

Automatic Upper Arm

# Blood Pressure Monitor

Model Number: **BP-207**

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## USER'S MANUAL



### A Special Thanks To You...

Thank you for choosing our automatic upper arm blood pressure monitor. We're proud of the care and quality that goes into the manufacture of each and every item that bears our name. Only the finest materials are used to assure you of a timeless instrument designed for optimum performance. With proper care and maintenance, your automatic blood pressure monitor is sure to provide you with years of reliable service.

Thank you for your support. It is indeed our pleasure to serve you.

### **Introduction and Intended Use**

It is a fully automatic digital blood pressure monitor designated for adults used at home. It enables very fast and reliable measurement of systolic and diastolic blood pressure as well as pulse through the oscillometric method. Our product has no use of mercury and the stethoscope, so the monitor is safe and simple to use. Before using, please read this instruction manual carefully and then keep it in a safe place. Please consult your doctor for further questions on the subject of blood pressure and its measurement.

### **Remember...**

- Only a healthcare professional is qualified to interpret blood pressure measurements correctly.
- This device is NOT intended to replace regular medical checkups.
- It is recommended that your physician reviews your procedure for using this device.
- Blood pressure readings obtained by this device should be verified before prescribing or making adjustments to any medications used to control hypertension. Under no circumstances should YOU alter the dosages of any drugs prescribed by your doctor.
- This monitor is intended for use by adults only. Consult with your physician before using this instrument on a child.
- In the case of irregular heartbeat (Arrhythmia), measurements taken with this instrument should only be evaluated after consultation with your doctor.
- Familiarize yourself with the section titled "Important Information on Blood Pressure and its Measurement". It contains important information on the dynamics of blood pressure readings and will help you understand blood pressure.

### **NOTE!**

- Do not attempt to repair this device yourself. When a malfunction occurs, please refer to local distributor or the manufacturer for help.

## Contraindication

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Use of this instrument on patients under dialysis therapy or on anticoagulant, antiplatelets, or steroids could cause internal bleeding.

## Warnings and Precautions

- Warning: This device contains sensitive electronic components. Avoid strong electrical or electromagnetic fields in the direct vicinity of the device (e.g. mobile telephones, microwave ovens) during use. This can result in erratic measurements.
- Warning: Do not use cuffs, AC adapters or batteries that do not meet the requirement. Please refer to Technical Specification section.
- Warning: Do not use batteries and the AC adapter to provide power at the same time.
- Warning: The product require an optimal environment condition for storing and operating in order to function normally. Please refer to Technical Specification section.
- Warning: The ac adapter which is intended to connect the USB interface of Blood Pressure Monitor has not been evaluated according to IEC 60601-1. The safety of the product shall be reappraised when the power is supplied by an ac adapter from other products.
- Warning: Remove the battery if the device is not likely to be used for a long time.
- Warning: Do not put your device near flammable gas.
- Cautions: To avoid any possibility of accidental strangulation, keep this unit away from children and do not drape tubing around your neck.
- Cautions: To avoid damaging the device, keep this unit away from children and pets.
- Cautions: The standard material used for the bladder and tubing is latex-free.
- Attention: The pulse display is not suitable for checking the frequency of heart pacemakers!
- Attention: In case of irregular heartbeat, measurements made with this instrument should only be evaluated after consultation with your doctor.

The user should contact the manufacturer for assistance, if needed, in setting up, using or maintaining the device.

## 2. Important Information on Blood Pressure and its Measurement

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### 2.1. How does high or low blood pressure arise?

