

Operation Guide (V2.0)

Product/project name: Blood Pressure Monitor

Model name: KD-927

Project number: 2012-066-RJ17

Drafted by: _____ Date _____

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Approved by: _____ Date _____

MODEL KD-927

Fully Automatic Arm Cuff Blood Pressure Monitor

(ELECTRONIC SPHYGMOMANOMETER)

OPERATION GUIDE

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IMPORTANT INFORMATION NORMAL BLOOD PRESSURE FLUCTUATION

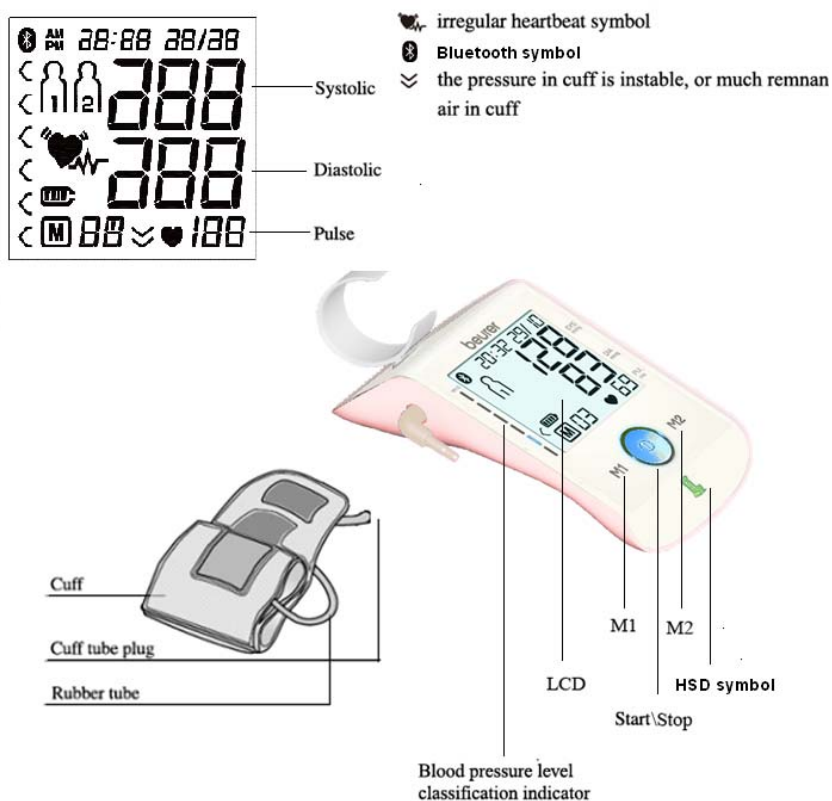
All physical activity, excitement, stress, eating, drinking, smoking, body posture and many other activities or factors (including taking a blood pressure measurement) will influence blood pressure value. Because of this, it is mostly unusual to obtain identical multiple blood pressure readings.

Blood pressure fluctuates continually ----- day and night. The highest value usually appears in the daytime and lowest one usually at midnight. Typically, the value begins to increase at around 3:00AM, and reaches to highest level in the daytime while most people are awake and active.

Considering the above information, it is recommended that you measure your blood pressure at approximately the same time each day.

Too frequent measurements may cause injury due to blood flow interference, please always relax a minimum of 1 to 1.5 minutes between measurements to allow the blood circulation in your arm to recover. It is rare that you obtain identical blood pressure readings each time.

CONTENTS AND DISPLAY INDICATORS



INTENDED USE

Fully Automatic Electronic Sphygmomanometer is for use by medical professionals or at home and is a non-invasive blood pressure measurement system intended to measure the diastolic and systolic blood pressures and pulse rate of an adult individual by using a non-invasive technique in which an inflatable cuff is wrapped around the upper arm. The cuff circumference is limited to 22cm-44cm (approx. 8 21/32" -17 5/16").

CONTRAINDICATION





It is inappropriate for people with serious arrhythmia to use this Electronic Sphygmomanometer.

PRODUCT DESCRIPTION

Based on Oscillometric methodology and silicon integrated pressure sensor, blood pressure and pulse rate can be measured automatically and non-invasively. The LCD display will show blood pressure and pulse rate. The most recent 2×60 measurements can be stored in the memory with date and time stamp. The Electronic Sphygmomanometers corresponds to the below standards: IEC 60601-1:2005/EN 60601-1:2006/AC:2010 (Medical electrical equipment -- Part 1: General requirements for basic safety and essential performance), IEC60601-1-2:2007/EN 60601-1-2:2007 /AC:2010 (Medical electrical equipment -- Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests), IEC 80601-2-30: 2009+Cor.2010(Medical electrical equipment –Part 2-30: Particular requirements for the basic safety and essential performance of automated non-invasive sphygmomanometers)EN 1060-1: 1995 + A1: 2002 + A2: 2009 (Non-invasive sphygmomanometers - Part 1: General requirements), EN 1060-3: 1997 + A1: 2005 + A2: 2009 (Non-invasive sphygmomanometers - Part 3: Supplementary requirements for electro-mechanical blood pressure measuring systems).





