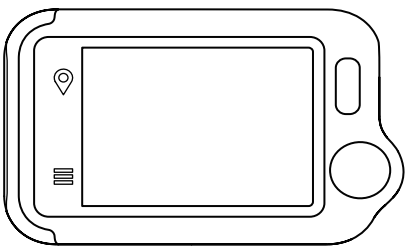

Portable ECG Monitor

User Manual

User Manual
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1. Introduction

It is intended to record and store electrocardiogram (ECG) rhythms, and transfer records to the software or compatible mobile APP for further research or analysis.

It is not a medical device and should not be used for any medical purposes or any medical conditions. It is intended only for general wellness use.

2. Warnings

- The ECG results (including regular heartbeat) do not guarantee that you are free from an arrhythmia or other health conditions. You should notify your physician of possible changes of your health.
- Do not use the device to self-diagnose heart-related conditions. Consult with your physician before making any

medical decisions, such as altering your use of any drug or treatment.

- Do not continue to use the device until further instructed by a physician if your skin is irritated or inflamed around the electrodes.
- The device makes no warranty for any erroneously collected data or information from misuse or malfunction as a result of abuse, accidents, alteration, negligence, or failure to maintain the products as instructed. The results made by this device are preliminary screening of cardiac conditions, not a complete diagnosis. All interpretations should be reviewed by a medical professional for clinical decision-making.
- The device has not been tested for and is not intended for pediatric use.
- Keep the device away from young children. Contents may be harmful if swallowed.

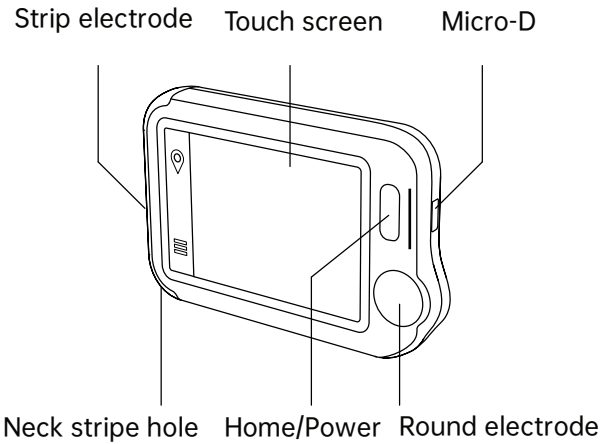
- Do not store in extremely hot, cold, humid, wet, or bright conditions.
- Do not take a recording if the electrodes are dirty. Clean them first.
- Do not immerse the device in or expose the device to excessive liquid.
- Do not drop or bump with excessive force.
- Do not expose to strong electromagnetic fields.
- Do not expose the device to a magnetic resonance (MR) environment.
- Do not use with a cardiac pacemaker, ICDs, or other implanted electronic devices.
- Do not use during cautery and external defibrillation procedures.
- Do not place the electrodes in contact with other conductive parts including the earth.

- Do not use with unapproved accessories. The use of unapproved accessories or transducers and cables may result in electromagnetic emission or decreased electromagnetic immunity of this device which will further lead to improper operation.
- Do not use the device adjacent to or stacked with other equipment because it may result in improper operation.

3. Packing List

- Main unit
- Charging / Data Cable
- ECG Cable
- Reusable ECG Electrodes
- Carry Case
- Neck Strap

4. Guide to Parts



5. Activate the Device

5.1. Charge the device

Connect the device to a standard USB charging adapter with the provided charging cable.

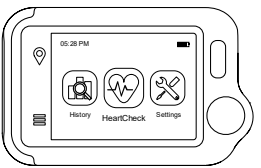
Note:

- The power adapter is not included in the package.

- Compatible power adapter output: DC 5V, 1A.
- Do not use the device while charging.

5.2. Power on/off

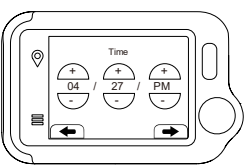
Press and hold the home button for 1 second to power on, and 3 seconds to power off.

