

Bisa Technologies (HK) Ltd.

Bisa ECG Report System

## **User Manual**

ECG Remote monitor and Auto report generator

**Revision history**

Revision	Date	Description
V0.9	28/11/2018	Original
V0.91	24/07/2019	Added preview function
V0.92	11/08/2019	Added Appendix A for ECG wave form vs. electrode
V0.93	10/01/2020	Modified introduction section for general user

## TABLE OF CONTENTS

1. INTRODUCTION.....	4
2. SCOPE.....	4
3. OPERATION .....	4
3.1. SERVER ADDRESS AND LOGIN .....	4
3.2. REGISTRATION.....	5
3.2.1. NEW USER.....	5
3.3. OPERATION FLOW .....	7
3.3.1. OPERATION FLOW DIAGRAM .....	8
3.3.2. ECG DATA COLLECTION .....	8
3.3.3. ECG REPORT PROCESS .....	9
3.3.4. PATIENT INFORMATION.....	11
3.3.5. UPLOAD ECG DATA.....	11
3.3.6. REPORT STATUS.....	14
4. SUMMARY .....	15
APPENDIX A.....	16

# 1. Introduction

The ECG report system from Bisa is designed for provide ECG analytic report service for Doctor. When user upload ECG data to the Bisa server, the system will create ECG analytic report and allow user either view report on the screen, or download copy of the report for further review and archive.

The system runs on Bisa cloud server, and user may use a simple web browser on PC or other computer device with a web browser to access the function. The following section descript the operation of creating a ECG report.

The next chapter defines the scope of the document. Chapter 3 outlines the operation processes. The rest of the chapter will provide the detail of the operation, follow by a summary.

## 2. Scope

The document covers the operation of ECG analysis report process only. The cost associated with the report create is outside the scope of the document. How to use the ECG device is also outside the scope of this document. For further information on the topics above, the company website will have detail description. User may also call technical support number for more detail information.

## 3. Operation

### 3.1. Server address and login

The URL link for the server is

<https://hk-server.bisahealth.com>

User may use computing device with a browser to login to the server using URL above to

reach the web page below.

If you are new to the system, you may use either email address, or mobile phone number to create a new account.

## 3.2. Registration

### 3.2.1. New user

The following is procedure to create a new user account:

1. Click “立即注册” on the login screen
2. At the registration screen, enter the mobile number and email
3. Click “获取动态密码”
4. Wait till you receive the verification code (SMS message to your mobile phone)
5. Enter the verification code
6. Enter the password
7. Click “注册” button



Please note that you may change the password after you login. See next section for detail.



手機號註冊

+86 ▼ 請輸入正確的手機號碼 [獲取動態密碼](#)

admi

\* .....