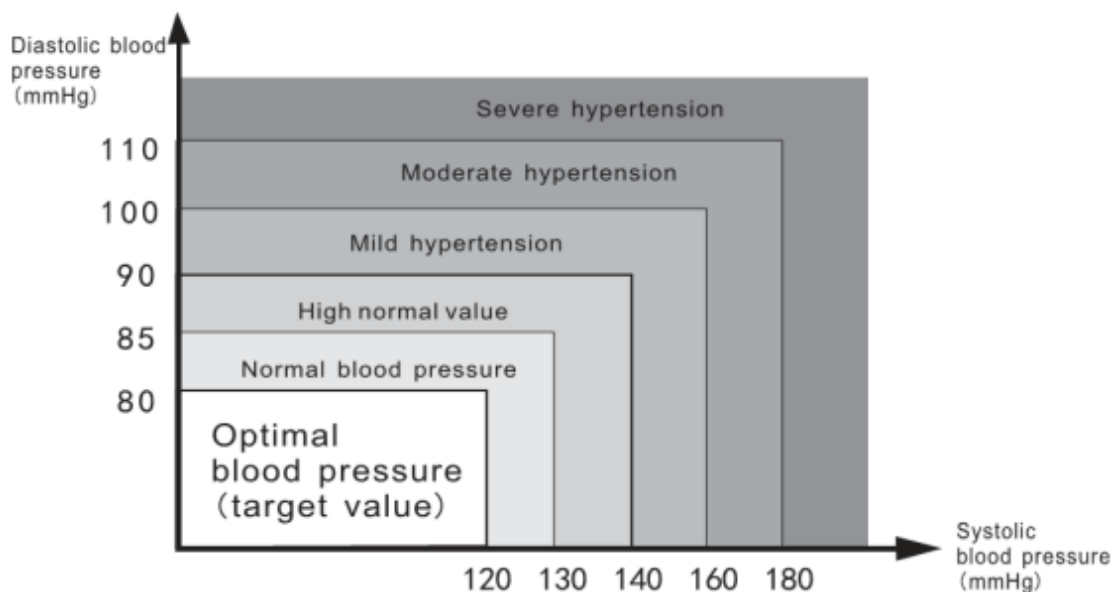
Your level of blood pressure is determined by the central nervous system and adjusts to a variety of situations through feedback. To adjust blood pressure, the strength and speed of the heart(Pulse), as well as the width of circulatory blood vessels is altered. Blood vessel width is controlled by fine muscles in the blood vessel walls.

Your level of arterial blood pressure changes periodically during heart activity: During the “blood ejection” (Systole) the value is the highest (systolic blood pressure value). At the end of the heart’s “rest period” (Diastole) pressure is the lowest (diastolic blood pressure value).

Blood pressure values must lie within a certain range in order to prevent particular diseases.

### 2.2. What values are normal?

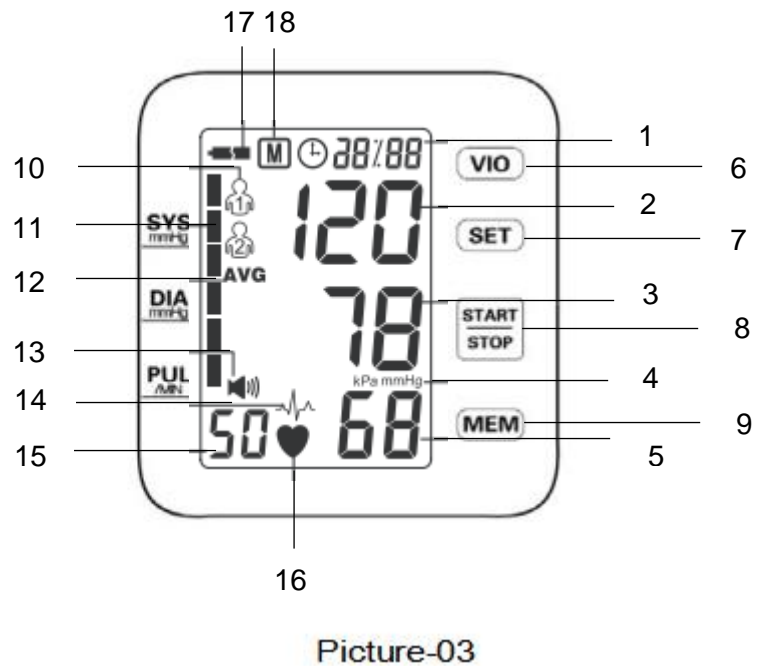
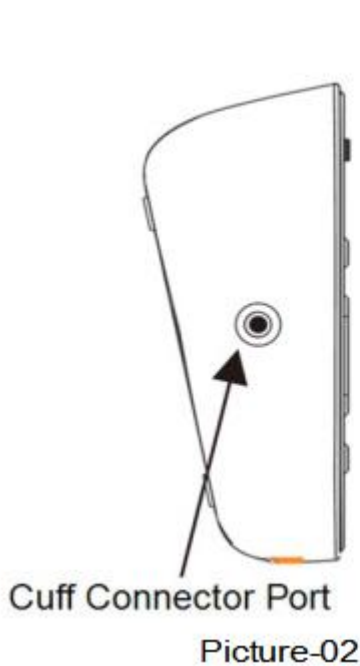
Please refer to the diagram below (Picture-01)



