

Micro Plus



# ***PACKIT* <sup>®</sup> Nucleic Acid Analyzer**

## **User Manual**

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
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## Symbols

 Conformité Européenne

 Date of manufacturing


 Manufacturer


 EU authorized representative

 Catalogue number

 Serial number

 Direct current

 Caution, consult instructions for use.

 **WEEE**  
**symbol**

This product is produced in  
compliant with the European  
Union's Waste Electrical &  
Electronic Equipment (WEEE)  
Directive 2012/19/EU.

## Section 1. Introduction

The **POCKIT™ Micro Plus** Nucleic Acid Analyzer (**POCKIT Micro Plus**) is developed based on the insulated isothermal PCR technology (iiPCR), which works on the Rayleigh-Bernard convection created by a single heating source at the bottom of capillary tubes to drive PCR.

**POCKIT Micro Plus**, equipped with one optical channel, is intended to provide qualitative DNA/RNA detection by iiPCR. Up to four reactions are completed around 45 minutes and the test results are directly displayed on the monitor.

### 1.1 Intended use

Intended users are properly-trained laboratory technicians familiar with molecular biology techniques, and those who want to perform iiPCR or its relative reagent kits produced by GeneReach. For research use only.

## Section 2. General Information

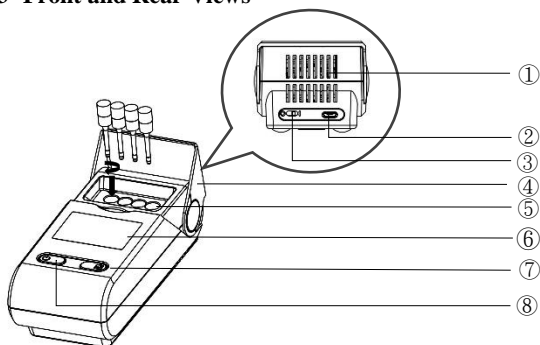
### 2.1 Product Components



- **POCKIT™ Micro Plus** Nucleic Acid Analyzer × 1
- User Manual × 1 copy

### 2.2 Specification

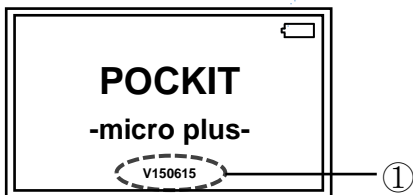
- Dimension: 63 mm (W) × 50 mm (H) x 152 mm (L)
- Net Weight: 380 g
- Power Supply:
  - ✓ Input: 100-240V, 50/60Hz, 0.2A
  - ✓ Output: DC 5V 1A (micro USB mount)
- Operation Ambient Temperature: 15-35°C
- Operation Altitude: Up to 5000 meters
- Transportation Condition: -29-50°C, 55±20% RH
- Storage Condition: 10-40°C, 30-80% RH
- Throughput: 1-4 reactions per run.

## 2.3 Front and Rear Views



No	Item	Description
①	Cooling vents	Release the heat generated during the reaction.
②	Power socket	To connect the power cord.
③	Main switch	To turn on/off the main power.
④	Lid	Prevent light interference in the reaction chamber.
⑤	Reaction well	Accommodate the R-tubes to perform the amplification.
⑥	Screen monitor	A screen monitor where users view machine status and the results.
⑦	 Button	Press to start the reaction.
⑧	 Button	Wake up/sleep mode button.

## 2.4 Software Version



No.	Item	Description
①	Software Version	Current software version on POCKIT Micro Plus system.



## Section 3. Important Notes

Check the package upon receiving. If any items are missing or damaged, please contact your local distributor or GeneReach immediately for replacement. Do not use any damaged items as this may lead to poor performance of the test or harm to the user.