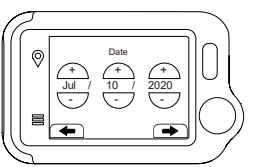


It will turn off automatically if it is not measuring or operating.

5.3. Initial settings

When the device is powered on for the first time, please set the current date and time.





6. Record your ECG

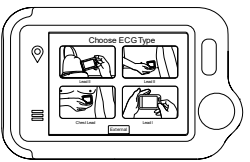
6.1. Before use

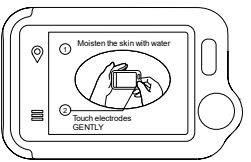
Before using the device, pay attention to the following points in order to obtain precise measurements.

- If your skin or hands are dry, moisten them before taking the measurement.
- For lead I, rest your hands on a table or thigh and keep relax throughout the check. Try other sites if your hand is trembling.
- Use the cable when you have difficulty to get stable ECG without cable.
- You can get different signal amplitudes from Lead I, Lead II, or Chest Lead. Usually, the signals from Lead II and Chest Lead are stronger.
- Stay still during the measurement, do not speak and move.

6.2. Measure without cable

1) On the homepage, touch <HeartCheck>, then choose an ECG Type.



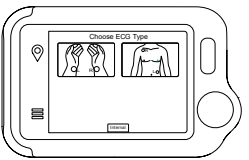


2) Hold the device as shown in the device display.
3) Remain still and relaxed while taking measurements until complete. Next, the results will be displayed.

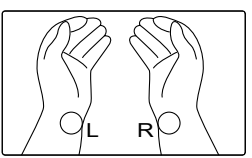
Note: Do not press the device too firmly against your skin, which may result in EMG (electromyography) interference.

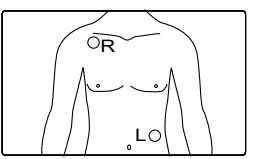
6.3. Measure with cable

1) Touch <HeartCheck> to start taking measurements; touch the icon at the bottom to switch to External mode.



2) Insert the ECG cable into the Micro D port, adhere the reusable electrodes onto your body as shown below.
3) Remain still and relaxed while taking measurements until complete. Next, the results will be displayed.





Note:

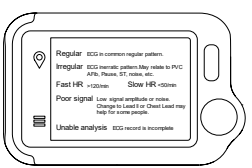
- Please cover the white protective paperback and seal the electrodes in the plastic bag after each use.
- Electrode performance will decrease after excessive use. We recommend replacing the electrodes after 50 uses.

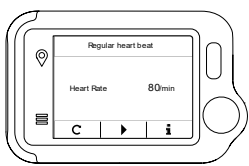
7. View Results and Records

7.1. View results

Six kinds of results will be displayed on the screen after the measuring process.

- Select " ▶ " to replay the ECG waveforms.
- Select " C " to take new measurements.
- Select " i " to view specific definitions.



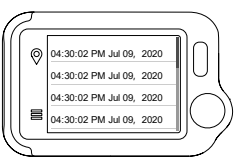


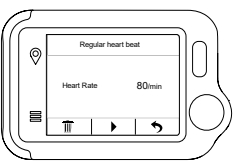
Note: You can use the home button at any time to return to the homepage or cancel taking measurements.

7.2. View records

On the homepage, touch the History icon to review your history results.

- Select a record to review the results.
- Select "▶" to replay the recorded ECG waveforms.
- Select " " to delete the current record.
- Select "↩" to the record list.





8. Download App and Software

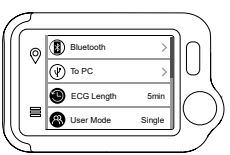
8.1. Download the App

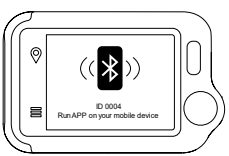
1) Download the Livenpace App from iOS App Store or Google Play Store. Or you can scan the QR code below.

Note: Be sure to use a compatible iOS or Android device.

- iOS: iOS 10.0 or above
- Android: Android 7.0 or above

2) On the homepage, choose Settings->Bluetooth to turn on the device's





Bluetooth.