SPECIFICATIONS

1. Product name: Blood Pressure Monitor
2. Model: KD-927
3. Classification: Class II , Type BF applied part, IPX0, No AP or APG, Continuous operation
4. Machine size: Approx. 175.7mmX99.8mmX60mm (3 3/4 " x 7 5/16 " x 2 7/32 ")
5. Cuff circumference: 22cm-36cm(8-21/32 " ~14-3/16 "), 35cm-44cm(13-25/32 " ~17-5/16 ") (Optional)
6. Weight: Approx. 310g (10 15/16oz.)
7. Measuring method: Oscillometric method, automatic inflation and measurement
8. Memory volume: 2×60 times with time and date stamp
9. Power source: DC:5V  600mA, battery: 1*3.7V  Li-ion 400mAh
10. Measurement range:
 - Cuff pressure: 0-300mmHg
 - Systolic: 60-260mmHg
 - Diastolic: 40-199mmHg
 - Pulse rate: 40-180 beats/minute
11. Accuracy:
 - Pressure: ±3mmHg
 - Pulse rate: ±5%
12. Environmental temperature for operation: 10°C~40°C(50°F~104°F)
13. Environmental humidity for operation: ≤90%RH
14. Environmental temperature for storage and transport: -20°C~55°C(-4°F~131°F)
15. Environmental humidity for storage and transport: ≤90%RH
16. Environmental pressure: 80kPa-105kPa
17. Battery life: Approx 50 times.
18. All components belonging to the pressure measuring system, including accessories: Pump, Valve, LCD, Cuff, Sensor

Note: *These specifications are subject to change without notice.*

NOTICE

1. Read all of the information in the operation guide and any other literature in the box before operating the unit.
2. Stay still, calm and rest for 5 minutes before blood pressure measurement.
3. The cuff should be placed at the same level as your heart.
4. During measurement, neither speak nor move your body and arm.
5. Measuring on same arm for each measurement.
6. Please always relax at least 1 or 1.5 minutes between measurements to allow the blood circulation in your arm to recover. Prolonged over-inflation (cuff pressure exceed 300 mmHg or maintained above 15 mmHg for longer than 3 minutes) of the bladder may cause ecchymoma of your arm.

7. Consult your physician if you have any doubt about below cases:
 - 1) The application of the cuff over a wound or inflammation diseases;
 - 2) The application of the cuff on any limb where intravascular access or therapy, or an arterio-venous (A-V) shunt, is present;
 - 3) The application of the cuff on the arm on the side of a mastectomy;
 - 4) Simultaneously used with other monitoring medical equipments on the same limb;
 - 5) Need to check the blood circulation of the user.
8.  This Electronic Sphygmomanometers is designed for adults and should never be used on infants or young children. Consult your physician or other health care professionals before use on older children.
9. Do not use this unit in a moving vehicle, This may result in erroneous measurement.
10. Blood pressure measurements determined by this monitor are equivalent to those obtained by a trained observer using the cuff/stethoscope auscultation method, within the limits prescribed by the American National Standard Institute, Electronic or automated sphygmomanometers.
11. Information regarding potential electromagnetic or other interference between the blood pressure monitor and other devices together with advice regarding avoidance of such interference please see part ELECTROMAGNETIC COMPATIBILITY INFORMATION.
12. If Irregular Heartbeat (IHB) brought by common arrhythmias is detected in the procedure of blood pressure measurement, a signal of  will be displayed. Under this condition, the Electronic Sphygmomanometers can keep function, but the results may not be accurate, it's suggested that you consult with your physician for accurate assessment. There are 2 conditions under which the signal of IHB will be displayed:
 - 1) The coefficient of variation (CV) of pulse period >25%.
 - 2) The difference of adjacent pulse period $\geq 0.14s$, and the number of such pulse takes more than 53 percentage of the total number of pulse.
13. Please do not use the cuff other than supplied by the manufacturer, otherwise it may bring biocompatible hazard and might result in measurement error.
14.  The monitor might not meet its performance specifications or cause safety hazard if stored or used outside the specified temperature and humidity ranges in specifications.
15.  Please do not share the cuff with other infective person to avoid cross-infection.
16. Medical AC adapter which output is DC 5.0V and complied with IEC 60601-1/EN 60601-1/UL 60601-1 and IEC 60601-1-2/EN 60601-1-2/UL 60601-1-2 is suitable for this monitor, such as OH-1048A0500600U2-VDE or (input: 100-240V, 50/60Hz, 120-60mA; output:DC5V,600mA) .Please note that the monitor jack size: USB mini B
17. 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.


18.This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

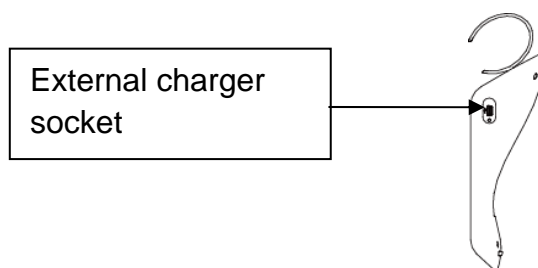
- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

19.Attention that changes or modification not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.