### 3.1 Safety Information

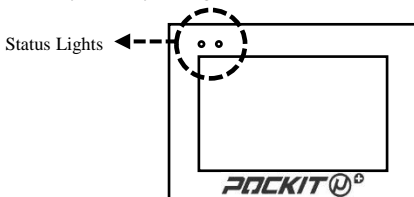
- Please carefully read these warnings, precautions and safety/operating instructions completely before operating this product.
- Electromagnetic Compatibility: This product complies with the emissions and immunity requirements of IEC 61326. It is advisable to evaluate the electromagnetic environment prior to operating the device. Do not use this device in close proximity to sources of strong electromagnetic radiation (for example, unshielded intentional radio frequency (RF) sources). Strong electromagnetic radiation may interfere with the proper operation of the device.
- Do not touch any plug and electric switch with wet hands. Make sure to keep the device away from water.

- Do not move the device during the reaction. Switch off the device before moving it.
- It is strongly recommend to put the device in the box for shipping/long-distance transportation. Pack the device carefully. Vibration or crash may cause damage.
- Do not look directly into the LED light in the reaction wells when the LED lights are on.
- Only use consumables and accessories provided from GeneReach.
- Make sure the ambient temperature during reaction is kept at 15-35°C.
- Do not disassemble the device (including changing battery) when any problem occurs. Contact your local distributor or GeneReach directly for troubleshooting.
- To ensure safety, the device has auto cut off for overcharge/ over discharge/ overcurrent protection.
- Waste materials, such as gloves and R-tube, may lead to contamination of other experiments. Please discard them carefully according to your local regulation.

## Section 4. Operation

### 4.1 Charge the POCKIT Micro Plus

- (1) Use the included charger to charge the **POCKIT Micro Plus**.
- (2) **POCKIT Micro Plus** has two status lights. Red indicates the battery is charging, and green indicates the battery is fully charged.



**\*Note:** Before the first use, be sure to charge the battery for 10-12 hours.

**\*Note:** Make sure the red status light is displayed while charging.

**\*Note:** Make sure **POCKIT Micro Plus** is properly charged before use. Due to risks of current instability in different areas, DO NOT run the

reaction while charging the battery to ensure smooth operation.

\*Note: If the charging status lights do not work, please re-plug the power cord. If the same problem occurs again, please contact your local distributor or GeneReach for assistance.


## 4.2 Switch on

Switch on the main power located in the back. The device performs will initiate self-testing, and “System Ready” will show on the screen after several minutes.



\*Note: If self-testing runs longer than 15 minutes, the system will show “System Time Out” on the screen. Please see Troubleshooting for more details.

### 4.3 Sleep Mode


(1) **POCKIT Micro Plus** will enter its sleep mode automatically after 10 minutes without activities, or by pressing  button.

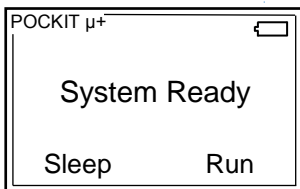
(2) To wake up **POCKIT Micro Plus**, press  button again.

**\*Note: If the main power is switched off during the sleep mode, make sure to wait for at least 1 minute before switching it on.**

### 4.4 Run iiPCR Reaction

**\*Note: DO NOT operate under direct sunlight.**

(1) Place the R-tubes into the reaction well. Close the lid and press  to start the reaction.



**\*Note: DO NOT run the reaction while charging the battery to ensure smooth operation.**

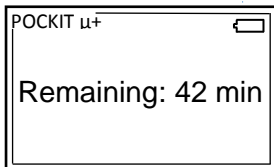
**\*Note: Make sure the R-tubes are completely fit into the reaction chamber and the lid is closed tightly before starting the reaction.**

**\*Note: DO NOT open the lid during the reaction.**

**\*Note: DO NOT look directly into LED lights in the reaction wells.**

**\*Note: DO NOT operate the **POCKIT Micro Plus** next to any air vents, to prevent the ambient temperatures to fluctuate greater than 5°C during the reaction.**

(2) The screen displays the remaining reaction time.



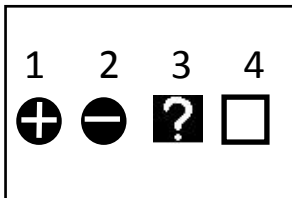
**Caution: Should any of the circumstances below occurs, the results are unreliable:**

- The lid is opened during the **POCKIT Micro Plus** reaction.
- The reaction is not performed at ambient temperatures in the range of 15-35°C.
- The ambient temperatures fluctuate greater than 5°C during the reaction.