\* 請確認您的密碼。

註冊

 微信登錄

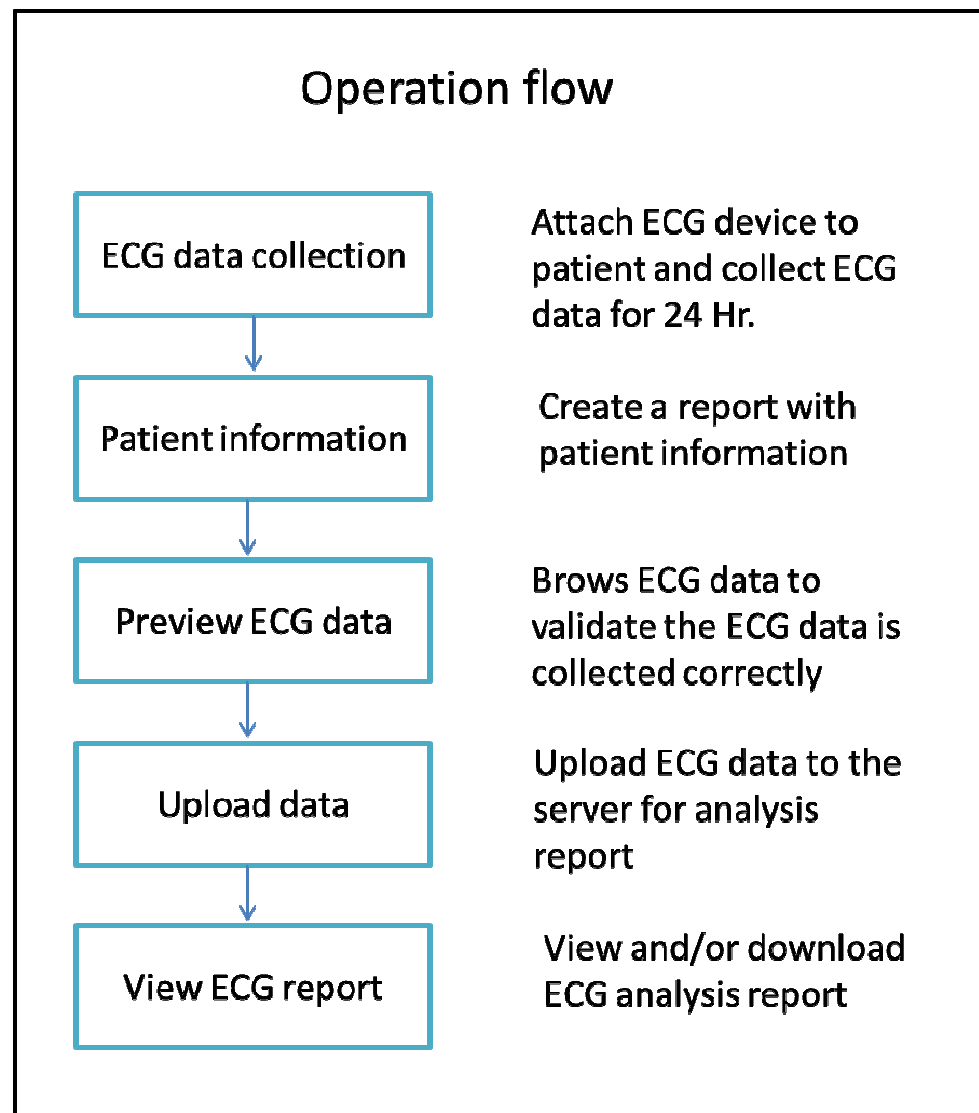
已有賬號，[立即登錄](#)>>

### 3.3. Operation flow

Once the user is registered into the system, the ECG analysis report system will be ready to use. The process from collecting ECG data from patient to receive an ECG analysis report will be outlined in this section.

The next section shows a flow diagram, follow by description for each steps.

### 3.3.1. Operation flow diagram

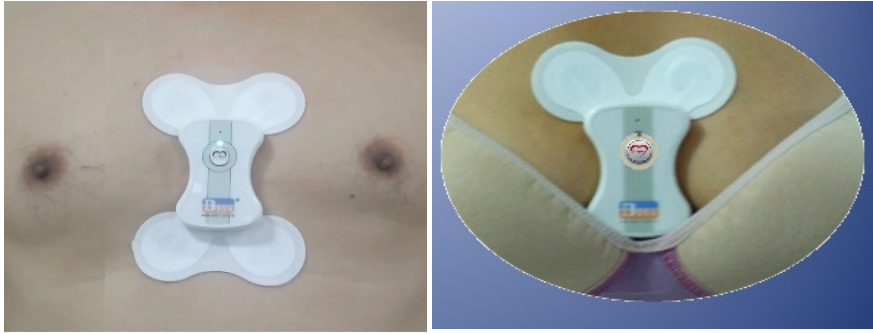


### 3.3.2. ECG data collection

The ECG device is a small, lightweight wireless device. A user may wear the ECG device for days with minimum limitation of daily activities. The attaching ECG to the body is straight forward with no medical training need. The following diagram shows the position of the ECG