SETUP AND OPERATING PROCEDURES

1. LITHIUM BATTERY CHARGING

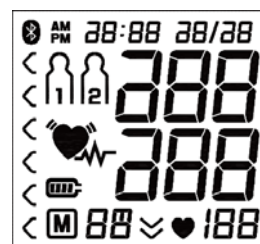
When LCD twinkles battery symbol , charge the lithium battery.



The monitor and the cuff, must be disposed of according to local regulations at the end of their usage.

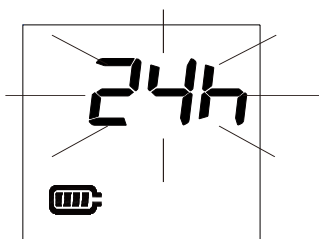
2. CLOCK AND DATE ADJUSTMENT AND BLUETOOTH SET

- a. If the Blood Pressure Monitor is no electricity, once you charge the lithium battery , All display characters are shown for self-test, see picture 2-1. In case of empty battery , you can press “START/STOP” button or wait for 1 minute to go back to standby mode , else after 3 seconds ,you can adjust the clock and date .
- b. If the time of the device is already set and need to be changed ,setting can be reached by pressing the “START/STOP” button for five seconds in standby mode .

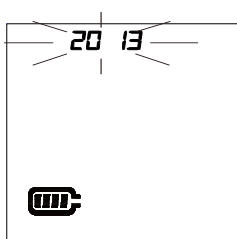


Picture 2-1

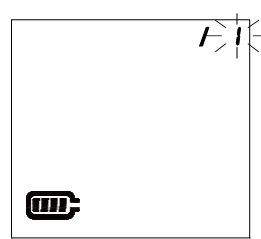
- c. In clock and date adjustment Mode , the time format will blink at first , See picture2-2 .If the monitor has no memory and not set the time format , the default time format is 24h and the default clock and date is 2013-1-1 1:00,else the default time format is the last confirmed、 clock and date is the most recent result's.
- d. Press the button “START/STOP” repeatedly, the year(first usage :default is 2013 ,range is 2013~2099), month, day, hour and minute will blink in turn. See picture 2- 3& 2-4 & 2-5 & 2-6 & 2-7. While the number is blinking, press the button “M2” to increase the number, Keep on pressing the button "M2", the number will increase fast . press the button “M1” to decrease the number., Keep on pressing the button "M1", the number will decrease fast.



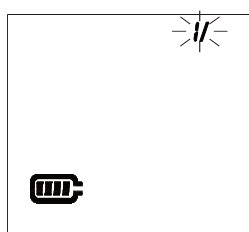
Picture 2-2



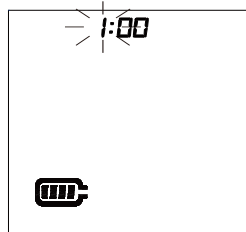
Picture 2-3



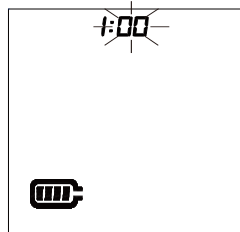
Picture 2-4



Picture 2-5



Picture 2-6



Picture 2-7

- e. You can set the bluetooth by pressing “START/STOP” button when the minute is blinking, then the time and date is confirmed. press the button “M1” or “M2” to change the state of bluetooth. If bluetooth is on, bluetooth symbol📶 twinkles. See picture 2- 9. If bluetooth is off, bluetooth symbol📶 don't show.
- f. During adjusting clock and date and setting bluetooth , Backlight turning off automatically when no button will be pressed within 10 seconds, Blood Pressure Monitor turning off automatically when no button will be pressed within 30 seconds.

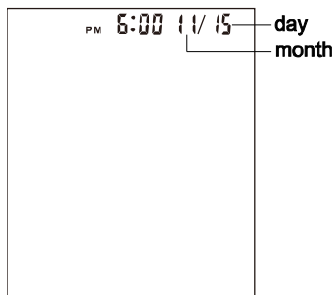


Picture 2-8

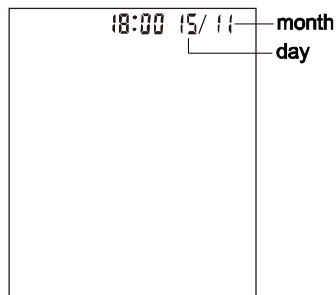
Note:

- **The clock format (12 or 24 hour) could be set by user.**

- **The display of time and date in 12 hour format is different from 24 hour format. For example, the date is November 15 and time is 6 o'clock p.m., LCD shows picture 2-9 in 12 hour format, however, LCD shows picture 2-10 in 24 hour format.**



Picture 2-9



Picture 2-10

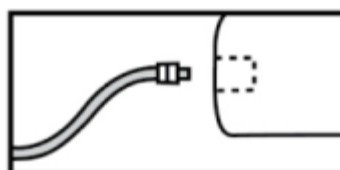
- **All of the LCD illustrations are 24 hour format in the Operation Guide, except for the picture 2-9.**
- **Table 1 instructs the conversion relations between 24 hour format and 12 hour format.**

