

INSTRUCTION MANUAL

SmartSpeed[®] Plus Automatic Digital Blood Pressure Monitor with Memory

04-186-001 (Adult size cuff)

04-186-006 (Large adult size cuff)

Please read this instruction manual
completely before operating this unit.



Lifetime Limited Warranty

MABIS Healthcare guarantees that its Digital Blood Pressure Monitor will be free from manufacturing defects under normal use for as long as the original purchaser owns the product.

This warranty covers only normal use, and does not apply to use in any clinical or commercial applications. This warranty does not cover batteries or other power sources that may be provided with or used with the Digital Blood Pressure Monitor. This warranty is voided if the Digital Blood Pressure Monitor product is misused or abused in any manner. If the Digital Blood Pressure Monitor fails to operate during the time the original purchaser owns it, return it postage prepaid to: MABIS Healthcare, Attn: Repair Department, 1931 Norman Drive, Waukegan, IL 60085. MABIS will repair or replace the defective unit at the option of MABIS Healthcare. Repair or replacement of the defective unit, at the warrantor's option, is the sole remedy under this warranty.

ANY IMPLIED WARRANTIES WHICH THE PURCHASER MAY HAVE ARE LIMITED IN DURATION TO THE TIME THAT THE ORIGINAL CONSUMER PURCHASER OWNS THE PRODUCT. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty constitutes the warrantor's only responsibility and obligation to repair and/or replace materials or components, or refund the purchase price. **MABIS will not be responsible for any indirect, incidental, special, consequential, or punitive damages or other loss**, including, but not limited to, damage to or loss of other property or equipment and personal injuries, whether to purchaser or others. MABIS shall in no event be liable to the purchaser for any amount in excess of the cost of repair and/or replacement of the unit, or the purchase price of the unit. Some states do not allow the exclusive or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Toll-Free Information Line:
1-800-622-4714



Manufactured by:

MABIS Healthcare

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Introduction

To achieve the maximum benefit from your blood pressure monitor, we recommend that you first consult with your physician or trained health care professional.

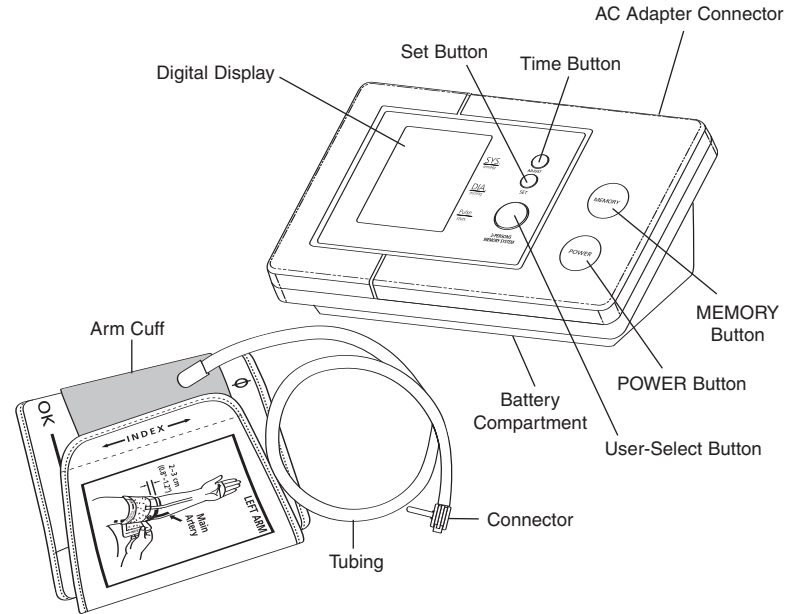
Thank you for purchasing an Automatic Blood Pressure Monitor. With proper care and use, your monitor will provide you with many years of reliable readings.

The method of measurement that your Automatic Monitor uses is called the oscillometric method. The monitor detects your blood's movement through the artery in your arm and converts the movements into a digital reading. The oscillometric method does not require a stethoscope, making the monitor easy-to-use.

Your Automatic Monitor is specially enhanced with SmartSpeed® Plus technology, which calculates both systolic, diastolic and pulse readings with time and date while the cuff is inflating. This provides you with shorter measuring time and enhanced comfort.

Blood pressure readings determined with this device are equivalent to measurements obtained by a trained observer using the cuff/stethoscope auscultation method, within the limits prescribed by the American National Standard for Electronic or Automated Sphygmomanometers.

Product Identification and Caution



Caution

While taking a measurement, you can stop the inflation or deflation process of the cuff at any time by pressing the POWER button.