Picture-01

If you have a normal blood pressure, a regular self-check with your blood pressure monitor is recommended. You can detect any changes of your blood pressure early and react appropriately. If you are undergoing medical treatment to control your blood pressure, keep a record of values along with time of day and date. Show these values to your physician. Never alter drug prescribed by your physician without consulting.

### 3. Components of your blood pressure monitor



#### The symbols on the Picture-03

- 1-Time & Date;    2-Systolic blood pressure;    3-Diastolic blood pressure ;    4-unit;
- 5-Pulse rate;    6-Vioce Button;    7-Sett Button;    8-Start/Stop Button;
- 9-Memory Button;    10-USER Symbol;    11-WHO Blood Pressure Indication;
- 12-Average Reading;    13-Sound;    14- Irregular heartbeat symbol;
- 15-Memory number;    16-Heartbeat symbol (Flashes during measurement);
- 17-Low Battery;    18-Memory Reading

## 4. Using your Monitor for the First Time

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### 4.1 Battery Installation

1. Remove the battery cover by pushing it in the direction shown on the cover.
2. Install 4 “AAA” batteries so the + (positive) and - (negative) polarities match the polarities of the battery compartment.

### 4.2 Using the AC Adapter

1. Use a USB cable to connect the monitor and the AC Adaptor.
2. The USB cable should work in any Android smartphoen (not Apple product).
3. Unplug the AC adaptor after measurements.

### 4.2 System Settings

1. Select User  
Press SET button for at least 3 seconds,  symbol should flashes on the display. Press MEM button to select user. Press SET button to confirm.
2. Select Time & Date (Year, Month, Day, Hour, and the Minute)  
Follow part 1. Select User. After selecting the user, the year will flash on the display, press MEM button to increase the number by increments of one (press and hold the MEM button to increase faster). Press SET to set the current year, then the month flashes on the display.  
Repeat the procedure above the setting the month, day, hour, and the minute.

Note: there is 2 mode for time 24-hours/ 12-hours, initial mode is 24-hours, press memory button to set the time mode, when you select 12-hours mode, time will display with AM and PM. Press Setting button to confirm.

Setting unit: This monitor has 2 mode for blood pressure measurement. mmhg and Kpa, both can switch to each other by your selection. When the display within a data format OFF. that means the measurement unit is mmhg, when the display with data format ON, that means the measurement unit is Kpa. Use the memory button to select the measurement unit, press Setting button to confirm.

Setting Voice ON/OFF: when display with SP and ON(OFF), press voice button to switch from ON to OFF. Press Setting button to confirm.

Setting alarm: press Setting until the screen display Al with flashing hour display, press memory button to set the time, press Setting button to enter into alarm Setting for user A by selection on/off. Press memory button to set and press Setting button to confirm, switch to user B, and Setting in the same way.

Record delete: when display U1, press memory button to delete all records Or when you checking the measurement data, long press memory to delete exist user measurement data

### 4.3. Cuff tube connection

Insert the cuff tube into the opening on the left side of the monitor indicated by the drawing of a cuff.

