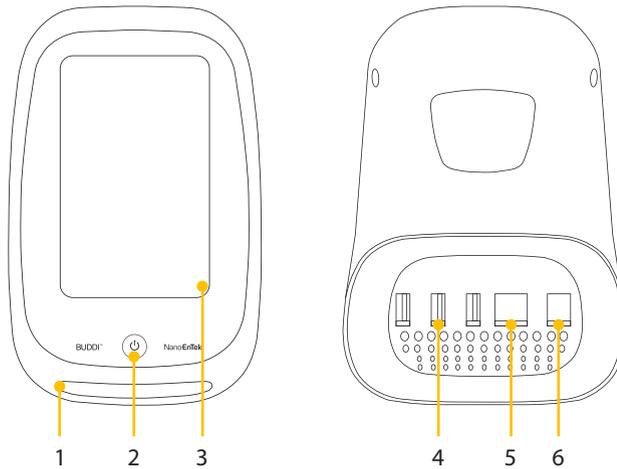


- The device should be inserted into the equipment within the stipulated time.
- The instrument should be used in a clean environment. Ensure the sample is not contaminated by any foreign material or contain fibrin clots.
- Human samples and controls should be considered potentially infectious.

Introduction

BUDDI™ description

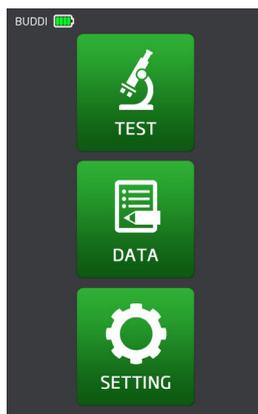
No.	Name	Function
1	Device Slot	Location to insert or remove the BUDDI™ device
2	Power Switch	Power On/Off (Press and hold the power button for 3 seconds to turn the power ON.)
3	Screen	Show the operating status and results
4	USB Port	Use to connect to a USB drive
5	LAN Port	Ethernet interface
6	Power Supply Port	Power Supply (Unplug the power code when the system is in no use for a long time.)



Introduction

Buttons & functions

Main screen

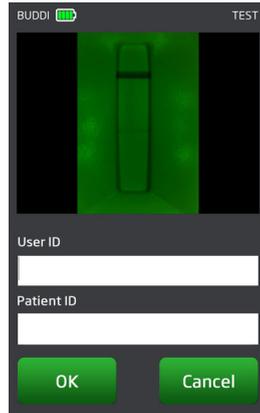


Designation	Purpose
	Initiates a test sequence for an analyte using that analyte-specific device.
	Check and search the results. Back up and transfer the data to a USB drive.
	Set up the BUDDI™ parameters specific for the site and operator.

Introduction

Buttons & functions

Test screen

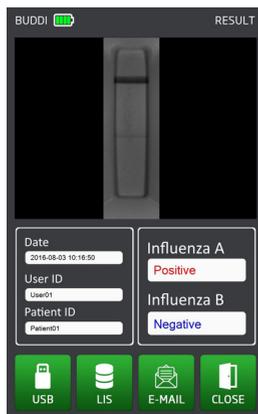


Designation	Purpose
	Preview the device
	Patient ID & user ID input field
	Start a test.
	Cancel a test and move to main screen.

Introduction

Buttons & functions

Test result screen

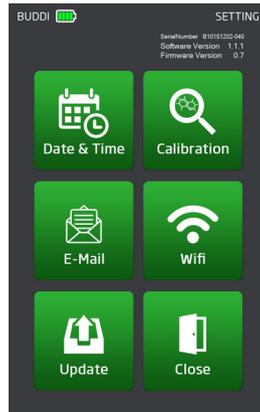


Designation	Purpose
	Show the detect area in the device.
	Display a test date, user ID and Patient ID
	Display the result of the test.
	Send the result to the USB drive.
	Send the result to LIS server.
	Send the result to E-mail.
	Move to main screen.

Introduction

Buttons & functions

Setting screen



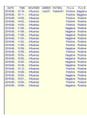
Designation	Purpose
	Set the time and date at which the BUDDI™ is located.
	Calibrate the BUDDI™'s alignment, test line and control line, to enhance detection performance
	Set a e-mail environment setting. Set your e-mail server address, port and your mail account.
	Setting a wireless internet
	Allows for software updates.
	Move to the main screen.