General Blood Pressure Information

What is Blood Pressure?

Blood pressure is the pressure that is exerted by blood flowing against the walls of the blood vessels throughout your body.

Your heart, which is the center of the circulatory system, provides the force for the blood to flow or circulate. When your heart contracts or beats, the blood is forced through the blood vessels increasing the pressure. This is the highest pressure in the cycle or what is referred to as **SYSTOLIC BLOOD PRESSURE**. In between beats, your heart relaxes and your blood pressure decreases. This is referred to as **DIASTOLIC BLOOD PRESSURE**.

This complete series of events which occurs in a single heartbeat is known as the **CARDIAC CYCLE**.

Your Digital Blood Pressure Monitor will automatically read your blood pressure and display both systolic and diastolic readings on the screen. Your systolic will be positioned as the upper number and the diastolic reading will be the lower number.

(systolic) **120/80** (diastolic)

Blood pressure is measured in millimeters (mm) of Mercury (Hg) and is generally recorded with the systolic pressure (120) listed first and the diastolic pressure (80) listed second. The numbers are typically separated by a slash mark (/) as shown above.

Both pressure readings, the SYSTOLIC and the DIASTOLIC, are necessary for a physician to evaluate the status of a patient's blood pressure.

Please contact your physician for specific information regarding your own blood pressure.

What Influences Blood Pressure?

Many factors such as genetics, age, sex, altitude, physical activity, anxiety, muscular development, certain medications or even the time of day can influence blood pressure. Influences such as sleep or relaxation decreases blood pressure, while anxiety or exercise increases blood pressure.

Why Monitor Your Blood Pressure at Home?

A visit to a physician's office can be a stressful situation for a patient. And, anxiety is a known factor in raising blood pressure. This temporary occurrence of elevated blood pressure at the physician's office is commonly referred to as "white coat syndrome".

Whether or not you experience "white coat syndrome", home blood pressure monitoring provides you with the opportunity to supplement your physician's office measurements. These home readings, when taken over a period of time, can show an accurate indication of change. Furthermore, your records can assist your physician in evaluating your health and in making important decisions in the diagnosis and treatment of your condition. Because of this, it is important to take consistent, daily measurements of your blood pressure.

The variations in your individual readings should only be interpreted by your physician or a trained health care professional.

WHO Blood Pressure Classifications

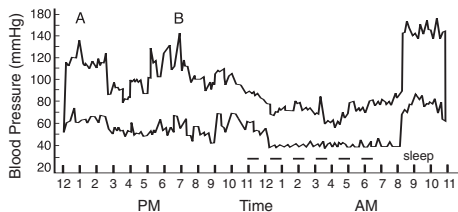
Standards for assessment of high or low blood pressure, regardless of age, have been established by the World Health Organization (WHO) as shown in the chart on the following page.

CATEGORY	SYSTOLIC (mmHg)	DIASTOLIC (mmHg)
Optimal	<120	<80
Normal	<130	<85
High - Normal	130-139	85-89
Mild Hypertension	140-159	90-99
Borderline	140-149	90-94
Moderate Hypertension	160-179	100-109
Severe Hypertension	≥180	≥110
Isolated Systolic Hypertension	≥140	<90
Borderline	140-149	<90

This chart is only a general guideline. Please contact your physician to determine your **NORMAL BLOOD PRESSURE**.

Variations in Blood Pressure

Blood pressure can be influenced by many factors. This change can occur from moment to moment. Normally, blood pressure is lowest during the sleeping period and rises during the day. The graph below represents the variations in blood pressure shown over a day with measurements taken every 5 minutes.



The dotted line represents the sleep period. The rise in blood pressure at 1 p.m. (*A in the graph*) corresponds to a stressful occurrence and at 7 p.m. (*B in the graph*) a period of exercise.

Important Information Before Use

1. Blood pressure measurements should only be interpreted by a physician or a trained health care professional who is familiar with your medical history. Through regular use of this device and recording of your measurements, you can keep your physician informed of the changes in your blood pressure.
2. Perform your measurement in a quiet place. You should be seated in a relaxed position.
3. Avoid smoking, eating, taking medication, alcohol consumption or physical activity 30 minutes prior to taking a reading. If you are exhibiting signs of stress, avoid taking your measurement until the feeling subsides.
4. Rest 15 minutes prior to taking a reading.
5. Remove any constrictive clothing or jewelry that may interfere with the cuff placement.
6. Keep the monitor stable during measurements. Remain still; do not talk during measurements.
7. Record your daily blood pressure and pulse readings on a chart.
8. Take your readings at the same time, each day (or as recommended by your physician) to get an accurate indication of change in your true blood pressure.
9. Wait a minimum of 15 minutes between readings to allow for the blood vessels to return to normal. The wait time may vary depending on your individual physiological characteristics.
10. This device is intended for adult use.