#### 4.5 Display the Result

- (1) When the reaction is done, there is a beep tone from **POCKIT Micro Plus**.
- (2) Results are displayed on the screen after the reaction.  
Please see an example below.

\*Note: Please record the result data immediately when the reaction is done, to avoid losing the data in case the device runs out of battery.



## 4.6 Results Interpretation

Results	Description
+	Positive
—	Negative
□	No R-tube inside
?	Undetermined
!	Warning

**\*Note:** Please interpret the results according to the user manual of the iiPCR reagent used.

**\*Note:** When you see a “!” symbol: Prepare and run a new reaction in the same reaction well. Make sure the operating procedures are followed correctly. If any further problems occur, please contact your local distributor or GeneReach for assistance.


**\*Note:** After the reaction, DO NOT touch the bottom of a R-tube because it might be hot.

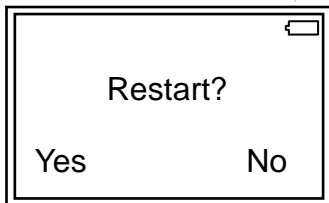


\*Note: After the reaction, DO NOT open the cap of R-tube, as that may lead to contamination.

\*Note: After the reaction, discard the tubes and all consumables immediately.

#### 4.7 Restart POCKIT Micro Plus

- (1) After the iiPCR reaction, press  button to restart.

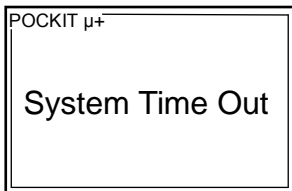
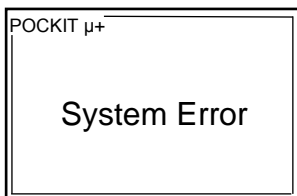
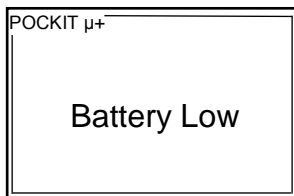


- (2) Press “**Yes**” to confirm, or press “**No**” to return to the screen showing the last reaction results.

## 4.8 Error Messages

If any error messages listed below are shown, please see

**Troubleshooting.**



## Section 5. Cleaning and Maintenance

### 5.1 General Care


\*Note: Before cleaning, wear gloves and always switch off the **POCKIT Micro Plus**.

Do not disassemble POCKIT Micro Duo for cleaning as it will void the warranty. Use only clean and wet paper towel to wipe off any stains on the exterior surfaces. Do not use solvents, detergents or bleach to clean the **POCKIT Micro Plus** surface.

### 5.2 Dealing with Spills

- Wipe off visible spills with paper towels immediately. Contact your local distributor or **GeneReach** directly for further assistance.
- Irradiate the outside of the device with the lid open by UV light for 15 minutes for decontamination, if available.

## Troubleshooting

Problems	Comments and Suggestions
(a) System Time Out	Restart the device.
(b) System Error	Restart the device.
(c) Battery Low	Switch off the device, and make sure the <b>POCKIT Micro Plus</b> is charged for at least one hour before use.
(d) "  " symbol shown after the run	Prepare new reagent and rerun the reaction in the same well. Make sure the operating procedures are followed correctly.
(e) No display on screen.	Check whether the device is in the sleep mode first. If not, switch off the device, and charge the <b>POCKIT Micro Plus</b> .

\*If any further problems occur, please contact your local distributor or GeneReach for assistance.







**GeneReach Biotechnology Corp.**  
**Limited One (1) Year Warranty**

Product Name: <b>POCKIT Micro Plus</b>	Serial No.: <b>pp</b>
Model:	Date of Purchase:
Customer Name:	Distributor Confirmation:
Telephone:	
Address:	

\*Please refer to the website ([www.genereach.com](http://www.genereach.com)) for more details.