## 5. Measurement Procedure

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Note: You should always be seated and calm before and during measurement.

### 5.1. Before measurement:

- Avoid eating and smoking as well as all forms of exertion directly before measurement. These factors influence the measurement result. Find time to relax by sitting in an armchair in a quiet atmosphere for about ten minutes before taking a measurement.
- Remove any garment that fits closely to your upper arm.
- Always measure on the same arm (normally left)
- Always compare measurements taken at the same time of day, since blood pressure changes during the course of the day, as much as 20-40 mmhg

### 5.2. Common sources of error:

Note: Comparable blood pressure measurements always require the same conditions

- Conditions should always be quiet
- All efforts by the user to support the arm can increase blood pressure. Make sure you are in a comfortable, relaxed position and do not flex any of the muscles in the measurement arm during the measurement. Use a cushion for support if necessary.
- If the arm artery lies considerably lower or higher than the heart, an erroneously high or low blood pressure will be measured! Each 25-30cm difference in height between your heart and the cuff results in a measurement error of 10 mmhg!
- Cuffs that are too narrow or too short result in false measurement values, Selecting the correct cuff is extremely important. Cuff size is dependent upon the circumference of the arm (measured in the center). The permissible range is printed on the cuff.

Note: Only use approved cuffs!


- A loose cuff or a sideways protruding air pocket causes false measurement values
- With repeated measurements, blood accumulates in the arm, which can lead to false results. Consecutive blood pressure measurements should be repeated after a 1 minute pause or after your arm has been held up in order to allow the accumulated blood to flow away. If you decide to take your Averaging Mode measurement again, be sure to wait at least one minute beforehand

### 5.3. Fitting the cuff

Please refer to picture-06

a) The cuff is pre-formed for easier use. Remove tight or bulky clothing from your upper arm.

b) Wrap the cuff around your upper left arm. The rubber tube should be on the inside of your arm extending downward to your hand. Make certain the cuff lies approximately 1/2" to 3/4" (1 to 2 cm) above the elbow.

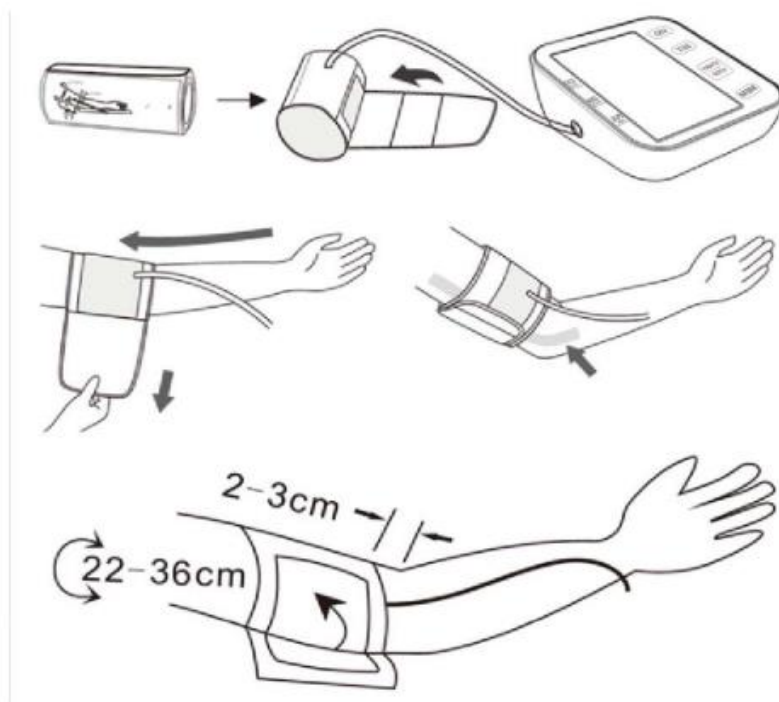
Important! The  the edge of the cuff (Artery Mark) must lie over the artery which runs down the inner side of the arm

c) To secure the cuff, wrap it around your arm and press the hook and loop closure together.

d) There should be little free space between your arm and the cuff. You should be able to fit 2 fingers between your arm and the cuff. Cuffs that don't fit properly result in false measurement values. Measure your arm circumference if you are not sure of proper fit.

e) Lay your arm on a table (palm upward) so the cuff is at the same height as your heart. Make sure the tube is not kinked

f) Remain seated quietly for at least two minutes before you begin the measurement




#### 5.4 Measure Procedure

Refer to picture 07

The monitor is designed to take measurements and store the measurement values in memory for two people using User ID A and User ID B.

