

Anovamedical, LLC

MODEL KD-5904



Fully Automatic Arm Cuff Blood Pressure Monitor (ELECTRONIC SPHYGMOMANOMETER) OPERATION GUIDE

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IMPORTANT INFORMATION

NORMAL BLOOD PRESSURE FLUCTUATION

Physical activity, excitement, stress, eating, drinking, smoking and many other activities and factors (including taking a blood pressure measurement) all influence blood pressure value. Because of this, it is most unusual to obtain identical multiple blood pressure readings.

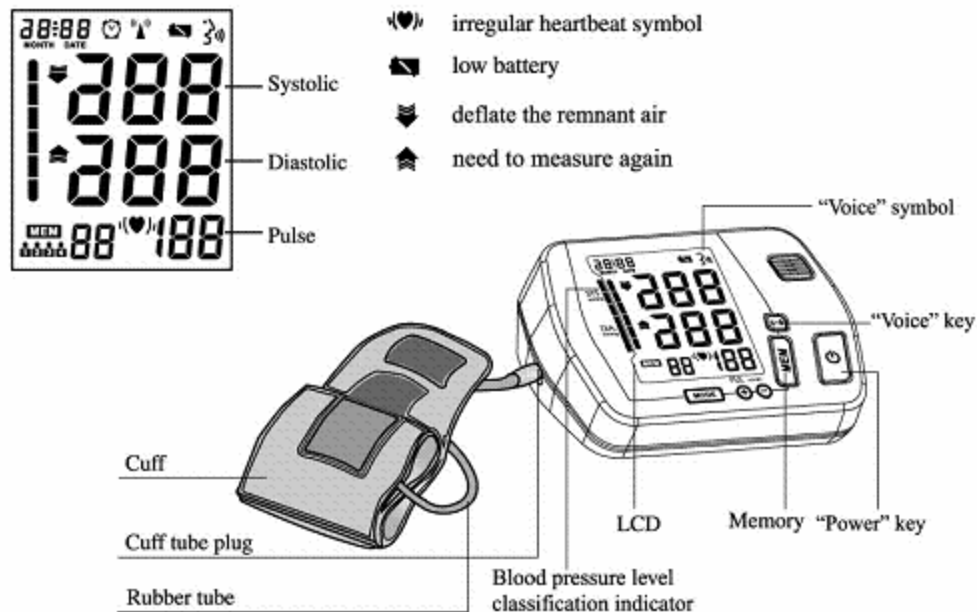
Blood pressure fluctuates continually during the day and night with the highest values usually in the daytime and lowest values usually in the evening. The lowest blood pressure value usually occurs at approximately midnight. Typically, the value begins to increase at approximately 3:00AM, reaching its highest level during the daytime when most people are awake and active.

Considering the above information, the way to collect day-to-day blood pressure measurements that can be meaningfully compared is to measure your blood pressure at approximately the same time or times each day.

When re-measuring blood pressure, always wait a minimum of 3 to 5 minutes between measurements to allow the blood circulation in your arm to recover. Remember, it is normal and it is expected that you will not obtain identical multiple blood pressure readings.

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Name of Each Part



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PRODUCT DESCRIPTION

Using Oscillometric methodology and silicon integrated pressure sensor technology; blood pressure and heart rate are measured automatically and non-invasively. The LCD display visually shows blood pressure and heart pulse rate measurements. The most recent 60 measurements are stored in the memory with date and time. The voice processor audibly announces each displayed blood pressure and heart pulse rate measurement.

This blood pressure monitor is designed for use with adults and should never be used with infants or young children. Consult your physician or other health care professional before use with older children.

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SPECIFICATIONS

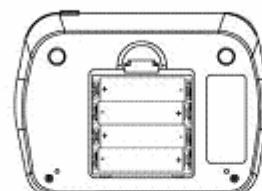
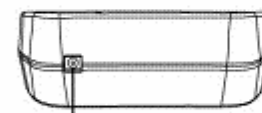
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|---|---|
| (1) Model: KD-5904 | (8) Power source: DC 6V or AA x 4 batteries |
| (2) Classification: Class II, Type B | (9) Pressure measuring range: 0-299mmHg |
| (3) Machine size: 145mm x 104mm x 55mm | (10) Measuring accuracy: ± 3 mmHg |
| (4) Cuff size: 475mm x 135mm | (11) Heart rate range: 40-180/min |
| (5) Weight: Approx. 310g (excluding batteries) | (12) Environmental temperature for using: 41~104°F |
| (6) Measuring method: oscillometric method, automatic air inflation and measurement | (13) Environmental humidity for using: <85% |
| (7) Memory volume: 60 measurements with time and date | (14) Environmental temperature for storage: -4~131°F |
| | (15) Environmental humidity for storage: <95% |
| | (16) Environmental pressure: atmosphere pressure |
| | (17) Battery life: Approx. 2 months with 3-min/usage per day. |