Table 1

24 hour format	12 hour format	24 hour format	12 hour format
0:00	12:00 AM	12:00	12:00 PM
1:00	1:00 AM	13:00	1:00 PM
2:00	2:00 AM	14:00	2:00 PM
3:00	3:00 AM	15:00	3:00 PM
4:00	4:00 AM	16:00	4:00 PM
5:00	5:00 AM	17:00	5:00 PM
6:00	6:00 AM	18:00	6:00 PM
7:00	7:00 AM	19:00	7:00 PM
8:00	8:00 AM	20:00	8:00 PM
9:00	9:00 AM	21:00	9:00 PM
10:00	10:00 AM	22:00	10:00 PM
11:00	11:00 AM	23:00	11:00 PM

3. CONNECTING THE CUFF TO THE MONITOR

Insert the cuff tubing connector into the socket in the left side of the monitor. Make certain that the connector is completely inserted to avoid air leakage during blood pressure measurements.



Avoid compression or restriction of the connection tubing during measurement, which may cause inflation error, or harmful injury due to continuous cuff pressure.

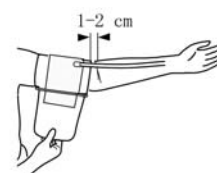
4. APPLYING THE CUFF

a. Pulling the cuff end through the medial loop (the cuff is packaged like this already), turn it outward (away from your body) and tighten it and close the Velcro fastener.



b. Place the cuff around a bare arm 1-2cm above the elbow joint.

c. While seated, place palm upside in front of you on a flat surface such as a desk or table. Position the air tube in the middle of your arm in line with your middle finger.



d. The cuff should fit comfortably, yet snugly around your arm. You should be able to insert one finger between your arm and the cuff.

Note:

1. Please refer to the cuff circumference range in "SPECIFICATIONS" to make sure that the appropriate cuff is used.
2. Measuring on same arm each time.
3. Do not move your arm, body, or the monitor and do not move the rubber tube during measurement.
4. Stay quiet, calm for 5 minutes before blood pressure measurement.
5. Please keep the cuff clean. If the cuff becomes dirty, remove it from the monitor and clear it by hand in a mild detergent, then rinse it thoroughly in cold water. Never dry the cuff in clothes dryer or iron it. Clean the cuff after the usage of every 200 times is recommended.

5. BODY POSTURE DURING MEASUREMENT

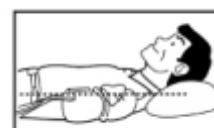
Sitting Comfortably Measurement

- a. Be seated with your feet flat on the floor, and don't cross your legs.
- b. Place palm upside in front of you on a flat surface such as a desk or table.
- c. The middle of the cuff should be at the level of the right atrium of the heart.



Lying Down Measurement

- a. Lie on your back.
- b. Place your arm straight along your side with your palm upside.



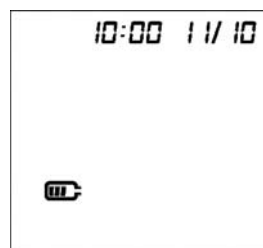
- c. The cuff should be placed at the same level as your heart.

6. TAKING YOUR BLOOD PRESSURE READING AND BLUETOOTH

- a. In Standby Mode, you can only activate the device by pressing “START/STOP” button and the LCD full display .You can check the LCD display according to the picture 6-1. Please contact the service center if segment is missing. In case of empty battery you will wait for 1 minute or press the “START/STOP” button to go back to standby mode .
- b. After the LCD full display, the device display the clock and date, See picture6-2, you can press the “START/STOP” button to go to the test mode, or you can press the button “M1” or “M2” to go to the memory mode.If you press “M1” button,you will scan user 1 memory, If you press “M2” button,you will scan user 2 memory.
- c. If you no press any button,the device will go to the test mode automatically after 3 seconds.

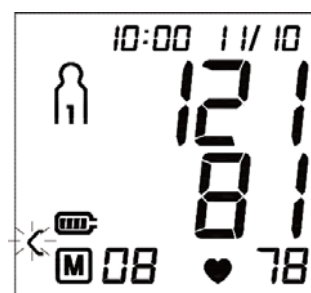
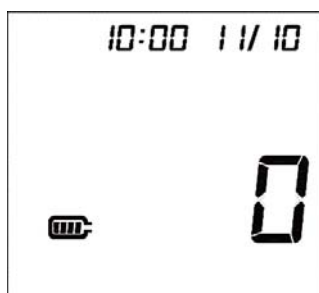


Picture 6-1



Picture 6-2

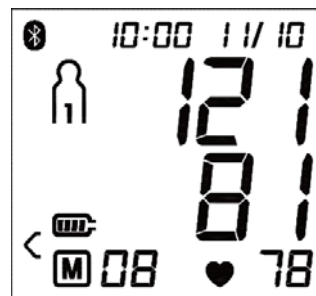
- d. After applying the cuff and your body is in a comfortable position , you can enter the test Mode and the LCD display 0 mmHg, See picture6-3;
- e. Then the monitor inflates the cuff until sufficient pressure has built up for a measurement. Then the monitor slowly releases air from the cuff and carries out the measurement. .Finally the blood pressure and pulse rate will be calculated and displayed on the LCD. See picture 6-4. The irregular heartbeat symbol (if any) and blood pressure classification indicator will blink on the LCD. Display HSD positive/negative symbol .



