

# INSTRUCTION MANUAL

## *SmartRead™ Digital Blood Pressure Monitor Guidebook*

**Model 04-244-001**

Please read this instruction manual  
completely before operating this unit.



**DETAILED  
GUIDEBOOK**

English • French • Portuguese • Spanish

## Limited Five Year Warranty

Your Mabis Blood Pressure Monitor is guaranteed to be free of manufacturing defects for a period of five years from the date of purchase under normal use. If the unit fails to operate during warranty period, return it prepaid along with \$5.00 for return shipping and insurance to:

Mabis Healthcare Inc., Attn: Repair Department,  
28690 N. Ballard Drive, Lake Forest, IL 60045.

If it is determined to be a manufacturing defect, the unit will be repaired or replaced at the option of Mabis Healthcare. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. As a condition of this warranty, the enclosed warranty registration card must be completed and sent to us within 10 days of the purchase date.



28690 N. Ballard Drive  
Lake Forest, IL 60045 USA

***Toll-Free Customer Care Helpline:***  
**800-622-4714**

www.mabis.net  
E-mail: 244info@mabis.net  
Phone: 847-680-6811  
Fax: 847-680-9646

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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.*

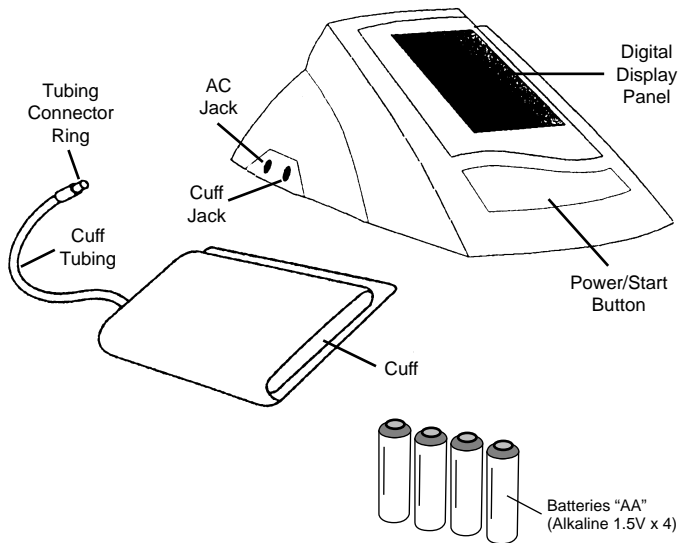
Thank you for purchasing a Mabis Automatic Digital Blood Pressure Monitor. With proper care and use, your monitor will provide you with many years of reliable readings.

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 SmartRead™ Technology. With the touch of a button, the cuff will automatically inflate to the optimum level. Within seconds, the cuff will deflate at the proper rate of 3-4 mmHg per pulse beat. Your blood pressure and pulse readings will be clearly displayed on the large digital panel.

*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



## Caution

You can stop the inflation or deflation process of the cuff at any time by pressing the "power" button causing the cuff to immediately deflate.

# 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 Mabis Automatic 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".

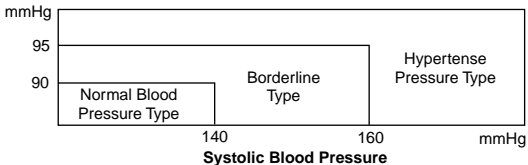
Whether or not you experience "white coat syndrome", home blood pressure monitoring provides you with the opportunity to supplement your physician's office measurements. These home readings, when taken over a period of time, can show an accurate indication of change. Furthermore, your records can assist 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 following chart.

### Diastolic Blood Pressure

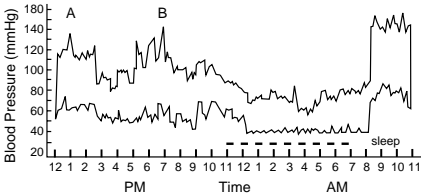


Reference Material: Investigation into Adult Diseases Report by the Ministry of Health and Social Security, 1971.