1. Sit comfortably in a chair with your feet flat on the floor.
2. Select your User ID (A or B).

Stretch your arm forward on the desk and keep relaxing, make sure the palm of hand is upturned. Make sure arm is in correct position, to avoid body movement. Sit still and do not talk or move during the measurement. After the cuff has been appropriately positioned on the arm and connected to the blood pressure monitor, the measurement can begin:

- a). Press the Stop/Start button. The pump begins to inflate the cuff. In the display, the increasing cuff pressure is continually displayed.
- b). After automatically reaching an individual pressure, the pump stops and the pressure slowly falls. The cuff pressure is displayed during the measurement.
- c). When the device has detected your pulse, the heart symbol in the display begins to blink.
- d). When the measurement has been concluded, the measured systolic and diastolic blood pressure values, as well as the pulse will be displayed.
- e). The appearance of  symbol signifies that an irregular heartbeat was detected. This indicator is only a caution. It is important that you be relaxed, remain still and do not talk during measurements.

NOTE: We recommend contacting your physician if you see this indicator frequently.

- f). The measurement results are displayed until you switch the device off. If no button is pressed for 30



seconds, the device switches off automatically.

g). When the unit is set to the 3 position on the right side of the device, 3 separate measurements will take place in succession after which your result is calculated and displayed as a single, averaged measurement. There is a 15 second resting time in-between each measurement. If one of the measurements causes an error message, it will be repeated one more time. If any additional error occurs, the measurement will be discontinued and an error code will be displayed.

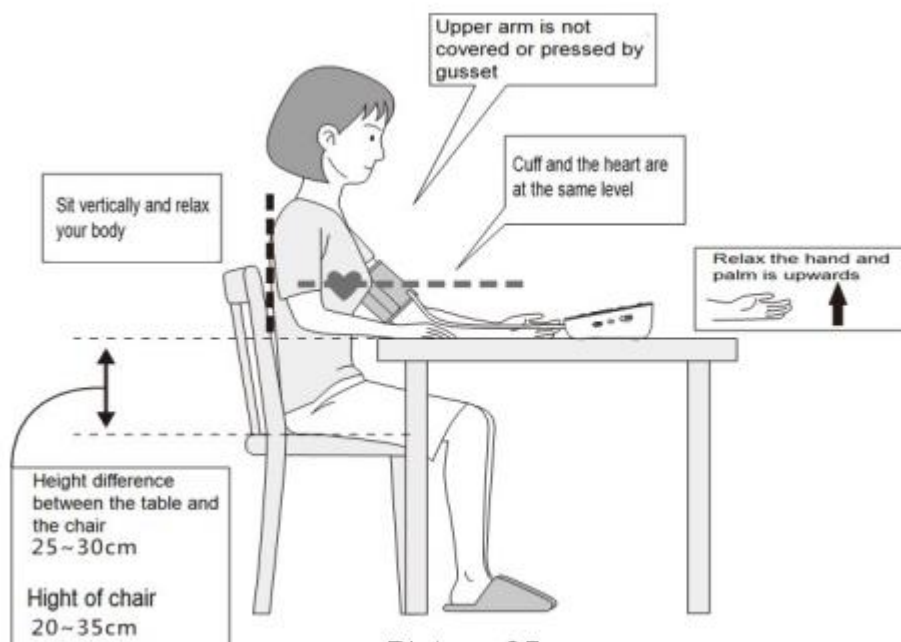
h). Movement error symbol (🚫)

The Movement Error Symbol(🚫) is displayed if you move your body during the measurement. Please remove the cuff, and wait 2-3 minutes. Reapply the cuff and take another measurement.