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SETUP AND OPERATING PROCEDURES

1. BATTERY LOADING

- Open the battery cover on the back of the monitor.
- Insert four "AA" batteries taking care that the "+" and "-" ends of the batteries are inserted correctly.
- Close the battery cover.
- When the LCD display shows a battery signal, the batteries must be replaced for accurate readings.
- Do not use rechargeable batteries with a voltage of 1.2 V (the typical voltage for rechargeable batteries), because they are not suitable for this product and will cause inaccurate readings. Batteries with a voltage of 1.5 V, (disposable or rechargeable "AA") must be used.
- Remove the batteries if the monitor will not be used for a month or more. This will avoid damage from the possibility of leaking batteries.



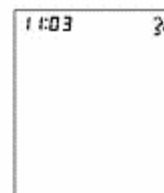
External power supply socket

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

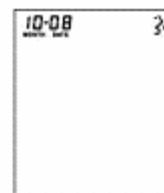
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2. CLOCK AND DATE ADJUSTMENT

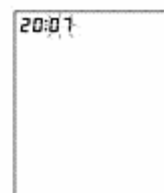
- Once you install the batteries, the LCD will display the time of day (see picture 1), then the date will be displayed (see picture 2). These settings will need to be adjusted to display the correct time, date, and year.
- Note that the hours are displayed as 1 through 24 rather than 1AM through 12Noon and 1PM through 12 Midnight.
- When the monitor power is off, press and hold the button "Mode" and the number on the LCD that indicates the year will begin blinking. While the number indicating the year is blinking, each time you press and release button "+" the year will increase by one, each time you press and release the button "-" the year will decrease by one. By pressing the buttons "+" or "-", adjust the blinking number to the correct year. Once the year is correctly set, press the button "MODE" and the number representing the month will blink. Repeat the above described process to correctly set the month, day of the month, the hour, and then the minutes.
- After you set the minutes, press and release the button "MODE" you exit the year, date and time adjustment mode and the numbers on the LCD will no longer blink.
- When the batteries are replaced, the year, month, date and time must be reset.



picture 1



picture 2

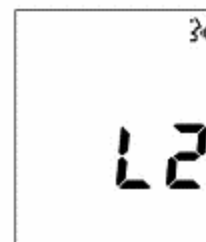


picture 3

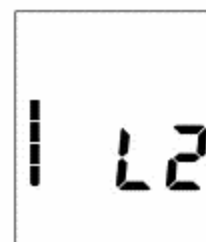
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3. VOICE PROCESSOR LANGUAGE SETUP

- a. Voice Processor Language Selection: When the monitor power is off, press and hold the voice key button “((●))”. The LCD will display first “L1” and the voice processor will announce “Francais”. Next the LCD will display “L2” and the voice processor will announce “English”. Next the LCD will display “L3” and the voice processor will announce “Espanol”. When the language of choice is announced, release the voice key button “((●))”.
- b. Voice Processor Volume Setting: Once you have selected a language, again press and hold the voice key button “((●))” and a line of dashes will begin to appear on the left side of the LCD and a chime will sound. The more dashes that appear and the louder the chime, the louder the voice processor will speak. Release the voice key button “((●))” when the volume is set at the loudness that you desire. Once you have released the button voice key button “((●))” the monitor will exit the language selection and volume loudness adjustment mode.
- c. Activating and de-activating the voice processor: When the voice processor is activated in any language, the human-face-speaking-symbol appears in the top right side of the LCD (see picture 4). By pressing and releasing the voice key button “((●))”, the voice processor will be de-activated and the human-face-speaking-symbol will no longer be displayed on the LCD. When the voice processor is de-activated, pressing and releasing the voice key button “((●))” will activate the voice processor and the human-face-speaking-symbol will re-appear in the top right side of the LCD (see picture 4).



picture 4

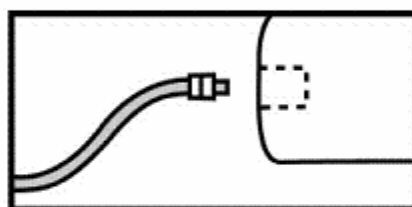


picture 5

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4. CUFF CONNECTION TO THE MONITOR