*While taking a measurement, you can stop the inflation or deflation process of the cuff at any time by pressing the **POWER** button.*

Battery Installation/Replacement

Replace the batteries when the Low Battery symbol appears on the display, *Fig. 1*, or when the display remains blank when the POWER button is pressed.

To change the batteries:

1. Press down and lift the cover in the direction of the arrows as shown, *Fig. 2*.
2. Insert or replace 4 AA batteries into the compartment, matching the indicated polarity symbols.
3. To close, match up and connect the bottom hooks of the cover, then push the top end.

NOTE: It is recommended to remove the batteries if the unit will not be used for an extended period of time.

AC Power Adapter (optional)

An AC adapter is available separately for battery-free operation. The AC adapter plugs into the back of the unit as shown. Please remember to practice electrical safety precautions while using the adapter.

AC Adapter

Output: 12V DC 600mA (3.8Ø/1.3Ø)

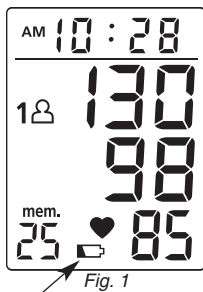


Fig. 1

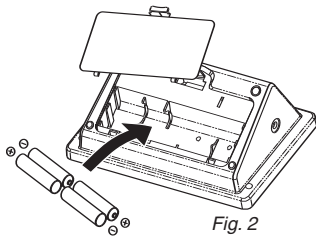
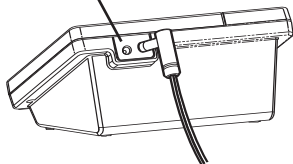


Fig. 2

AC Adapter Connection



Setting the Date/Time

1. Press the Set Button to enter into the Time Adjustment mode. The blinking Month will display, *Fig. 1*.
2. Press the Time Button to change.
3. Press the Set Button to confirm entry.
4. The blinking Date, *Fig. 2*, followed by Hour and Minutes will display. Repeat steps 2 and 3 to adjust the date/time setting.
5. After setting the time and date, the time will appear on the display, *Fig. 3*. Press the POWER button to turn the unit off. Press the POWER button again to turn the unit on to take a reading.

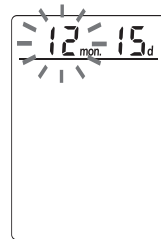


Fig. 1

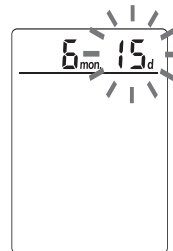


Fig. 2

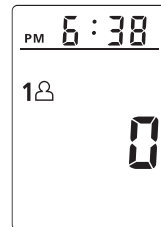
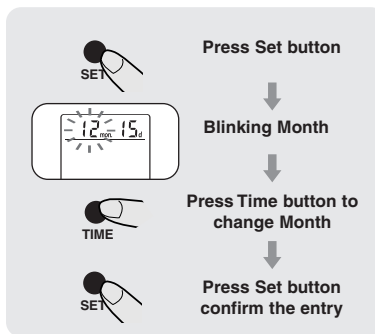


Fig. 3

Applying Your Blood Pressure Cuff

Avoid smoking, eating, taking medication, alcohol consumption or physical activity 30 minutes prior to taking a reading. If you are exhibiting signs of stress, avoid taking your measurement until the feeling subsides. Rest 15 minutes prior to taking a reading.

NOTE: If for any reason you are unable to or should not use your left arm, please modify the following instructions and apply the cuff to your right arm. Your physician can tell you which arm is best for you to use.

1. Remove any constrictive clothing or jewelry that may interfere with the cuff placement.
2. Be seated with your feet flat on the floor.
3. Position the cuff on a solid surface with the tubing facing UP and AWAY from you. The metal bar on the cuff should be to the left of the tubing.
4. Widen or open the cuff by pulling or rolling the bottom of the cuff towards the right, *Fig. 1*. This should open the cuff, creating a cylinder. Do not extend the cuff beyond the metal bar.
5. Insert your left arm into the cuff (cylinder). Position the (ϕ) mark over the main artery (on the inside of your arm), *Fig. 2*.