3) Launch the Livenpace App and switch on Bluetooth on your mobile phone (Please always allow location and storage permissions for the Bluetooth connection and data storage).
4) Follow the instructions in the App to set up and pair your device.
5) Now you can review and share the report or delete the record.

8.2. Download the Software

1) Download and install the software Livenpace EX by visiting the website www.livenpace.com/pages/download.

Note:

- If you have downloaded the software before, please update it to the latest version.
- Firewall or anti-virus software may occasionally block the software. Allow it.

2) Connect the device to the PC with the provided cable.
3) On the device, enter Settings->To PC.
4) Run the software, click the Download Button to export the data on the device.

Note:

- For more information on how to use the app and software, visit the website https://livenpace.com/pages/support or scan the QR code below.

9. Explore More Features

9.1. Understand the results

Heart Rate	The number of times your heart beats per minute calculated from the ECG. The reference range for adults is 50-100 beats per minute in a relaxed state and higher when stimulated. Control your maximum heart rate during fitness or exercise to avoid overstressing the heart.
ECG	An electrocardiogram (ECG) is a test that records the heart's electrical activity. **Regular heart beat** - the recorded ECG shows a usual and regular pattern. **Irregular heart beat** - the recorded ECG shows an erratic pattern. It may be caused by overstressing the heart or other conditions.
Poor signal	Low signal amplitude or noise. Changing to Lead II may help.
Unable to analyze	ECG recording is incomplete.

9.2. Settings

- **User Mode:** Settings->User Mode->touch to choose One-User/Two-User modes.
  Note: When you switch to Dual User mode, the homepage will show User A and User B icons. Choose a user to start taking measurements, and the results will be marked A or B. In single user mode, the results are not marked.
- **ECG Length:** Settings->ECG Length, for 30s/60s/5 minutes.
  Note: Only measurements through cables are supported in 5-minute mode.
- **Brightness:** Settings-> Touch the brightness meter to adjust the brightness.
- **Voice:** Settings->Touch the Voice switch to turn the heartbeat voice on and off.
- **Other settings:** Date& Time, Erase Data, Factory Reset, About.

10. Maintenance

No service or repair should be performed on the hardware other than the maintenance listed in this section.

It is important to keep the electrodes clean by spraying with an alcohol-based sanitizer and wiping with a soft cloth when needed.

- Do use a clean, lint-free cloth.
- Do not use abrasive cleaners or materials.
- Do not immerse device or expose device to excessive liquid.

Exterior Visual Inspection:

- Inspect electrodes for warping, surface damage, or corrosion.
- Check for any other forms of damages.

11. Troubleshooting

Problem	Possible Cause	Solution
The device does not turn on.	The battery may be low.	Charge the battery and try again.
	The device might be damaged.	Please contact your local distributor.
Low battery indicator is blinking.	The battery is low.	Charge the battery and try again.
The ECG waveform amplitude is small.	The Lead you have chosen is not suitable.	Swap with another Lead and try again.
ECG waveform drifts or disappears and "Check Contact" displays.	The pressure exerted on the electrode is not stable or too great.	Hold the device so that it is stable.
	Hand or body may be moving.	Try to keep perfectly still and retest.

12. Specifications

Size	88×56×13 mm
Weight	64 g (main unit)
Display	2.4" touch screen, color, backlight
Battery type	Rechargeable lithium-polymer battery
Battery run time	>500 checks
Charge time	2 -3 hours
Heart rate range	30 to 250 bpm
Storage	30s x 100 pieces
User	One or Two
ECG length	30s, 60s, 5 minutes

13. Symbols

Symbol	Description
	Indicates a medical device that is not to be disposed of as unsorted municipal waste.
IP22	Resistant to liquid ingress
FC	This product complies with the rules and regulations of the Federal Communication Commission.
	Non-ionizing radiation

14. FCC Statement

FCC Warning:
FCC ID: 2A728-0004
Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions,

may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.
The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

Shenzhen Livenpace Technology Co., Ltd.
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Product name: Portable ECG Monitor Model: HHM4
PN: 255-05434-00 Version: A Date: July 18, 2022

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