Picture 6-3

Picture 6-4

- f. After measurement, the backlight will turn off automatically after 10 seconds and the device will turn off automatically after 3 minutes with no operation. Alternatively, you can press the “START/STOP” button to turn off the monitor manually.
- g. During 3 minutes, you can change the user, until the device goes to standby mode (If bluetooth is on, the monitor can transfer memory to IOS device with bluetooth 4.0. See picture 6-5), the result will be stored in current user.
- h. During inflating the cuff and measurement, you can press the “START/STOP” button to turn off the monitor manually.



Picture 6-5

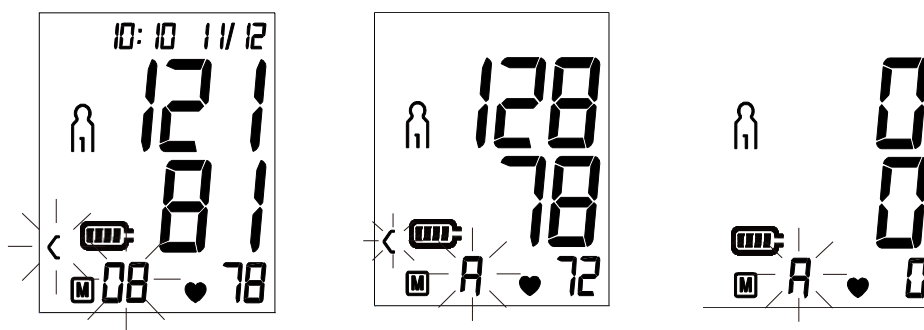
Note: Please consult a health care professional for interpretation of pressure measurements.

Resting indicator measurement

- i. The most frequent error made when measuring blood pressure is taking the measurement when not at rest, which means that both the systolic and the diastolic blood pressures are incorrect in this case. During blood pressure measurement, the device automatically determines whether the circulatory system is sufficiently at rest or not.
- j. If the circulatory system is not sufficiently at rest, the red symbol is displayed, else the green symbol is displayed. If the red symbol is displayed, the measurement should be repeated after a period of physical and mental rest.

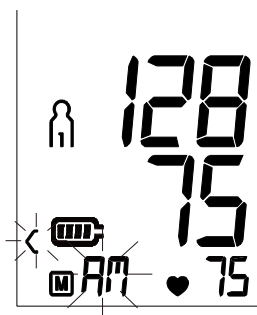
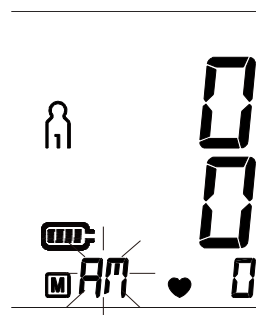
7. DISPLAYING STORED RESULTS AND BLUETOOTH

- a. In memory Mode, LCD will display the last measurement result at first if bluetooth is off, See picture 7-1. Press “M1” button, LCD will display the average value of all results in the current user, See picture 7-2. If no result stored in the current user, LCD will display “0” for blood pressure and pulse rate. See picture 7-3. At this time, the monitor can go forward by pressing “M1” button.

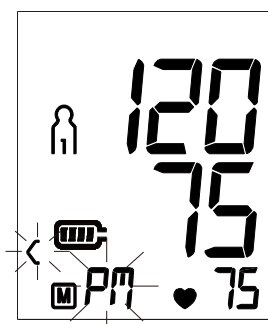
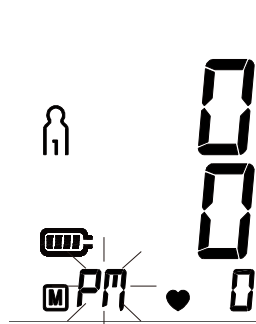


Picture 7-1
Picture 7-2
Picture 7-3

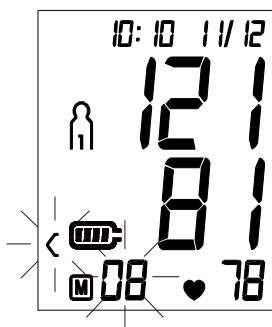
- b. Press the “M1” button, LCD will display the average value of all the results which is measured from 5 o'clock to 9 o'clock in last 7 days in the current user. See picture 7-4. If no result stored from 5 o'clock to 9 o'clock in last 7 days, LCD will display “0” for blood pressure and pulse rate. See picture 7-5. At this time ,you can go forward by pressing “M1” button.


Picture 7-4

Picture 7-5

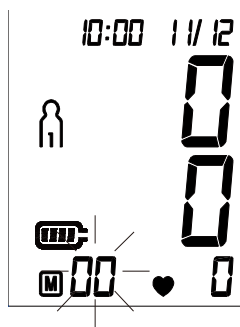
- c. Press the “M1” button again, LCD will display the average value of all the results which is measured from 18 o'clock to 20 o'clock in last 7 days in the current user. See picture 7-6. If no result stored from 18 o'clock to 20 o'clock in last 7 days, LCD will display “0” for blood pressure and pulse rate. See picture 7-7. At this time ,you can go forward by pressing “M1” button.