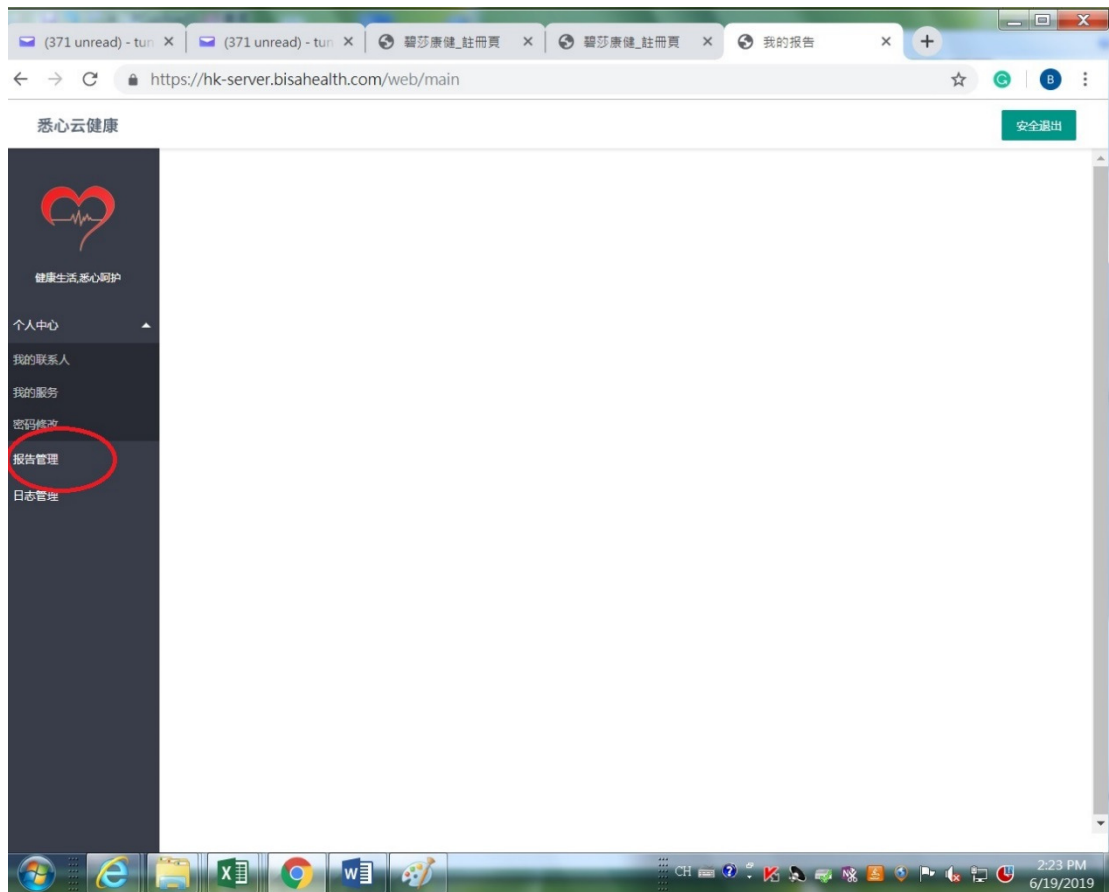
device in a human body:



When ECG is attached is positioned correctly, the color of the LED light on the device will turn from orange (flashing) to green (flashing). For detail description of how to use the ECG device, please read the user manual carefully before use. Bisa technical support team will provide all the help you needed if there is still question after the user manual is studied.