*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 PM (A in the graph) corresponds to a stressful occurrence and at 7 PM (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. Apply the cuff to the proper position on the left arm. The monitor should be positioned flat with the digital display panel in view.
7. Keep the monitor stable during measurement to achieve an accurate reading. Remain still; do not talk during the measurement.
8. Record your daily blood pressure and pulse readings on a chart.
9. 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.
10. 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.
11. Although such cases are rare, for those with an extremely weak pulse or irregular pulse, errors may result which prevent proper measurement. If abnormal variations are noticed, consult with your physician or a sales representative from where you purchased this unit.
12. This device is intended for adult use. Please consult your physician should you wish to use the device on children.

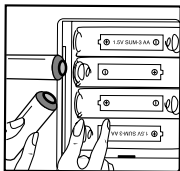
*While taking a measurement, you can stop the inflation or deflation process of the cuff at any time by pressing the power button.*

# Battery Installation/Replacement

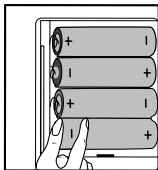
1. Remove the battery cover as shown in *Fig. 1*.
2. Insert the batteries into the compartment, *Fig. 2*, taking care to observe and match the polarities as indicated on battery compartment.
3. Replace the battery cover, *Fig. 3*.

**Note:** The batteries in your monitor will need to be replaced when the Low Battery indicator appears on the display, *Fig. 4*.  
Replace the batteries with four new “AA” alkaline batteries.

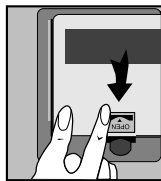
4. We recommend that you remove the batteries if the unit will not be used for an extended period of time.



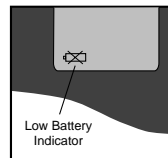
*Fig. 1*



*Fig. 2*



*Fig. 3*



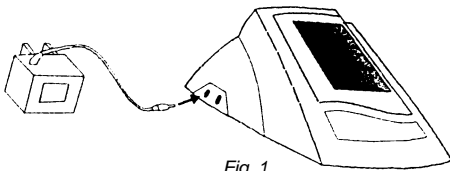
*Fig. 4*

## AC Adapter Installation (Optional)

Your Mabis Blood Pressure monitor will operate on 4 “AA” batteries (included) or a standard 6V/600mA AC adapter fitted with a DIN plug (not included).

To use an AC adapter:

1. Insert the DIN plug into the socket located on the left side of the monitor, *Fig. 1*.



2. Plug the AC adapter into a main outlet according to the adapter's specifications.
3. Test the connection by pressing the power button.

**Note:**

Your unit will not draw from the batteries while using an AC adapter. If the AC is interrupted during use, you will need to reinsert the DIN plug once the power becomes available.

# 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.



Fig. 1

1. Remove any constrictive clothing or jewelry that may interfere with the cuff placement.
2. You should 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, Fig. 1. The metal bar on the cuff should be to the left of the tubing, underneath the cuff.

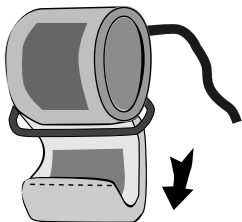


Fig. 2

4. Widen or open the cuff by pulling or rolling the bottom of the cuff towards the right, Fig. 2. This should open the cuff, creating a cylinder. Do not extend the cuff beyond the metal bar.

# Applying Your Blood Pressure Cuff

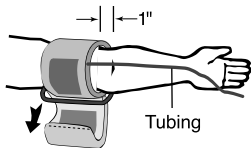


Fig. 3

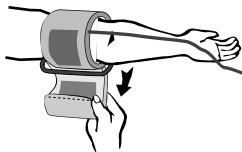


Fig. 4

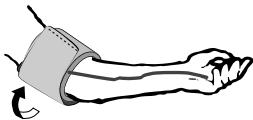


Fig. 5

5. Insert your left arm into the cuff (cylinder). The bottom edge of the cuff should be positioned one inch ABOVE the elbow joint, Fig. 3. The tubing should extend towards your hand.
6. With your left arm extended in front of you and palm facing upward, position the tubing down the center of your arm Fig. 4.
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 tubing position remains as shown, Fig. 5.
8. The cuff should fit comfortably, yet snugly around your arm. There should not be any gap between the arm and the cuff.