Picture 7-6

Picture 7-7

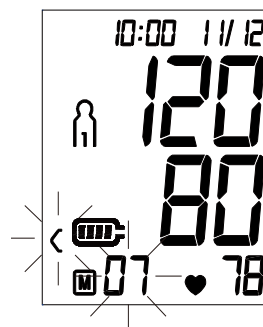
- d. Press “M1” button again, the most recent result will be displayed with date and time stamp, See picture 7-8. Irregular heartbeat symbol (if any)、 and blood pressure classification indicator will blink at the same time. Display HSD positive/negative symbol. If the monitor has no result stored in the current user, the LCD will display “0” for blood pressure and pulse rate. See picture 7-9. At this time ,you can go forward by pressing “M1” button.
- e. Press “M1” button again, to review the next result, See picture 7-10. You can review the results by pressing “M1” button until the oldest result.



Picture 7-8

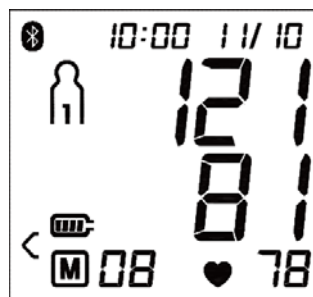


Picture 7-9



Picture 7-10

- f. When displaying the oldest result measured, if you press the button "M1", LCD will display the average value of all results in the current user, the memory circle starts again.
- g. The monitor will turn off automatically after 30 seconds with no operation or you can press the button "START/STOP" to turn off the monitor manually.
- h. If bluetooth is on, the monitor will Waiting for transmission of memory when user enters the memory mode at first. See picture 7-11. The monitor will go forward automatically after 30 seconds with no operation or if you press the button "M1". you can press the button "START/STOP" to turn off the monitor manually.



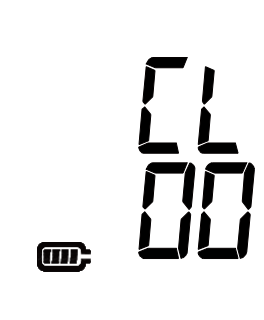
Picture 7-11

Note: Above assume scan user 1 memory, if you want to scan user 2 memory, you need to press the button "M2" to go forward;

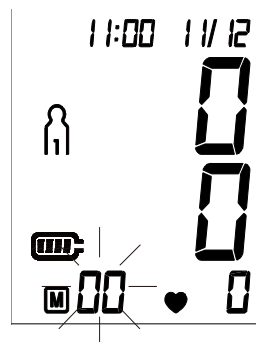
8. DELETING MEASUREMENTS FROM THE MEMORY

When the separate measurements is displaying (exclude during displaying all average), Press the "M1" button and the "M2" button together for 5 seconds, all results in the current user will be deleted, then the monitor come to the mode without result. See picture 8-1 & 8-2. The monitor will turn off automatically after 30 seconds with no operation or you can press the button "M1" or "START/STOP" to turn off the monitor manually.

Note: Above assume delete user 1 memory, if you want to delete user 2 memory, you need to press the button "M2" to turn off the monitor manually.



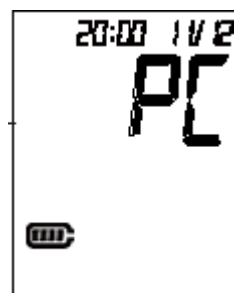
Picture 8-1



Picture 8-2

9. DOWNLOAD THE RECORDS TO YOUR COMPUTER

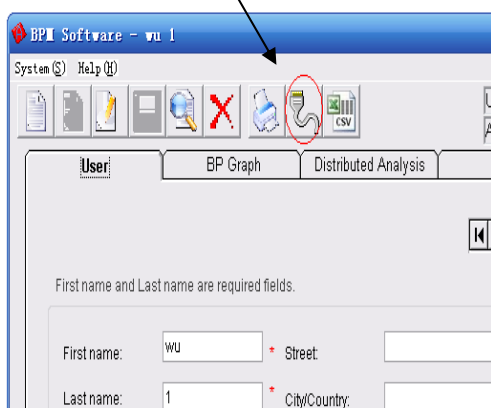
- Ensure that your computer has installed the software “BPM comm” .
- While the monitor is in any Mode except the measurement Mode and bluetooth Mode , connect the monitor to your computer by USB cable, the device display “PC” and data and time, See picture 9-1.



Picture 9-1

- Press the “M1” button or “M2” button to change user . Press “START/STOP” button to confirm the user, then please run the software “BPM comm” in your computer.
- Press the Download Label.See picture 9-2..Your computer start to download the results from the monitor. See picture 9-3.