Introduction

Buttons & functions

Data screen

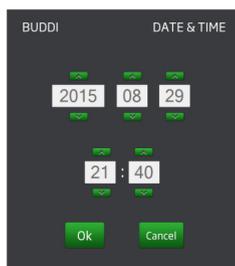
DATE	TIME	DEVICE	USERID	PATENT.	FLU A	FLU B
2016-08-10	10:16	Influenza	User01	Patient01	Positive	Negative
2016-08-10	11:11	Influenza			Positive	Negative
2016-08-10	14:05	Influenza			Positive	Positive
2016-08-10	14:03	Influenza			Positive	Positive
2016-08-10	14:03	Influenza			Positive	Positive
2016-08-11	11:06	Influenza			Negative	Positive
2016-08-11	11:02	Influenza			Negative	Positive
2016-08-11	11:05	Influenza			Negative	Positive
2016-08-11	11:04	Influenza			Negative	Positive
2016-08-11	11:02	Influenza			Positive	Positive
2016-08-11	11:00	Influenza			Positive	Positive
2016-08-10	10:59	Influenza			Negative	Positive
2016-08-10	10:55	Influenza			Positive	Positive
2016-08-10	10:54	Influenza			Negative	Positive
2016-08-10	10:53	Influenza			Negative	Positive
2016-08-10	10:52	Influenza			Negative	Positive
2016-08-10	10:39	Influenza			Negative	Positive
2016-08-10	10:13	Influenza			Positive	Positive
2016-08-10	10:09	Influenza			Positive	Positive
2016-08-10	10:04	Influenza			Negative	Positive
2016-08-10	10:01	Influenza			Negative	Positive
2016-08-10	10:00	Influenza			Positive	Positive
2016-08-10	10:00	Influenza			Negative	Positive

Designation	Purpose
	Data list
	Backup all the saved data to the connected USB drive.
	Send the result to the LIS server.
	Delete all the saved data.
	Move to the main screen.

Setup

BUDDI™ setup procedure

8. Set the local date and time.

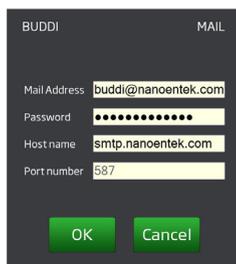


9. Press the OK button to return to the Setting screen.

10. Press the E-Mail button on the Setting screen.



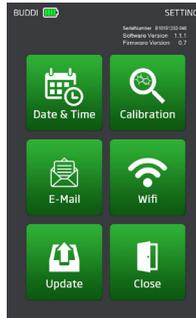
11. Input your e-mail information in the input fields. Press the OK button to save the settings you specified.



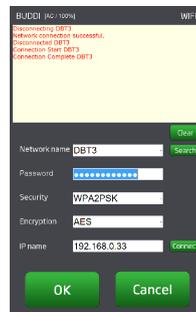
Setup

BUDDI™ setup procedure

12. If you want to connect wireless internet, press the **Wifi** button on the setting screen.



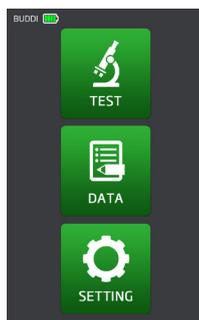
13. Selects the appropriate SSID. If the SSID does not appear, push the Search button. Then the SSID list will be displayed. Input password and encryption options, press the connect button. The assigned IP will be displayed IP name field.



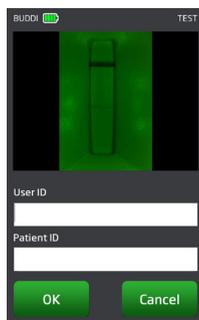
Operation

BUDDI™ operating procedure

1. Push the power button on the front.
2. When the system is booting, the main screen will appear.



3. Prepare a test device completed with patient sample.
*NOTE: The test device, added a patient sample, should be tested within 15 minutes.
Do not interpret a test result after 15 minutes.*
4. Insert the device into the device slot of BUDDI™.
5. Press the TEST button on the Main screen to move to the TEST screen.

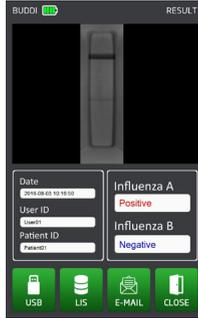


6. Type the 'Patient ID' and 'User ID'. To start a test, press the OK button. The test is carried out automatically.

Operation

BUDDI™ operation procedure

7. When the test is done, the results are displayed on the screen.



8. If you want to save the result to the connected USB drive, press the USB button.



9. If you want to send the result to the LIS server, press the LIS button.



10. If you want to send the result to e-mail, press the E-MAIL button. If you fail to send the result to e-mail, please check network connection state. But transmission is failed continually, please select other WIFI AP.



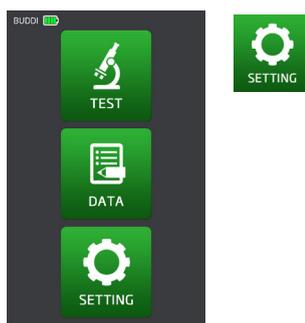
11. After the test is completed, remove the device from the device slot.
12. If another sample is to be run, repeat again steps 3-11.

Maintenance

BUDDI™ calibration

To assure reliable and accurate test results, please check the following.