#### NOTE:

1. To stop the inflation or measurement, push the START/STOP button. The monitor will stop inflating, start deflating, and will turn off.
2. After the monitor has detected your blood pressure and pulse rate, the cuff automatically deflates. Your blood pressure and pulse rate are displayed.

3. The monitor will automatically turn off after two minutes.



Picture-05

### 5.5. Irregular Heartbeat Detector

This symbol-indicates that certain pulse irregularities were detected during the measurement. In this case, the result may deviate from your normal basal blood pressure -repeat the measurement

In most cases, this is no cause for concern. However, if the symbol appears on a regular basis (e.g. several times a week with measurements taken daily), we advise you to tell your doctor

Please show your doctor the following explanation:

Information for the doctor on frequent appearance of the Irregular Heartbeat Symbol

This instrument is an oscillometric blood pressure monitor device that also analyzes pulse frequency during measurement. The instrument is clinically tested.

If pulse irregularities occur during measurement, the irregular heartbeat symbol is displayed after the measurement. If the symbol appears more frequently(e. g. several times per week on measurements performed daily)or if it suddenly appears more often than usual, we recommend the patient to seek medical advice. The instrument does not replace a cardiac examination, but serves to detect pulse irregularities at an early stage


### 5.6 Error Messages

The following symbol will appear when the measurement is abnormal.

| <b>SYMBOL</b> | <b>CAUSE</b>                                 | <b>CORRECTION</b>   |
|---------------|--|---|
| 1             | Weak battery or improper placement           | Replace both batteries with new ones.<br>Check the battery installation for proper placement of the battery polarities. |
| 2             | Fail to inflate                              | Check the cuff if is leaking air or Insert the air plug securely  |
| 3             | Air is leaking too fast or Pulse is too weak | Check the cuff and measure again  |
| 4             | Signal interference                          | Remove anything that may interfere the  |

|   |                            |   |
|---|----------------------------|---|
|   |                            | pulse detection. (Cloth, Loud sound. Etc) |
| 3 | Didn't get a normal result | Apply the arm cuff again                  |
|   | Cuff over inflated         | Repeat measurement correctly.             |

## Trouble removal

| Problem   | Check                             | Cause and solutions   |
|---|-----------------------------------|---|
| No power  | Check the battery power           | Replace new one   |
|   | Check the polarity position       | Installation for proper placement of the batteries polarities |
| No inflation  | Whether the plug insert           | Insert into the air socket tightly                            |
|   | Whether the plug broken or leak   | Change a new cuff   |
| Err and stop working  | Whether move the arm when inflate | Keep the body peaceful  |
|   | Check if chatting when measured   | Keep quite when measure                                       |
| Cuff leak   | Whether the cuff wrap too loose   | Wrap the cuff tightly   |
|   | Whether the cuff broken           | Change a new cuff   |
|  Please contact the distributor if you can't solve the problem, do not disassemble the unit by yourself! |                                   |   |

## SYMBOL DESCRIPTIONS

The following symbols may appear in this manual, on the Digital Blood Pressure Monitor or on its accessories. Some of the symbols represent standards and compliance associated with the Digital Blood Pressure Monitor and its use



Authorized Representative in the European Community



CE Mark: conforms to essential requirements of the medical Device Directive 93/42EEC



Date of manufacture



Manufacturer

SN

Specifies serial number



Type BF applied part



Direct current



DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.



Follow instructions for use

IP21

The degree of avoid ingress of water or particulate matter into ME equipment

### 5.7. Memory

At the end of a measurement, this monitor automatically stores each result with date and time. Each unit stores 120 sets measurements. for 2 users (User A and B)

#### Viewing the stored values

With the unit off, press the Memory button. The display first shows "A", then shows an average of all measurements stored in the unit. Please note: Measurements for each user are averaged and stored separately. Be certain that you are viewing the measurements for the correct user. Pressing the Memory button again displays the previous value. To view a particular stored memory, press and hold the Memory button to scroll to that stored reading.