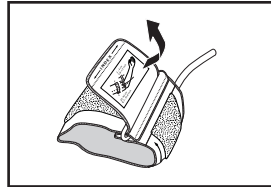


Fig. 1

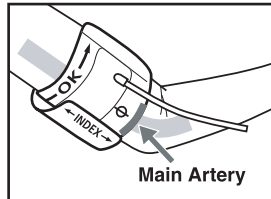


Fig. 2

6. The bottom edge of the cuff should be positioned approximately one inch ABOVE the elbow joint, *Fig. 3*.

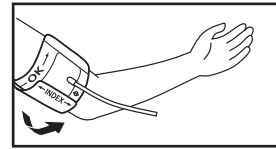


Fig. 3

7. Reaching underneath your left arm with your right hand, pull the end of the cuff towards your body to tighten the cuff, *Fig. 4*. Wrap and secure the cuff making sure that the (ϕ) mark remains as shown, *Fig. 2*.

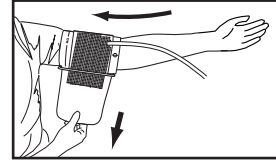


Fig. 4

8. 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: The cuff size is suitable for use when the vertical 'index' mark is within the horizontal 'OK' range. A different sized cuff is needed if the 'index' mark is outside the 'OK' range.

Taking Your Blood Pressure Reading

Proceed only after reading the previous sections of this manual.

Remember! Do not talk during the measurement.

1. Position the monitor on a flat, stable surface with the digital display in view. Insert the cuff tubing connector into the left side of the monitor, *Fig. 1*.

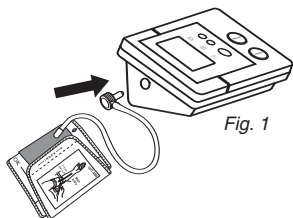


Fig. 1

2. Rest your elbow on a solid surface with your palm facing upward. Elevate your arm so that the cuff is at the same level as your heart, *Fig. 2*. Relax your left hand.

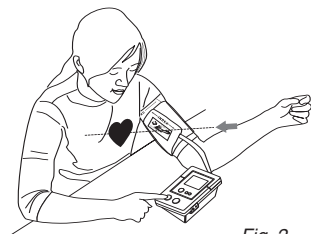


Fig. 2

3. Select the memory bank you want your reading to be stored in by pressing the User-Select button to alternate between, memory bank 1 or 2, *Fig. 3*. Press the POWER button to confirm your selection.

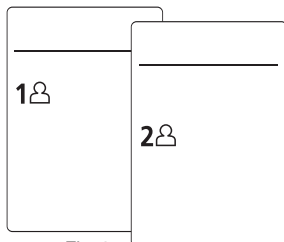


Fig. 3

4. Press the POWER button again to turn the unit on. The unit will run a self-test, *Fig. 4*.
5. The cuff will automatically begin to inflate, with varying speeds of inflation.
6. The display will show the increasing pressure in the cuff, *Fig. 5*.
7. Once the systolic pressure is reached, the cuff will exhaust all air.
8. Your blood pressure (systolic and diastolic) measurement and pulse rate will display simultaneously, *Fig. 6*.
9. Your reading will be automatically stored in memory.
10. To conserve energy, press the POWER button to turn the unit off. Otherwise, the unit will automatically shut off after approximately 1 minute.
11. Disconnect the tubing from the monitor prior to storing.

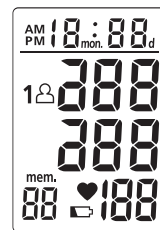


Fig. 4

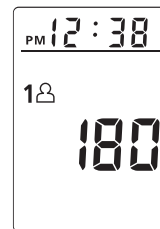


Fig. 5

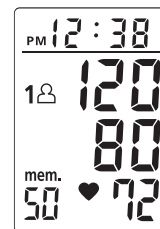


Fig. 6

Recalling Measurements in Memory

You can recall up to 50 measurements plus an average of the three most recently stored measurements in memory from each memory bank. These measurements can be shared with your physician or trained health care professional.

1. Press the MEMORY button. The first reading displayed is the average of the last three measurements stored in memory. The letter 'A' will appear on the display, *Fig. 1*.
2. Continue to press the MEMORY button to view the next previously stored measurement, *Figs. 2-3*.

NOTE: Each memory bank can store up to 50 readings. When the number of readings exceeds 50, the oldest data will be replaced with the new record.