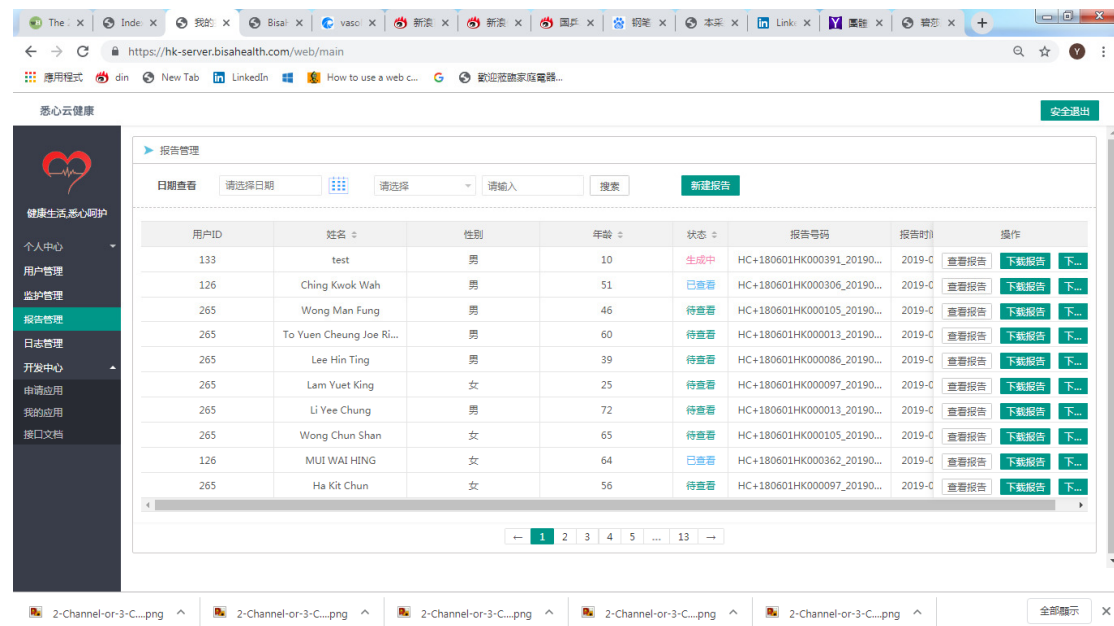
### 3.3.3. ECG report process

Once you login to the system, the webpage below may be use manage the reports, as well as user information.



Once you click on “报告管理” the webpage below will show the reports management screen. Accessing to the following functions is provided in this page:

1. View ECG analysis report records
2. Upload ECG data to the server
3. Preview ECG data
4. View ECG analysis report progress



### 3.3.4. Patient Information

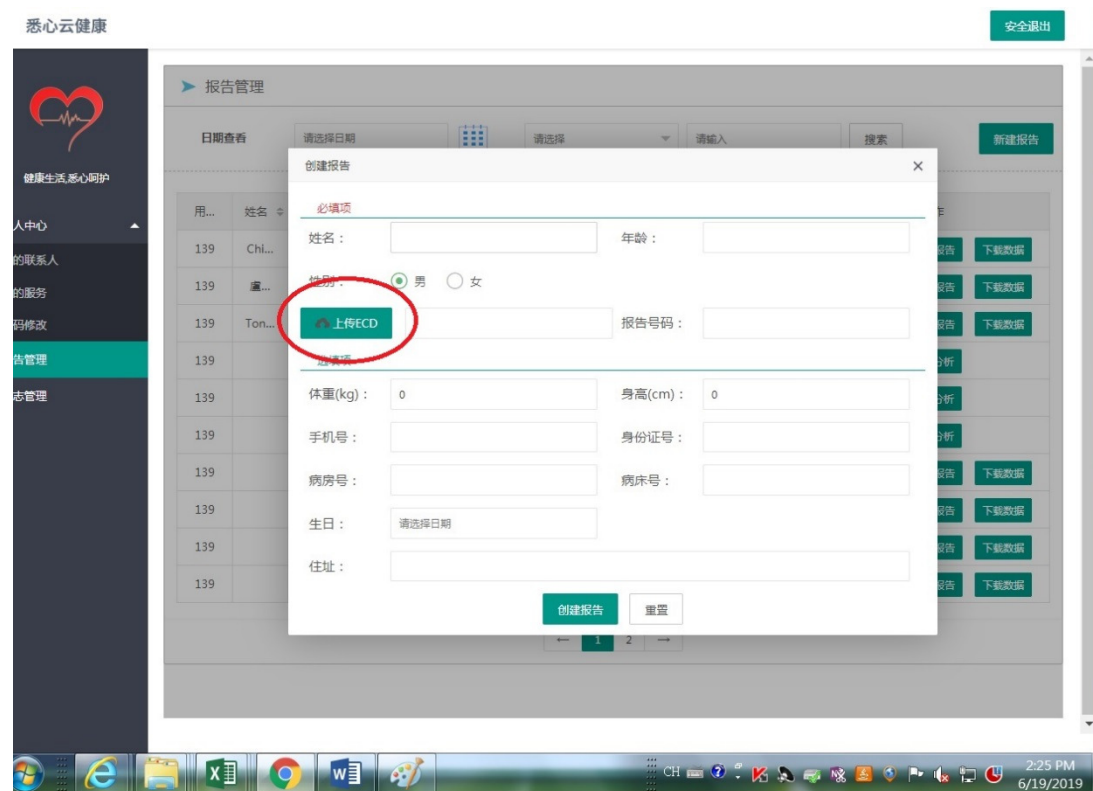
When ECG data is collected from the patient, the ECG data is stored inside the internal memory of ECG device. The data may be copy to the local hard disk first, and then upload to the server for ECG analysis report. The data upload process start when click the “新建报告” button. The pop up screen below allow user to enter patient information and select the ECG data. Patient information is divided into two sections: Mandatory (“必填项”) and option (“可选项”).