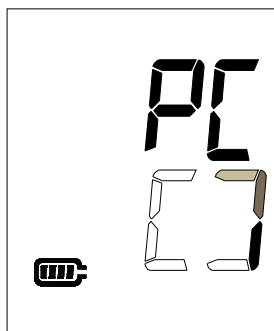
Download Label



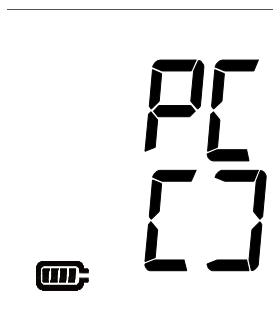
Picture 9-2

Picture 9-3

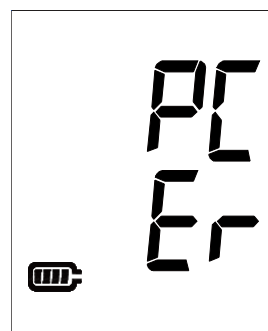
- e. The device display “PC” and keep the digits below moving in a circle as long as the data is transmitted, See picture 9-4. The device display “PC” and full circle when transmission is successful. The device display “PC” and “Er” if the connection is not successful. See picture 9-5&9-6.



Picture 9-4



Picture 9-5



Picture 9-6

- f. The device will turn off automatically after 5 seconds or you can press “START/STOP” button to turn off the monitor manually.
- g. If transmission is successful you can also remove the cable to turn off the monitor.
- h. After transmission, the data will not be deleted from the device.
- i. Please turn off the monitor and disconnect it with your computer after downloading.

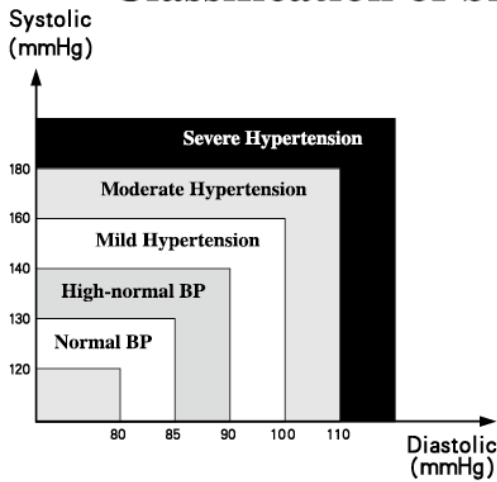
Note:

1. Don't turn off the monitor while downloading the results. Otherwise the results can not be downloaded correctly.
2. If the communication is abnormal, please turn off the monitor and connect the monitor to your computer again.

10. ASSESSING HIGH BLOOD PRESSURE FOR ADULTS

The following guidelines for assessing high blood pressure (without regard to age or gender) have been established by the World Health Organization (WHO). Please note that other factors (e.g. diabetes, obesity, smoking, etc.) need to be taken into consideration. Consult with your physician for accurate assessment, and never change your treatment by yourself.

Classification of blood pressure for adults



BLOOD PRESSURE CLASSIFICATION	SBP mmHg	DBP mmHg	COLOR INDICATOR
Optimal	<120	<80	GREEN
Normal	120-129	80-84	GREEN
High-Normal	130-139	85-89	GREEN
Grade 1 Hypertension	140-159	90-99	YELLOW
Grade 2 Hypertension	160-179	100-109	ORANGE
Grade 3 Hypertension	≥ 180	≥ 110	RED

WHO/ISH Definitions and Classification of Blood Pressure Levels

Note:

It is not intended to provide a basis of any type of rush toward emergency conditions/diagnosis based on the color scheme and that the color scheme is meant only to discriminate between the different levels of blood pressure.

11. TECHNICAL ALARM DESCRIPTION

The monitor will show 'HI' or 'Lo' as technical alarm on LCD with no delay if the determined blood pressure (systolic or diastolic) is outside the rated range specified in part SPECIFICACIONES. In this case, you should consult a physician or check if your operation violated the instructions.

The technical alarm condition (outside the rated range) is preset in the factory and cannot be adjusted or inactivated. This alarm condition is assigned as low priority according to IEC 60601-1-8.



The technical alarm is non-latching and need no reset. The signal displayed on LCD will disappear automatically after about 8 seconds.

12. TROUBLESHOOTING (1)



PROBLEM	POSSIBLE CAUSE	SOLUTION
LCD Display shows abnormal result	The cuff position was not correct or it was not properly tightened	Apply the cuff correctly and try again
	Body posture was not correct during testing	Review the "BODY POSTURE DURING MEASUREMENT" sections of the instructions and re-test.
	Speaking, arm or body movement, angry, excited or nervous during testing	Re-test when calm and without speaking or moving during the test


	Irregular heartbeat (arrhythmia)	It is inappropriate for people with serious arrhythmia to use this Electronic Sphygmomanometer.
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13. TROUBLESHOOTING (2)