### 5.8 Discontinuing a Measurement

If it is necessary to interrupt a blood pressure measurement for any reason (e.g the patient feels unwell), the Start/Stop button can be pressed at any time. The device then immediately lowers the cuff pressure automatically.

### 5.9 Battery Change Indicator

#### Batteries discharged– replacements required

When the batteries are discharged, the battery symbol will flash as soon as the instrument is switched on. You cannot take any further measurements and must replace the batteries.

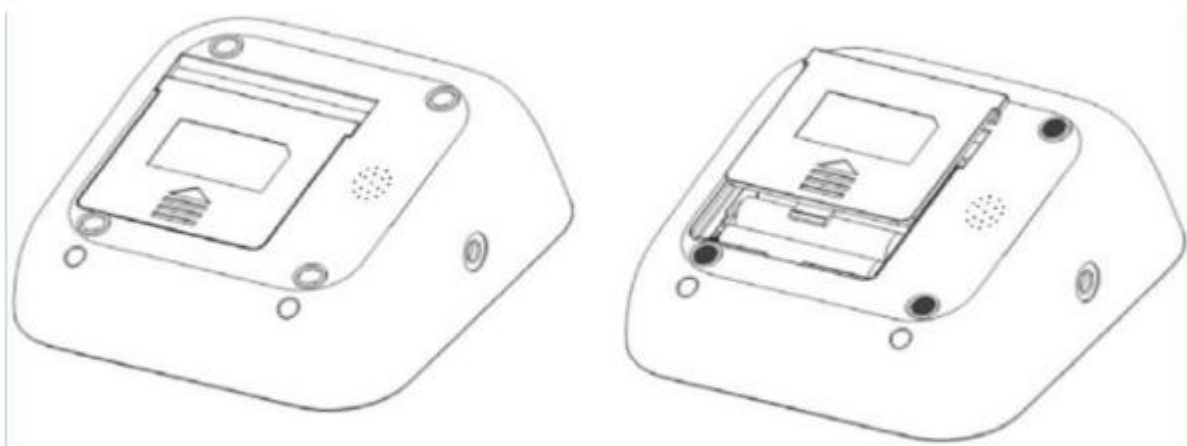
The battery compartment is located on the back side of the unit

A).Remove cover from the bottom plate, as illustrated below picture-08

B).Insert the batteries (4 x size AAA ). Always use AAA long life batteries or alkaline 1.5v batteries.

C).The memory retains all values although date and time (and possibly also set alarm times) must be reset the year number therefore flashes automatically after the batteries are replaced.

D). To set date and time, follow the procedure described in Section 4.2.



Picture-06

### **Which batteries and which procedure?**

Use four new, longlife 1.5v AAA batteries Do not use batteries beyond their expiration date. If the monitor is not going to be used for a prolonged period the batteries should be removed

### **5.10. Using the AC Adapter**

You may also operate this monitor using the ac adapter (output 6V DC/600 ma with Micro USB plug).

Use only the approved AC adapter to avoid damaging the unit

- a) Ensure that the AC adapter and cable are not damaged
- b) Plug the adapter cable into the ac adapter port on the right side of the blood pressure monitor
- c) Plug the adapter into your electrical outlet. When the AC adapter is connected, no battery current is consumed

Note: No power is taken from the batteries while the AC adapter is connected to the monitor. If electrical power is interrupted

(e. g, by accidental removal of the ac adapter from the outlet) the monitor must be reset by removing the plug from the socket and reinserting the AC adapter connection

### **6. Care and Maintenance**

Wash hands after each time measurement

If one device is used by different patients, wash hands before and after each use