### 3.3.5. Upload ECG data

Upload ECG data process will perform the following functions:

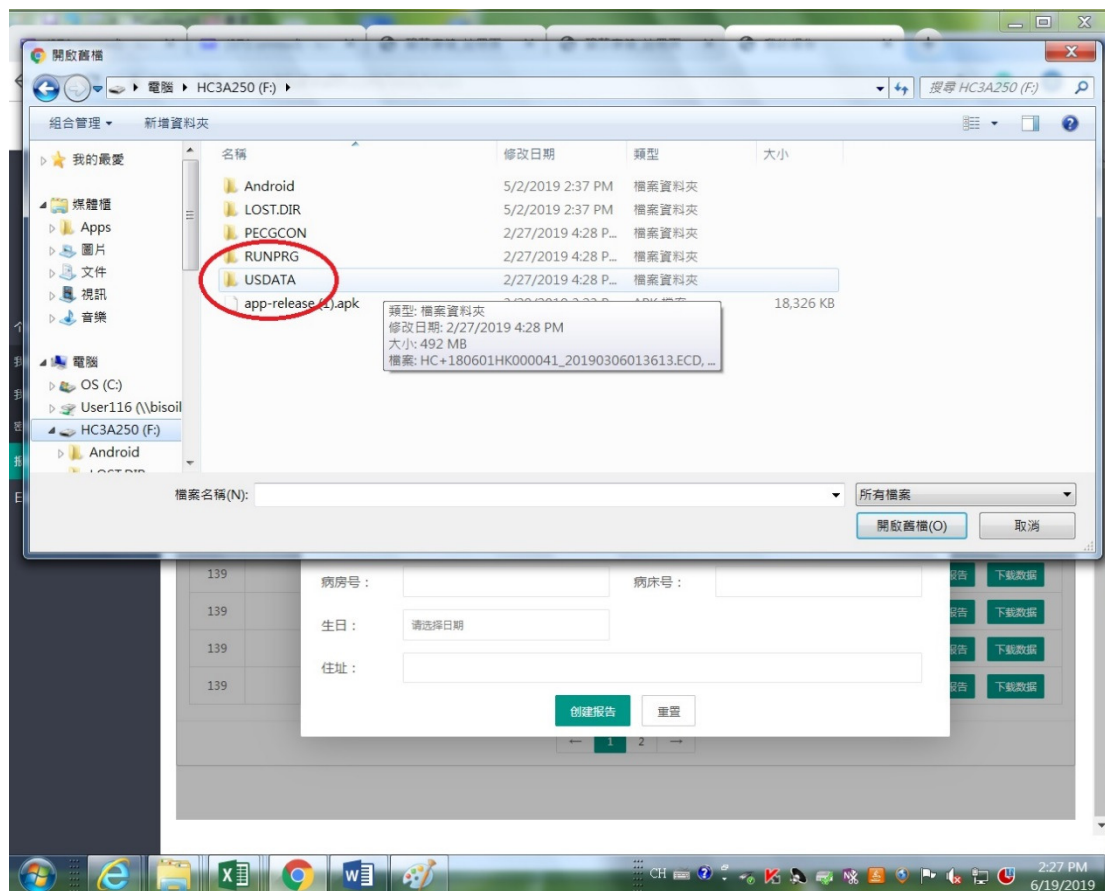
1. reading ECG data from ECG device
2. Preview and verify ECG data
3. Upload ECG data to the cloud server

The process will start by click on the “上传 ECG” from the screen below.