# Taking Your Blood Pressure Reading

Proceed only after reading the previous sections of this manual.

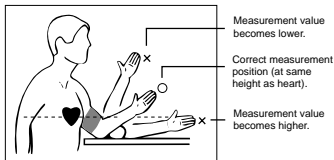


Fig. 1

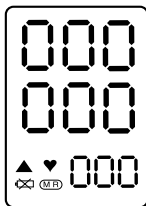
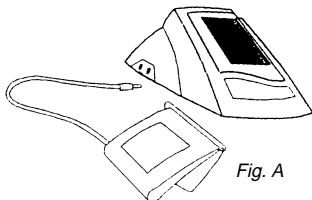


Fig. 2

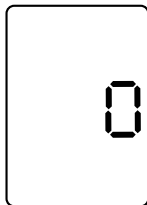


Fig. 3

1. Position the monitor on a flat, stable surface with the digital display panel in view. Insert the cuff tubing into the left side of the monitor, Fig. A.
2. Rest your elbow on a table with your palm facing upward. Elevate your hand so that the cuff is at the same level as your heart, Fig. 1. Relax your left hand.
3. Press the power button. The unit will run a self-test, Fig. 2.
4. Upon release, beeps will sound and the display will briefly change to a flashing symbol, Fig. 3. The cuff is ready for automatic inflation.

# Taking Your Blood Pressure Reading

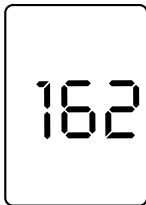


Fig. 4

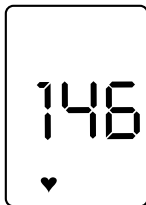
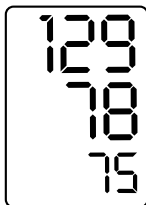


Fig. 5



Systolic

Diastolic

Pulse

Fig. 6

5. The display will show the increasing pressure in the cuff, Fig. 4.
6. When a pulse is detected, the unit will sound for each beat and the display symbol will flash, Fig. 5.
7. A long beep will indicate that the measurement process is complete and the cuff will automatically deflate. Your blood pressure (systolic and diastolic) measurement and pulse rate will be simultaneously displayed, Fig. 6.
8. To conserve energy, press the “on/off” button to turn the power off. Otherwise the unit will automatically shut off after approximately 5 minutes.

*If you need to take another measurement, 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.*

## Error Display Symbols

<b>Display Symbol</b>	<b>Condition/Cause</b>	<b>Corrective action</b>
<b>Err 1 Measurement error</b>	<ul style="list-style-type: none"><li>• Cuff pressure drops to less than 20 mmHg before achieving reading.</li></ul>	Wait a minimum of 15 minutes and remeasure. Loosen cuff to allow circulation of blood while waiting.
<b>Err 2 Measurement error</b>	<ul style="list-style-type: none"><li>• Movement is detected during reading or low inflation level.</li></ul>	
<b>Err 3 Measurement error</b>	<ul style="list-style-type: none"><li>• Cuff inflation takes too long.</li></ul>	Check cuff and hose connections.



## Memory Features

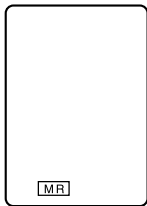


Fig. 1

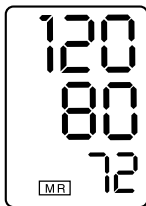


Fig. 2

Your Mabis Digital Blood Pressure monitor features last reading memory. To view your previous reading, press and hold the power button for approximately 3 seconds until the display is blank, *Fig. 1*.