- a) Do not expose the device to either extreme temperatures, humidity, dust or direct sunlight.
- b) The cuff contains a sensitive air-tight bubble Handle this cuff carefully and avoid all types of stress through twisting or buckling
- c) Clean the device with a soft, dry cloth. Do not use gas, thinners or similar solvents. Spots on the cuff can be removed carefully with a damp cloth and soapsuds. The cuff with bladder must not be washed in a dishwasher, clothes washer, or submerged in water.
- d) Handle the tube carefully. Do not pull on it. Do not allow the tubing to kink and keep it away from sharp edges
- e) Do not drop the monitor or treat it roughly in any way. Avoid strong vibrations.
- f) Never open the monitor This invalidates the manufacturers warranty
- g) Batteries and electronic instruments must be disposed of in accordance with the locally applicable

regulations, not with domestic waste.

### **6.1. Accuracy test**

Sensitive measuring devices must be checked for accuracy from time to time. We recommend a periodical inspection of your unit by an authorized dealer every 1 years. Please turn to local distributor or the manufacturer.

### **7. Warranty**

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Your LZX blood pressure monitor is guaranteed for 2 years against manufacturers' defects for the original purchaser only, from date of purchase. The warranty does not apply to damage caused by improper handling, accidents, professional use, not following the operating instructions or alterations made to the instrument by third parties.

Warranty only applies to the instrument. All accessories including the cuff are guaranteed for one year, USB charging cable is not included.

There are no user serviceable parts inside. Batteries or damage from old batteries is not covered by the warranty.

Note: According to international standards, your monitor should be checked for accuracy every year.

### **8. Technical Specifications**

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Model:BP-207

Weight:290g(batteries and AC adapter is not included) Display: LCD Digital Display

Size: 132 (W) x 158 (L) x 42(H) mm

Accessories: 1×Main Device, 1×Cuff, 1×Users manual, 1×Warranty card Operating Conditions: Temperature: 5°C to 40°C;Humidity: 15% to 85% RH;

Pressure altitude:70KPa~ 106Kpa

Storage And Shipping Conditions:Temperature: -20°C to 55°C; Humidity: 10% to 93% RH; Pressure altitude: 70KPa~ 106Kpa

Measuring method: Oscillometric

Pressure sensor: Capacitive

Measuring range: SYS/DIA: 0 to 280 mmHg Pulse: 40 to 199 per minute

Cuff pressure display range: 0–299 mmHg

Memory: Automatically stores the last 90 measurements for 2 users (total 180) Measuring resolution: 1 mmHg

Accuracy: Pressure within  $\pm 3$  mmHg / pulse  $\pm 5$  % of the reading Power source: a) 4 AAA batteries, 1.5 V AC adapter 6 V DC 600 mA (voltage 4.5 V DC to 6 V DC) (Optional) Accessories: Wide range rigid cuff 8.7" – 14.2" (22 - 36 cm)

Automatically power off : 30 seconds Users: Adult

Expected service life of the device and accessories: 7 years Technical alterations reserved!

### **ENVIRONMENTAL REQUIREMENTS**

#### **OPERATING CONDITIONS**

Temperature: 5°C to 40°C

Humidity: 15% to 93% RH Pressure altitude: 70KPa~ 106Kpa

#### STORAGE AND SHIPPING CONDITIONS

Temperature: -20°C to 50°C

Humidity: 10% to 93% RH Pressure altitude: 70KPa~ 106Kpa

#### CLASSIFICATION

1. Internally powered equipment; (supplied by AAA battery)
2. Type BF applied part; 3. IP21;
3. No Sterilize requirement;
4. Not category AP / APG equipment
5. Mode of operation: continuous

## 9. Warranty Card

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|                  |        |         |                  |
|------------------|--------|---------|------------------|
| The First Repair | Faults | Reasons | What is repaired |
|                  |        |         |                  |
|                  | Date:  |         | Repaired By:     |

|                   |        |         |                  |
|-------------------|--------|---------|------------------|
| The Second Repair | Faults | Reasons | What is repaired |
|                   |        |         |                  |
|                   | Date:  |         | Repaired By:     |