### 3.3.5.1. Select ECG data

When ECG device is connected to the PC, the ECG device will act as an USB storage device. The ECG device will have folders shows on the screen capture below:



The ECG data are stored in the USDATA folder. User may select the data file by open the USDATA folder. Please note that the create time of the data file is in standard time (Greenwich time zone).

The quality of the ECG data is the pre-requisite for ECG analysis report. The preview function is provided for a quick scan of the ECG data prior to ECG data upload. User should brows the ECG data to determine whether the data is good enough for ECG analysis.

### 3.3.5.2. Preview and verify ECG data

The preview function started by click on “预览” button. The screen capture below shows the ECG browsing screen. The slider on the bottom of the screen enable user to quickly review the full range of the ECG data.

Appendix A shows the wave form related to electrode. If signal preview indicates signals are invalid, user may use as a reference to look up the area of problem and provide advice to the patient for improvement.



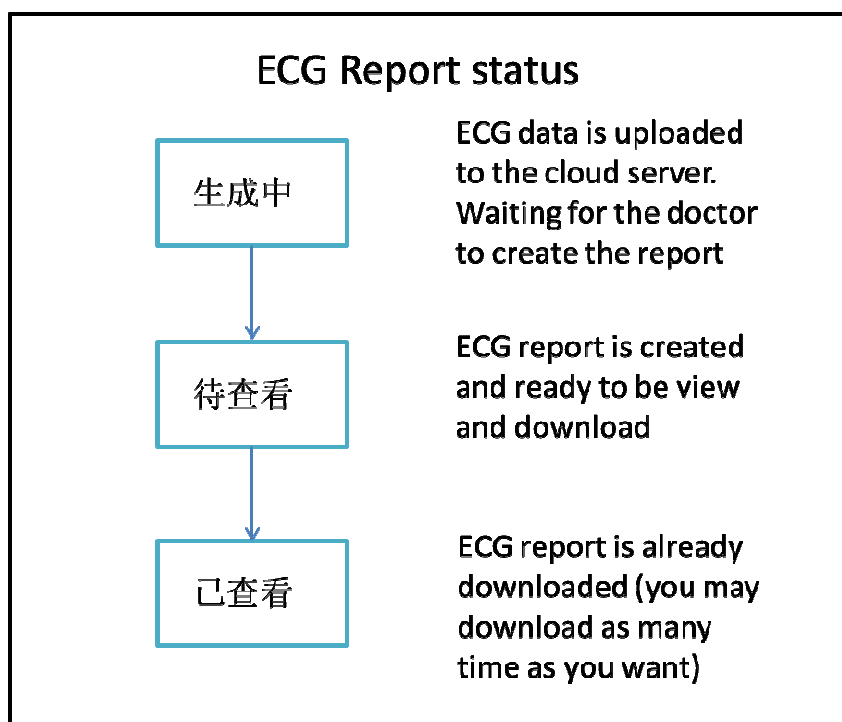
### 3.3.5.3. ECG Data upload

The ECG data upload will start when user satisfy with the ECG data preview and click “创建报告”.

The report status shows the report progress.

### 3.3.6. Report Status

Once data upload is succeeded, the data will be on the cloud server, waiting for the ECG analysis report creation process. The status field will show the progress of the ECG. The diagram bellows shows that status changes



## 4. Summary

The ECG analysis report system provides the service of ECG analysis report generation based on the ECG data (provided by the user). Bisa cloud server enable user to upload and review report through the network from a PC, or any computing device with a browser. Please visit the Bisa website (<https://bisahealth.com>) for additional information, or call (852) 2423-0600 for technical support.

## Appendix A

### Unattached Electrodes vs. ECG wave form

When electrodes are misplaced or disconnected, the ECG data collected shall not be able to be used for diagnostic. This appendix will provide a reference of what the ECG waveform looks like when one of the electrode is misplaced or disconnected.