Upon release of the button, the last measured pressures and pulse rate will be displayed, *Fig. 2*.

## Care and Maintenance

1. Only use a soft, dry cloth to clean your blood pressure monitor.
2. Avoid using any types of liquids on the monitor or cuff.
3. Do not store the unit where it will be exposed to direct sunlight, dust or humidity. Avoid extreme temperatures.
4. Never disassemble the monitor or cuff.
5. Dropping or subjecting your blood pressure monitor to strong shocks should be avoided.
6. Twisting or applying force to the cuff will cause damage to the sensitive interior components.

# Troubleshooting

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

<b>Condition</b>	<b>Correction</b>
Display is blank when power is on.	Check and correct the polarity of the installed batteries. Reinstall or replace batteries.
Cuff pressure does not increase after pressing “start” button.	Check and reconnect cuff attachment and hose.
Measurement incomplete or abnormally low or high values displayed.	Review and follow “Applying Your Blood Pressure Cuff” and “Taking Your Blood Pressure Reading” sections.
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 presented to your physician for interpretation.
Cuff pressure falls very slowly or not at all. Measurement is not obtainable.	Tubing connector ring is missing and must be reattached. Removal of the ring should be avoided.

# Product Specifications

<b>Name and model number</b>	SmartRead™ Digital Blood Pressure Monitor, 04-244-001
<b>Display system</b>	Digital display system/LCD
<b>Measuring method</b>	Oscillometric method
<b>Power source</b>	“AA” type alkaline batteries 1.5V x 4
<b>Measuring range</b>	30~280 mmHg (Pressure) 40~200 Pulse/minute (Pulse)
<b>Accuracy</b>	Within $\pm 3$ mmHg (Pressure) Within $\pm 5\%$ of the reading (Pulse)
<b>Pressurization</b>	Capacitive sensor
<b>Memory</b>	Built-in memory enabling display of previously measured value.
<b>Automatic Power Off</b>	Automatic shut off after approximately 5 minutes of non-use to conserve energy.
<b>Storage</b>	
<b>Temperature</b>	23°F - 122°F
<b>Humidity</b>	15% - 85% RH
<b>Operation</b>	
<b>Temperature</b>	50°F - 104°F
<b>Humidity</b>	15% - 90% RH
<b>Monitor Dimensions</b>	7-1/8" x 4-5/8" x 2-7/8"
<b>Weight</b>	1 lb. (with batteries)
<b>Cuff Arm Circumference</b>	
<b>Range</b>	Fits arm circumference: 9-1/2" - 12-5/8" (24-32 cm)
<b>Accessories</b>	Adult size cuff, detailed guidebook, four “AA” batteries.
<b>Options (sold separately)</b>	Small adult size cuff, fits arm circumference: 6-1/4" - 9-7/8" (16-25 cm) Large adult size cuff, fits arm circumference: 12-1/4" - 16-1/8" (31-41 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 <i>AM</i>	9:30 <i>PM</i>	7:30 <i>AM</i>																					
mmHg	<table border="1" style="display: none;"> <caption>Blood Pressure and Pulse Data</caption> <thead> <tr> <th>Date</th> <th>Systolic BP (mmHg)</th> <th>Pulse (b/min)</th> </tr> </thead> <tbody> <tr> <td>1/2</td> <td>130</td> <td>84</td> </tr> <tr> <td>1/2</td> <td>135</td> <td>90</td> </tr> <tr> <td>1/3</td> <td>120</td> <td>69</td> </tr> </tbody> </table>												Date	Systolic BP (mmHg)	Pulse (b/min)	1/2	130	84	1/2	135	90	1/3	120	69
Date													Systolic BP (mmHg)	Pulse (b/min)										
1/2													130	84										
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60																								
Pulse	68	71	69																					
Body Condition	<i>Headache in AM</i>	<i> </i>	<i>Tired, Restless Night</i>																					