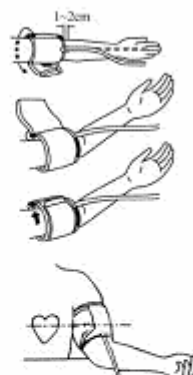
Connect the cuff to the monitor by placing the rubber tube plug into the cuff socket on the monitor. Make certain that the plug is completely inserted so that there will be no air leakage during blood pressure measurements



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5. CUFF WRAPPING ON YOUR ARM

- Place the cuff around a bare arm $\frac{1}{2}$ to $\frac{3}{4}$ of an inch above the elbow joint.
- While seated, place the hand of the cuffed arm, palm up, in front of you on a flat surface such as a desk or table with the rubber tube running down the center of your arm toward your hand.
- Turn the cuff end outward (away from your body) and tighten it by pulling it through the medial loop (the cuff is packaged with this already done); then press the Velcro surfaces together.
- The cuff must be neither too tight nor too loose. You should be able to place one finger between the cuff and your arm.
- Measure using the same arm each time.
- Do not move your arms, body, or the monitor and do not press the rubber tube during blood pressure measurements.
- Stay quite, calm and at rest for 5 minutes before and during blood pressure measurement.
- If the cuff becomes dirty, remove it from the monitor and wash it by hand in a mild detergent, then rinse it thoroughly in cold water. Allow the cuff to dry before using for a blood pressure measurement. Never dry the cuff in a clothes dryer and never iron the cuff.

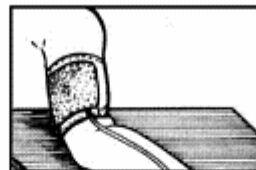


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6. BODY POSTURE DURING MEASUREMENT

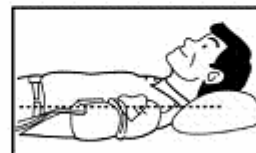
Sitting Measurement

- Sit upright.
- Place the arm with the cuff in front of you on a desk or table with the palm up.
- The cuff should be at the same level as your heart.



Lying Down Measurement

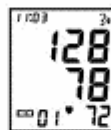
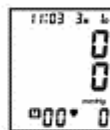
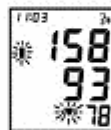
- Lie on your back.
- Place your arm straight along your side with your palm up.
- The cuff should be at the same level as your heart.



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7. TAKING AND READING A MEASUREMENT

- With the cuff wrapped around your arm and your body in a comfortable position, press and release the power button “”. You will hear a beep and the LCD display will first verify itself, then it will set itself to read all zeros.
- If the monitor has previous blood pressure measurements in the memory, the LCD will momentarily display the most recent measurement reading before it sets itself to all zeros.
- If the voice function is on, the monitor will speak out measurement tips and then state, “Now, if you are ready, let’s begin”.
- The monitor will pump up the cuff; then release the air pressure from the cuff; then show the measurement on the LCD display. If the voice feature is activated, it will announce the blood pressure and heart pulse rate measurements and it will state the classification of the measurements according to the standards of the World Health Organization (WHO).
- The monitor power will turn-off automatically after 1 minute of non-use. Alternatively, you can press and release the power button “” to manually turn off the monitor



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8. IRREGULAR HEARTBEAT INDICATOR

If an irregular heartbeat is detected during a blood pressure reading, the LCD will show the symbol “” and both the heart symbol and the blood pressure classification symbol “” will blink, see picture to the right.



9. READING MEASUREMENTS IN THE MEMORY

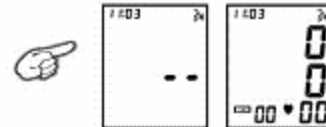
- When the monitor is turned off, press and release the button “MEM”. The LCD display will show the number of measurements in the memory; then the most recent measurement will be displayed. If more than one measurement is in the memory, press and release the button “MEM” again and the second most recent measurement will be displayed. Repeat this process to view each measurement stored in the memory.
- If the voice function is on, the voice processor will announce each measurement in the memory when the measurement is shown on the LCD display. The voice processor will also state how each measurement is classified according to the World Health Organization (WHO).
- After reading the measurements in the memory, press and release the button “MEM” or the power button “” and the monitor will power-off. When in the memory reading mode, if you do not manually turn the power off, the monitor will power-off automatically after one minute of non-use.