1. Push the power button.
2. Check the Main screen and press the **Setting** button on Main screen.



3. Press the **Calibration** button on the Setting screen.

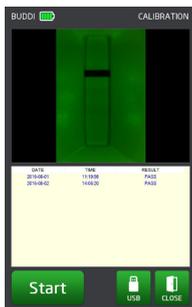


4. Prepare a calibration device.
5. Insert the calibration device into the device slot on the front.

Maintenance

BUDDI™ calibration

6. To start a calibration, press the OK button. The calibration is carried out automatically.



7. When the calibration is done, the results are displayed in the list.

DATE	TIME	RESULT
2016-08-01	11:19:56	PASS
2016-08-02	14:06:20	PASS

8. You will see “Pass”, if the system is properly operating.
9. If you want to save the calibration result list, press the USB button.
10. Press the CLOSE button and move to the Main screen.
11. Remove the calibration device from BUDDI™.

Maintenance

Cleaning and Storage

- Do not clean the BUDDI™ with strong or caustic cleansing agents, chemicals or cleansing tissues impregnated with chemicals. Use a soft and dry cloth to clean the BUDDI™.
- For safety reasons, disconnect the power supply from the main outlet and remove the power adapter equipment from the BUDDI™.
- If you want to store for a lengthy period, keep the BUDDI™ covered in a dry place.
- Do not expose the equipment to direct sunlight.
- Recommended storage conditions are as follows:
 - Temperature: 15°C ~ 30°C
 - Humidity: 10% ~ 80%
- Store the equipment on a stable surface. Avoid inclination, vibration and impact.
- Do not place the equipment near chemicals and/or corrosive substances.
- Keep the equipment, cable and other accessories well-organized.
- Keep the equipment clean for the next use.
- To move the equipment, carefully pick it up and put it down gently to avoid impact.
- Do not place heavy materials on top of the equipment.
- Wrap or cover the equipment when in storage to protect from dust..

Maintenance

Troubleshooting

If the BUDDI™ malfunctions, please check the following before you contact Customer Support.

Type	Error code	Error message	Possible Cause	Possible Solution
Device Insertion Issues	EM-01	There is no device.	The device is not inserted or inappropriately inserted.	Re-insert the Device correctly. After insertion, make sure the device is properly and completely inserted.
Tray Issues	EM-02	Push the tray.	Open the device slot	Close the device slot and try again.
Data Backup Issues	EM-03	USB drive is not exist.	Cannot recognize the USB drive	Check the USB drive is connected properly to the USB port.
	EM-04	Result directory not found.	Cannot find the saved test result	Run the test one more.

Maintenance

Trouble-shooting

Type	Error code	Error message	Possible Cause	Possible Solution
Internet Connection Issues	EM-05	Please check your Internet connection	Not connected to the internet	Press "Setting" -> "Wifi" button and set up the wireless internet
	EM-06	Failed Reading QR Code	Cannot read the QR code	Check the QR code on the device and try again
Detect Issues	EM-07	The image is not detected. Please try again	Cannot detect the control line	Check the control line on the device
	EM-08	BUDDI.exe file is not exist	Cannot find "BUDDI.exe" file in USB drive	Check the "BUDDI.exe" file in the USB drive
Update Issues	EM-09	update.exe file is not exist	Cannot find "update.exe" file in USB drive	Check the "update.exe" file in the USB drive

Maintenance

General specification -normal environmental conditions

- Electrical rating: Voltage: AC100 ~ 240 V, Current: 1.7 A, Frequency: 50 ~ 60 Hz
- Electric input: Voltage: DC 12 V, Current: 5 A
- Dimensions: 166mm x 202 mm x 205 mm (W x L x H)
- Weight: 2 Kg
- User interface: Active screen size (7.0 inches diagonal dimension), Pixel format (800 x 1280, TFT LCD)
- Environmental Suggestions for Optimal Performance
 - Do not place unit in the direct sun
 - Position the unit in a well-ventilated area
 - Place the unit on a flat, dry and smooth surface with sufficient ventilation area around the unit
 - Operating condition: Temperature: 15°C ~ 30°C, Humidity: 10% ~ 80%
 - Storage condition: Temperature: 15°C ~ 30°C, Humidity: 10% ~ 80%

Maintenance

Customer support information

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Every effort has been made to avoid errors in test and diagrams. However, NanoEnTek Inc. assumes no responsibility for any unintentional errors which may appear in this publication. Information and specifications contained in this document are subject to change at any time without prior notice. For the most up-to-date information, contact NanoEnTek, Inc.'s customer support.

This product is sold all over the world. Customer support services vary for each geographical region. When the BUDDI™ is shipped, information will be included that lists the appropriate telephone numbers, fax numbers and email addresses from which support for your geographical region can be most readily obtained.

The information in this manual has been carefully reviewed and has been found to be as accurate.

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