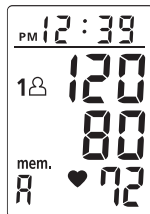


Fig. 1

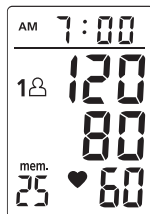


Fig. 2

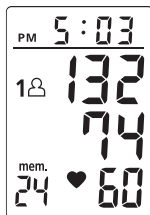






Fig. 3

Description of Display Symbols

SYMBOL	CONDITION	ACTION
	Appears when pulse reading is displayed.	Record pulse reading.
mem.	Appears when recalling a measurement from memory.	Memory recall function in progress.
1  2 	Memory banks.	Select bank for memory storage or recall.
	Appears when battery voltage is excessively low.	Replace batteries with new ones.
EE	Appears when measurement cannot be obtained.	Wait a minimum of 15 minutes and remeasure. Loosen cuff to allow blood circulation in the arm.

Troubleshooting

If any abnormality occurs during use, please check and correct the following:

Condition	Correction
Display is blank when power is on.	Check and correct the polarity of the installed batteries. Reinstall or replace batteries.
Measurement incomplete or abnormally low or high values displayed.	Review and follow 'Applying Your Blood Pressure Cuff' and 'Taking Your Blood Pressure Reading' sections. Replace the batteries.
Measurements are different from those typically measured by physician or every measurement reading is different.	Remember, blood pressure readings are influenced by physical and mental conditions and/or even the time of day. Daily measurement recordings should be interpreted by your physician.

Care and Maintenance

1. Disconnect the cuff tubing from the monitor prior to storing.
2. Only use a soft, dry cloth to clean your blood pressure monitor.
3. Avoid using any types of liquids on the monitor or cuff.
4. Do not store the unit where it will be exposed to direct sunlight, dust or humidity.
5. Avoid extreme temperatures.
6. Never disassemble the monitor or cuff.
7. Dropping or subjecting your blood pressure monitor to strong shocks should be avoided.

Product Specifications

Name and Model Number	MABIS SmartSpeed® Plus Automatic Digital Blood Pressure Monitor, 04-186-001, 04-186-006
Display System	Digital display/LCD
Measuring Method	Oscillometric
Power Source	4 AA batteries
Measuring Range	Pressure: 20 to 280 mmHg Pulse: 40-180 beats/minute
Accuracy	Pressure: ±3 mmHg Pulse: ±5% of reading
Pressurization	Automatic pressurization by pump
Deflation	Automatic pressure release valve
Memory	Two built-in memory banks enabling display of up to 50 measurements each plus average of three most recent measurements
Automatic Power Off	Approximately 1 minute after last button operation
Battery Life	Approximately 150 measurements
Operation	
Temperature	50°F – 104°F (10°C – 40°C)
Humidity	40% to 85% RH (non-condensing)
Storage	
Temperature	14°F – 140°F (-10°C – 60°C)
Humidity	10% to 95% RH (non-condensing)
Weight	14.1 oz. (without batteries)
Dimensions	5-7/8" x 3-3/4" x 3"
Arm Circumference Range	Adult size fits arm circumference: 8-5/8" – 12-5/8" (22-32 cm) Large adult size fits arm circumference: 12-5/8" – 16-1/2" (32-42 cm)
Accessories	Cuff, nylon storage case, detailed guidebook, four AA batteries, Quick Start Guides
Options (sold separately)	Adult size cuff, Large Adult size cuff, Wide-Range™ cuff fits arm circumference 8-5/8" – 18" (22-46 cm) AC adapter

Specifications are subject to change without notice.

Sample Blood Pressure Log

Name:

Age:

Weight:

Date	1/2	1/2	1/3																																
Time	7:00 AM	9:30 PM	7:30 AM																																
mmHg	<table border="1"> <caption>Blood Pressure and Pulse Data</caption> <thead> <tr> <th>Date</th> <th>Systolic (mmHg)</th> <th>Diastolic (mmHg)</th> <th>Pulse</th> </tr> </thead> <tbody> <tr> <td>1/2</td> <td>130</td> <td>84</td> <td>68</td> </tr> <tr> <td>1/2</td> <td>135</td> <td>90</td> <td>71</td> </tr> <tr> <td>1/3</td> <td>120</td> <td>78</td> <td>69</td> </tr> </tbody> </table>			Date	Systolic (mmHg)	Diastolic (mmHg)	Pulse	1/2	130	84	68	1/2	135	90	71	1/3	120	78	69																
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1/2	130	84	68																																
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1/3	120	78	69																																
Pulse	68	71	69																																
Body Condition	Headache in AM	—	Tired, Restless Night																																