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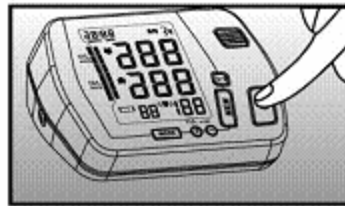
10. DELETING MEASUREMENTS FROM THE MEMORY

When in the memory reading mode, pressing and holding the button “MEM” for 3 seconds will delete all measurements from the memory once the monitor sounds three “beeps”. After the “beeps” the LCD display will momentarily show two dashes, then the LCD display will show that no measurements are in the memory.



11. TURNING THE MONITOR POWER OFF

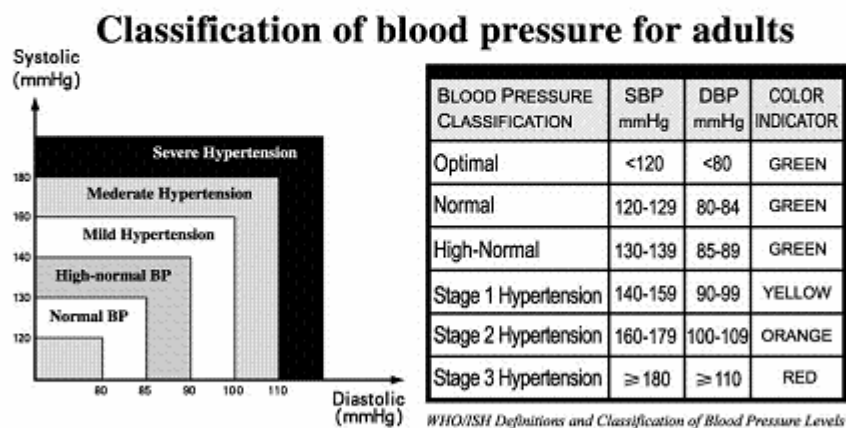
The monitor power will turn-off automatically after one minute of non-use after measurement displaying and storing. Alternatively, you can press and release the power button “” to manually turn off the monitor.



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12. ASSESSING HIGH BLOOD PRESSURE FOR ADULTS

The following standards for assessing high blood pressure (without regard to age or gender) have been established as a guide by the World Health Organization (WHO). Please note that other risk factors (e.g. diabetes, obesity, smoking, etc.) need to be taken into consideration and may affect these figures. Consult with your physician for accurate assessment.



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13. TROUBLESHOOTING (1)

Abnormality	Reason	Checkout
LCD shows low battery symbol 	Batteries are low	Install new batteries
LCD shows "Er 0"	Pressure system was unstable before measurement.	Measure again taking care to remain still and to not speak during the measurement
LCD shows "Er 1"	Systolic pressure detect failure	
LCD shows "Er 2 "	Diastolic pressure detect failure	
LCD shows "Er 3 "	Pneumatic system blocked or cuff is too tightly wrapped	Make certain the cuff is wrapped around your arm correctly (see page 10), then re-measure
LCD shows "Er 4 "	Pneumatic system leakage or cuff is too loosely wrapped	

14. TROUBLESHOOTING (2)

Abnormality	Reason	Checkout
LCD shows "Er 5 "	Inflation above 300mmHg	Wait 5 minutes, then re-measure. If operation is still abnormal, contact the manufacturer (see page 18)
LCD shows "Er 6 "	Over 3 minutes while pressure above 15 mmHg	
LCD shows "Er 7 "	EEPROM accessing error	
LCD all characters blinking	Device parameter check error	
LCD shows "Er 9 "	MCU self-verity error	
LCD shows "Er A "	Span error	
LCD shows "Er b "	EEPROM backup error	
No response when you press one or more of the buttons	Incorrect operation	Remove the batteries for five minutes, then reinstall them

WARRANTY INFORMATION

Your Fully Automatic Blood Pressure Monitor, including the cuff, is warranted to be free of defects in materials and workmanship appearing within one (1) year from the date of purchase, when used in accordance with the instructions provided with the monitor.

We will, at our option, repair or replace without charge any monitor or cuff covered by the above warranty. Repair or replacement is our only responsibility and your only remedy under the above warranty.

To obtain warranty service information including the address of a repair location and handling fees, if any, visit our Internet Site, www.AnovaMedical.com.

When returning product for service, you must include a store receipt as proof-of-purchase. Include a letter with your name, address, phone number, and email address (optional if you wish to communicate by email), and a brief description of the specific problem. Pack the product properly to prevent damage in transit. We recommend that you insure the product and request a delivery receipt.

ANOVA SHALL NOT BE LIABLE FOR LOSS OF USE OR ANY OTHER INCIDENTAL, CONSEQUENTIAL OR INDIRECT COSTS, EXPENSES OR DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions may not apply to you.

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