PROBLEM	POSSIBLE CAUSE	SOLUTION
LCD Display shows battery symbol 	Low Battery	charge the lithium battery
LCD shows "Er 0"	Pressure system is unstable before measurement	Don't move and try again.
LCD shows "Er 1"	Fail to detect systolic pressure	
LCD shows "Er 2"	Fail to detect diastolic pressure	
LCD shows "Er 3"	Pneumatic system blocked or cuff is too tight during inflation	Apply the cuff correctly and try again
LCD shows "Er 4"	Pneumatic system leakage or cuff is too loose during inflation	
LCD shows "Er 5"	Cuff pressure above 300mmHg	Measure again after five minutes. If the monitor is still abnormal, please contact the local distributor or the factory.
LCD shows "Er 6"	More than 160 seconds with cuff pressure above 15 mmHg	
LCD shows "Er 7"	EEPROM accessing error	
LCD shows "Er 8"	Device parameter checking error	
LCD shows "Er A"	Pressure sensor parameter error	
LCD shows "PC Er "	PC communicate error	Connect the PC correctly and try again
LCD shows  Er "	BT communicate error	Connect the IOS device correctly and try again

MAINTENANCE

1.  Do not drop this monitor or subject it to strong impact.
2.  Avoid high temperature and solarization. Do not immerse the monitor in water as this will result in damage to the monitor.

3. If this monitor is stored near freezing, allow it to acclimate to room temperature before use.
4.  Do not attempt to disassemble this monitor.
5. It is recommended the performance should be checked every 2 years or after repair. Please contact the service center.
6. Clean the monitor with a dry, soft cloth or a soft cloth squeezed well after moistened with water, diluted disinfectant alcohol, or diluted detergent.
7. No component can be maintained by user in the monitor. The circuit diagrams, component part lists, descriptions, calibration instructions, or other information which will assist the user's appropriately qualified technical personnel to repair those parts of equipment which are designated repairably can be supplied.
8. The monitor can maintain the safety and performance characteristics for a minimum of 10,000 measurements or three years, and the cuff integrity is maintained after 1,000 open-close cycles of the closure.
9. It is recommended the cuff should be disinfected 2 times every week if needed (For example, in hospital or in clinique). Wipe the inner side (the side contacts skin) of the cuff by a soft cloth squeezed after moistened with Ethyl alcohol (75-90%), then dry the cuff by airing.

EXPLANATION OF SYMBOLS ON UNIT



Symbol for "THE OPERATION GUIDE MUST BE READ"(The sign background colour: blue.The sign graphical symbol: white)



Symbol for "WARNING"



Symbol for "TYPE BF APPLIED PARTS" (The cuff is type BF applied part)



Symbol for "ENVIRONMENT PROTECTION – Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local Authority or retailer for recycling advice".



Symbol for "MANUFACTURER"



Symbol for "COMPILES WITH MDD93/42/EEC REQUIREMENTS"



Symbol for "DATE OF MANUFACTURE"



Symbol for "EUROPEAN REPRESENTATION"



Symbol for "SERIAL NUMBER"



Symbol for "KEEP DRY"

WARRANTY INFORMATION

Only charge the cost of components and transport.

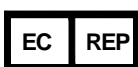
SERVICE CENTER



ANDON HEALTH CO., LTD.

No. 3 Jinping Street, YaAn Road, Nankai District, Tianjin 300190, China.

Tel: 86-22-60526081



Lotus Global Co., Ltd.

1 Four Seasons Terrace West Drayton, Middlesex, London, UB7 9GG, United

Kingdom

Tel: +0044-20-75868010 Fax: +0044-20-79006187

ELECTROMAGNETIC COMPATIBILITY INFORMATION

Table 1


For all ME EQUIPMENT and ME SYSTEMS

Guidance and manufacture's declaration - electromagnetic emissions		
The KD-927 is intended for use in the electromagnetic environment specified below. The customer or the user of the KD-927 should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The KD-927 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The KD-927 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Table 2
For all ME EQUIPMENT and ME SYSTEMS

Guidance and manufacturer's declaration - electromagnetic immunity			
The KD-927 is intended for use in the electromagnetic environment specified below. The customer or the user of the KD-927 should assure that it is used in such an environment.			
IMMUNITY test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % U_T (>95 % dip in U_T) for 0.5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5 % U_T (>95 % dip in U_T) for 5 s	<5 % U_T (>95 % dip in U_T) for 0.5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5 % U_T (>95 % dip in U_T) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the KD-927 requires continued operation during power mains interruptions, it is recommended that the KD-927 be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: U_T is the a.c. mains voltage prior to application of the test level.			

Table 3
For ME EQUIPMENT and ME SYSTEMS that are not LIFE-SUPPORTING

Guidance and manufacturer's declaration - electromagnetic immunity			
The KD-927 is intended for use in the electromagnetic environment specified below. The customer or the user of the KD-927 should assure that it is used in such an environment.			
IMMUNITY test	IEC 60601test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the KD-927, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance: $d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	$d = 1.2\sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = 2.3\sqrt{P} \quad 800 \text{ MHz to } 2,5 \text{ GHz}$ <p>Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 
NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to			

fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the KD-927 is used exceeds the applicable RF compliance level above, the KD-927 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the KD-927.

b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3V/m.

Table 4
For ME EQUIPMENT and ME SYSTEMS that are not LIFE-SUPPORTING

Recommended separation distances between portable and mobile RF communications equipment and the KD-927			
The KD-927 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the KD-927 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the KD-927 as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	80 MHz to 800 MHz $d = 1.2\sqrt{P}$	800 MHz to 2,5 GHz $d = 2.3\sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be determined using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			
NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			